

**RE-THINKING INFORMATION LITERACY IN A
POSTGRADUATE INFORMATION SYSTEMS CLASS AT THE
UNIVERSITY OF CAPE TOWN**



Susanne Noll

BCKSUS003

Submitted in partial fulfilment of the requirements for the degree of
Master in Education (MEd)

School of Education
Faculty of Humanities
University of Cape Town

2017

Supervisor: Dr. Cheryl Brown

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature: _____

Date: _____

ACKNOWLEDGEMENTS

I would like to thank my supervisor, Dr Cheryl Brown, for her guidance and support through a long-winded and sometimes arduous process. She assisted me with patience and humour and advised me with inspiring and encouraging suggestions. I would not have had the courage and endurance without her academic and scholarly attitude behind me.

Thank you to Jeff Jawitz, who woke the interest and curiosity in me when I attended Learning and Teaching in Higher Education (LTHE), trying to understand the phenomenon of a teaching academic librarian.

I would also like to thank all participants in and respondents to of my questionnaire, interviews and focus group discussions. Their willingness to participate and share their practices, knowledge and opinions so openly was fundamental to the contents of this thesis. Thank you to my colleagues in the library for their words of support. I am particularly grateful to Nuroo Davids who assisted with the formatting of the thesis and was willing at all times to take 'just another look'.

Lastly, thank you to all my friends and family, my husband Martin, my children Anton, Leah and Helena, and my sisters Carolin and Julia for their continuous encouragement over the past four years.

DEDICATION

This dissertation is once again dedicated to my beloved mother Doris Bock.

LIST OF ABBREVIATIONS

ACRL	-	Association of College and Research Libraries
CHELSEA	-	Committee for Higher Education Librarians of South Africa
IL	-	Information Literacy
IS	-	Information Systems
DL	-	Digital Literacy
FT	-	Full time
MOOC	-	Massive Open Online Course
PG	-	Postgraduate
PT	-	Part time
FG	-	Focus Group
Q	-	Questionnaire
S	-	Survey
SCONUL	-	Society of College, National and University Libraries
UG	-	Undergraduate
UCT	-	University of Cape Town

ABSTRACT

Information Literacy is an integral part of university libraries. At the University of Cape Town (UCT) it has had varying levels of success, depending on the size of the class, the access to devices, the time provided, and the frequency of sessions. Unlike other universities around the world, information literacy is not embedded in the curriculum. The standard practice in our context has been once-off sessions offered to students at the beginning of an academic year. This is targeted to different courses and disciplines.

This study sought to understand the information (IL) and digital literacy (DL) skills of postgraduate students in an Information Systems (IS) course. Specifically it looked at how they undertake their academic writing tasks without formal exposure to IL or DL training. It examines the general IL and DL skills, the ineffectiveness of IL interventions provided and explores opportunities for curriculum integration of IL in postgraduate courses.

This case study uses a case study approach to explore the perceptions of students and their lecturers of the IL presentations which the library offers. Using a mixture of interviews with lecturers and a student questionnaire and focus group discussions with students the study sought to provide a wholistic picture of the various perspectives and experiences.

Findings showed that students and lecturers had a very narrow perception of IL, although IL is a skills set that helps students to acquire competencies for a lifelong learning journey in terms of information usage generally and digitally in particular.

A framework for librarians is proposed based on SCOUNL's *Seven Pillars of Information Literacy*. This would enable a more wholistic approach to IL as it develops student as self-directed learners rather than learners who just aim to comply with course regulations. Integration of IL into the curriculum is proposed as a necessary strategy and if librarians increased their teaching professionalisation working in partnership with their academic colleagues, they could raise the profile of IL in institutional priorities.

TABLE OF CONTENTS

COMPULSORY DECLARATION	I
ACKNOWLEDGEMENTS	II
DEDICATION	III
LIST OF ABBREVIATIONS	IV
ABSTRACT	VI
TABLE OF CONTENTS.....	VII
LIST OF FIGURES.....	X
LIST OF TABLES	X
CHAPTER ONE INTRODUCTION AND BACKGROUND	1
1.1 INTRODUCTION	1
1.2 RATIONALE	1
1.3 DEFINITION	4
1.4 POLICY.....	4
1.5 TWO MODELS	4
1.5.1 SCONUL.....	4
1.5.2 Digital literacy framework.....	5
1.6 HYPOTHESIS	6
1.7 SIGNIFICANCE OF THE STUDY.....	6
1.8 RESEARCH QUESTIONS	7
1.9 RESEARCH DESIGN	8
1.10 CHAPTER SUMMARY.....	8
CHAPTER TWO: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK	10
2.1 INTRODUCTION	10
2.2 FRAMEWORK	10
2.2.1 Honours course: Information Systems.....	10
2.2.2 Aims of the study.....	11
2.2.3 Librarians in the teaching and learning environment	11
2.3 EXPLORATION OF CONCEPTS	13
2.3.1 Information society	13
2.3.2 Information society in South Africa	14

2.3.3 Information literacy.....	15
2.3.4 Digital literacy.....	17
2.3.5 The models.....	19
2.3.5.1 SCONUL.....	20
2.3.5.2 The (Joint Information Systems Committee) JISC model.....	20
2.3.5.3 Digital literacy model.....	21
2.4 CHALLENGES.....	30
2.4.1 Lack of policy.....	30
2.4.2 Lack of pedagogical skills of librarians.....	32
2.4.3 New challenges in South Africa.....	34
2.5 CHAPTER SUMMARY.....	35
CHAPTER THREE: METHODOLOGY.....	36
3.1 INTRODUCTION.....	36
3.2 RESEARCH PARADIGM.....	36
3.2.1 Interpretive paradigm.....	36
3.3 RESEARCH APPROACH.....	38
3.3.1 Mixed Methods.....	38
3.3.1.1 Validity.....	39
3.3.2 The case study.....	40
3.4 METHODS OF DATA COLLECTION.....	41
3.5 DATA COLLECTION.....	42
3.5.1 Questionnaire (Q) (Appendix A).....	43
3.5.2 Focus Group (FG) (Appendix C).....	44
3.5.3 Interviews (Appendix B).....	46
3.6 QUALITATIVE DATA ANALYSIS METHOD.....	50
CHAPTER FOUR: FINDINGS AND ANALYSIS.....	53
4.1 INTRODUCTION.....	53
4.2 DEMOGRAPHICS.....	53
4.3 PERCEPTIONS OF IL.....	55
4.3.1 Maturity, experience and age.....	57
4.4 ANALYSIS ACCORDING TO THE SEVEN PILLARS.....	60
4.4.1 Identify.....	61
4.4.2 Scope.....	64
4.4.3 Plan.....	66
4.4.4 Gather.....	68
4.4.5 Evaluate.....	68
4.4.6 Manage.....	69

4.4.7 Present	72
4.5 TO WHAT EXTENT DOES THE IL INTERVENTION ONCE A YEAR HELP TO BECOME IL?	73
4.6 DIGITAL LITERACY	74
4.7 DISCUSSION.....	78
4.7.1 What are the students' perceptions of IL (and DL)?.....	79
4.7.2 To what extent does the IL intervention once a year help to become IL?	79
4.7.3 How effective is the library intervention in terms of the development of skills?.....	81
4.7.4 What are opportunities for curriculum integration of IL in a PG course?.....	82
4.8 CHAPTER SUMMARY.....	83
CHAPTER FIVE: SUMMARY AND RECOMMENDATIONS	84
5.1 INTRODUCTION	84
5.2 SUMMARY OF FINDINGS.....	84
5.3 LIMITATIONS TO THE STUDY	86
5.4 RECOMMENDATIONS FOR FURTHER RESEARCH	87
5.5 CHAPTER SUMMARY.....	87
REFERENCES.....	89
REFERENCES.....	89
APPENDICES.....	99
APPENDIX A – QUESTIONNAIRE (Q) QUESTIONS	100
APPENDIX B - INTERVIEW QUESTIONS	103
APPENDIX C – FOCUS GROUP QUESTIONS.....	105
APPENDIX D – ETHICAL CONSENT.....	106
APPENDIX E – INTRODUCTORY LETTER OF THE QUESTIONNAIRE TO THE STUDENTS.....	117
APPENDIX F – PARTICIPANT CONSENT FORM.....	119
APPENDIX G – TRANSCRIPT INTERVIEW 1	120
APPENDIX H – TRANSCRIPT INTERVIEW 2	140
APPENDIX I – TRANSCRIPT INTERVIEW 3.....	152
APPENDIX J – TRANSCRIPT FOCUS GROUP 1.....	167
APPENDIX K – TRANSCRIPT FOCUS GROUP 2.....	175

LIST OF FIGURES

FIGURE 1: GLOBAL ICT DEVELOPMENTS. SOURCE: ITU WORLD TELECOMMUNICATIONS	18
FIGURE 2: THE SEVEN ELEMENTS OF DIGITAL LITERACY (BEETHAM & SHARPE, 2011).....	21
FIGURE 3: DIGITAL LITERACIES AND WORK PLACEMENT (BEETHAM & SHARPE, 2008).....	22
FIGURE 4: BASIC LIBRARY SKILLS AND IT SKILLS (SCONUL, 2007)	23
FIGURE 5: INFORMATION LITERACY LANDSCAPE (SCONUL, 2011)	24
FIGURE 6: AGE GROUPS PROFILE.....	54
FIGURE 7: ON INFORMATION-SEEKING SKILLS.....	55
FIGURE 8: ARE IL SKILLS GOOD SKILLS TO HAVE?	59
FIGURE 9: FINDING INFORMATION USING LIBRARY RESOURCES.....	63
FIGURE 10: WHAT IS SCHOLARLY INFORMATION?	65
FIGURE 11: WHAT DO YOU EXPECT?	67
FIGURE 12: HOW INFORMATION LITERATE DO YOU CONSIDER YOURSELF TO BE?	74
FIGURE 13: CREATING SHARED DOCUMENTS.....	76
FIGURE 14: SHARING PROGRAMMES	77

LIST OF TABLES

TABLE 1: FOUR SCONUL COMPETENCIES PROVIDED WITH EXAMPLES (SCONUL, 2014)	25
TABLE 2: SUMMARY OF LITERACIES	29
TABLE 3: SUMMARY OF THE INTERVIEWS.....	47
TABLE 4: SUMMARY OF RESEARCH CONDUCTED	48
TABLE 5: QUESTIONS TO DETERMINE DEMOGRAPHICS	54
TABLE 6: DIFFERENCES IN MATURITY, EXPERIENCE AND AGE	58
TABLE 7: SCONUL TERMINOLOGY AND RELEVANT SYNONYMS	60
TABLE 8: DESIRABLE SKILLS TO HAVE.....	62

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

This research is based on a case study that was conducted at the beginning of the academic year in February 2016. The focus was to examine the level of Information Literacy (IL) in a postgraduate Honours class in the Department of Information Systems (IS) at the University of Cape Town (UCT) to enhance learning. IL signifies the awareness that information is required, where and how to find it, how to apply it and how to share it. Academic libraries in the global Northern countries such as in Europe or the United States apply standards such as by the Association of Research Libraries (ARL) and the Association of College and Research Libraries (ACRL) (US), CAUL (Council of Australian University Librarians) or ‘pillars’ such as Society of College, National and University Libraries (SCONUL) (UK).

One of the main purposes of this study was to investigate generally the concept “academic literacy” of which IL and DL are a part, albeit not necessarily between the two main developers of the global North : US and UK. The question in the thesis arose whether any of the models developed in the global North can be fully adapted to a country as SA with all its enormous challenges.

In this chapter, a brief description of the rationale of the study is explained. A definition of the so-called *Seven Pillars of Information Literacy* follows. It is necessary to look briefly into the policy question of information literacy in general. A short description of SCONUL’s *Seven Pillars* is presented, followed by the research hypothesis, the significance of the study, the research questions and a short explanation of the research design.

1.2 Rationale

The researcher is the subject librarian for Information Systems (IS) in the Commerce faculty of the University of Cape Town (UCT) and is involved in the annual, once-off information literacy session of the courses INF4026F, INF4025S, INF4027W, INF4024W (part-time), INF4012W, INF4015W and INF4016W (full-time), which are all Honours courses. INF specifies the course name and W indicates a year course, F and S are semester courses. From the beginning of the two-hour workshop until the end, the lack of interest of the students was

acutely obvious, even though careful planning was invested in the preparation of the workshop-like session. Students seemed bored and not interested, they did not react to questions and an interactive teaching method was not possible. For years, the researcher has been attending courses to learn to teach, in the hope of making a difference. At first she thought that it was her instruction style that did not grip the students, then she was convinced that it was the content: IL skills seemed boring to students, either because they thought they knew everything already, or they thought that it an unnecessary skill for their purposes – after all, they had managed to get to their fourth year without IL training. If that was the case, the researcher felt she needed to update her presentation skills. However, that still was not the problem. After long reflections, she realised that it would be valuable to explore students' perceptions, to see what insights these would give into the reasons for their apparent lack of interest, their expectations of the course and what they thought they might need in terms of IL support. Too little is known about their experiences and insights into IL and even their Digital Literacy (DL). As Bruce (2000) states, information seekers have different “knowledge structures”, which move into “pre-existing information sets” and this is what needs to be examined. How much do these students know and how much do they use what they know in a coherent academic circumstance? Bruce (2000) argues that students ideally are “coming to experience the effective use of information in new and increasingly complex ways” (Bruce, 1998: 44) and that “different ways of experiencing information seeking and use” lead to significantly different kinds of substantive learning outcomes (Limberg, 1999: 7). The researcher came to the realisation that something was not happening in the sessions she was involved in, as it should.

A brief conversation with the lecturer revealed that a mutual misunderstanding between students and lecturer existed in terms of the objectives of essay writing – the lecturer assumed that students in their fourth year would have the necessary writing skills, which include IL and DL skills by this time – and the students assumed the same. The assumption from both sides was, however, deceiving.

While questioning the phenomenon of the poor writing and literature-seeking skills of the students it is necessary to have an overview of best practices worldwide.

Literature has throughout proved the successful implementation of IL into academic programmes, especially when academics were integrated into the planning (Johnston & Webber, 2003; Cowan, 2014). The term IL was introduced by Peter Zurkowsky (Kelly, 2013) in 1974 and has evolved and progressed over three decades. It has been a battle ever since to earn the success it deserves (Badke, 2005). Many studies done globally have focused on describing thoroughly some attempts at institutional implementation (McGuinness, 2007; D'Angelo & Maid, 2004; Maughan, 2001).

In South Africa the ineffectiveness of once-off, sporadic IL initiatives has been noted. Hart and Davids (2010) came to this conclusion from a study done at the Cape Peninsula University of Technology (CPUT) in which they surveyed a first-year Engineering course. Jiyane and Onyanha (2010) investigated library schools, departments and academic libraries in SA and also concluded that teaching IL is futile if done once-off and sporadically. Universities in SA have different approaches to their IL activities, but most of them use the once-off session at the beginning of the year. Very few departments have integrated appearances in courses, such as the IL component in the Nurses' diploma at the Health Science Faculty of UCT (Shelton, personal interview, 2016). Most sessions in all SA universities happen on an "ad-hoc basis, where academics and librarians arrange for such sessions during lecture periods of the lecturers concerned" (Moyo & Mavodza, 2016: 99). At the Department of IS at UCT, lecturers arrange one or two sessions with the librarian and negotiate the time with her. They do not indicate what exactly they expect, they leave it up to the librarian, lecturers being oblivious of the basic lack of IL skills, which require the necessary insight into competencies, such as identifying, scoping, planning, gathering, evaluating, managing and presenting.

Most SA students come from acutely disadvantaged backgrounds (Fiske & Ladd, 2006). In the 1990s the Cape Library Cooperative (CALICO) realised that a severe discrepancy exists between historically disadvantaged and advantaged universities (de Jager & Nassimbeni, 2003). Some initiatives were undertaken to correct these uneven situations (Moll, 2009; SAQA, 2005, de Jager, 2007). Later the issue was taken up by the Library and Information Association of SA (LIASA) and has been a topic of discussion since then. The main issue is that guidelines used by global Northern standards, or at least not all of them, might not be suitable for SA conditions, since the historical education position in SA is unique.

Despite this reality, it is important to start somewhere to change the situation, and instill lifelong skills necessary for the 21st century – hence the decision to choose one of the models which have been successfully operational in the UK, SCONUL, as a benchmark to assess the IL skills level of the IS Honours class of 2016.

1.3 Definition

Webber and Johnston (2000: 382) discuss several definitions of IL. From their findings a summary of these definitions would be:

“To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use the needed information effectively.”

1.4 Policy

The question arises whether the existence of an official policy could change the situation. *The Library and Information Services Transformation Charter (LIS Charter, 2014)* of South Africa, commissioned by the Department of Arts and Culture (DAC) and the National Council for Library and Information Services (NCLIS), declared in 2014 that an IL policy plan had been in the pipeline since 2009. It maintained that an “institutional information literacy policy in universities and colleges leading to an action plan which recognises their responsibility for ensuring that all graduates enter the workplace with the requisite information literacy skills” (*Library and Information Services Transformation Charter, (LIS Charter, 2014: 78)*) and such a policy was strongly recommended. This is currently one of the main objectives being worked on. Despite these good intentions, however, librarians cannot afford to sit around and wait for change.

1.5 Two models

1.5.1 SCONUL

Although the SCONUL vocabulary “Identify, Scope, Plan, Gather, Evaluate, Manage, Present” (Bent & Stubbings, 2011: 13) might be unfamiliar to South Africans, the model and the thorough description and interpretation thereof correspond with the need for those skills.

The model is adaptable and changes as resources and technology develop. It is also adaptable to a variety of circumstances. In SA experiments with the *Framework for Information Literacy for Higher Education* (2015) by the Association of College and Research Libraries (ACRL), one well-known framework used in the US, are an ongoing project to find guidelines which are highly necessary. De Jager and Nassimbeni (2003) understood the wish which exists among librarians that a policy or a framework would exist which could guide them with their teaching. Surprisingly, a credit-bearing course in “Information tools and skills” was started at the University of Cape Town in 1996 which operated within partnerships of academics and librarians to offer IL, but has since ceased. No other formal model is in place in SA since then, except for a few single programmes at individual universities and Universities of Technology such as the University of South Africa (UNISA), the University of Pretoria (UP), the Natal Technicon (Rader, 2002), which is now called the Durban University of Technology and recently at the Cape Peninsular University of Technology (CPUT) (Lockhart & Majal, 2012). The *Seven Pillars* appealed to this researcher as a feasible model to investigate, despite having been developed in a First World or developed country.

1.5.2 Digital literacy framework

IL skills cannot be thought about in the 21st century in isolation from DL skills. Webber and Johnston (2000) mention the most basic DL skills as “IT skills”, which are needed to access any library catalogue intelligently. IT skills consist of computer technology, including the academic use of the internet, copyright laws, and the use of technology for information retrieval with devices such as smartphones, tablets, laptops and PCs. These devices demand important digital skills and behaviours (Van Deursen & Van Dijk, 2009). The digital literacy framework by Beetham and Garnett (2010) can be examined to test these skills as well the similarities as the differences in general between IL and digital literacy. Technology has advanced on such a high level that literacies which students are required to acquire are narrowly intertwined. As IL progresses in many parts of the world, digital literacy (DL) develops at the same time. IL and DL are narrowly intertwined and might often be mistaken by students or could be defined as digital competence.

1.6 Hypothesis

A hypothesis is a proposed explanation and hopes to find some answers on the basis of limited evidence as a starting point for further investigation. In this case the lacking IL and DL skills of students in their fourth year of study will be explored.

The hypothesis of this case study is therefore: IF students had better and more focused encounters and engagements with IL and DL combined, THEN they would be more successful in acquiring lifelong learning skills and would be more effective in their studies.

Students who have DL and IL skills and competencies can better engage in practices which will enhance their academic achievement. They will finish their studies more successfully, and have a better chance of jobs after graduation (Breivik, 2005; Secker & Bell, 2014; Gill, 2013) and be more employable in general. Considering the high unemployment rate in SA paired with the grim economic prospects for the immediate future, it would be wise to realise that graduate attributes such as critical thinking, multilingual awareness, global citizenship, and capacity for lifelong learning would have a positive impact on the otherwise bleak future. The national unemployment rate in SA, according to Statistics South Africa (2014), was 25,4 % in the third quarter of 2014. In the definition of the “Child-Gauge-Report 2016” by Hall, unemployment includes “discouraged work-seekers”. Graduate attributes including DL and IL skills would not solve the economic problem, but could help understand how and where else to turn to once they leave university.

The question does therefore arise again, whether standards conceived from a Northern global context are possibly inappropriate for African conditions.

1.7 Significance of the study

It is reasonable to assume that IL and DL are central to any research, whether for UG studies or for Masters theses. As Bruce (1998) notes IL draws on information technology and requires skills in using information technology. Therefore, DL is an essential precursor to IL. To date, students at UCT have very few academic skills to search for and find information, not to mention what they understand by IL or DL. Hence, no knowledge exists on their perception of IL or DL and a study such as this would emphasise the importance of the gaps in the awareness and appreciation of knowledge about the concepts.

This study hopes to show that the current way IL is undertaken at South African universities in general and UCT in particular is not optimal for students' academic requirements or lifelong learning needs. The main aim of this research is to emphasise the importance of IL in general and to investigate how the cooperation between librarian and course convener in this regard can achieve the best possible results. The influence of lecturers on the success of the IL sessions is not to be underestimated. If they throw their support and assistance behind librarians, IL would be significantly more effective.

Without a framework, policies or guidelines that convince the academic world, what IL is and the importance thereof, and some relevant legislation, the situation will not significantly improve. One innovative way to progress at present is to find other tools to transfer skills such as online videos and how-to tutorials. However, this again affects the previously disadvantaged students, as they are dependent on devices and instruments, which they do not own.

Where in SA the digital literacy component comes in, is in planning for the majority of underprepared poorer SA students. Primary and secondary school education in SA is at a very low level (Taylor et al., 2015) and those students most probably did not have access to libraries or computers (Spaull, 2015). Before these students can gain the slightest understanding of IL, they need to become digitally and computer-literate. This could be a partnership that proves advantageous if considered.

1.8 Research questions

The following research questions test the hypothesis and are based on the interpretive paradigm, that guide this study. The mentioned paradigm will be explained in more detail later:

- What are the students' perception of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a postgraduate (PG) course?

1.9 Research design

Data for this case study was drawn from a survey (Appendix A), sent out to 84 students, with two open-ended questions, two focus group discussions and three semi-structured interviews with lecturers involved (Appendix B).

1.10 Chapter summary

The introductory chapter explains the case study that has been done at the University of Cape Town to establish the IL and DL skills in an Information Systems Honours class. It lays down the rationale for the study and the model used (SCONUL) to determine the level of literacy skills the students have at this late stage in their academic journey.

The thesis consists of five chapters.

Chapter One

The reader is introduced to the research problem and the reasons thereof.

Chapter Two

This chapter presents a review of the key concepts according to literature and reviews some empirical studies done. The methodology is explained briefly and a justification of the theoretical position is given.

Chapter Three

The research methodology is explained and the type of research described, as well as the selection of participants, the methods of data collection, and the analytical methods followed. Validity and ethical issues are highlighted and the research procedure is elaborated.

Chapter Four

The findings and results are discussed.

Chapter Five

Here a summary of the findings is given and limitations are explained. Some recommendations for further research are suggested.

CHAPTER TWO:

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Introduction

This chapter covers the literature read that the study draws conceptually on information literacy (IL), empirically and theoretically. Maxwell (2008) states that the contextual framework explains, either graphically or in narrative form the main issues to be studied – the key factors, concepts or variables – and the presumed relationship among them. IL is the umbrella term which “encompasses concepts such as digital, visual and media literacies, academic literacy, information handling, information skills, data curation and data management. “ (Bent & Stubbings, 2011: 3)

In this chapter I will discuss the framework, explore some of the key concepts and mention the main challenges.

2.2 Framework

2.2.1 Honours course: Information Systems

Before the conceptual frameworks of the models are discussed it is essential to explain the specific nature of students in Information Systems (IS). IS has to do with information technology, organisations, businesses and system’s design, but as Roode et al (1994) state IS research can only be made if the fundamental social nature of IS is accepted. Although the Department of IS is situated in the Commerce Faculty of the University of Cape Town the social nature of IS is fundamental. According to Roode et al IS belongs in the Social Sciences because it investigates social realities. This perspective demonstrates the importance of IL for IS students as this discipline requires students to be able to think and write from both a system’s and social perspective.

2.2.2 Aims of the study

The overall aim of this study is to collect reasonable and reliable information on the knowledge level and experiences and expectations of 4th year information systems students at UCT. Within this broad theme the research has a number of specific objectives:

- To understand the pressure under which students have to write an academic piece of work without being exposed to formal IL or DL education.
- To examine the opportunities the students had in IL and DL training before their 4th year.
- To assess levels of course satisfaction and course dissatisfaction.
- To explore their ideas of the job market for IS careers outside the university.

2.2.3 Librarians in the teaching and learning environment

One of the challenges of librarians is that, like many academics, they are disciplinary experts without any formal teaching qualification. Their role requires them to assist students acquire particular skills and competencies.

As a teacher, Ramsden (2003) reminds us that we have constantly to evaluate and improve our teaching and that this leads to a reflective and inquiring approach to improve teaching. He explains that teaching and learning are narrowly linked and continues further that university teaching unaccompanied by study and research is of limited value. He argues that “that the educational context in which (students) learn profoundly affects students’ thoughts and actions” (Ramsden, 2003: 8). It is interesting to understand that teaching as Ramsden sees it includes “aims of a course, methods of presenting the knowledge ... assessing students’ achievement and evaluating the effectiveness of the whole process” (2003: 11). However, because librarians are not trained as teachers it is hardly astonishing that the teaching of IL skills component is not as effective as it should be.

Ramsden also describes how learning takes place and explains surface and deep approach to learning. In the way IL is presented at the moment, not even the surface approach takes place, which theoretically means memorising by rote learning or remembering facts. Walter (2008) argues that librarianship is changing. He mentions that new developments such as open access, bibliometrics, scholarly communication are all fields in which librarians have to

learn how to teach in order to assist academic colleagues. Most subject librarians who are involved in library instructions realised their lack in teaching skills and would like to become confident and effective teachers (Walter, 2008). This would also involve assessment of content. Krathwohl (2002) identified four kinds of knowledge: factual knowledge, conceptual knowledge, procedural knowledge and metacognitive knowledge. He follows Bloom (1975), who developed a taxonomy and classified learning outcomes in terms of cognitive dimensions: knowledge, comprehension, application, analysis, synthesis, evaluation. Current teaching and learning of IL skills does not consciously explore all these categories, it is interesting to realise that not even one of them is considered in the IL education.

SCONUL encourages thinking across these levels and viewing IL in terms of SCONUL could help improving teaching and learning of IL. Virkus et al. (2005) describe a number of associations, one of them being SCONUL, which created detailed frameworks for curricula for IL and discuss teachers' (who are librarians) pedagogic approach. They stress the point that "teaching and learning methods should reflect the essence of IL" (Virkus et al., 2005: 69).

To summarise what Ramsden (2003) suggests, I will look at his basic principles for effective teaching:

- Stimulate students' interest and provide clear explanation.
- Show concern and respect for students and student learning.
- Set appropriate assessment tasks and provide feedback.
- Set clear goals and interesting challenges.
- Promote student independence, control and engagement.
- Learn from students.

All this taken into account it seems that librarians' activities in terms of IL is not teaching but rather instructing. Instruction is a "statement that describes how to do something, an order or command, the act of instructing someone." (Merriam-Webster, 2016). It does not involve engagement, and reminds us rather of rules and regulations, of how things are, and it is usually voluntary for students to attend. It could also be called training, or coaching and although these synonyms are not appropriate for our case of teaching they also mean instructing: drilling, exercising, or commanding.

2.3 Exploration of concepts

2.3.1 Information society

We live in the information age (Castells, 2014). Information surrounds us in all and every sphere of life irrespective of where we come from and who we are. We need information, we use information daily and we distribute information in the most versatile formats thinkable. This research is about information. How do we deal with it, how do students 2016 deal with it? Messenger (1982) notes that the new age is based on computers and telecommunications and assists the human being with accessibility to information, convenience to find what he is looking for and experiences great user-friendliness. The downside is the dependence which users from then on have had. Furthermore, Messenger argues further that this was the beginning of a new technology-driven economy. He articulates clearly that this development was the real beginning of the Information Age and the proper replacement of the Industrial Age. An enormous shift has happened between the age of computers and telecommunications and the older print world. People had to and have changed and moved into the Information Age. They did not really have the chance to object and it was best to shape up new skills that came with the explosion into the Information Age (Messenger, 1982). The explosion did not happen to only rich people, or advanced people, or urban people – it happened to everyone in the world. It happened, because computers were developed, cell phones and then smart phones surfaced, tablets were designed and all are improving. This required an urgent shift to new skills. University libraries quickly realised that it was not only technological skills that were required, but that it was more critical to develop skills that applied technology for the benefit of others finding, using, communicating and disseminating of information.

Yet, in spite of the potentially huge advantages that were approaching humanity a global digital divide was unavoidable. Schradie (2011) argues in her study that the global digital divide is as wide as ever. Although poorest countries' citizens have mobile phones to communicate, they are technologically way behind the developments in developed countries. They are rather information consumers than information producers. They lack skills and competencies to use technology as an economic enhancer. With affluent people, however, through new production applications a new elite has developed and a growing information

production is cultivating which is dividing humanity once again. It so happens that this elite is the one who is using the internet to their advantage, because they became the contributors to the public digital world. This elite typically owns high quality devices and has best access to the internet, whether it is at home, school or work. They also have the means to have the most expensive and best software collection, to be able to produce high quality contributions to the public sphere. Handling this new online digital world requires education and new literacies, to which poorer communities do not have access. This means that their production to the digital pool stays behind. A real production inequality has become a sad reality, although theoretically a more equal society could be created, considering the possibilities of remote outreach which the internet offers.

2.3.2 Information society in South Africa

The digital divide in South Africa is seriously noticeable. Czerniewicz and Brown (2013) discuss the digital divide in South African higher education explaining the differences of savvy users of mobile phones but not computers. Students from disadvantaged backgrounds often do not have access to workstations or laptops that offer them opportunities to educate themselves in new technologies. As a solution the authors suggest a much more vigorous approach into the mobile use of educational materials. Although the authors do not believe in the too narrow definition of “digital natives” and agree with Helsper and Eynon (2010) that irrespective of when someone is born, that he/she is more technological advantaged than the other. Youngsters and those who have the experience or steady and constant exposure to the internet tend to behave over-confident in their ICT skills. The authors argue that the more experience and/or opportunities a person has, the more confident he becomes - irrespective when he is born. Again, these authors also argue that the more affluent young people the better the opportunities to become ICT-skilled.

Therefore the digital divide in the higher education sector remains a problem, because ‘digital strangers’, as Czerniewicz and Brown (2013) call them, would prefer computers, but do not have enough access to them. Considering the necessity of technology in learning, ways need to be found to facilitate opportunities for the poorer part of the educational society. Castells (2011) discusses the possibility of the online learning environment as an ideal opportunity to widen the higher education field, but doubts that it will fully replace the face-to-face

instruction. A good deal of IL is necessary to be able to apply useful skills which are necessary to use technology accurately.

2.3.3 Information literacy

Librarians then saw as part of their role to offer “library skills training” and in universities, this training changed into information skills training. The advent of the internet, which developed in the 1970s in the US and began functioning properly towards the end of the 1980s, accelerated the need for new literacies: it “provides a capability so powerful and general that it can be used for almost any purpose that depends on information, and it is accessible by every individual who connects to one of its constituent networks.” (Encyclopedia Britannica, 2014, search: Internet) Human communication is done by e-mail and people can work collaboratively at different ends of the world. Most importantly and for our argument “it supports access to digital information by many applications, including the World Wide Web” (Encyclopedia Britannica, 2014, search: Internet).

Digital literacy on the other hand is a much younger development and concentrates on communication technologies and the variety of technical and cognitive skills to use digital information in an informed and engaged way. (ALA Digital literacy taskforce, 2011). It involves digital behaviours and is a “set of academic and professional practices supported by diverse and changing technologies” (JISC, 2014).

One of the core objectives of a university is to be an information literate university and be the stepping stone to an information literate society (Johnston & Webber, 2003). Numerous studies have been done to prove this statement (Maughan, 2001; Maybee, 2007; Katz, 2013; Wertz et al, 2013). The Prague Declaration (2003) states that IL is “part of human right of lifelong learning” and that it “plays a leading role in reducing the inequities within and among countries and peoples, and in promoting tolerance and mutual understanding through information use in multicultural and multilingual contexts.” Now more than ever before is IL in combination with DL a necessity to succeed as an independent information user.

One of the biggest challenges of the awareness of the necessity of IL is that it is led by librarians and therefore the IL components are seldom credit-bearing. (Webber & Johnston, 2000). Librarians traditionally have a “low sphere of influence” compared to their academic

colleagues. Therefore, Webber & Johnston (2000: 384) argue, is IL often “marginalised and trivialised”. This is one of the reasons why such little time is “allowed” to teach or demonstrate IL. This is also the case in this current case study. Despite requests IL is not seen as a priority amidst an overloaded curriculum.

In 2010 Kenton and Blummer suggested enhancing students’ digital literacy skills through novel educational techniques. They propose that librarians could develop tools to support students’ interaction in course management systems and virtual worlds, assist faculty in the creation of course curriculum, as well as moderate online book discussions. Chowdhury in 2002 already discussed the problem of the digital divide and suggested “that global digital library developments can be used by users in the developing countries: subject gateways, digital reference services, free access to e-journals and e-books in many areas, e-print archives and free digital libraries” (Chowdhury 2002: 1). With proactive proposals to decision-making bodies and the emphasis on the digital literacy skills that are necessary, situations such as at UCT can be improved, by librarians having more access to the courses, and more authority in taking part in the courses on all levels, not only searching for resources.

Information and digital literacy skills will stay as lifelong learning skills. People learn throughout their whole lives and would be able to apply their skills if they come across problems and challenges. It enhances decision making skills and helps with learning and acquiring new knowledge. It broadens horizons and gives individuals opportunities to develop partnerships and collaboration, especially with the developments in the digital communication and social media world.

Of the two concepts IL and DL, the more established concept is IL. According to SCOUNL, (Society of College, National and University Libraries) the information literacy framework is described as follows: it includes “academic and professional literacies, information and media literacies, ICT skills, critical thinking, problem solving, reflection, academic writing, note-taking, concept mapping, time management analysis, synthesis, evaluation, creativity, innovation, self-directed learning, collaborative learning, searching, retrieving, analysing, interpreting, critiquing, evaluating, managing resources, navigating info spaces, content creation, editing, repurposing, enriching, resources referencing, sharing content, web

searching, using CMC, using TELE, using digital device, word processing, using databases, analysis tools, assistive tech social software, personalisation ... slow change, cultural and institutional inhibitors, rapid change, economic and techno-social drivers” (Beetham & Garnett, 2010: slide 15).

Although it is difficult to define IL more appropriately, the common belief is that it originates from two important areas: Information science and bibliographic/library instruction (Johnston & Webber, 2003). Information science, they say, is interdisciplinary and draws on psychology, linguistics and sociology as well as computer science and engineering. Bibliographic/library instruction, also called library orientation is to familiarise library users on how to find information and resources as quickly as possible. It includes usually the library’s catalogue, the databases, the physical organisation of books, research methodologies specifically literature reviews.

2.3.4 Digital literacy

Theoretically libraries could play a bigger part in the facilitation activity, whether mobile, online, distant, or virtual. They are not merely the holders of the technology, as in tendering computers, but libraries have the obligation to coach and instruct students to use computers and the information resources they hold rationally and as producers of academic essays and theses and not only consumers. Information and digital literacies (IL and DL) are the central and crucial points for students’ rise to success. Asher, Duke & Wilson in 2012, researchers at Bucknell University and Illinois Wesleyan University in the United States, compared searching skills and the efficacy of undergraduate students. Here they determined that the role of librarians as information literacy educators is huge. Digital natives need to be trained to use discovery tools (as they call information resources), because they “exhibited a marked inability to effectively evaluate sources” (Asher, Duke & Wilson, 2012: 2). More efforts from libraries need to go into the design of centralised, standardised search opportunities. It needs to be explained to students that the use of Wikipedia for example has great educational value because it gives students the opportunity to educate in DL (Selwyn & Gorard, 2015). Students need to be told that they can be proactive in the digital world and that they can contribute to the pool of knowledge. They do not need to be passive consumers only. The big challenge for

educators is that they are aware of the lack of students' ICT literacy skills to navigate, evaluate and use the overabundance of information available (Katz, 2007), let alone adding to it.

In 2016 mobile-cellular subscriptions are almost equal to the number of people in the world (Figure 1). The digital divide in this context is not so much the debate between the haves and have-nots in the economic sense, it is much more the divide between the ones who are digitally savvy and apply their digital knowledge intelligently.

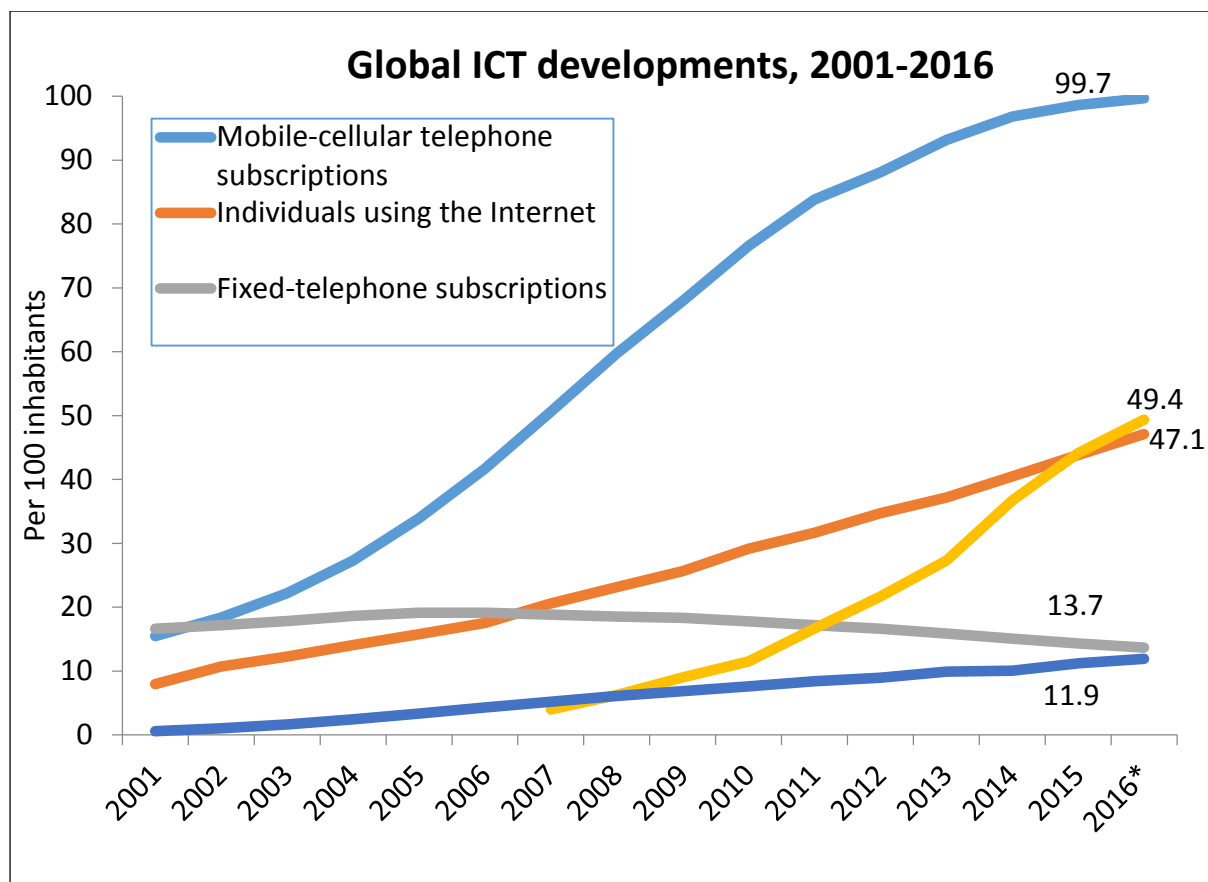


Figure 1: Global ICT developments. Source: ITU World telecommunications

Note: * Estimate

Although the Prague Declaration (2003) proclaims that IL should be promoted nationwide, and is a necessary step in “closing the digital divide through the creation of an information literate citizenry”, it is huge. Andrew Roskill, CEO at BibliLabs in Charleston, South Carolina, (2014) argues that libraries could bridge the digital divide and economic divide by re-inventing

themselves with their mission in education, research and literacy. By sharing their curation expertise, knowledge and digital content libraries should offer technical training, lend devices and promote their services. For that, he says, libraries need to offer mobile access, be engaging and offer an attractive physical presence. Santos, Azevedo and Pedro (2013: 1) argue that students' online skills are variable and "that even among a highly wired group of young adults the use of ICT does not necessarily mean 'useful use of ICT' ". People do not improve their online skills just by using the internet. The original digital divide in access has been replaced with the type of engagement and skills to use the internet. The authors affirm that even in a higher education environment, in which students by nature would use their digital devices more and regularly a digital device exists in the attitude towards their digital device. Ideally, students do not only use digital devices for personal and social communication and entertainment, but develop an ability to search online until they find material that fills their knowledge gap. It is therefore essential that students should be made aware of digital literacy gaps even if they assume that they "know" a lot about digital and information literacy. The growth is unstoppable and the poorer parts of societies should be carried along substantially with all the aids and assistance possible.

2.3.5 The models

Three models are examined that deal with IL, DL and the interconnectedness between the two.

1. The SCOUNL model is intriguing because it covers the steps needed to become IL and at the same time gives novices the opportunity, while going through all steps, to become experts.
2. The JISC model is a useful tool for discussions around digital literacies to develop an understanding of these. It can also be applied practically with developing, supporting and evaluating the concept of digital literacies.
3. "The digital literacies and work placement model" describes the development of digital literacies, in terms of access, skills, and practices and is an ideal combination between IL and DL.

In addition, the concepts of social and cultural practices as Lloyd (2007) explains will be portrayed. Lloyd researches how IL is experienced in the workplace, e.g. firefighters and

ambulance officers, and not necessarily being a textual practice. It evolves rather around the understanding of the sociocultural practice in an information environment.

2.3.5.1 SCONUL

The “SCONUL Seven Pillars of Information Literacy: core model for higher education” is examined. SCONUL promotes awareness of the role of academic libraries in supporting research excellence and student achievement and employability, and represent their views and interests to government, regulators and other stakeholders. One dedicated working group of SCONUL is engaged with the core model of IL. They coined this definition:

“Information Literacy is an umbrella term which encompasses concepts such as digital, visual and media literacies, academic literacy, information handling, information skills, data curation and data management” (Bent & Stubbings, 2011: 2).

Students at UCT, for example, come from diverse backgrounds. Gillen and Barton (2010) state that literacy in general starts from what people do, the meanings they ascribe to their activities and the ways they use reading and writing in their broadest senses to achieve their purposes .

The following model, the JISC model, as designed by Beetham & Sharpe (2011) demonstrates the elements of DL, of which one is the IL component. In this study the interlinked concepts of DL and IL will become evident.

2.3.5.2 The (Joint Information Systems Committee) JISC model

The JISC model includes the following seven literacy skills represented in this model

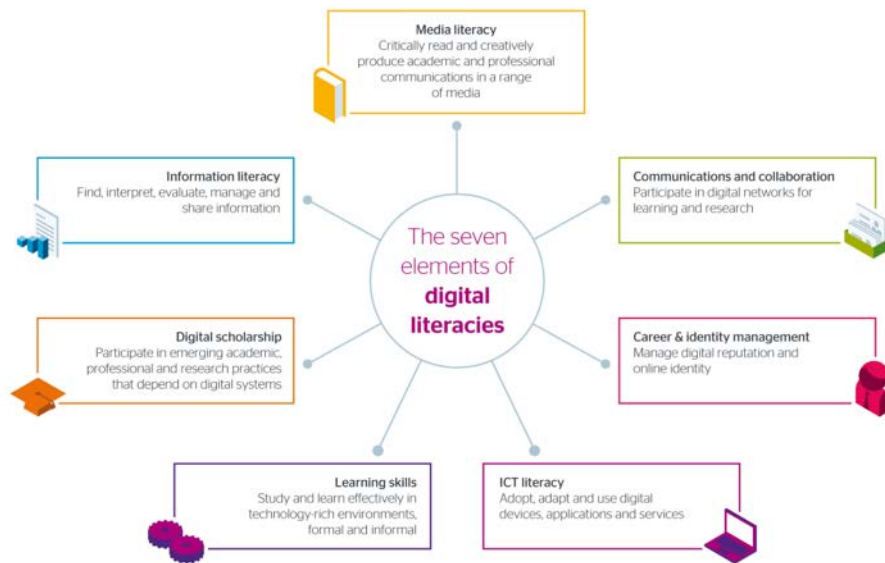


Figure 2: The seven elements of digital literacy (Beetham & Sharpe, 2011)

Young people tend to think that they are digitally savvy (Fieldhouse & Nicholas, 2008). They argue that the way young people use their devices seem sometimes irresponsible. They should learn about protecting private information, staying safe online, standing up to cyberbullying, balancing the time, respecting themselves and others. Information literacy is one part of seven elements in DL and includes the finding, interpreting, evaluating, managing, and sharing of information. SCONUL’s model for IL and the JISC model for DL extend these competencies in more detail. Other literacies mentioned in the JISC model include media literacy, communication and collaboration, career and identity management, ICT literacy, learning skills and digital scholarship, all of which do overlap a little here and there, but earn to have their own spheres as well.

2.3.5.3 Digital literacy model

DL can be singled out from the JISC model and be explained in more detail in a model designed by Beetham & Sharpe (2011). This model has been examined in practice. It was, for example, applied to the professional development of lecturers in terms of their teaching practice by Bennett (2014) and formed the Digital Practitioner Framework of Ecclesfield, Rebbeck & Garnett (2012). After Bennett examined the teaching and learning practices against the pyramid model, she discovered that the lecturers were more encouraged to achieve their pedagogical goal than to become a digital practitioner. Ecclesfield, Rebbeck

and Garnett (2012: 45) found that “new professional confidence in using technology in colleges exist, which emerges from individual practitioner’s curiosity in how technology might be used to help students learn”. Beetham and Sharpe define digital literacies as:

“The functional access, skills and practices necessary to become a confident, agile adopter of a range of technologies for personal, academic and professional use” (Oxford Brookes University, 2010: 5).

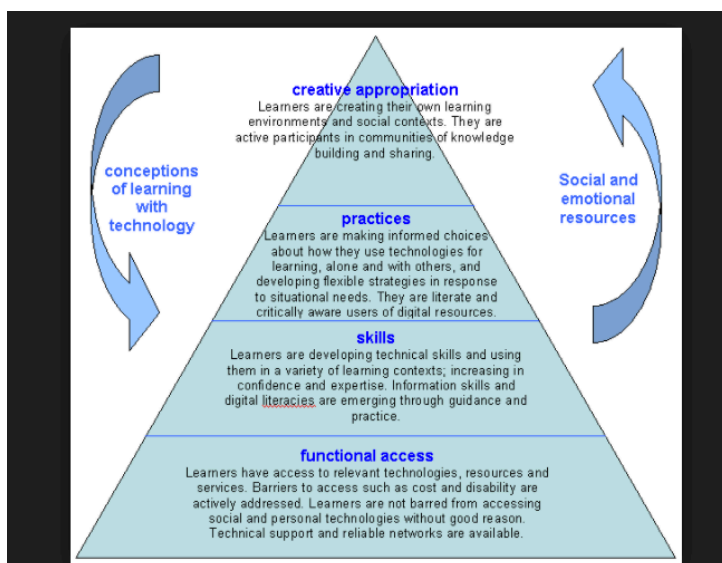
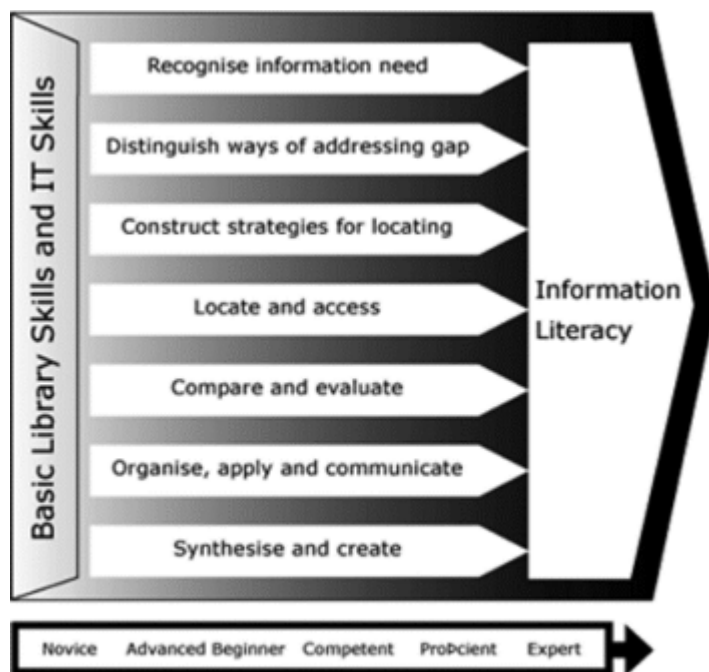


Figure 3: Digital literacies and work placement (Beetham & Sharpe, 2008)

In line with Beetham & Sharpe’s model, SCONUL (Society of College, National and University Libraries) developed *Seven Pillars of Information Literacy: A Research Lens for Higher Education* in 2011 and has since drafted more “lenses” such as the *Seven Pillars of IL through the research lens* (2011), *Seven Pillars of IL through the open content Lens* (2011) and *Seven Pillars of IL through the digital literacy lens* (2011). SCONUL’s Seven Pillars are just one model of IL standards. More exist, such as the framework of American College and Research Libraries (ACRL) Standards for Information Literacy or the Council of Australian University Libraries (CAUL) Information Literacy Standards. However, SCONUL’s “Seven Pillars” models represent the skills and competencies on different levels: identify, scope, plan, gather, evaluate, manage, present, and the learner moves from novice to expert. However, to become information literate is not a linear process – it is rather circular and several skills can develop

simultaneously and independently even though they can also be closely linked (Bent & Stubbings, 2011).

In the 2011 new version of SCONUL's general *Seven Pillars* of IL each "pillar" is divided into 2 sections: "understands" and "is able to" which implies that not only skills and competencies are defined, but also attitudes and behaviours. "Is able to" use the verbs "identify", "articulate" and "recognise" as well as "use" and "take responsibility". The "is able to" category assumes intellectual processes and make the model useful for multipurpose.



Source: © SCONUL 2007. Published with the kind permission of SCONUL

Figure 4: Basic library skills and IT skills (SCONUL, 2007)

The model was used for about 5-7 years (until 2006) as guidelines in British university libraries. Ideally it was thought that it could be adapted in any society at any stage and it should be seen holistically depending on the circumstances. Information landscapes may vary from situation to situation. Within each pillar individuals and groups move from novices to experts, but with changing technologies they also may move down again. However, with the fast developments in the information field it was found to be quite rigid and inflexible (Gallacher, 2009), and that the emphasis was too much on old skills. It focused on print and was rather

by librarians for librarians (Bent & Stubbings, 2011). It needed to be updated. In the revised model of 2004 the pillars are arranged rather in a circular (Figure 5) than in a linear fashion and are not step driven. It is a flexible and adaptable model and moves from skills to attitudes and behaviours (Bent & Stubbings, 2011). This means that in an information-literate landscape anyone can start anywhere and will be led to the next pillar with time and experience.



Figure 5: Information literacy landscape (SCONUL, 2011)

The strengths of the existing old model were re-used and new developments of the growing digital world were added. Therefore Bent & Stubbings (2011) developed after their findings lenses such as the *Seven Pillars of information literacy: a research lens*, or *Seven Pillars of information literacy: a digital lens*.

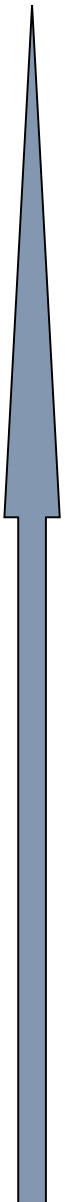
The Seven Pillars of IL as seen through the digital 'lens' (Bent & Stubbings, 2011): The advancement of the internet made it possible for researchers to find and use online and electronic information in an educational setting. Technology is applied to explore constantly growing information systems. However, many new issues have risen such as copyright to digital content, search tools, formats and platforms. Issues of plagiarism, citing and referencing digital sources and the need to keep systematic records of online documents require specific management skills. The importance of security and privacy are competencies that need to be addressed. Online collaboration, publication and dissemination are further specific abilities to become digitally literate. Bent & Stubbings (2011) describe an information

literate researcher as someone who “understands the researcher’s role in scholarly communication such as plagiarism, copyright, open access (OA), and citation rummaging and impact factors”.

The original IL skills identify, scope, plan, and gather are now enhanced to demonstrate an awareness developing skills and competencies to attitudes and behaviours. In the following template the four core skills from IL through the digital lens are specified and provided with examples (in red).

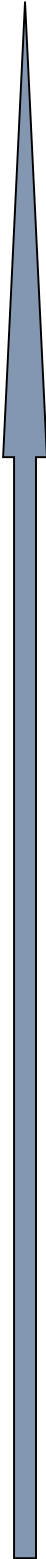
Table 1: Four SCONUL competencies provided with examples (SCONUL, 2014)

Identify	Scope	Plan	Gather
Core skills and competencies			
Understands	Understands	Understands	Understands
Educational environment <i>University; Institute of HE</i>	Issues around copyright, IPR and CC <i>Use and distribute content with licenses; remix, tweak and build upon</i>	The search for digital content <i>Electronic journals; bibliographic databases; federated searches; repositories; libraries; search engines</i>	Different forms of digital publication and media <i>Traditional: CD-ROM, E-book; electronic journal; Online magazine; online newspaper; PDF; new media: blog; collaborative software; digital publication app; file sharing; mobile apps; podcast; enhanced publication</i>
Internet is not regulated, only content maybe structured and regulated <i>Use bookmarks</i>	Accessibility of digital content <i>Be a member of a HE institution; Ez-proxy login</i>	Difference between search tools <i>e.g. Search engine; subject directories; meta-search tools</i>	Resources in terms of popularity vs academic quality <i>References included? Peer-review</i>
Technology is constantly evolving <i>Keeping up with new technologies; hardware and software</i>	Digital publication formats, functionality within software platforms <i>E-books; e-magazines; e-newspapers; audio-,</i>	Impact of sharing digital content <i>Different media types; digital photography; GPS; weather widgets; TV online; blog posts</i>	Technologies as collaborative tools to create and share knowledge <i>Video conferencing; group support systems; collaboration and learning environments (VULA)</i>



E
X
P
E
R
T

	video files; animations; images			P R O F I C I E N T
Lifecycle of digital content such as foresight, sharing and long-term preservation is a lifelong process Steps: Create, publish, promote, monitor, archive,	Impact on online collaboration and networking Enhancing professionalism and efficacy; general better satisfaction and self-esteem	How to use different online communication tools to reach out wider Forums; chats; instant messengers; white boards; Voice over IP	Risk of operating in digital world Smartphones or iPads opening up new entry points for hackers; loss of USB sticks; smartphones; system failures; cyber crime; operation risk; financial risks; IP risks; reputation risks; viruses and worms	
Benefits and limitations of digital content Free vs paid digital content	text ; audio; video files; animations; graphic; images	Where to locate and publish digital content Library; search engine; repository; digital collection tweets; facebook status updates; photos; videos; blog posts; audio files; games and e-books	The importance of assessing and evaluating online searches Review for quality and relevance	
Attitudes and behaviours				
Is able to	Is able to	Is able to	Is able to	
Recognise the importance of skills in locating, creating, arranging and sharing information through digital forms Know about networks, clouds, photo editing, Google Drive and MSOffice, setting up a website, converting file formats, online	Identify gaps in knowledge of digital tools Skills gaps in social media, mobile, internal social networks, process automation and performance monitoring and analysis (Capgemini Consulting, 2013)	Identify online search techniques Identify key words, phrase searching, truncation, Boolean operators	Use a range of digital retrieval tools and technology Content-based retrieval, which enables a user to search multimedia information in terms of the actual content of image, audio, or video (Wan & Liu, 2008)	C O M P E T E N T

banking, branding yourself				
<p>Identify gaps in the digital environment and tools</p> <p>A need for solid, measurable, and accurate digital talent education (Capgemini Consulting, 2013)</p>	<p>Identify search tools for quality digital material</p> <p>Accurate robust sound files; OpenDOAR service (Open Repositories)</p>	<p>Remotely access external digital sources to extend opportunities for discovery</p> <p>Remote access enables to see and interact with the actual desktop user interface of another computer. Remote desktop support allows access to main centre of online sources (at UCT – EZProxy)</p>	<p>Access, read and download digital data and information</p> <p>Necessary programmes and/or apps available</p>	<p>A D V A N C E D</p> 
<p>Assess digital content and tools to enhance academic practice</p> <p>Knowledge about institutional repositories, provide OA, self-archiving and create global visibility to scholarly research, even if that is unpublished.</p>	<p>Assess digital formats for specific needs</p> <p>Know about file formats for images, music, videos</p>	<p>Assess which format of digital media is best for identified criteria</p> <p>Consider sustainability factors such as “disclosure adoption transparency, self-documentation, external dependencies, impact of patents, technical protection mechanisms” (Arms & Fleischhauer, 2005: 4)</p>	<p>Engage is able to g in online collaboration and networking to access and share information</p> <p>Collaborative, interactive, and mobile learning experience that is evolving and keeps engaging participants. Virtual classrooms, offices and meeting spaces; e.g. VULA</p>	<p>B E G I N N E R</p>
<p>Recognise digital solutions</p> <p>With the help of technology expand critical thinking, problem solving,</p>	<p>Use new tools and assess them for suitability</p> <p>Scope tools and assess them, use Feedback for improvements</p>	<p>Use different online communication tools to extend reach</p> <p>Websites, email, forum, chat, mailing list, newsletters, video-conferences, instant messengers</p>		

communication and collaboration		(IM), web 2.0 (Flickr, Youtube, Wikipedia), social networks		N
	Assess how online collaboration can enhance academic practice Mendeley, Endnote, Zotero, Google Docs, ResearchGate, Dropbox, Google Drive	Assign meta data tags to content for discoverability The more accurate the Dublin Core metadata sets are used the better the discoverability: Title, creator, subject, description, publisher, contributor, date, type, format, identifier, source, language, relation, coverage, rights		O V I C E

The original IL skills identify, scope, plan, and gather are now enhanced to demonstrate an awareness developing skills and competencies to attitudes and behaviours. Although the *Seven Pillars* originated and progressed in a developed country they are theoretically adaptable to less developed countries. They merely offer a framework from where to start and what should be included. The challenges of a Higher Education (HE) institution in South Africa are very different to those in developed countries. All the more should attention be given to the education of basic IL principles: whereas students in Europe or the US/Canada grow up with a certain degree of IL in schools, is that not the case in SA. The majority of secondary schools in SA do not have school libraries, nor any form of IL at all. Most students who enter the university from these underprivileged schools need to learn computer skills and DL. This thesis will suggest to collaborate with developers of these foundation courses and offer teaching of basic IL skills, so that students in their Honours year are better prepared for the academic exercises they are required to do.

There happens to be a very similar vocabulary in both models (Figure 4) and proves the deep connectivity between academic literacies IL and DL. In the following table (Table 2.2) this becomes even clearer:

Table 2: Summary of literacies

<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: #4a86e8; color: white; padding: 5px 15px; border-radius: 5px;">Slow</div> <div style="font-size: 2em;">↔</div> <div style="background-color: #4a86e8; color: white; padding: 5px 15px; border-radius: 5px;">Change</div> <div style="font-size: 2em;">↔</div> <div style="background-color: #4a86e8; color: white; padding: 5px 15px; border-radius: 5px;">Fast</div> </div>		
Academic literacies	Information literacies	IT and digital literacies
Critical thinking	Searching skills	Web searching
Problem solving	Finding information	Using digital devices
Reflection	Retrieving information	Communicating responsibly in social media
Academic writing	Identifying research field	Able to use word processing and spread sheet programmes
Note-taking	Planning search techniques and strategies	Able to share on sharing platforms such as Google Drive
Concept mapping	Scoping availability of resources	Using databases
Time management	Gathering, understanding how information is organised, what is free and what is paid for	Analysis
Analysis	Evaluating, quality, accuracy, relevance, bias, credibility, critiquing	Personalisation
Evaluation	Managing resources consistently	Responsible online web-behaviour
Creativity	Referencing	Crediting resources used
Self-directed learning	Presenting, sharing on different platforms in different formats	Creating videos, games and quizzes
Collaborative learning	Team presenting, working groups, communities of practice	Publishing on OA, contributing to OER, slideshare

Tabel 1 and 2 demonstrate that the meaning attached to the same words/concepts differ, but that all models show core skills and competencies in the literacy skills journey and emphasise the parallel developments of general academic literacies to information and digital literacies.

The interpretation of the different meanings falls outside the scope of this study and will not be explained further.

The digital divide that existed and still exists between socio-economic disparities, the haves and the have-nots of information technology, people living in rural or urban areas has developed into a digital divide of skills, competencies and specifically attitudes and behaviours of the digital world. Most people have digital devices nowadays, even very poor ones. The connectivity is improving constantly. The possibilities to get connected are increasing. But what is lacking is the “learning and productivity of exploiting the technology to which there is access” (Sharpe, 2010: 10). A growing need to combine IL and DL and use the skills of both to the advantage of better outcomes exists.

2.4 Challenges

2.4.1 Lack of policy

A policy according to the Academic Britannica is a “high-level overall plan embracing the general goals and acceptable procedures or a “a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions”. It gives a cause direction and boundaries. In the global North it is standard practice to have a policy or framework for IL in university. In many courses around the world DL components have been incorporated without the guidelines of a policy, after it was discovered that a need for it was essential (Sheppard & Nephin, 2014). At Leeds Metropolitan University DL was adopted as a gradual attribute to improve learning and an Online Toolkit was created to fulfil the *Seven Pillars* framework as suggested by SCONUL (Bent & Stubbings, 2011). This means that the creators realised the importance of a framework for DL, of which IL is a part, in 2011 and acted upon this need. The *Seven Pillars of IL* can be seen through the digital ‘lens’ (Bent & Stubbings, 2011). The concept DL actually developed much later than IL, but because it grew to such an encompassing field, it covers a broader spectrum of literacies, such as can be seen in Table 2.

In the Czech Republic best practices in term of IL policies has grown in the last 15 years (Dombrovská, et al, 2014). In most university libraries in the US (California, Cleveland, State University of New York, Arizona, Cornell to name but a few) IL standards were introduced in

the 1990s already (Taylor & Patterson, 2000). New policy frameworks are introduced in many other parts of the world already. At Victoria University, Australia, developments of new library services and their specific digital literacy skills were identified. These include Open Access, institutional repositories, researcher's data management, scholarly communication and required new policies in terms of services offered by the library (Kiel et al., 2015). New and existing literacies need policies to be able to get down to the complicated task of literacy teaching and learning with effective methodologies (Tyner, 2014). Aims and objectives need to be clearly defined.

In South Africa only two universities have IL incorporated into their curricula: the Cape University of Technology (CPUT) library since 2009 (Lockhart & Becker, 2014) and the University of Pretoria (UP) (Esterhuizen & Kuhn, 2010). These two universities managed to integrate an IL part into the conventional syllabus. All other institutions of higher learning offer IL on an ad hoc basis and as it suits the lecturers. Lecturers assume that students have the necessary IL skills. They do not acknowledge the necessity for IL education, and argue that students should spend their time rather on credit-bearing courses. The collaboration between lecturers and librarians is lacking, which adds to the problem of the non-recognition of the educational role of librarians.

There is a distinct lack of policies around Africa in general and South Africa in particular (Baro & Keboh, 2012). Tiemensma (2012: 161) argues that "IL training should (even) be part of the institution's policy" and not only as the library's responsibility. Libraries could be the facilitators because librarians have the interest and knowledge. They could be trained and qualified to teach IL with a proper curriculum. This all means that SA indeed has a challenge to justify IL and DL teaching and learning.

A thorough look at available policies and practices in the world in general and in particular in South Africa would be beneficial. Policies standardise. With the presence of such a policy, would the general perception of IL be more acceptable, as it is in the US? (Hinchliffe, 2001). *The Library and Information Services Transformation (LIS Charter, 2014 of South Africa)*, commissioned by the Department of Arts and Culture (DAC) and National Council for Library and Information Services (NCLIS) declared in 2014 that an IL policy plan is in the pipeline since

2009 and maintains that graduates should enter the workplace with the appropriate IL skills. In 2010 an initiative by the Committee for Higher education Librarians of South Africa (CHELSA) started to develop a national framework for IL training in SA (Esterhuizen & Kuhn, 2010). CHELSA recommended the development of guidelines, which would reflect core competencies for “an introductory level information literacy training programme”. Unfortunately this plan has not been finalised as yet.

2.4.2 Lack of pedagogical skills of librarians

In general, a lack of understanding between librarians and faculty exists in terms of a pedagogical discourse (Leckie & Fullerton, 1999). Faculties in general are usually impressed by what librarians can offer for IL, but the pedagogical absence of experience in teaching is one of the reasons why deep learning IL generally does not take place. The authors suggest self-reflection and informed listening for librarians. In such a way they would be able to have a deeper understanding for the pedagogical advantages.

Littlejohn, Beetham & McGill (2012) also come to the conclusion that real learning takes place in DL if authentic tasks including digital technologies were more applied and if media were used in academic and professional environments and not only in social practices. Educational methods can be used to develop critical digital literacies and the collaboration of developers and professional staff would make these new and digital literacies even more valuable. Equally important is the development of new academic directions such as digital scholarship, Open Access publishing, digital research collections, digital repositories, and data sharing. The authors suggest that in the UK universities could play an even bigger role to place a greater value on digital literacies by preparing students better in their digital knowledge practices.

Similarly, Westwood (2013) discusses in her blog “Melon the Librarian” IL at Cardiff. She mentions that IL has been embedded in 66% of the courses successfully and that with that strong foundation DL can be blended in to build a strong education strategy. They do have a strong support from management and she maintains that “this managerial involvement is seen key to getting digital literacy on to the agenda”.

Very little research has been done to establish students' feelings of the value of IL, or how they acquire IL skills. This study shows some data about students' perceptions of IL, but nothing on how they do obtain skills after all. Literature on this topic proves librarians' sentiments of IL, a few from academics and lecturers, but hardly any from the students themselves. They do admit that they would like to learn much earlier in their career on how to become IL, but only after a once-off session.

However, as SCONUL's *Seven Pillars* advise, it is not only the technological device, the tablet or the mobile phone, that makes a student digitally literate, it is the content, the content usage and management of the content which became priorities. This is a golden opportunity for librarians to disseminate their knowledge about IL skills. Even though the old problem of ad hoc IL lessons exist, a general movement towards incorporating IL paired with DL and embedding librarians in the curriculums is shifting (Littlejohn, Beetham & McGill, 2012; Lea, 2013; Jacobson & Mackey, 2013).

All together today's teaching librarians should change their habit of standing in front of the class with a presentation drastically to stay in the forefront of information studies and choose to go for multimedia teaching which includes the digital aspect most. Videos, animation, games and interactivity are part of new teaching methods. This means that students can use their devices. Secker & Coonan (2013) define their profession as being an expert in information literacy which has expanded that to digital literacy, copyright and e-learning, social media, library 2.0, staff development, learning support, academic literacies, research support. Secker is based in the Centre of Learning Technology at the London School of Economics (LSE). Her main role is providing advice and support to staff of Copyright issues and using library resources. She runs "digital literacy" workshops for staff.

Keynote speaker of Kirsti Lonka at the Partners in Learning Global Forum, 2012, agrees that teachers have a great impact on modern society with new devices and different and immediate access to information mentions the term "digital natives". What does it mean to teach the "digital natives"? Even if one is sceptical about the notion of "digital natives", it is still worth considering how information behaviour has changed, particularly when people are growing up with constant access to the internet and technologies. Instead of complaining

about that irretrievable fact it would of great value to use that interest which youngsters show in their devices and skills for teaching IL and DL.

2.4.3 New challenges in South Africa

South Africa in general and UCT in particular are faced with more challenges at present. Students protest against rising university fees (Cape Town's universities shut down, 2016). These protests often lead to closing of libraries and its services, including the teaching of IL aspect. Proactively libraries are considering alternative measures to deliver IL, such as online or blended opportunities. Mackey & Jacobson (2014) discuss a metaliteracy model for online communities. The question arises whether IL can be taught online, with the same goals in mind, namely SCONUL's *Seven Pillars*. It seems that the IL sessions as they are applied at the moment are in any case fruitless as proven by this case study. Possibly the necessity to learn off-campus, and the opportunity to learn online with better and more consistent instructions would be more successful for the IL skills. This research has 5 questions regarding DL, which could indicate the preferences of students coming to a once-off IL gathering. The availability of devices for students, especially poor students is still a problem.

Mackey and Jacobsen (2014) emphasise that today's learners communicate create and share information using social media, blogs, wikis, mobile devices, online communities, cloud computing and MOOCs. Metaliteracy expands traditional IL skills to include the collaborative aspect and the sharing of information and knowledge. Metaliteracy, they argue, would be reinventing the existing IL. Nonetheless do students need to be IL to be able to apply metaliteracy properly. Librarians need to start thinking of re-inventing their role as teachers of IL but rather have an online or virtual presence. The teaching skills they should develop should develop into online teaching skills . Several initiatives are undertaken by librarians, such as the development of library guides, quizzes, how-to videos, tutorials which at the moment still enhances what they teach physically, but in future could be a replacement of the once-off IL sessions that prove to be unsuccessful and futile.

The challenge to put this into practice still lies in convincing academic departments of the necessity to be IL, or meta-literate, to be able to get a presence in courses. As discussed before

librarians do still have a low academic status and poor reputation. Yet working on an online presence could prove to be exceedingly more successful, because of the scholarly use of information technology.

2.5 Chapter summary

In summary of this chapter it can be said that even though this case study will prove that IL and DL are decidedly necessary skills to have, literature shows that not enough is done to combat the lack of these competencies. Worldwide, but specifically in less developed countries, such as SA, where the divide between rich and poor, as well as IT disadvantage, is vast, and the school systems are completely underdeveloped and neglected, a university such as UCT almost has the obligation to assist with a solid IL and DL programme.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This research project is a typical example of a case study using an interpretive paradigm as framework and the research method is a mixed method with an element of triangulation for validity.

3.2 Research paradigm

3.2.1 Interpretive paradigm

Before the literature review covering the topic is offered to the reader, it would be useful to mention that case studies draw on specific paradigms. A paradigm can also be called 'worldview' (Creswell, 2014) or 'epistemologies' or 'ontologies' (Henry & Pene, 2001). It refers to the philosophical interpretation of the world which a researcher wants to study. Babbie defines it as a logical "framework for observation and understanding, which shapes both what we see and how we understand it" (1998: 34). These paradigms offer frameworks in which theories are created.

For this study the *interpretive paradigm*, which was adopted by the German philosopher Max Weber (1864-1920), is most appropriate as it includes experiences of people in specific social contexts. It looks at qualitative approaches that are able to capture the lives of participants in order to understand and interpret the social reality in specific contexts. This paradigm assumes that human beings construct subjective meanings as they engage with the world in specific social, cultural or academic contexts.

A qualitative researcher tries to portray these views and interpret their meanings according to their (the participants') background and experiences of the world. A qualitative researcher also generates meaning from data collected in his field. Human experiences and behaviour cannot be separated from the person experiencing it. It is a spontaneous and natural development of actions and utterances that the study attempts to capture. It can be described as an "accurate reflection of reality" (Denzin & Lincoln, 2008). The authors describe

the interpretive paradigm as a measurement being fallible, because of human behaviour, and therefore encourage a variety of data sources and methods of analysis to agree on the validity of findings. Ngulube and Ngulube (2015) describe a case study in which “multi-methods” or “Mixed Methods” is an in-depth study and a rich insight into a single example of a social phenomenon (for example, in this case the IS Honours class).

Paradigms, research design and research methods add to the research approach of a study and could be a quantitative, qualitative or Mixed Methods approach. The nature of the research problem determines which method to apply, usually a personal experience of the researcher which influences the worldview which the researcher has or the audience for whom the researcher is exploring a phenomenon. “Interpretive” can also be described as positivist: “Positivist approaches are taken to exhibit a tendency for the researcher to view events from the outside and from the point of view of a cluster of empirical concerns which are imposed upon social reality with little reference to the meaning of the observations to the subject of investigation” (Bryman, 1984: 78). The social reality in this case study is the fact that the majority of a postgraduate class in a higher learning institution (UCT) has no understanding of IL and little understanding of DL. The researcher has very little influence on the curriculum these students are following, and therefore stands outside observing and “viewing the event” empirically to establish what it means to present a well-prepared lesson in IL, although the social reality proves that there is no insight from neither the students nor the lecturers. This observation became the subject of investigation.

Arends (2014) agrees and describes positivism as based on observation which involves a scientific study about how people learn. She explains transformative learning and argues that people, in this case students, construct their own perception and knowledge of the world by reflecting on own experiences. Learners are their own creators of what they know and understand. In a learning environment positivism, sometimes with elements of constructivism, can indicate different teaching practices. Teaching takes place by students using active techniques such experiments, in this case writing a literature review, to generate new knowledge and afterwards reflect on what exactly they did and how their understanding changed from little or nothing to being able to have a conversation about it. The lecturer guides the whole process.

The researcher observed the whole process, especially the course conveners who were experimenting with the learning of the students, assuming that they could understand IL skills. She also observed students who had no clue as to where and how to start writing a research project with a literature review.

In the case of this research project, a case study has been described. The Mixed Method was thought to be the most appropriate methodology. As a guideline, the 'Mixed Method design: an alternative approach' by Maxwell (2008) was loosely followed. Mixed Method is the use of both qualitative and quantitative methods, widely used in social science research. Maxwell argues that all the components of the mixed methods are connected, rather than linear or cyclic. That matches this case study, as we will see in the findings chapter: the survey responses are intertwined with the results of the focus group discussions and interview. Later in the chapter the goals of the research will be explained, including the rationale and the purpose of the study. A few research questions emerged while reflecting on the current situation of the DL and IL at UCT.

3.3 Research approach

3.3.1 Mixed Methods

The researcher decided that the Mixed Methods approach would be appropriate. Mixed Methods combines qualitative and quantitative data and mixes both to an equal extent (Creswell, 2009). Creswell (2016) later calls it a "core design of research, which is better suited for graduate research conducted on a small scale ... and does not fit large complex projects". This case study is a small-scale research project. Creswell then further discusses each quantitative and qualitative method. This study uses a questionnaire as a quantitative method and focus group (FG) discussions as well as interviews of a *case study* as qualitative methods. According to Creswell, the mixed method can specifically attend to marginalised groups because it can identify the groups quantitatively and use qualitative methods to let them speak about opinions and use words and text.

Another advantage of the Mixed Method is that questions are answered from different perspectives and that it is likely that potential gaps to data or information are filled. The research rigour is also better determined. For the mixed methodology it is important that data collections are done at the same time, so that there will be no or very few discrepancies in answers, especially when it comes to opinions, attitudes and beliefs. In this case the data collection was executed at the beginning of the academic year to be able to determine the IL and DL knowledge at that specific time. Any time later in the year would have had little effect on the study, because students would have completed a few assignments already and they would have had the help of librarians and writing centre specialists to assist them. For the qualitative part of the methodology two kinds of interviews (Appendix B) were utilised, namely three individual interviews and two focus group discussions (Appendix C), while for the quantitative part an online questionnaire was sent.

3.3.1.1 Validity

Maxwell (1992: 279) highlighted the importance of validity of qualitative research in the process of “describing, interpreting and explaining phenomena of interest”. Measures need to be in place to make research “legitimate”. The term ‘triangulation’ developed later and is used as a validation measure. According to Creswell and Miller (2000: 126), triangulation is “a validity procedure where researchers look for convergence among multiple and different sources of information to form themes or categories in a study”. Triangulation generally is used by applying two or more data collection methods to validate the results and determine their reliability. Although Mertens and Hesse-Bieber (2012) do not agree that triangulation is a valid measure, and Creswell (2009) argues that triangulation is too detached a way to look at results and prefers the integrative way of Mixed Methods, a small part of triangulation is appropriate, to ascertain some validity in the research results. The focus group discussions with the same students will confirm some of the questionnaire results.

3.3.2 The case study

A case study is an investigation about a phenomenon at the stage, observed over a period (Hartley, 2004). This case study was mainly qualitative in nature, and was validated quantitatively by way of a questionnaire. The research questions guided the questions asked in interviews and FG discussions:

- What are the students' perception of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a PG course?

The Honours course of Information Systems (IS) has several streams, mostly to accommodate as many students as possible who show an interest. A 29-page course outline explains in detail what is offered by the department and what is expected from the students. In the Introduction it reads:

“Honours in Information Systems at UCT aims to provide students with an understanding of the complexities and issues involved in the development and management of Information Systems by giving students a range of experiences. Students will gain experience both by learning and doing. Experience include preparing and presenting seminars, working in a systems development project team, conducting and writing up empirical research, mentoring and tutoring undergraduate students, engaging in discussions, and doing community work” (University of Cape Town (UCT). 2016: 1).

The Introduction is followed by a description of the course and tries to embed a business perspective of IS. Here the overall objective of LIFE (Learning, Innovating, Financing, Empowering) (UCT Course outline, 2016) is clarified. Furthermore, the required skills are listed: Basic Information Systems knowledge, programming skills, writing skills, listening skills, questioning skills, reflective skills, time management skills, and self-management. Some more objectives follow in the outline. By now the researcher realised that the terms 'information literacy' or 'information gathering' or 'digital literacy', or any 'literacy' or vocabulary used by SCONUL, do not feature. Much is said about the prospective literature review, but the word 'library' appears only twice on a superficial level.

Nonetheless the students are expected to be capable of writing a literature review in the first two weeks of the start of the academic year: "... each student will be handed a topic on which to research and write a five-page literature review. Each literature review will be assessed with comments and corrections ...". A great deal of emphasis is put on the literature review.

The course progresses, and four weeks before the submission for the main seminar the "students must ensure that they receive the scope of the subject matter, guidelines and literature sources....the students must then carry out a *focused literature survey*, and summarise the particular body-of-knowledge in the form of a 15-20 page quality *literature review paper*."

Three weeks before submission students are expected to submit a paper that "follows the standards and procedures set out in the departmental writing guide, that grammar, spelling, logic, flow are correct, that all *citations and references* are to APA 6th standard ...". Two weeks before submission the students must source *three (3) key research articles* used in the literature review and if they do not have in their final version the "cover, TOC, plagiarism declaration, *bibliography*, appendices, etc.", they will be penalised. The word "literature" appears 21 times in 29 pages and "literature review" 12 times.

It seems that the department believes in repeating exercises throughout the term to reach the required academic goal, without students understanding fully and learning about lifelong skills of information and digital literacy.

3.4 Methods of data collection

This study sets out to investigate whether – with two different methods, one questionnaire and two interviews – students are information-illiterate in the fourth year of university, and whether this could have been avoided if the right mechanisms were in place to learn to be IL as defined by SCONUL.

For the qualitative analysis of the data, the open-ended questions in the questionnaire, and the transcribed FG discussions and interviews, NVivo was used. NVivo is a qualitative data analysis (QDA) software, developed by QSR, that supports qualitative research by importing

and analysing text, which is clustered into themes, then provided with coding which can be combined by creating relationships according to queries. The software helps to work with unstructured information from documents, surveys, audio, video, picture files, and it lets one collect, organise and analyse. Text can be from Word or Google documents, pdfs, spreadsheets, webpages, social media, and everything that is digital. NVivo can also offer hierarchies to understand the analysis clearer. The advantage of NVivo is that it helps with analysis and discovery, lets the researcher work systematically, lets the researcher uncover connections that are not possible to find manually, and justifies findings with solid evidence. It also can serve as tool to share data that has been analysed with other researchers. (Welsh, 2002). The areas that were focused on in this research were mainly the understanding of (1) IL as defined by SCONUL, (2) the impressions of the students on their fourth year of study by their lecturers, (3) the development of the course, (4) opinions regarding the general literacy aspects of students.

The FG discussions, and the interviews were recorded with a mobile phone and then transcribed into text. The FG discussion with the Full-timers lasted about 50 minutes, while the FG discussion with the Part-timers lasted about 40 minutes. All interviews lasted about 45 minutes.

3.5 Data collection

Ethical consent (Appendix D scanned in) was sought from the Ethics section from the School of Education after having read the UCT Code for Research involving Human Subjects. This research is making use of human subjects, namely a Honours class divided into different streams of Honours students in Information Systems. The students were first asked to complete the questionnaire and were informed about the prospective study with an introductory e-mail (Appendix E) which accompanied the questionnaire. They were notified of the intention of the research and the benefits of the results were explained. It was made clear to them that answering the questionnaire was completely voluntary and the promise that no harm would be caused to them. The promise of confidentiality was included and that the identity of each student would not be revealed. The email also suggested that the results would be used purely to suggest a recommendation in the information and digital literacy movement at UCT.

3.5.1 Questionnaire (Q) (Appendix A)

SurveyMonkey was chosen as the online questionnaire. The advantage was that it is an online questionnaire which can be completed by respondents online. Marra and Bogue (2006) describe it as “a popular online survey tool” that comes with a relatively large set of features considering the pricing structure. It is designed to be easy to use but at the same time does not provide the high degree of customisation that products such as” and its ease of use is attractive.

SurveyMonkey also enables researchers to collect data around factual questions as well as opinions and feelings. In the words of Buchanan and Hvizdak (2009: 37): “The purposes of survey research include describing a population, identifying characteristics of a group, describing attributes and characteristics of research interest, explaining a phenomenon, or explaining how variables are related.”

It also helps to collect, manage and analyse data. It also assists with the presentation of results in graph or column formats and helps to keep everything orderly.

The questionnaire (Appendix A) started with a letter to all the Honours students at the beginning of the year, alerting them to the questionnaire on IL and DL. The beginning of the year seemed very important considering that after some time and many surveys and questionnaires into the first few months a certain survey-fatigue is likely to develop. The questionnaire was accompanied by an inviting e-mail which explained what the questionnaire was for, and why it was important. The email explained that the study is done to motivate a more structured and regular way to offer IL, possibly linking it with DL at university at a much earlier stage. Confidentiality was promised at all stages. Students were also promised that they could withdraw at any time (Appendix A).

The email contained a link to the questionnaire. After two days *SurveyMonkey* sent a reminder to those students who had not reacted yet. Seven responses were received on the first two days and came trickling in. Most responses (21) were received on the 3rd day after the second reminder. One day later, the last day of the deadline, and after a brief follow-up email, another 15 were received.

Questions were multiple-choice, drop-down choice, rating scales from 1-5, ranking and comment boxes.

The first four questions were general questions, followed by questions regarding IL and lastly questions on DL.

There are many advantages using a questionnaire, which is one form of surveys, to find answers to a specific phenomenon: it is web-based, online, the participants are easily reachable, and the students received two friendly reminders with a detailed description of the background and reason for the questionnaire. The most obvious way of analysing the questionnaire later was to split all the responses into full-time (FT) and part-time (PT) students. Of 83 students altogether, 20 FT and 23 PT students sent their responses. That is a rate of 52%. This is a relatively good result. The two reminders, the thorough descriptions of what the questionnaire was for, and the assurance that the questionnaire was UCT-internal were reasons for the good return.

The participants were thanked in a final email for their cooperation.

3.5.2 Focus Group (FG) (Appendix C)

Vogt, King and King (2004) define FG discussions as “a valuable way of gaining insight into shared understandings and beliefs, while still allowing individual differences of opinion to be voiced. They enable participants to hear the views and experiences of their peers, and cause them to reflect back on their own experiences and thoughts”. For this reason, two different focus groups were selected: one from the FT students and one from PT students. In both cases a scribe was used to take notes while the discussions were in progress. The discussions were semi-structured with prepared questions which concentrated on the students’ perceptions of IL, their school backgrounds, their opinions around literacy in general and whether they felt that these skills would have helped them earlier and better in their preparation for academic essays or assignments. Both sessions were recorded with a mobile phone. Both sessions were transcribed verbatim and then compared with the notes from the scribe to make sure that responses were understood correspondingly. It validates the discussion and confirms what is being said. Using a scribe is an ancient form of conducting secretarial and administrative

tasks. Rabiee (2004: 657) emphasises as well that “the process of data analysis begins during the data collection, by skillfully facilitating the discussion and generating rich data from the interview, complementing them with the observational notes and typing the recorded information.”

He continues by stating that the process of familiarisation with the data comprises listening to the recordings, transcribing them oneself by listening several times to them in their entirety and by reading the observational notes taken during interviews. He suggests that one should “immerse [oneself] in the details and get a sense of the interview as a whole before breaking it into parts”. Being as focused into this activity some central points will rise. NVivo is therefore a useful tool to help in extracting the main focus points from the text.

The use of incentives proved to be valuable. Students turned up hungry and thirsty and were grateful for the refreshments. It also loosened them up and both discussions started in a relaxed and casual way while pizzas and cool drinks were consumed. Incentives are the motives for an effective turnout for focus group discussions.

All participants of both focus groups agreed and signed a “Participant consent form” (Appendix F).

FG 1, the full time students’ group, met at lunchtime after a few invitations to the FT students had gone out before. This seemed the easiest way of getting some respondents. Not one student reacted on two offered occasions: once from their lecturer via VULA which is the university’s online learning system and once personally via e-mail. Both times pizzas and cool drinks were promised but no one turned up. With the assistance of the lecturer the researcher succeeded in finding participants only when permitted to have a brief five-minute face-to-face talk at the beginning of the class. They were promised pizza and cool drinks again, and the assurance that she (the researcher) would also be a volunteer should they have to conduct research. She reminded them that as part of an academic institution, research is part of academia. They were interested then. For the discussion eight students agreed to participate, but 12 arrived eventually.

FG 2, the part-timers, met with the researcher on an extremely busy day at the university, Orientation Day for first-year students. They voluntarily requested a general IL session, and agreed to have the FG discussion afterwards. There were originally seven interested students, but only four turned up. The others sent their apologies, mostly because they could not find parking.

FG1 took 45 minutes and FG 40. Unfortunately, the last 10 minutes of FG2 discussion are inaudible, but it was a jovial and happy conversation about private emotions on education in general and no longer about the issue at stake. To transcribe the discussions took about two hours for eight minutes' recorded conversation (Appendix J and Appendix K). The researcher decided to transcribe the discussions herself, firstly because she can attribute statements herself. She asked the participants to introduce themselves first, which encouraged them to talk and secondly, and gave a point of reference when attributing statements within the interview (Mansell et al., 2004). It gave the researcher that control to find details she was looking for later. The participants of these interviews were not interested in receiving the transcript back later to confirm the validity of their contributions although it was offered to them. The topic was not of such a sensitive nature that it mattered to them, and they trusted the researcher enough to take what they said as they meant it. The Focus Groups questions can be found in Appendix C.

3.5.3 Interviews (Appendix B)

The researcher decided to make use of semi-structured interviews. Bryman (2015) describes a semi-structured interview, in which the researcher has a list of questions or fairly specific topics to be covered referred to as an interview guide, but where the interviewee has a lot of leeway to answer the questions. Questions may not be asked exactly as outlined and the interviewer may ask questions that develop from the conversation. All questions will be asked and similar wording will be used. He further describes the "interview process as flexible" and the interview is led by the interviewer according to the questions and interests (s)he has in the subjects and "what the interviewee views as important in explaining and understanding events, patterns, and forms of behaviour" (Bryman, 2015: 468).

Although interviews are quite labour-intensive, by requesting participants to free some time, by preparing the relevant questions, by conducting a 40-50 minute interview with the right equipment such as a well-functioning recorder, and lastly by transcribing the conversation, it is still a “powerful way to gain insight into educational and other important social issues, through understanding the experience of the individuals whose lives reflect those issues” (Seidman, 2013: 14). It is a method of inquiry through language. The researcher chose to transcribe the interviews herself, and not have them transcribed by a service. She wanted to write the words as she remembered them, bringing to mind the specific situations, the pauses, the humour and the body language of the interviewees.

Lastly, by recording an interview, words an interviewee has spoken can be preserved and can always be revisited if a misunderstanding should occur. What the researcher learned about recording interviews was to invest in a good microphone, which would make the transcription process much easier.

The three interviews with the lecturers or course conveners were held in their respective offices, which gave them the comfort to be at ease when asked. All three interviewees were asked the same questions. For anonymity purposes the names of the interviewees are pseudonyms. The first interviewee is called Sven, the second Peter and the third Chris. Sven’s interview lasted about 50 minutes. He was the main course convener. When transcribed 6032 words were counted (Appendix G). Peter’s interview lasted 37 minutes and 3925 words were counted (Appendix H). Lastly, Chris’ interview lasted 45 minutes and 4697 word were counted (Appendix I).

Table 3: Summary of the interviews

	Minutes	Words
Sven	50	6032
Peter	37	3925
Chris	45	4697

All three interviews proceeded differently, although the same questions were asked. Sven felt obliged to explain in great detail the history and development of the Honours course. He apologised from the beginning that he felt the need to elaborate on the different streams and the variety of students wanting to complete the Honours degree. Peter was a very fast talker and answered the questions thoroughly and precisely. Chris' point of view was the comprehensive explanation of the academic process he follows so that his students have by the end of the year completed an empirical research project.

Table 4: Summary of Research conducted

Research instrument	Description	Participants	Dates
Questionnaire (Online, using SurveyMonkey)	Questionnaire consisted of four general demographic questions, 16 questions on IL, and 10 questions on DL. Students received an invitation to participate on Day 1 and were sent a friendly reminder on Day 3.	Sent to 83 students, 43 respondents	14-17/2/2016
Focus Groups	Two groups, one full-time student, one part-time student, which were asked the same questions on their experience and opinions regarding IL and DL. Students were invited for an informal discussion, and as an incentive were promised pizza and cool drinks.	12 (FT) 4 (PT)	6/4/2016 and 16/4/2016
Interviews	Semi-structured interviews with course conveners and lecturers to assess departmental actions regarding yearly IL and DL routines, as well as opinions regarding IL and DL in general and for their respective courses in particular	3 participants	1/2/2016 – 11/3/2016

Before the interviews took place the researcher had a first conversation with one of the course conveners who revealed what was important to him for me to understand: he explained the course outline in detail and how the students were grouped: INF4026F and INF4025S were semester seminar courses, INF4024W (Empirical research) and INF4027W (Systems Development). He explained from the department's website:

"Entrance to the Part-Time Honours programme is through the Postgraduate Diploma. Students who have performed well on the Postgraduate Diploma are typically invited to convert to the Honours programme." (Sven)

"Prerequisites for part-time students"

Candidates must have completed the Postgraduate Diploma, obtaining above average results. Candidates must have experience of critical reading, literature survey work and have previously written at least four essays or white papers at Postgraduate level. Exposure to research methods and/ or statistical methods will be an advantage, but is not required."

(University of Cape Town, Faculty of Commerce website, Department of Information Systems, 2016)

"Prerequisites for the full time students"

"This course is for students who have successfully completed an Information Systems major. Typically, marks in 3rd year IS courses should average 65% or more. In addition, it is expected that the applicant will have passed courses in other Commerce subjects like Accounting, Economics, Management and Statistics."

"Students who have majored in Computer Science but who have also passed IS major courses and some Commerce courses may be eligible at the discretion of the Head of Department."

(University of Cape Town, Faculty of Commerce website, Department of Information Systems, 2016)

This comparison between full-time students and part-time students is necessary, considering that in our conversation or interview this is the main difference for the lecturers in course content and its teaching in class. Sven suggested: *"I think it what would benefit your research,*

if I may say so, is to know about this divide and then you divide them – you might get different perceptions from these (FT) and from these (PT)..."

"These you would know are your typical [ones that] come through university, [with] no working experience straight (FT). These have been working for at least three years, some many more (PT)." (Sven)

As suggested, the most obvious differences therefore are in terms of age and gender. Full-time students are younger, with slightly more male students. Part-time students are older with more male students (29) as compared to female students(14)

The interview questions can be found in Appendix B.

3.6 Qualitative data analysis method

The researcher took advice from Rabiee (2004), with some practical steps for managing and sorting data such as making two hardcopies of the transcribed interviews and FG discussions. She coloured paragraphs in both copies differently to establish themes that were more important than others. At the edges of the documents notes were made on different situations while the discussions were in progress, for instance on the humour of the situation, some seriousness, some light-heartedness, but also irritation and personal attacks. In line with the confidence assurance, these were not analysed.

The researcher also made notes when she felt that the questions were not properly answered and diverted into another direction, or that they were not properly understood. She realised relatively quickly that the term 'literacy' meant little to most participants, 'IL' and 'DL' even less. What she did hear was a misconception of the terms, and a non-familiarity in general. The frequency of IL or DL terminology having to be explained made her aware of the problem being researched.

For analysis all five interviews, the three with the lecturers and/or course conveners, as well as the two focus group discussions were imported into Nvivo. Nvivo has a node system which allows clustering of topics and drawing from the transcribed texts. It gives the researcher the

chance to structure unstructured data. By being able to combine data from different nodes one is able to draw conclusions that were not otherwise possible. Once data has been structured it is much easier to organise and then analyse. It helps to make robust arguments and decisions. In this way the seven SCONUL pillars were topics and clusters.

All documents, the transcribed interviews, the transcribed focus group discussions, the notes the scribe took, the questions asked to each group, the questions of the questionnaire, the answers of the open-ended questions from the questionnaire, were first saved in Microsoft Word documents and then were all uploaded into NVivo. Synonyms had to be found for the vocabulary used by SCONUL, as SCONUL is UK-oriented and in SA different words might be in use for the action they are proposing. One example is the word 'scope'. 'Scope' is a relatively unfamiliar term in South African English in its meaning of 'find, assess, investigate, scan' which are more established in the SA context. In Microsoft Word the 'Find' filter was used to establish how often specific terms were used. In this way a pattern could be established and conclusions drawn afterwards.

In the analysis some answers were analysed without NVivo. Responses sometimes occurred spontaneously and freely and could not be put into the grid of nodes. For example, when asked about the view on the general status of education of SA and how that might influence the IL and DL skills one person in FG2, the PT group, replied:

“(It’s weak!) Maybe that is why this country is not really going forward.

... But it is also the COST of education! Don’t forget the cost! There is a financial imperative in primary school already. They have changed – I don’t have children, but ... they have changed – if you are not based or located in close proximity of the school your child wants to go to, you can’t send your child there. And that is particularly stupid. I know that people want to send their children to the best schools ... for instance I lived in Claremont and I went to High School in Rondebosch - in these days I couldn’t have done that. I would have to go to school in Claremont. But it’s not about the best schools anymore. So things are changing at a remarkable rate and the cost is exorbitant. High schools, Primary Schools - I know that at my old High School - I think it costs more to send a child to high school than to do my PGDip.

My friend told me to send a child to nursery school costs R2000 – 3000 what are they doing for R 2000 – 3000 a month?” (Participant in FG2)

3.7 Chapter summary

This chapter covered the following sections:

The research paradigm

An interpretivist approach was used that considered the age and background of the students

Type of research

A Mixed Methods approach with the qualitative and quantitative data was used. Quantitative data from the interviews was clustered into nodes relevant to IL and DL. Quantitative data was used to understand general perceptions around IL and DL.

Research approach

A case study approach was applied – relying mainly on qualitative data from interviews and discussions and using quantitative data to triangulate.

Methods of data collection

An online questionnaire (Appendix A) was utilised, three semi-structured interviews and two focus group discussions

Participants

Participants were an Honours IS class at the beginning of an academic year.

Data analysis methods

NVivo was the method for the analysis of qualitative data, as well as the ‘Find’ option of Microsoft Word .

Validity and ethical issues

Triangulation of data was applied from the questionnaires, interviews and the questionnaire and ethical issues by the fact that the research was subject to UCT’s ethics policy.

The research procedure

The research took place from February 2016 – February 2017.

CHAPTER FOUR: FINDINGS AND ANALYSIS

4.1 Introduction

This chapter deals with the findings of the data collected concerning the information literacy (IL) and digital literacy (DL) perception and application in a group of postgraduate students. The main objective of the study needs to be prevalent so that the reason for their lack of understanding why it is necessary to have a lifelong and supportive skill or competency can be determined. The question arose after students failed to grasp the academic process of writing an essay, an assignment or a thesis.

First a brief look at the demographics of the study is necessary to establish the exact nature of the group. Only the gender and age group were asked.

A thorough investigation of SCONUL's Seven Pillars as model for IL follows, to scrutinise the IL level of the students, bearing in mind that they only had once-off IL sessions.

- The rest of the case study's findings are guided by three other research questions:
- What are the students' perception of IL and DL?
- To what extent does the IL intervention once a year help students to become information literate?
- How effective is the IL intervention?
- What are the opportunities for IL curriculum integration in a PG course?

A brief sketch around the DL component follows, to determine the students' competencies and views around that.

Lecturers' responses in all areas were added as the discussion advanced from one topic to the next.

4.2 Demographics

The main difference between the Full-timers (FG) and the Part-timers (FG2) is their age and consequently, their experience. Both groups are familiar with studies at UCT, as 60% of the

full-time students completed their main courses at this university, while 70% of the part-time students were familiar with studies at UCT.

Table 5: Questions to determine Demographics

	Questions	Full-time	Part-time
1	How old are you?	70% age group 20-24	80% older than 29
2	Where did you do your first courses?	60% at UCT	70% at UCT
3	Are you male or female?	60% male	74 % male

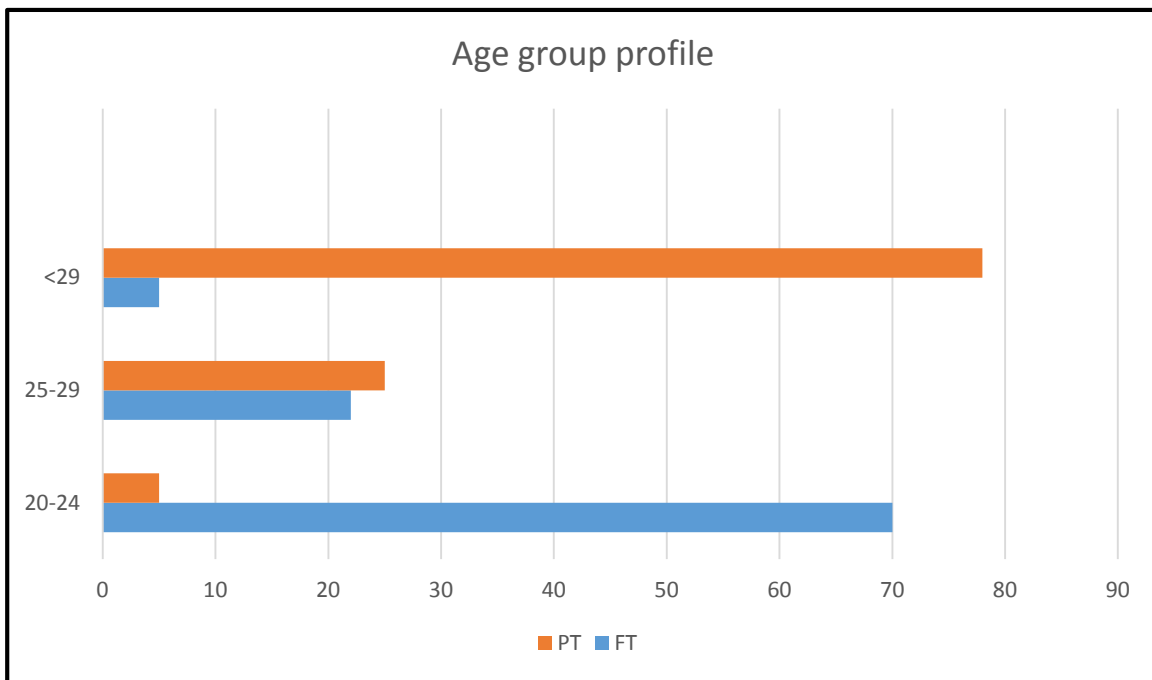


Figure 6: Age groups profile

There is a clear distinction between the part-time students and the full-time students regarding age. Of the part-time students 78 % were older than 29, while 70% full-time students were between 20 and 24%. This shows a difference in maturity and experience.

Subsequent data from the questionnaire questions show that the IL trend differs between the two groups, full-time (FG) and part-time (PG).

4.3 Perceptions of IL

The most obvious and important question in this case study is to determine the general perception of IL skill.

Of the FG1 students, 78% and 90% of FG2 answered: “ How to evaluate resources” on the question:”What do you believe are information seeking skills?” This clearly indicates that students yearn to be able to evaluate resources on the spot and not be insecure and unsure about how to go about finding resources irrespective whether in print or online. There seems to be a great uncertainty of trustworthy materials.

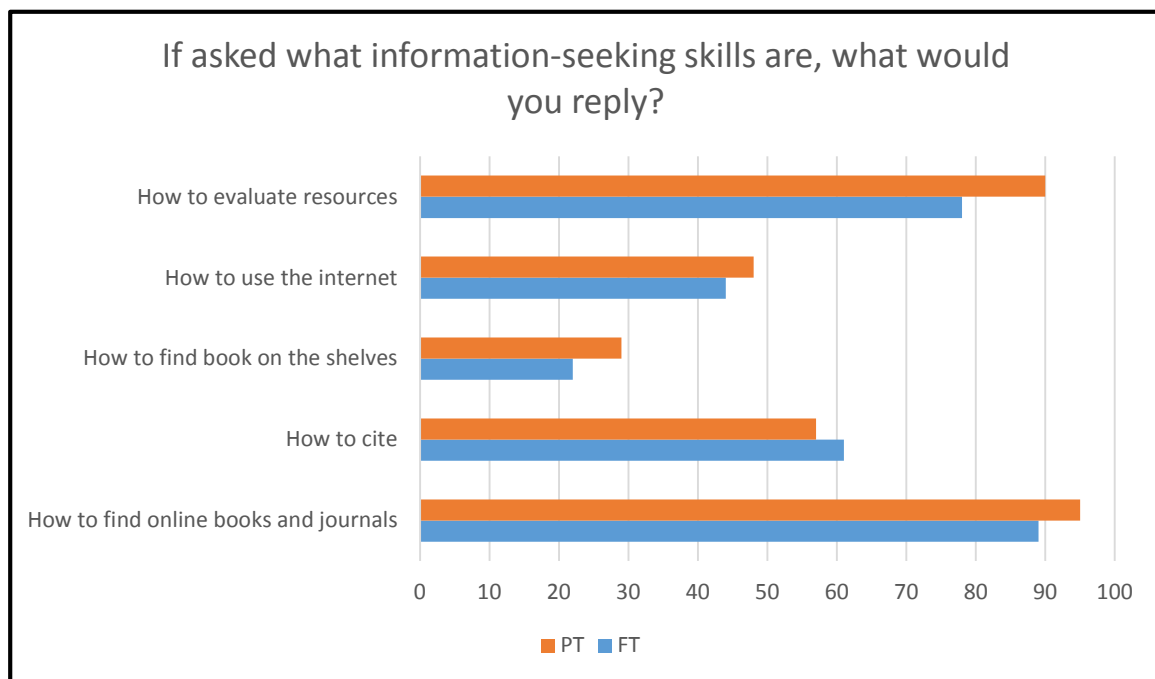


Figure 7: On information-seeking skills

Over 90% of part-time students found it most important to retrieve online books and journals, FG1 students 88%; 90% of part-time students wished to know how to evaluate sources, against only 78% of FG1. Both groups decided on “How to cite” as their third choice of IL skills. At least this skill is part of the IL skills as defined by SCONUL, namely in the “manage” category which happens in the referencing section of any academic work.

The differences appeared in the FG discussions. The four FG2 students had a better understanding, firstly of the research process in general and secondly of the questions asked in terms of IL and DL. The difference in maturity (most students were between 24 and 29 and had some years of work experience) and understanding, learning and ethics between the groups was noticeable. If maturity can be measured by a degree of self-reflection and general academic capabilities, then FG2 showed more of those attributes. For example, when asked what they thought IL (in their view) could be, one answer was about *“understanding how to access information one requires and the methods that are available in the academic context”* (participant in FG2).

Participants of FG2 acknowledged that the assistance they received from the UCT Writing Centre and library helped them to *“start thinking academically”* (participant in FG2) in line with the SCONUL idea. In FG2 students also used vocabulary such as “use” and “evaluate”, without being prompted, which again demonstrated that they at least had an idea about what IL could potentially be, even though no formal learning thereof occurred and they had no formal demonstration of it.

Considering the skills SCONUL identified as essential, participants were asked in the questionnaire what they considered as most important. The results showed that “identify” and “evaluate” were the most important competencies, both for the FG1 (90%) and part-timers (95%), who named them as the most important information-seeking skills. The other skills were not mentioned again: “plan”, “gather”, “scope”, “manage” or “present”.

For the two open-ended questions in the questionnaire Nvivo also helped to cluster responses into “identify” and “evaluate” with an equal result: Both groups of students considered evaluation skills as skills affecting their future, which means that it would be lifelong skills, and both parties said they helped them in their job. They would be satisfied if they had learnt to be able to “remove irrelevant information”, which is what the internet presents if searched, for example using Google. Both groups agreed that they would have liked to have learnt the SCONUL skill “identify”: *“identifying themes, (keywords, subjects)”* (participants in FG1 and FG2) and *“identifying useful information”* (participants in FG1 and FG2).

4.3.1 Maturity, experience and age

Scrutinising maturity in this case study arose with results to answers in the FG group. Maturity is an appropriate measurement in terms of education, life and work experience. Academic maturity is outlined by Super (1990: 213) as an "individual's readiness to cope with the developmental tasks with which he or she is confronted, because of his or her biological and social developments and because of their society's expectations of people who have reached that stage of development". The following table demonstrates the differences in maturity, experience and age of the two FGs, in terms of IL which develops without formal instruction as a wish of more mature students.

Table 6: Differences in maturity, experience and age

	Maturity	Understanding	Learning	Know/knowledge
FG1 (full-time students)	Used vocabulary such as “find” and “understand”; did not use “evaluate” or “manage” information once.	Students could recognise what understanding is: IL is “to understand ..”; “... understand how we find literature in the context of studying ...”; “... understand what is between the lines or at the bottom ...”	No IL training at all, just orientation and they “... know where the library is”. Most had digital devices, but some did not. Even so, they preferred using labs and not the library.	This group, while attempting to explain the depth of their IL understanding, used “know/knowledge” four times.
FG2 (part-time students)	Conversation with FG2 showed much insight into literacy aspect of SCOUNL, without being exposed to it; realised need to “identify” and “plan” a research project, then “evaluate”, and were very mindful of the “manage” part of references.	FG1 participants were keen to “understand how to find literature”; “understand what is between the lines”; “understanding of literature review and empirical research”; “understand how to access”; “understand where the information is”; “understand the world of reading...”; “understand data”, “understand what they do”...	Awareness of late learning about IL skills; when confronted with once-off lesson, were unaware that it was something worthwhile “learning” for future purposes; would have preferred some hands-on “learning”	In contrast this group used “know/knowledge” in their narratives and explanations 19 times., and often phrases like “seeking knowledge ...” and the “body of knowledge”, and many facts and figures they just “don’t know” about IL issues.

In both groups the researcher briefly explained the framework of SCOUNL with its *Seven Pillars*, to set the basis of IL. When questioned, the FG2 participants used the word “understand” 11 times, FG1 only four times. The FG2 participants were keen that their clear understanding of IL be recognised – they just did not know how to apply it, or where to turn if something was unclear. In contrast, FG1 participant had a basic knowledge and usage of

“understanding”, rather more general than in the IL context as defined by SCOUNL. A similar difference occurs with the words “know/knowledge”: FG1 only used “know”, never “knowledge”, about nine times, with colloquial usage (“you know”) mostly, while FG2 used “knowledge” four times and “know” 15 times, also colloquially.

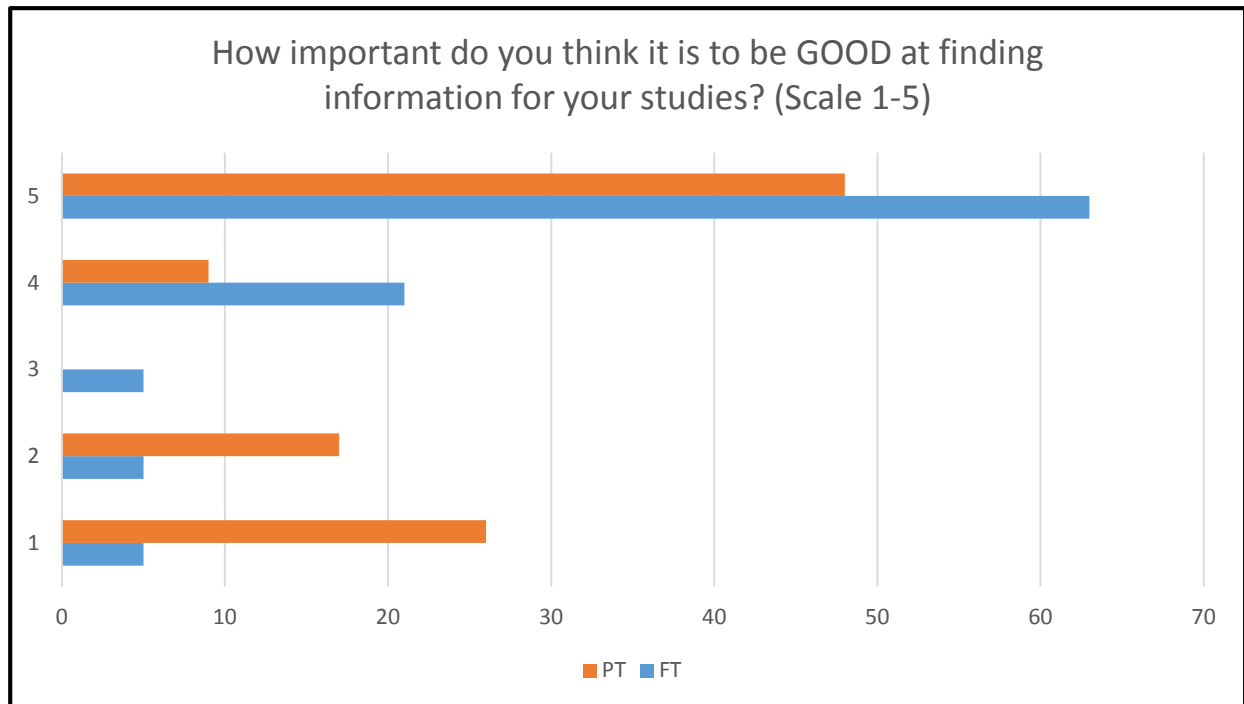


Figure 8: Are IL skills good skills to have?

Of the FG1, 63% the part-timers thought it important to be good in information studies, meaning, that they *thought* they were good. More doubts were felt in FG2: only 48% believed that they were “good” and regretted not having had more exposure to IL learning.

On the question whether they knew what IL skills are, 95% and 90% respectively replied that for them it was merely “How to find online books and journals”. In second place was “How to evaluate sources”, and thirdly, “How to cite”, indicating that all students had a minimal sense of very basic IL, possibly reiterated by lecturers, who warn against plagiarism as an academic crime.

For the next section the questionnaire as well as FG discussions and lastly interviews, were analysed using the 7 Pillars of IL Skills as defined by SCOUNL.

4.4 Analysis according to the Seven Pillars

Table 7: SCONUL terminology and relevant synonyms

SCONUL terms	Synonyms NVivo nodes	SVEN	PETER	CHRIS	FG1	FG2
Identify	<u>Synonyms</u> Discover Find Locate	5	3	17	13	7
Scope	<u>Synonyms</u> Investigate Scan	0	0	0	0	0
Plan	<u>Synonyms</u> Formulate Organise Arrange Decide	0	1	0	0	0
Gather	<u>Synonyms</u> Collect Accumulate Retrieve	2	0	0	2	0
Evaluate	<u>Synonyms</u> Assess Weigh Calculate	0	6	1	0	1
Manage	<u>Synonyms</u> Control Organise Monitor Cite Reference	8	8	15	13	7
Present	<u>Synonyms</u> Introduce Announce Share Talk Make available	7	0	0	1	

4.4.1 Identify

According to SCONUL the very first phase or step is the development of a learning habit of consistently being aware of new information and data and to actively seek it (SCONUL, 2011: 5). It includes new ideas to investigate and emphasises the world of published and unpublished information.

The art of being able to identify a research question and be able to define it in simpler terms, as well as articulating that topic with the correct amount of current knowledge and realising where exactly the lack of knowledge is, belongs to the “identify” skill. It also includes the personal wish to find and retrieve the necessary background information. The curiosity must exist, so that the process flows.

If the graph below is analysed we can see that the importance of being “good at finding information” was relatively low in both groups (45% of the FT and 54% of PT). This means that they either thought that they were equipped enough to find “good” information, or that it was not that important. However, individuals in both groups indicated that they struggled to “identify” or “find” useful information, which could be interpreted as lack of knowledge in general in PG students to identify or find topics, literature, subjects, themes, keywords, questions.

Students wrote as comments in the open-ended question of the questionnaire that in addition some tips on *“how to handle the plethora of results one finds and ways of identifying would be useful”*, whereas another student added *“identifying themes as desirable skills”* (participants of S) would be welcome. This is what could be avoided if the necessary skills were developed.

“Identifying” anything in the academic context needs to be learnt and practiced. However, if the general reading and understanding of academic literature is a scarce and limited skill, the identification of relevant information will be difficult. When students in the questionnaire were asked to identify information-seeking skills they did not have and that they would like to acquire, or improve, such as smart-searching techniques or database handling, both groups

of students, full-timers and part-timers (34%), were keen to reply mostly “smart searching techniques”. The following terms were used most often in the open-ended question:

Table 8: Desirable skills to have

Skills/competencies	
Smart searching techniques	12
Information seeking	6
Database handling	4
Skills (all)	4
Plagiarism	3
Research	3

This means that the students were fully aware of how they lack skills, faintly aware of them, even though they did not find it more important to learn those skills and competencies such as identifying keywords, finding synonyms or knowing how to use Boolean operators. This also implies that students in general were not satisfied with their results using their own, probably natural language-style searching vocabulary, realising that they would like to have “smart searching techniques”. Only 12% mentioned that they would like to learn more about “databases handling”, possibly not being aware that this also is a skill that needs to be absorbed.

On the question “Where would you find information using library resources?”, the following answers were analysed”:

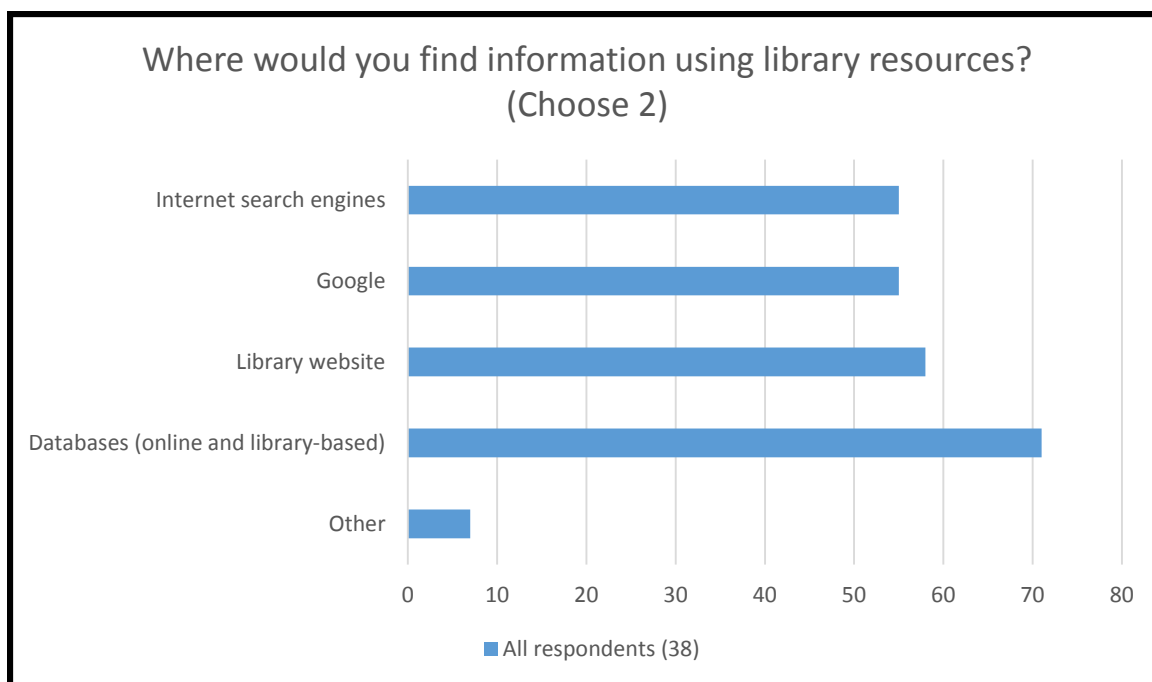


Figure 9: Finding information using library resources

This graph shows that both groups (70%) knew that online library databases are the best tool to use to be able to identify and find academic resources. This they could remember from their once-off library session. However, it seems that most students from both groups were not familiar with the concepts of searching techniques or “bibliographic databases”, which means that that one once-off lesson was not enough practice. One student wrote in the open-ended question in the questionnaire: *“I know how to search using Google, I am aware of the arguments one should use, quotations as well as + symbols for more accurate results”* (participant in S), which shows that some students were aware of some search techniques. However, another student remarked: *“I don’t know what I don’t know”* (participant in S). The FG discussions revealed that students replaced the term “identify” with “find”. ‘Identify’ does not feature in their replies, but ‘find’ often. For the purposes of this interpretation ‘find’ is taken as a synonym for ‘identify’. To the question whether they knew what IL is (starting with the first SCOUNL term), a student from FG 1 answered:

“To find literature; to understand; to be able to use the tools” (participant in FG1).

Another student added: *“... once you understand how we find literature in the context of studying, understand what is between the lines or at the bottom, find information, analyse information...”* (participant in FG1). The conversation in the discussion changed when another

student asked: *"... if we want to get an IS degree and we only know how to use Google Scholar to find information ... so, how can we use the library (and its services, such as 'identifying') more effectively?"*..., (participant in FG1) which implied to the researcher that an awareness of IL, starting with 'identify' or 'find' in the SCONUL sense had been instilled.

Meanwhile in FG2, the PT group found a deeper understanding of "identify" or "find": *"... you are asked to read, and argue, academically argue, and find literature which supports your point of view ... those are the skills I am looking for ... which are lacking ...* (participant in FG2). They realised the importance of identifying a problem, a question, and the search for and answer to it.

It is interesting and important to recognise in the interviews with the lecturers less insight in the "identify" skill. Sven stated: *"... they (students) start out trying to find textbooks, usually not textbooks but journals, trying to find (any) literature ..."*, and Chris added: *"... whether you can find the full text ..."*. Both were not aware of the "identify" skill.

Only Peter used "find" as it was meant to be: *"... and even when they find references, they have no sense of how to ..."* and adds *"... if they can find peer-reviewed academic articles that are relevant ..."*.

4.4.2 Scope

According to SCONUL, "scope" means "to understand what types of information" are available in general. For this to happen, students need to have a fair knowledge of characteristics of different types of information sources available to them (mostly through libraries) and the currency thereof. Issues of accessibility and services available, such as possibilities of interlibrary loans, are of necessary importance. Students at this stage will be aware of what they do not know, what is available through normal routes – such as general and subject specific resources – and also the awareness of different formats such as print or electronic, is prevalent. Whether these would be appropriate sources, they have to decide. The questionnaire question on their understanding of scholarly information showed students have a slim insight:

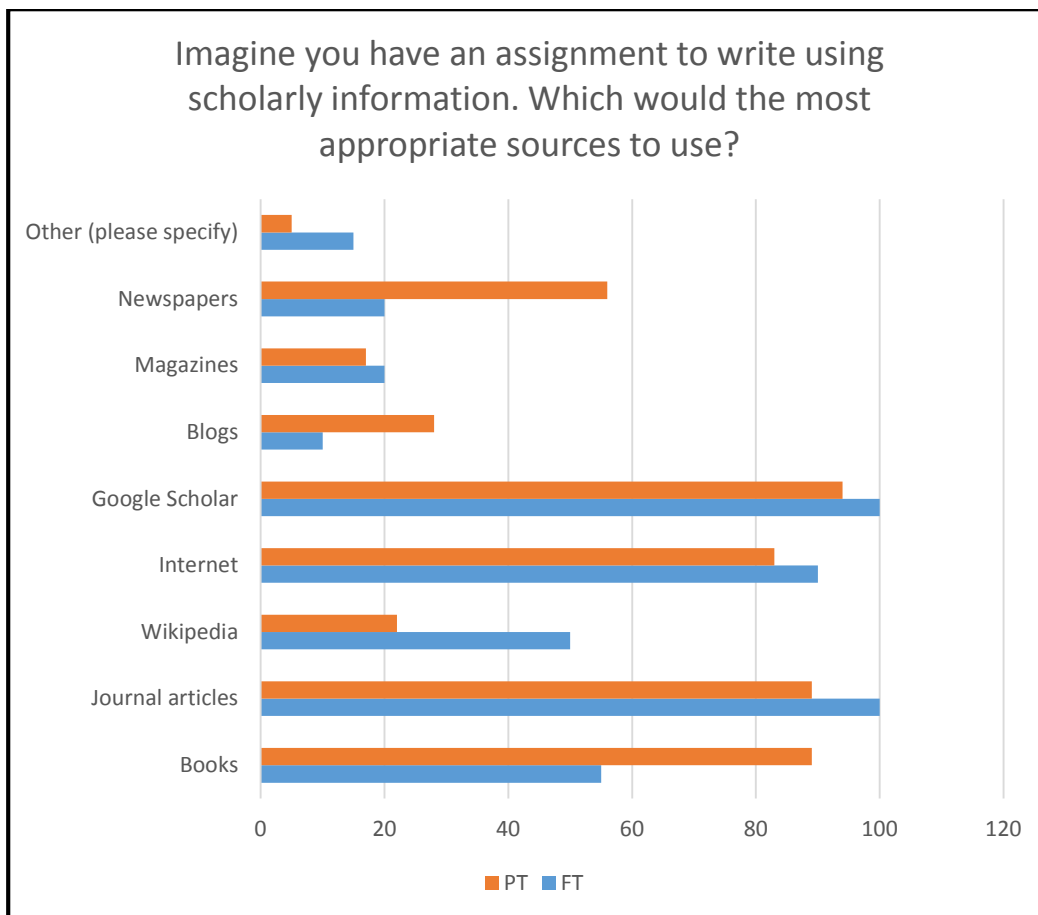


Figure 10: What is scholarly information?

The graph demonstrates that students theoretically understand what scholarly information is: Google Scholar reached 98% on both sides, journal articles 95% and books 93%. It is disconcerting, however, that the “internet” was also seen as “scholarly” by 85%. For the lecturers only one (Chris) used the term “evaluate”. To him it is important that students know “*how to evaluate references*”, their sources, and be able to justify why they selected specific sources. He added: “*(I don’t know) how do they evaluate the quality of their references*”(Chris).

In the questionnaire’s open-ended questions regarding this “pillar”, students replied that they would like to have more “*smart-searching techniques*” (participant in S) or “*which databases to use*” (participant in S). One student mentioned, “*how to Google correctly*” or “*quicker*” (participant of S). One student mentioned that she did not know “*what else is available*”, (participant of S). This was confirmed in the FG discussions. “*Understand*” in place of “scope” was interpreted by one student from FG1 with some surprising insights: “... *once*

you understand how we find literature in the context of studying, understand what is between the lines or at the bottom, find information, analyse information" (participant in FG1). One student in FG2 remarked: *".. if you don't understand where the information I even now, there are databases, like I was looking at Google Scholar thinking that Google Scholar picks up EbscoHost stuff, but it doesn't!"* (participant in FG2). This proves that to some students the "scope" skill does not exist.

Sven expected students by now, in their fourth year, to have an understanding, a "scoping" skill and start finding literature: *"... they should have an understanding of that topic both theoretically and applied"* Peter, also frustrated about the non-information-literate students at the beginning of the year, added: *"... I mean there are things which you think they should have known by now ... from somewhere ... but they don't! Like the issue with peer-reviewed articles ... how do students respond? ...: What do we mean by 'peer-reviewed'? This is in the second month of the course ... Honours Course! and the students don't understand what."* Chris also expected students to be able by now to "scope", to "understand", and realised that they did not: *"... to understand that everything is context-related, the history and everything like that ... the integrated approach ..."*.

4.4.3 Plan

Every academic project, whether an essay, an assignment or a thesis, requires students to read literature. This signifies that they need to have a plan for their research. Literature will be used as foundation for all research projects in the literature review. This involves planning. Students responded to the questionnaire question: "What do you expect?" (from the year to come) and a response was: *"... besides the practical part, I will be able to develop some academic skills, such as arguing academically, doing a literature review, etc., I will learn to plan better..."* (88% FT and 80% PT).

As part of the "planning process", the question: "What do you expect?" came to mind, which indicates "how are you going to prepare, to 'plan'?"

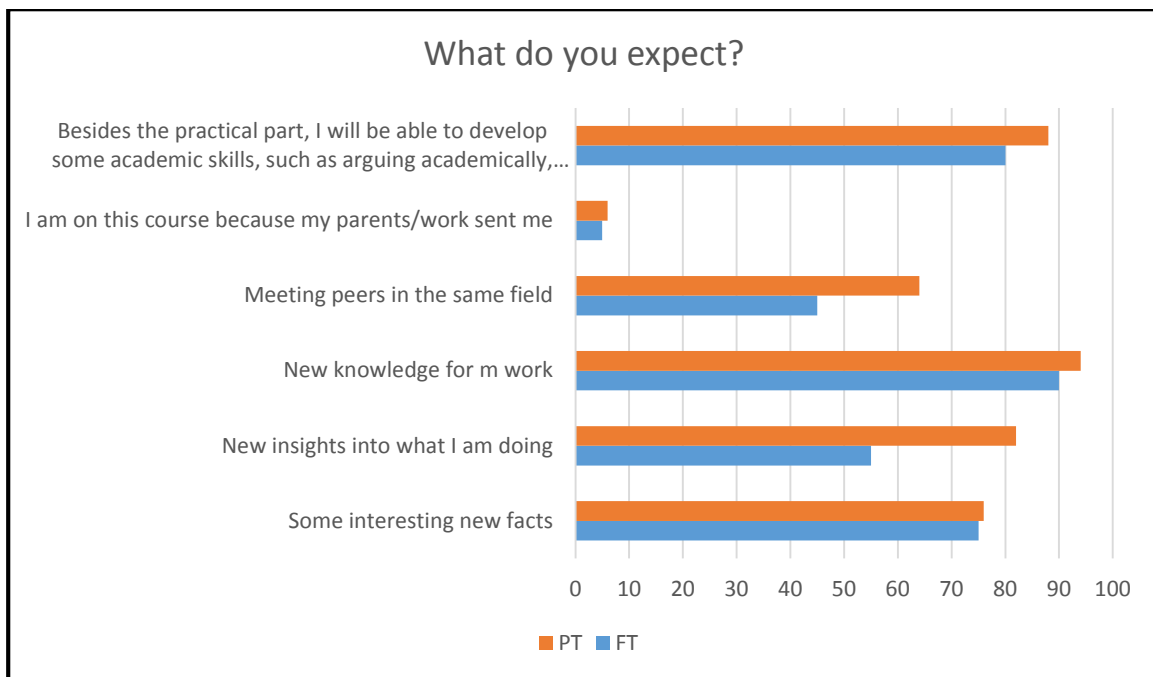


Figure 11: What do you expect?

One respondent from the FG2 group replied: *“It’s a personal dream of mine to obtain a degree. After years of work experience I finally got the opportunity and it’s also setting an example to my kids (14 and 22 years old) that you are never too old to learn, ... I am ready to learn to plan my research ...”* (participant in FG2).

Intriguingly, none of the three lecturers used the term “planning” or “plan” at all, despite planning being a considerable factor throughout the year for the students. They are expected to draw up business plans, and are encouraged in their course outline (p 29):

“Know what’s expected of you – ASK QUESTIONS.

Question everything (WIIFM?) - use Vula

Change and facilitate change

Listen

Learn

Plan, plan, plan – “failing to plan, is planning to fail”

Look for examples around you

Pass

Enjoy yourself – have fun”

4.4.4 Gather

The “gather” skill includes understanding how information and data are organised, the use of collaborative tools and the sharing of information, also the collection of new data, which includes qualitative and quantitative research skills. Gathering skills according to SCONUL also contains the ability to use abstracts, keeping up to date with the latest information around one’s research interests, the ability to differentiate between paid and free resources, the risk of operating in a virtual world.

At this stage it is important to mention that digital and information literacy skills are narrowly intertwined. In UCT’s online digital literacy test, students are asked how good they consider their “collaborating, creating and sharing digital content, (social media, collaboration tools, managing professional online profile)” skills to be. Further evaluations skills mentioned a “gathering” skill. The capability of complex searches, in print and electronic resources, to find access to full text, to ask the right questions in a research community with relevant focus groups, to realise in time when the information is not sufficient and to be able to find the correct help and assistance, are the attributed skills for proper IL.

With the exception of Sven, in the FG discussions or Interviews, no one mentioned “gather” which is a term from SCONUL, or “collect” or bringing something “together” as synonyms. Sven stated: “... it’s a lot more work, than if I just had to prepare it. Because I just would have to gather it and prepare it. (But) now I let them gather it...”. Sven does what the “gather” pillar of SCONUL suggests: gathering material by reading different sources, being able to do complex searches, collecting what is important enough, omitting less significant material. Then he requires the same from his students “Now I let them gather it” (Sven).

4.4.5 Evaluate

The “evaluate” pillar as used by SCONUL defines being IL if the following criteria can be used meaningfully in evaluating specifically electronic and online resources: accuracy, relevance, bias, reputation, authority and credibility of resources. The reliability of Google is questioned

and tested against these criteria as is the “fake news” trend. The consistency of regular checking with the use of the same criteria is recommended as part of the skill. Again, the importance of citation is highlighted here. The citing of websites, where all is not always obvious, such as author, date, publication place and date, is difficult and could lead to unintentional plagiarism. The skill lies in the assessment step: assessing the quality after evaluating, the accuracy, the relevance, the bias, reputation and credibility of resources. At this stage the critical reading competence becomes important, and can only develop if practised often and regularly. The skill also lies in relating information to the original search strategy, in critically evaluating own findings and knowing when to stop. In the questionnaire the question was asked, “If a friend asked you what information seeking skills are, what would you reply?”

4.4.6 Manage

Under the “manage” pillar of SCONUL the importance of honesty is highlighted. It is the student's responsibility to adopt proper data-handling aspects and to keep systematic and regular records of all sources read and used. It is of equal importance to share information and data ethically, and it is required in the New World to cherish the law of Freedom of Information. The curation and archiving of research data is another correct and honest way to share, as well as using metadata to be able to identify and find the required data. It is the role of professionals, mostly librarians, to be able to advise on all aspects of information management. Using bibliographic software is recommended, which helps with citation, different referencing styles, bibliography creation, ethical issues and the right of others, data protection, copyright, plagiarism avoidance, and academic integrity.

When students were asked in the online self-administered questionnaire which IL skills they thought they were lacking, 46% mentioned in the open-ended question that they did not exactly understand the concept of plagiarism, except that they were constantly warned by their lecturers to avoid it at all costs.

Both FG groups articulated that they would appreciate having learnt how to cite properly and reference sources correctly, especially online sources. One student said: *“You (librarian) really did help us to recognise and find online tools, in the library search and also Google Scholar,*

with all the fancy things you can do; that was really very useful! But in terms of actually writing, and formulating arguments, citing and referencing, that is still an issue.” (participant of FG1). A student from FG2 articulated: *“... referencing as well. I actually found out too late about it. Only towards the end of the year”* .

In terms of the “managing” (information) skills, which indicates citing and referencing, Sven had the following concerns: *“I showed them some things on Google Scholar, and I said ... an article is good or not if you can see how many citations it had ...”* (Sven). He added: *“They don’t know how to use (sources), how to reference properly, how to cite properly. We have to explain to them a lot about plagiarism ...”* (Sven). He also stated: *“Going forward ... one could show them Google Scholar and say ‘look at this’, show them articles, which are written in 2014 and cited by 200 ... and I say, ‘You can click on that and it will give you the 200 (researchers) who have cited this, so you know ...’”* (Sven). Peter included: *“At Honours level we are already happy if they can find peer-reviewed academic articles that are relevant. We often give them a couple to start off with. And if they then can cite, and sort of do the mechanics, (we are satisfied) ...”* (Peter). Chris did not completely agree with this thought. He often referred to “referencing”, because of the relevance in the empirical research report, he expects students to complete: *“I think one of the issues was, that they couldn’t even reference properly. So they have gone through the year of Honours and months of teaching and sweating and students couldn’t even reference ... skills that are acquired in the first months of any course. So I think if you could force them to learn referencing ... so that they can say ‘We know how to find papers, that’s out of the way’. If you can get that in the first two or three months, then it’s also easier for us supervisors and we can concentrate on the proper content as opposed to how to find proper papers, find peer-reviewed, reference properly, so that thing is ... then they don’t need to struggle about that anymore ... And even if they don’t know how to reference, but at least they can go and look it up ...”* (Chris).

It surfaced that Honours students in IS have never learnt in their undergraduate years that some reference managing tools are available. Students for both focus groups are highly aware of the concept of “plagiarism” and would like to understand more about it. Plagiarism is an act of using another person’s ideas or words without acknowledging its originator. It takes

time to identify and recognise and only with practice would it become more familiar to students, instead of having this fear of the unknown.

To illustrate where the perceived fear comes from, it is worthwhile scrutinising the course outline of the Honours course of the Department of Information Systems:

*“The Department of Information Systems considers **plagiarism** to be the **deliberate passing off of another person’s work as though it was your own**, and will **NOT be tolerated**. At the very least, you would get **zero** for your work, and we would request that you **withdraw** from the Honours Course.”*

A few examples are then given, such as *copying and pasting* text, *downloading* from the internet or *using* someone else’s assignment as one’s own – and all without acknowledging the sources. However, nowhere in the text is it stated WHY plagiarism is considered a crime and categorised as theft and piracy. Reasons such as integrity and honesty, originality and giving credit and respect to others are mentioned but not clarified. It is also not explained or indicated that plagiarism can be avoided by taking an honest approach to recognising sources used, to have a citing and managing information tool at hand to be able to recognise sources, to get used to an internationally accepted referencing style, to be aware of the rights of others that include ethical issues, intellectual property and copyright concerns.

UCT’s general stance on plagiarism is short and to the point. On Googling the search terms “plagiarism and UCT”, the document “University of Cape Town: Avoiding Plagiarism: A Guide for Students” appears. It does explain plagiarism on a very basic level. It is also difficult to find: under “About the university” and “Policies”. By no means are the importance, the meaning and the ethical issues explained openly and directly, or that lectures about “academic integrity” are offered to foster understanding the importance of avoiding plagiarism since it is such an important issue. UCT has a standard plagiarism form that needs to be submitted with every essay a student produces. Different departments also present a brief piece on “How to avoid plagiarism” (Department of Philosophy” and some departments (such as the School of Education) even demonstrate examples of plagiarism. However, nowhere are students helped to understand properly the history, the development, the

challenges or the honorable concerns around plagiarism. The plagiarism form is also referred to in the IS manual for Honours students.

4.4.7 Present

Presenting skills, according to SCONUL, are part of the IL cycle, namely that students should be able to synthesise rather than summarise. It also includes the way students present their presentation and that they must know the difference between data and information. The maturity to understand the responsibility to share data and not to keep it for oneself - there is nothing to hide. IL skills should teach anyone to be basically transparent: publication issues, self-publication competencies and taking responsibility for creating new and original knowledge through digital technologies. IL also means being able to discuss one's reports verbally and in writing, to answer questions regarding the research, and present one's findings in an understandable and logical way. The knowledge about the best possible publication opportunities, whether printed, electronic, Open Access or verbally has also become part of the IL process.

Sven mentioned his expectations from the students to be able to present. This only counts for the projects they fulfill, not the information sources they used. Presentations are not to the wider public, but internally to peers: *"... they develop a set of slides, present it to the class, PLUS they develop a 20 page document on this subject".*(Sven). The presentation skills are further enhanced: *"... if two students are doing their presentation (on Big Data and the 20 pages on Big Data), they also have to post questions on the online forum ... when they get to the actual seminar, (these guys) they do their 20, 30 minute presentation on their topic"...* (Sven).

Sven explained that the students were expected by this time (towards the end of the year) to show their competence in using some IL skills such as citing and referencing, because in a presentation these references need to be included. Peter and Chris expected the students to present as meant by SCONUL and referred to the course outline: "Students are required to present their proposal and their research findings" (UCT, Course outline, 2016).

4.5 To what extent does the IL intervention once a year help to become IL?

The researcher wanted to know from the students in their own words whether they thought that the once-off session was enough to be called IL. FG2 said that they had some very basic library instruction sessions in their early university years, which most of them remembered. The IL information was never deepened, but the students were aware of how useful IL could have been, if it was meant to be taught as a lifelong skill: *"... I had very little IL, and towards the end of the year it (the unknown) started to become easieralso with the help of the Writing Centre. Obviously before this session I had even less IL [than if] I'd use some of the tools, but not in a holistic and constructive way, which I think I use much better going forth ..."*(participant in FG2).

They maintained that if IL had been started in school already, they would have been better prepared for the whole academic journey. The once off session one participant describes as follows:

"Well, we did have a lecture last year where they showed us the library's website ... a quick overview, a walk-through ... for example: 'This is where you need to go, Google Scholar, you will find your information here, and (how to) use APA referencing(and) here is a Libguide, and off you go. That was it!..." (participant in FG2). FG 1 added similar sentiments:

"... (after this once-off session), we now are expected to be reading, analysing, typing, essays. It is such a jump, because we didn't write much (before), now we have to be good at it" (participant in FG1) .

On the question whether they found the one lesson at least useful, one student replied:

" You really did help us to recognise and find online tools, in the library search and also Google Scholar, with all the fancy things you can do, that was really very useful! But in terms of, actually writing, and formulating arguments, citing and referencing, that is still an issue." (participant in FG2)

If a constant and regular IL session for a semester or a year were mandatory, as was meant by SCONUL, the 'tools', the competencies together with the writing skills would be more fruitful.

The following graph explains once more that both FG1 and FG2 *think* that they are relatively “information literate”, bearing in mind that they had only a once-off library-instruction. 50% of the full time students and 43% of the part time students believe after the once-off session that they are IL. These students therefore think that once-a-year is enough. The other half, however, is not certain.

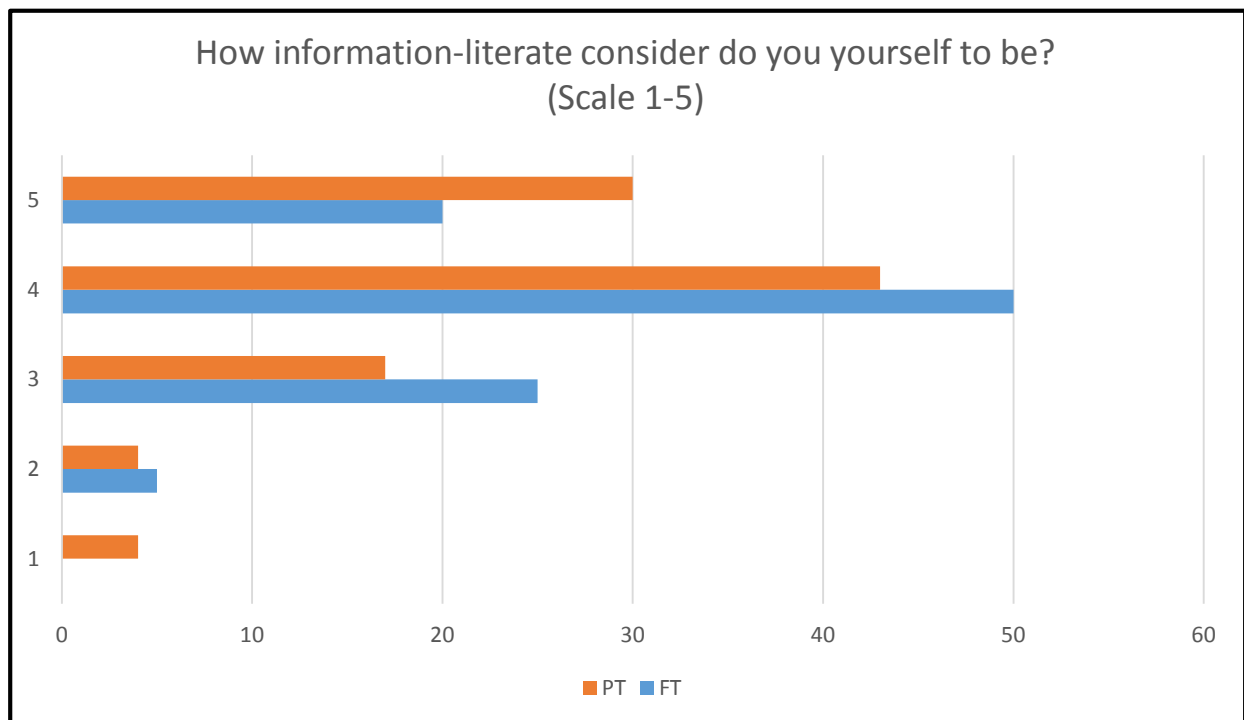


Figure 12: How information literate do you consider yourself to be?

Once again one answer in the FG1 discussions demonstrated the general lack of understanding of information literacy: *“That was my question to UCT. I just feel I feel that they over-emphasised the importance of where we get the information from ... They are strict on ... it must be journals, must be staff, while I feel that you can use any information as long as you justify on why you think it is important ...”* (Participant in FG1).

4.6 Digital Literacy

The question arose for the researcher whether students confuse IL with DL with those who called themselves IL. Most of the full-time students are younger than 30 years and grew up in the digital world, with digital devices at their disposal. Even most disadvantaged students

have mobile phones. They know how to use apps, how to communicate, how to look up facts. But the question remains, is that IL?

The Centre of Learning and Teaching (CILT) of UCT has a digital literacy self-assessment quiz, which new and/or first-year students can use to assess their DL and also their IL skills. This quiz once again demonstrates the narrow connection between the two literacies. It is assumed that the DL part is of more use and interest to students, because all their academic activities are digitally managed online and is crucial for their day-to-day endeavours at university. Questions around the UCT's online learning management system VULA, skills in the use of Microsoft, e-mail, student administration self-service (SASS) and self-directed learning programs such as Lynda.com. It also includes IL issues like plagiarism and referencing, sharing digital content, professional learning networks via Twitter, LinkedIn and Facebook. In summary they are asked the following:

- Are they able to use digital tools for networking, collaborating and solving real-life problems?
- Can they find and evaluate online resources?
- Can they produce and effectively share knowledge?

Digital literacy deals mainly with modern communication practices and the ethical and responsible way to accept and use those (Goodfellow, 2011).

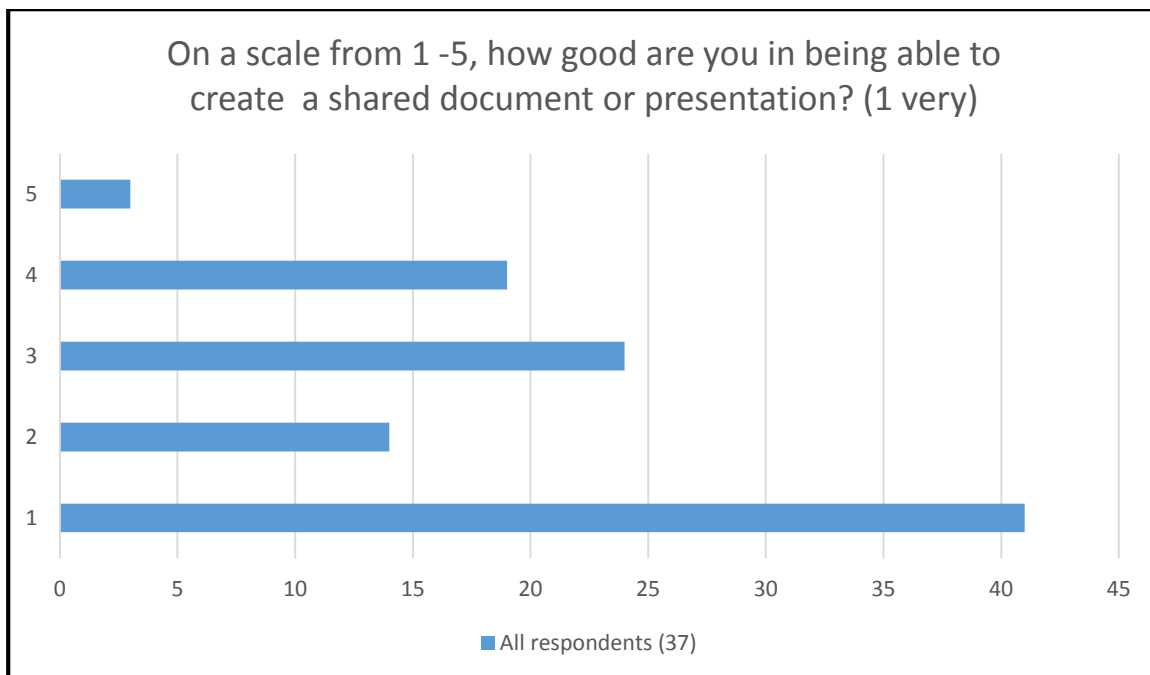


Figure 13: Creating shared documents

The questionnaire showed that 41% of the students felt comfortable in “creating shared documents”, which would cover the “presentation skills” of SCOUNL to a small degree: they were willing to present their research openly and discuss it. These students said they were “very good” and knew how to share documents on Google Drive, Dropbox, One Drive, GMail, e-mail, Facebook.

In one interview Sven mentioned “digital” when explaining the necessity for digital pre-course knowledge for the course (digital) “Computer Forensics”. Students are usually from the Computer Science background, and will have a sound technological knowledge. It was not asked how they used that knowledge in terms of digital literacy.

Peter believes that students bring a great deal of digital skills to their courses. He also mentioned the forensics students *“who are much more technically focused, and quite weak academically ... So those, I would think, come with fairly good digital literacy skills – they are working in an IT environment, but their writing skills may not necessarily be good. They often don’t have formal literacy skills. So they took a degree, but were never taught formally. As for the Major students, the Fulltime students, I don’t think they have a formal digital literacy*

course either....” (Peter). He adds that he is all for the learning of the digital skills for the students because “it will help them with their studies.” (Peter) He believed that the students he deals with are all responsible digital users. The students he deals with are from the FG2 group, the part time students whom the researcher classified as “mature and experienced” at the beginning. He also mentioned that he supported students who quickly would like to look up something on their mobiles and believed that that enhances knowledge quickly and efficiently. Only Chris never mentioned ‘digital’. For him DL is self-evident.

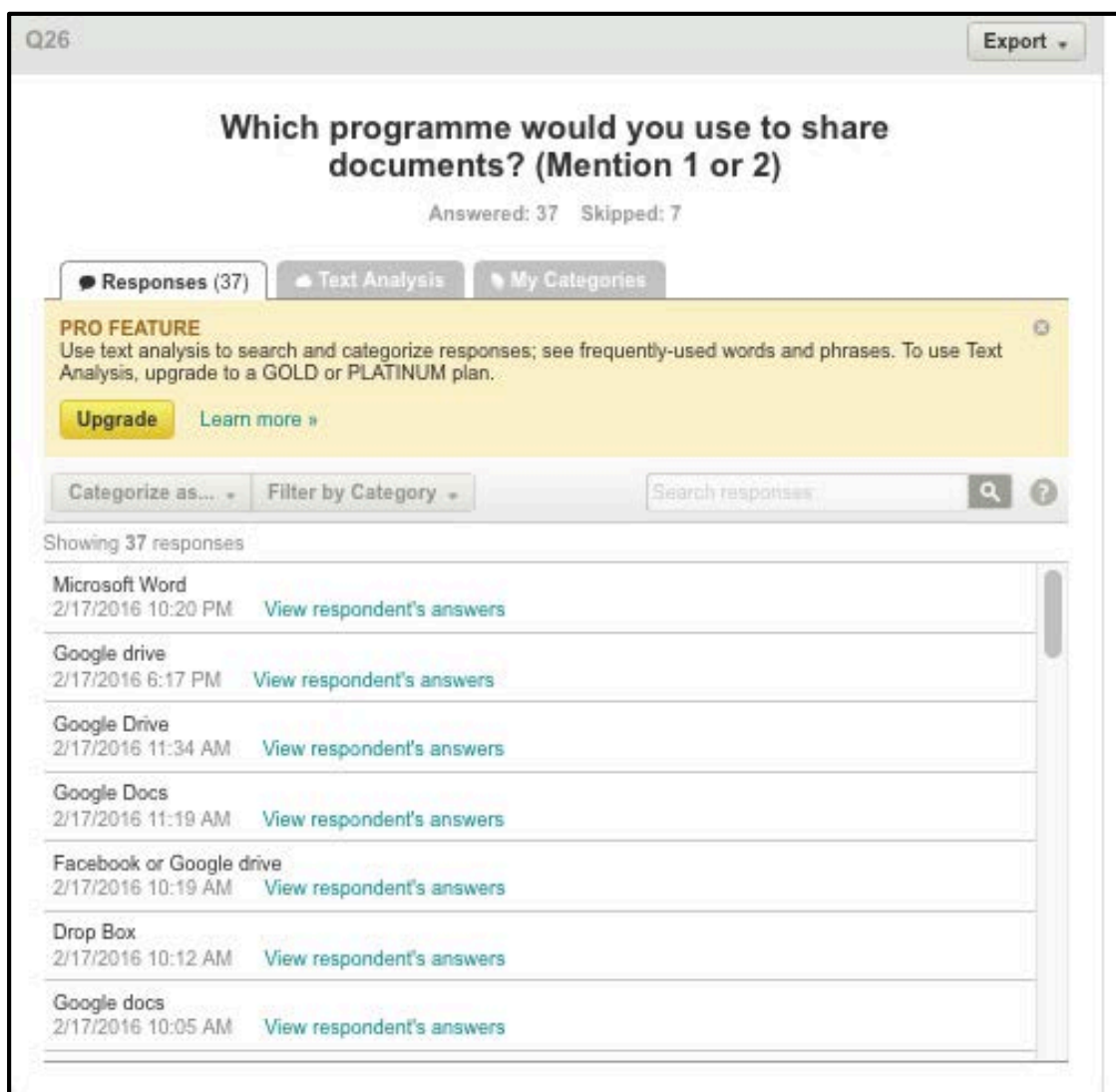


Figure 14: Sharing programmes

When asked in the FG discussions whether they regularly communicated with others online, most students said yes, but only on WhatsApp, and mostly socially, not at all about resources,

library material, or referencing questions. Generally, there is no awareness about the advantages of new technologies in terms of academic work and the collaborative benefits.

Because of the poor answers regarding DL the assumption can be made that both groups of students as well as the lecturers were overconfident regarding their skills as discussed by Helsper and Eynon (2010). They argue that young people, labeled as “digital natives”, are often overconfident with regard to their digital skills and think they do not need any training or learnt knowledge about hardware or software. To understand the learning management system and issues that concern them personally such as their own e-mail address, own courses are as far as the skills go. However, the real skills such as responsible usage and ethical issues are lacking or are non-existent.

Students from both groups said in the FG discussions that they did not have the problem of not having access to computers or Wi-Fi. “... we do have laptops, tablets and mobiles... (from the context that if someone is in his first year university, maybe they don't have devices and accessibility) but we do ...” (participant in FG2).

Because of prior work experience it seems that these part-time students are more digitally experienced. They might have had some IL training for their first degree, which could be from any faculty: Science, Engineering, Humanities, Commerce, before they started their jobs in various industries on the open market. They feel privileged to use digital technology all the time at their work places.

4.7 Discussion

A systematic way for the discussion would be to scrutinise the research questions and link them to the research results.

The research questions were:

- What are the students' perception of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a PG course?

4.7.1 What are the students' perceptions of IL (and DL)?

The online self-administered questionnaire results prove that there is a great lack of IL skills. DL skills seem to be a little more developed albeit on a very basic level and possibly because students live in a digital world in general. FG2 students come from a working environment and use computers, laptops, tablets and mobile phones regularly and for their work. On the question to FG2 whether their (admitted) lack of IL skills could have anything to do with lacking technology, such as Wi-Fi non-availability network problems of connectivity, they replied: "No!".

Because of prior work experience it seems that part-time students are more mature. They might have had some IL training for their first degree. When the lecturers were interviewed and asked whether a once-off session is beneficial at all, Peter stated: "A *once-off intervention is pretty useless ...*" (Peter). But for the moment that is all that can be offered. Peter explained that their biggest problem was not enough time allocated to course work which would warrant more than an introductory presentation of the library. "We don't have enough space in the curriculum. They have so much information to process. So, unless it's linked to some form of assessment or whatever it is, students don't have the time..." (Peter).

Therefore, there could be no in-depth knowledge about the learning of skills.

4.7.2 To what extent does the IL intervention once a year help to become IL?

As explained before, only once a year, for one hour or two, course conveners expected the librarian to demonstrate to the students what the library offered in terms of materials, resources, services. Sven called it a "library tour", Peter and Chris called it a "library session". There was no mention of "skills". Lecturers and academics assume that students gather these skills along the undergraduate journey in their first three years of university or they assume that IL skills are learnt in other courses but their own. Little or no research has

been done to explore student readiness for academic research work of which IL is a large part. When entering university, students usually have to learn to manage new learning styles and develop their own learning which differs from their high school days, when they were given resources to read and write without the skills to critically analyse them. Lecturers seem to think that with the development of own studying styles the learning of IL takes place automatically. They also believe that digital skills help students with their literacy competencies. None of the three lecturers interviewed actually replied straight-forward to the IL questions asked concerning the training methodology, the lack of skills, or the difficulties of obtaining credible literature for academic essays.

The researcher also realised that these skills are never examined properly. IL skills are practically non-existent with a few superficial exceptions such as the awareness of plagiarism.

It is noticeable that students emphasise their wish to improve on their *academic writing* skills. That is much more important than IL skills. One part-time student expressed this: *“To me it’s more about academic writing. I’m not use (sic) to write in this manner as it’s very specific and factual. I’m sure the more exposure I get to it the better it will become.”* (participant in FG 2)

Peter complained when asked whether students in their Honours year developed some academic writing skills *“No! ... Only a copy job, a summary job. I am trying to say to them ... and what we are saying to them: academic writing is not just like a school essay where you copy and summarise ... we expect you to look at four or five or even more different sources”* (Peter).

The general lack of IL skills according to the SCONUL definition with the *Seven pillars* is evident amongst the students. A tiny proportion of them know that they have to use peer-reviewed, academic, reliable literature, that they have to use citations and that they have to acknowledge the sources they have used to strengthen their argument and to avoid plagiarism. They also know that they have to list their sources used. However, when it comes to the structured planning, the correct practice of finding, and evaluating as well as the presentation of their skills, huge gaps can be found.

4.7.3 How effective is the library intervention in terms of the development of skills?

The general conclusion from all sides, students and lecturers, academics and course conveners is, that it is not effective at all. However, the question was put to them in the interviews what they would suggest to improve the situation: Chris had the following to say: *“(this is) ... where the library can come in, because it’s such a rich source of information, (... many of them stupidly think, that the library is just printed text ...). You (librarian) need to explain to them that the library (that one of the things the library does, which is of benefit to me as an individual: you have) has preselected things. So you don’t have the poor journals in the library, okay? I can take some satisfaction knowing that you have preselected stuff ...”* (Chris). What he means is that using the library is already an academic action, one does not need to evaluate the library. It consists of only reliable sources.

Sven added: *“Market the resources you have! And: ... Market the librarian staff ... that is the staff (people) to help you, to find things for you, to guide you, not to tell you, which book to read, but to say have you thought of this one? It’s This section you might have missed and so on...(Sven). He is correct: Marketing the library and its services would automatically cultivate IL skills.*

Only Peter disagrees. He does not think that the library is important in the undergraduate years: *“So there is really no need for them to go to the library. You can do without the library in the first three years. (But) In Honours we change the programme completely. We become research-oriented, so that shift takes them a bit by surprise. So far they survived up to this stage without the library”* (Peter).

He further believes that online teaching and learning is sufficient. It turned out that he did not even know where the library was. For him the library’s website and the knowledge that he could access Google Scholar through the library were sufficient.

No skills are required. On the question to the lecturers whether they think that the once-off session helps, Sven answered: *“It’s too short! I think it changes one or two people, but a large number it sadly doesn’t ...”* (Sven). In addition, Chris responded: *“... I think you (librarian) come in the second or third week and then you have that one session”*. He explained that the

students take in very little at that (admitted) forced session, because it is at that stage not relevant to them. ” *I think at the end we are ticking boxes; OK, done with the library session! That’s what I should do ... now I have done it*” (Chris). But Peter said: “... they definitely do know more. A lot of them are really impressed with what’s happening – I always sell it to them: the biggest advantage of being a UCT student is having access to this masses of information” (Peter) and: “... there is definitely a positive outcome which is highly valued on this side. And is very important” (Peter).

4.7.4 What are opportunities for curriculum integration of IL in a PG course?

All three interviewees were asked, considering the lack of IL skills as SCONUL developed them, whether they thought that it would be advisable to integrate a module into the curriculum. Sven answered: “Yes!” spontaneously, and added quickly and apologetically that a little bit has been added to the course outline. He said: “... but we have not really focused on that ” (Sven). He added: “... especially if you (librarian) do the marking of the IL part ... and add it on the first essay They could also learn a bit about the primary resources” (Sven). He admitted that if an IL component were built into the course, he would support it with the assistance of librarians. Librarians are the experts in information literacy matters. Chris agreed that if librarians would take control of assessment of the integrated IL skills part supports the idea of an IL component in the course. He added, “At Honours level we are already happy if they can find peer-reviewed academic articles that are relevant ... And if they then can cite, and sort off do the mechanics”. He continued: “... having said that, we don’t have a formula for that yet ... on Masters or PhD level we don’t have a formula ... on Honours level we could have a session on assessing quality ... evaluate the quality of your references?” (Chris).

One of the main pillars is the ‘Evaluate’ skill. The lecturers agree that they have never thought about all the SCONUL skills. They would have to be educated as well. On the question whether IL should be an integral part of any course, Peter explained that he (already) used a “*standard essay-writing guide, which also has an extra reference to IL ... (which) was created by a librarian, who once was a guest lecturer in the IS department ...*” (Peter). This essay-writing guide ‘teaches’ students, amongst others, “*to assess the quality of their resources, and then give feedback on that, they have to explain how they set about their search strategy and then explain the quality of the resources ...*” (Peter). The same lecturer endorsed the idea of the IL

teaching librarian becoming part of the research process for students and *“get involved with the department and add on a little assessment thing, especially if you volunteer to mark it as well ...”* (Peter).

4.8 Chapter summary

This chapter first looked at the demographics of the group. The first question on their perception of IL was analysed with respect to their maturity, experience and age. To gain a good insight into the seven skills set out by SCONUL, each skill was explored as the nodes of NVivo presented them, looking at the skill first and then, at what the lecturers in their interview had to say. Lastly, it was worthwhile extracting the DL skills and looking at them separately. The chapter also analysed the perception of all participants, lecturers and students on IL skills as well as DL skills. The differences of the groups, lecturers, part time and full-time students are appearing in terms of insights, awareness, opinions and experiences. All three interviewees, for example, considered it more important to explain to the researcher as the interviewer, the differences between full- and part-timers in terms of course demands, maturity, attitude and future planning. The course content is also extremely significant to them. This deviated from the questions around the SCONUL skills. While all three considered the use of academic materials and resources as vital, only one has a small component in his course in place that reminds of IL, but by far this does not cover all the seven skills discussed.

CHAPTER FIVE: SUMMARY AND RECOMMENDATIONS

5.1 Introduction

The purpose of this chapter is to summarise the findings of this case study and recommend areas for future research.

This study has shown that the development of IL skills is constrained in the absence of a proper model that assists with the improvement of these competencies. The SCONUL model is a suitable framework for institutions to guide the education of IL skills. The expansion of SCONUL to *the Seven Pillars of Information Literacy: digital lens* is an ideal enlargement to basic and important skills for any student, especially in the South African context, as students enter the university with very few skills. The University of Cape Town has no guidelines based on a workable model in place which could guarantee that students learn over time how to be information literate, which includes critical reading and writing.

The findings show that the students themselves are almost unaware of these existing skills, although they have been at academic institutions for a number of years. Postgraduate students have a deeper feeling for the necessity for IL and DL skills and show a greater awareness.

5.2 Summary of findings

Very basically, this researcher – as in the case of Johnston and Webber (2003, 2006), and Bruce (2000) – accepts that IL is a graduate attribute, and that it promotes and stimulates critical thinking. From all the answers received in the interviews, focus group discussions and online self-administered questionnaire an interesting conclusion can be drawn: there is a general detachment and disinterest – even if not consciously – amongst academics about the concept ‘Information Literacy’. This phenomenon has been confirmed in literature by various authors such as Asher (2003), Elmborg (2006), Ivey (2003) and Bruce (2000).

Furthermore, IL is a skills set that helps students to acquire skills for a lifelong learning journey. It has been confirmed in literature that students fare better in life in general (Quintero, 2016) if they had earlier exposed to formal IL education. Literature also proves that not only are students better equipped to search for academic peer-reviewed literature, but they become familiar with thoughts around quality information, how to evaluate information and avoid 'fake news', how to use such information, accredit it and share it responsibly and ethically (Webber & Johnston, 2000; Bawden & Robinson, 2009; Kay & Ahmadpour, 2015).

With students' digital literacy skills, which concept they automatically understand and absorb more easily and more voluntarily, the chance to become IL are better and more easily achievable. However, this researcher's findings do not show this perception or view to be the case at UCT.

One of the most notable findings of this case study was that the lecturers themselves had only a very limited idea about the terms 'literacy', and specifically 'Information Literacy' (IL). They are more acquainted with the concept 'Digital Literacy' (DL), possibly because the IS course includes digital skills in general. All students from this group have had experience with technology, either with their own devices or with devices available to them at university. All students have mobile phones. They admitted that they hardly use their phones for academic purposes, except to access their university e-mail and access to VULA, the online learning system of UCT. Most of the students said that they use their phones for private purposes (WhatsApp) and that they would never even attempt to read a pdf document on the phone. They would rather wait until they had access to a laptop or computer and even preferred print to online information.

Findings do demonstrate that participants of the FGs agreed that it would be important and necessary to be better equipped with IL skills. However, they could not anticipate how this is practically possible. They already feel overloaded with tasks and tutorials and even though they lack IL skills, also believe that they could solve that problem ad hoc.

Concerning the question of the IL intervention once a year, it is lecturers who agree that this is not enough time to teach and learn about searching for and retrieving academic and reliable

information in a network of phony and deceptive information. Added to this is the existing assumption among lecturers that students have picked up the skills in the last three years along their academic journey.

However, to some degree a once-off session is sometimes mildly effective in a fourth-year class. Students this far advanced realise that they need skills to be able to write essays, assignments and in the case of the full-time students, a thesis. Because of the lack of training or experience in finding literature and other information sources any guidance is good. Findings prove that PG students are keen to learn the skills.

There is a noticeable division between what lecturers' and students' awareness of IL; therefore other routes to achieving an IL community at university could be explored, which combine digital skills with IL skills. Some successful experiments are currently operational such as IL through Massive Open Online Courses (MOOCs) (Bond, 2015; Creed-Dikeogu & Clark, 2013; Mackey & Jacobson, 2014). Another opportunity may be IL through e-learning (Kavulya, 2008, Khan & Raju, 2015; Napier et al., 2017) or digital literacy intervention (Metzger et al., 2015).

5.3 Limitations to the study

- i. It would have been an important factor to scrutinise the socio-economic background for the study. Unfortunately that was omitted. This would in all probability have proven that the less advantaged and poor students needed even more IL.
- ii. FG2 comprised only four students, although there was a greater interest. Circumstances prevented more from joining. Although it was a lively discussion in general, it could have been more representative of part-time Honours students.
- iii. Not enough questions around the concept of DL were asked. The researcher had expected that all (or most) of the students were digitally savvy without verifying it. Many more criteria, such as locating, creating, managing, sharing through digital platforms, identifying gaps and assessing continuously digital content and tools, are

available to determine DL skills, as defined by SCONUL's *Seven Pillars for information literacy* and SCONUL's *Seven Pillars for information literacy: the digital lens*.

5.4 Recommendations for further research

This case study is one of several others (Bawden & Robinson, 2009; Koltay, 2011; Warschauer, 2008; Katz, 2007) which prove that IL skills in combination with DL skills are valuable in the academic context and beyond. Skills sets as designed in models such as SCONUL are recommendable for every student. There are pedagogic justifications which have been proven in many studies around the world (such as by Moselen and Wang, 2014), but also in SA in universities such as CPUT (Moll, 2009; Lockhart & Becker, 2014). The London School of Economics, for example, runs workshops in DL and IL to help their senior students use technologies such as Twitter and blogging for research and to manage their online identity, as well as workshops on copyright, data protection, bibliometrics and citation analysis as IL skills respectively. IL is described as “tools for research offered to PhD students in the early stage of their research and available each term” (London School of Economics [LSE], 2017) .

Librarians collaborate with lecturers in general for once-off library orientation sessions, and through their changing roles as educators could collaborate with lecturers around IL courses as well. Librarians in their roles as IL facilitators should be able to offer academic departments alternative methods.

More research should be done to establish the possibilities of curriculum integration of IL in SA. The more the lack of IL skills and competencies is proven, the greater the chances that a policy will take shape.

5.5 Chapter summary

This case study has attempted to explain the ineffectiveness of once-off IL sessions in a post-graduate class at UCT. In the SA context, with its diverse groups of students, a programme could be developed that is more useful for the students. What is found in this study is a lack of understanding of the advantages of being IL. Postgraduate students believe that they are IL and DL-savvy, mainly because they grew up in a digital world.

In this researcher's opinion IL in combination with DL can play a more important role in classrooms if academics, faculties, course conveners, tutors would agree that IL has a commendable and necessary objective. However, for librarians to collaborate with faculties to teach IL and be part of the graduate process, they need to understand what faculty and academics want them to teach their students. A collaborative action is necessary to educate academic staff what – in the librarian's view – IL is, so that a uniform approach could be taken. Academics need to advise what, in their view, students need assistance with.

Different and new avenues need to be explored and tested for librarians. One of the main tasks should be general collaboration with departments.

REFERENCES

REFERENCES

- American Library Association (ALA). Office for Information Technology Policy. Digital Literacy Task Force. 2013. Digital literacy, libraries, and public policy. *Report of the Office for Information Technology Policy's Digital Literacy Task Force*. Available: http://connect.ala.org/files/94226/digilitreport2012_COMMENT%20DRAFT_9%2018%2012.pdf [2016, October 26]
- Arends, J. 2014. The role of rationality in transformative education. *Journal of Transformative Education*. 12(4): 356-367.
- Asher, C. 2003. Separate but equal: librarians, academics and information literacy. *Australian Academic & Research Libraries*. 34(1): 52-55.
- Asher, A.D., Duke, L.M. & Wilson, S. 2012. Paths of discovery: comparing the search effectiveness of EBSCO Discovery Service, Summon, Google Scholar, and conventional library resources. *College & Research Libraries*: 374.
- Authority, S.A.Q. 2005. Developing learning programmes for NQF-registered qualifications and unit standards. *Pretoria: SAQA*.
- Babbie, E.R. 1998. *The practice of social research*. Nelson Education.
- Badke, W.B. 2005. Can't get no respect: Helping faculty to understand the educational power of information literacy. *The Reference Librarian*. 43(89-90): 63-80.
- Baro, E.E. & Keboh, T. 2012. Teaching and fostering information literacy programmes: a survey of five university libraries in Africa. *The Journal of Academic Librarianship*. 38(5): 311-315.
- Bawden, D. & Robinson, L. 2009. The dark side of information: overload, anxiety and other paradoxes and pathologies. *Journal of Information Science*. 35(2):180-191.
- Beetham, H. & Sharpe, R. 2011. Digital literacies workshop. *JISC Learning Literacies Workshop*. Pp:1-11. Available: <http://s3.amazonaws.com/academia.edu.documents/30668884/file1.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1487602037&Signature=GNzm6kznNdl9EqXLtFxW7kHWJcY%3D&response-content-disposition=inline%3B%20filename%3DDescribing ICT-based learning designs th.pdf> [2016, June 17]

- Beetham, H. 2010. Review and Scoping Study for a cross-JISC Learning and Digital Literacies Programme: Sept 2010. *Bristol: JISC*.
- Beetham, H., McGill, L., Littlejohn, A.H. & Joint Information Systems Committee 2009. Thriving in the 21st century: Learning literacies for the digital age (LLiDA project).
- Bent, M. & Stubbings, R. 2011. *The SCONUL Seven Pillars of Information Literacy: Core Model for Higher Education*.
- Bloom, B.S. 1975. Taxonomy of Educational Objectives. *Book 1 Cognitive Domain*. Longman Publishing.
- Bond, P. 2015. Information literacy in MOOCs. *Current Issues in Emerging Elearning*. 2(1):6.
- Breivik, P.S. 2005. 21st century learning and information literacy. *Change: The Magazine of Higher Learning*. 37(2): 21-27.
- Bruce, C.S. 2000. Information literacy research: dimensions of the emerging collective consciousness. *Australian Academic & Research Libraries*. 31(2): 91-109.
- Bruce, C.S. 1998. The phenomenon of information literacy. *Higher Education Research & Development*. 17(1): 25-43.
- Bryman, A. 1984. The debate about quantitative and qualitative research: a question of method or epistemology? *British Journal of Sociology*: 75-92.
- Bryman, A. 2015. *Social research methods*. Oxford university press. Available: http://s3.amazonaws.com/academia.edu.documents/31178620/SE2_summary_Social_Research_Methods_in_Dutch.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1487603236&Signature=egtNf5nChjHEI8adscw82yNoIHl%3D&response-content-disposition=inline%3B%20filename%3DSocial_research_methods.pdf [2016, February 26]
- Buchanan, E.A. & Hvizdak, E.E. 2009. Online survey tools: ethical and methodological concerns of human research ethics committees. *Journal of Empirical Research on Human Research Ethics: JERHRE*. 4(2): 37-48.
- Cape Town's universities shut down. 2016. *GroundUp*. 5 October. Available: <http://www.groundup.org.za/article/uct-student-leader-vows-continue-protests/> [2016, November 21]
- Castells, M. 2011. *The rise of the network society: The information age: Economy, society, and culture*. John Wiley & Sons. Available: <https://books.google.co.za/books?hl=en&lr=&id=FihjywtjTdUC&oi=fnd&pg=PA1968&dq=rise+of+the+network+society&ots=l2->

[r1XFti2&sig=WScEOMdwEprui453rVW 7TxYrl4#v=onepage&q=rise%20of%20the%20netwo
rk%20society&f=false](https://www.researchgate.net/publication/309145314) [2016, March 26]

- Castells, M. 2014. Rethinking development in the global information age. *Higher Education and Development. Cape Town, South Africa: African Minds.*
- Chowdhury, G.G. 2002. Digital Divide: How can digital libraries bridge the gap? *International Conference on Asian Digital Libraries.* Springer. 379.
- Cowan, S.M. 2014. Information literacy: The battle we won that we lost? *Portal: Libraries and the Academy.* 14(1): 23-32.
- Creed-Dikeogu, G. & Clark, C. 2013. Are you MOOC-ing yet? A review for academic libraries. *Kansas Library Association College and University Libraries Section Proceedings.* 3(1): 9-13.
- Creswell, J.W. 2009. *Editorial: Mapping the Field of Mixed Methods Research.*
- Creswell, J.W. 2014. *A concise introduction to mixed methods research.* Thousand Oaks, California: Sage Publications.
- Creswell, J.W. & Miller, D.L. 2000. Determining validity in qualitative inquiry. *Theory into Practice.* 39(3): 124-130.
- Czerniewicz, L. & Brown, C. 2013. The habitus of digital “strangers” in higher education. *British Journal of Educational Technology.* 44(1): 44-53.
- D'Angelo, B.J. & Maid, B.M. 2004. Moving beyond definitions: Implementing information literacy across the curriculum. *The Journal of Academic Librarianship.* 30(3): 212-217.
- De Jager, K. 2007. Towards establishing an integrated system of quality assurance in South African higher education libraries. *IFLA Journal.* 33(2): 109-116.
- De Jager, K. & Nassimbeni, M. 2003. An exploration of the current status of information literacy tuition in South African tertiary institutions and proposals for curriculum design. *South African Journal of Libraries & Information Science.* 69(2): 108-114.
- Denzin, N.K. & Lincoln, Y.S. 2008. *The landscape of qualitative research.* Los Angeles: Sage.
- Dombrovská, M., Landová, H. & Tichá, L. 2006. Country Paper: Czech Republic. *ICPE, Ljubljana.*
- Elmborg, J. 2006. Critical information literacy: Implications for instructional practice. *The Journal of Academic Librarianship.* 32(2): 192-199.
- Esterhuizen, E. & Kuhn, R. 2010. CHELSA draft guidelines on Information Literacy: paving the way to a South African national framework? *Innovation: Journal of appropriate librarianship and information work in Southern Africa.* 41(1): 83-106.

- Fiske, E. & Ladd, H. 2006. Racial equity in education: How far has South Africa come? *Perspectives in Education*. 24(2): 95-108.
- Gill, R. 2013. The use of social media for constructive discussion in an academic events management unit: An Australian practice-based case study. *European Journal of Academic Research*. 1(1): 1-12.
- Gillen, J., and D. Barton. 2010. *Digital literacies: A research briefing by the technology enhanced learning phase of the teaching and learning research programme*. London: University of London, London Knowledge Lab.
Available: <http://www.tlrp.org/docs/DigitalLiteracies.pdf> [2017, January 17].
- Hart, G. & Davids, M. 2010. Challenges for information literacy education at a university of technology. *Innovation: Journal of appropriate librarianship and information work in Southern Africa*. 41(1): 25-41.
- Hartley, J. 2004. Case study research. *Essential Guide to Qualitative Methods in Organizational Research*: 323-333.
- Helsper, E.J. & Eynon, R. 2010. Digital natives: where is the evidence? *British Educational Research Journal*. 36(3): 503-520.
- Henry, E. & Pene, H. 2001. Kaupapa Maori: Locating indigenous ontology, epistemology and methodology in the academy. *Organization*. 8(2):234-242.
- Hinchliffe, L.J. 2001. Information literacy as a way of life. *Research Strategies*. 18(2):95-96. Internet 2017. *Britannica Academic*. Available: <http://academic.eb.com.ezproxy.uct.ac.za/levels/collegiate/article/1458> [2016, November 7]
- “Instruction”. *Merriam-Webster Online*. 2017. Merriam-Webster. Available: <https://www.merriam-webster.com/thesaurus/instruction> [2017, January 16].
- “Internet”. 2016. *Britannica Academic*.
Available: <http://academic.eb.com.ezproxy.uct.ac.za/levels/collegiate/article/Internet/1458> [2016, October 7].
- Ivey, R. 2003. Information literacy: how do librarians and academics work in partnership to deliver effective learning programs? *Australian Academic & Research Libraries*. 34(2):100-113.
- Jacobson, T.E. & Mackey, T.P. 2013. Proposing a Metaliteracy Model to Redefine Information Literacy. *Communications in Information Literacy*. 7(2): 84-91.

- Jiyane, V.G. & Onyancha, O.B. 2010. Information literacy education and instruction in academic libraries and LIS schools in institutions of higher education in South Africa. *South African Journal of Library and Information Science*. 76 (1):11-23.
- Johnston, B. & Webber, S. 2003. Information literacy in higher education: a review and case study. *Studies in Higher Education*. 28(3): 335-352.
- Katz, I.R. 2007. Testing information literacy in digital environments: ETS's iSkills assessment. *Information Technology and Libraries*. 26(3):3.
- Kavulya, J. M. 2008. The Emerging role of Digital Libraries in E-learning: A Review of challenges and opportunities. In Strathmore University 9th ICT Conference. *ICT's Role Towards a Knowledge Economy*, Nairobi Kenya.
- Kay, R.H. & Ahmadpour, K. 2015. Negotiating the Digital Maze of Information Literacy: A Review of Literature. *Journal of Educational Informatics*. 1:1-25.
- Kelly, J.V. 2013. Paul G. Zurkowski and information literacy: On his trip to the first European Conference on Information Literacy. *Journal of Information Literacy*. 7(2): 163-167.
- Kenton, J. & Blummer, B. 2010. Promoting digital literacy skills: Examples from the literature and implications for academic librarians. *Community & Junior College Libraries*. 16(2): 84-99.
- Khan, K.M. & Raju, C. 2013. Information literacy and e-learning. Available: <http://eprints.unimysore.ac.in/16677/1/information.pdf> [2017, January 19]
- Kiel, R., O'Neil, F., Gallagher, A. & Mohammad, C. 2015. The library in the research culture of the university A case study of Victoria University Library. *IFLA Journal*. 41(1):40-52.
- Koltay, T. 2011. The media and the literacies: Media literacy, information literacy, digital literacy. *Media, Culture & Society*. 33(2):211-221.
- Krathwohl, D.R. 2002. A revision of Bloom's taxonomy: An overview. *Theory into Practice*. 41(4): 212-218.
- Library and Information Services Transformation Charter (LIS Charter of South Africa)*. 2014. Drafted by Muxe Nkondo (Chairperson), Anna Brown, Archie Dick, Genevieve Hart, Segametsi Molawa, Mary Nassimbeni, Yonah Seleti and Lesiba Joe Teffo.
- Limberg, L. 1999. Experiencing information seeking and learning: a study of the interaction between two phenomena. *Information Research*. 5(1):5-1.
- Littlejohn, A., Beetham, H. & McGill, L. 2012. Learning at the digital frontier: a review of digital literacies in theory and practice. *Journal of Computer Assisted Learning*. 28(6):547-556. Available:

http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=82891402&site_ehost-live [2016, January 22].

Lloyd, A., 2007. Recasting information literacy as sociocultural practice: implications for library and information science researchers. *Information Research*, 12:1-13.

Lockhart, J. 2015. Increasing library value for users by registering a short course in information literacy. *Proceedings of the IATUL Conferences*. 5- 9 July 2015. German National Library of Science and Technology, Hannover, Germany: Purdue. Paper 7. Available: <http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=2092&context=iatul> [2017, January 19].

Lockhart, J., & Becker, D. (2014). Determining return on investment : the importance and development of statistics collection for information literacy training at CPUT libraries. *Proceedings of the 35th IATUL conference*. Espoo, Finland. Available: <http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=2037&context=iatul> [2016, June 19].

Lockhart, J. & Majal, S. 2012. The effect of library staff training and development on the user experience: a case study at the Cape Peninsula University of Technology (CPUT). *Innovation: Journal of appropriate librarianship and information work in Southern Africa*. (45), 120-134.

London School of Economics. 2017. *Information literacy for PhD students: essential sources and tools for your research*. Available: <http://www.lse.ac.uk/Library/Learning-support/MY592-information-literacy-for-PhD-students> [2017, January 26].

Lonka, K. 2012 Keynote lecture: Educating digital natives: How to integrate innovative teaching and learning practises with ICT. Partners in Learning Global Forum 2012. Prague, Tscheck Republick, November 29 – December 1, 2012.

Mackey, T.P. & Jacobson, T.E. 2014. *Metaliteracy: Reinventing information literacy to empower learners*. American Library Association. Available: <https://books.google.co.za/books?hl=en&lr=&id=pb70BgAAQBAJ&oi=fnd&pg=PT9&dq=Metaliteracy:+Reinventing+information+literacy+to+empower+learners.&ots=bC4J-lylAk&sig=v8EU-kha0jm2ZN8tDMYGdzj43gl#v=onepage&q=Metaliteracy%3A%20Reinventing%20informatio n%20literacy%20to%20empower%20learners.&f=false> [2016, June 17] .

Mansell, I., Bennett, G., Northway, R., Mead, D. & Moseley, L. 2004. The learning curve: the advantages and disadvantages in the use of focus groups as a method of data collection. *Nurse Researcher*. 11(4): 79-88.

- Maughan, P.D. 2001. Assessing information literacy among undergraduates: A discussion of the literature and the University of California-Berkeley assessment experience. *College & Research Libraries*. 62(1): 71-85.
- Maxwell, J.A. 1992. Understanding and validity in qualitative research. *Harvard Educational Review*. 62(3): 279-301.
- Maxwell, J.A. 2008. Designing a qualitative study. *The SAGE Handbook of Applied Social Research Methods*, SAGE, Los Angeles : 214-246.
- Maybee, C. 2007. Understanding our student learners: A phenomenographic study revealing the ways that undergraduate women at Mills College understand using information. *Reference Services Review*. 35(3): 452-462
- McGuinness, C. 2007. Exploring strategies for integrated information literacy: From "academic champions" to institution-wide change. *Communications in Information Literacy*. 1(1): 26-38.
- Mertens, D.M. & Hesse-Biber, S. 2013. Mixed methods and credibility of evidence in evaluation. *New Directions for Evaluation*. 2013(138): 5-13.
- Messenger & J.R. 1982. *The theory of the information age*. Available: <http://informationage.org/> [2015, December 24].
- Metzger, M.J., Flanagin, A.J., Markov, A., Grossman, R. & Bulger, M. 2015. Believing the unbelievable: understanding young people's information literacy beliefs and practices in the United States. *Journal of Children and Media*. 9(3): 325-348.
- Moll, M. 2009. Information literacy in the new curriculum. *South African Journal of Libraries & Information Science*. 75(1): 40-45.
- Moselen, C. & Wang, L. 2014. Integrating information literacy into academic curricula: a professional development programme for librarians at the University of Auckland. *The Journal of Academic Librarianship*. 40(2): 116-123.
- Moyo, M. & Mavodza, J. 2016. A comparative study of information literacy provision at university libraries in South Africa and the United Arab Emirates: A literature review. *Library Review*. 65(1/2): 93-107.
- Napier, T., Parrott, J., Presley, E. & Valley, L. 2017. A Collaborative, Trilateral Approach to Bridging the Information Literacy Gap in Student Writing. *College & Research Libraries* : 1034.
- Ngulube, P. & Ngulube, B. 2015. Mixed methods research in The South African Journal of Economic and Management Sciences: An investigation of trends in the literature. *South African Journal of Economic and Management Sciences*. 18(1):1-13.

- Oxford Brookes University. 2010. *Strategy for Enhancing the Student Experience 2010- 2015*. Available: <http://www.brookes.ac.uk/about/strategy/about> [2016, August 11].
- Quintero, L.M. 2016. School literacy practices closer to home: The new challenge of literacy learning. *Colombian Applied Linguistics Journal*. (8): 216-227.
- Rabiee, F. 2004. Focus-group interview and data analysis. *Proceedings of the Nutrition Society*. 63(04): 655- 660.
- Rader, H.B. 2002. Information literacy-an emerging global priority. *White Paper Prepared for UNESCO, the US National Commission on Libraries and Information Science*. 12:02-15.
- Ramsden, P. 2003. *Learning to teach in higher education*. London: RoutledgeFalmer.
- Roode, D., de Villers, C., Grobler, M., Miller, J., Odedra-Straub, M. & Phahlamohlaka, J. 1994. Computer-Supported Cooperative Education and Development in Southern Africa. *ICIS 1994 Proceedings*.: 68.
- Santos, R., Azevedo, J. & Pedro, L. 2013. Digital Divide in Higher Education Students' Digital Literacy. In *Worldwide Commonalities and Challenges in Information Literacy Research and Practice*. Springer. 178- 183. Available: https://www.researchgate.net/profile/Fatima_Baji/publication/268153949_Content_Analysis_of_Iranian_Primary_School_Science_Books_According_to_Big_6_Information_Problem-Solving_Skills/links/546332e50cf2cb7e9da68255.pdf#page=103 [2017, March, 26].
- Schradie, J. 2011. The digital production gap: The digital divide and Web 2.0 collide. *Poetics*. 39(2): 145-168.
- Secker, J. & Bell, M. 2014. Developing digital and information literacies in LSE undergraduate students. *European Conference on Information Literacy (ECIL)*. 141.
- Secker, J. & Coonan, E. 2013. *Rethinking information literacy: A practical framework for supporting learning*. London, England: Facet.
- Seidman, I. 2013. *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. Teachers College Press. Available: http://homes.cs.washington.edu/~depstein/hcde596/papers/seidman_interview.pdf [2016, March 16].
- Sharpe, R. 2010. Conceptualizing differences in learners' experiences of e-learning: a review of contextual models. *Reporte De La Higher Education Academy LearnerDifference (HEALD) Synthesis Project*.

- Sheppard, N. & Nephin, E. 2014. Digital literacy in practice: Developing an interactive and accessible open educational resource based on the SCONUL Seven Pillars of Information Literacy. *SCONUL Focus*. 60.
- Spaull, N. 2015. Schooling in South Africa: How low-quality education becomes a poverty trap. *South African Child*.
- Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown & L. Brooks (Eds.), *Career choice and development: Applying contemporary theories to practice* (2nd ed., pp. 197–262). San Francisco, CA: Jossey-Bass.
- Taylor, R.H. & Patterson, L. 2000. Using information literacy to promote critical thinking. *Teacher Librarian*. 28(2): 9.
- Taylor, S., van der Berg, S., Reddy, V. & Janse van Rensburg, D. 2015. The evolution of educational inequalities through secondary school: Evidence from a South African panel study. *Development Southern Africa*. 32(4): 425- 442.
- Tiemensma, L. 2012. Information Literacy Education in Higher Education Institutions in South Africa. *The Road to Information Literacy: Librarians as Facilitators of Learning*. Berlin, De Gruyter: 155- 168.
- Tyner, K. 2014. *Literacy in a digital world: Teaching and learning in the age of information*. Routledge. Available: <http://quod.lib.umich.edu/j/jahc/3310410.0002.317/--kathleen-tyners-literacy-in-a-digital-world-teaching?rgn=main;view=fulltext>. [2016, August 4].
- University of Cape Town (UCT), Faculty of Commerce, Department of Information Systems, 2016. Available: <http://www.commerce.uct.ac.za/InformationSystems/pages/Part-Time-Honours> [2016, November, 7].
- Van Deursen, A.J. & van Dijk, J.A. 2009. Improving digital skills for the use of online public information and services. *Government Information Quarterly*. 26(2): 333-340.
- Virkus, S., Boekhorst, A., Gómez-Hernández, J. & Skov, A. 2005. Information literacy and learning. In *European Curriculum Reflections on Library and Information Science Education*. Royal School and Information Science. 65-83. Available: <http://eprints.rclis.org/28519/1/informationLiteracyandLearning> [2016, May 6].
- Vogt, D.S., King, D.W. & King, L.A. 2004. Focus groups in psychological assessment: enhancing content validity by consulting members of the target population. *Psychological Assessment*. 16(3): 231.

- Walter, S. 2008. Librarians as teachers: A qualitative inquiry into professional identity. *College & Research Libraries*. 69(1):51-71.
- Warschauer, M. 2008. Laptops and literacy: A multi-site case study. *Pedagogies: An International Journal*. 3(1):52-67.
- Webber, S. & Johnston, B. 2000. Conceptions of information literacy: new perspectives and implications. *Journal of Information Science*. 26(6): 381-397.
- Welsh, E.2002. Dealing with data: Using NVivo in the qualitative data analysis process. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*. Available: http://www.qualitative-research.net/index.php/fqs/article/view/865/1880&q=nvivo+manual&sa=x&ei=zah_t5pgoy_ubhqfe9swgbq&ved=0cc4qfjaj [2016, February 26].
- Wertz, R.E., Purzer, Ş., Fosmire, M.J. & Cardella, M.E. 2013. Assessing information literacy skills demonstrated in an engineering design task. *Journal of Engineering Education*. 102(4): 577-602.

APPENDICES

Appendix A - Online self-administered questionnaire (Q) questions

1. *Are you a full time or part time student?*
2. *Where did you do your first courses?*
3. *How old are you?*
4. *Are you male or female?*

The next 16 questions were on IL in general and IL specific.

5. *On a scale from 1-5, how information literate do you consider yourself to be?*
6. *On a scale from 1-5 how important do you think it is to be good at finding information for your studies?*
7. *What would be the most effective way to learn information seeking?*
8. *If you wanted to evaluate your classmate's knowledge on information seeking, which skills would they need to know, in your view?*
9. *Where would you find information using library resources?*
10. *If a friend asked you what information seeking skills are, what would you reply?*
11. *Which sources of information did you use during your most recent search for a general query You had at home regarding politics?*
12. *Imagine you have an assignment to write using scholarly information. Which would be the most appropriate sources to use?*
13. *How can you tell that you are reading a popular magazine?*
14. *Look at this citation: Author. (Date). Title. Journal title. 64 (20), 69-75. What does 64 represent?*

15. *In an online database, which combination of keywords below would retrieve the greatest number of relevant records?*
16. *If you find a very good article on your topic, what is the most efficient source to find related articles?*
17. *You are searching for a book or article that your library does not have, you can request a copy from...*
18. *How would you locate the hard copy of this citation? Author. (date). Title. Journal title. 65 (20), 69-78.*
19. *Where would you seek information for your personal questions of life?*
20. *Is this ability of being "information literate" something that would affect your future?*

On digital literacy

21. *How often on a scale from 1- 5 do you use social networks, such as Twitter or Facebook as source of information*
22. *On a scale from 1 - 5, how well are you scanning skills of web pages to get to key information quickly?*
23. *How well, on a scale from 1 - 5, could you cite a reference to an online resource (e.g. in an assignment) using the correct format?*
24. *On a scale from 1 - 5, how good are you at being able to create a shared document or presentation?*
25. *Which programme would you use to share documents?*
26. *On a scale from 1 - 5, please indicate how often you communicate with others online on forums, blogs, social networking sites, audio or video?*

And lastly:

27. *Do you look forward to your Honours course?*
28. *What do you expect?*
29. *Who would you like to teach you information*

Two questionnaire questions were open-ended

30. Are there information-seeking skills you don't have that you would like to acquire, or improve, such as smart searching techniques, database handling or how to avoid plagiarism? What skills do you feel you lack? Please comment briefly.

The second open ended questions was in the DL section and was meant to examine the student's ability to use sharing document programmes:

31. Which programme would you use to share documents? (Mention 1 or 2)

Appendix B - Interview questions

Thank you for taking the time to chat to me today

My topic is: **The level of information literacy combined with the familiarity of digital literacy: a case study of 4th year Information Systems students at the University of Cape Town**

My aims of my study are:

- Understanding the conditions under which students have to write an academic piece of work without being exposed to formal IL or DL education
- Examining the opportunities the students had in IL and DL training before their 4th year
- Assessing levels of course satisfaction and course dissatisfaction
- Exploring the graduate attributes employers require from IS graduates and whether they think they arrive in their first jobs adequately equipped with these attributes

My research questions therefore are:

- What are the students' perceptions of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a PG course?

For my research methodology I will be using a triangulation formula of an online self-administered questionnaire of 20 questions, some focus group discussions and these interviews with you. Maybe, if it's okay with you I could ask twice or 3 times?

I will first ask a few general questions regarding the course

- What are the general objectives of this course?
- What is the course's background? Continuation, new course material, expectation that students remember what they have learnt before?
- Are students usually from UCT? If not, how did you advertise for the course? How did they find details about the course?

- What will they be trained for?
- What do you think THEIR expectations are?
- What are your expectations from the students?
- Do these students have any experiences in academic writing and the parallel IL skills?
- What do you think the reason is for the underdeveloped IL skills among the students?
(no need, no interest, enough help from elsewhere?)
- What are your expectations from the library?
- What are your experiences after a library session?
- In your view, is it a matter of attitude or lack of training?
- Do you think that using their mobile skills have a negative/positive effect on their academic writing which includes literature searching skills?
- Does it make them over confident
- You have probably realized that there is very little IL present. Would you be interested in integrating IL into the curriculum?

Appendix C – Focus Group questions

General questions

- What do you understand under IL?
- I would like to understand your thoughts and experiences of how much IL skills you have been exposed to until now (school, first years, usage of libraries in youth).

Questions on IL

- How well developed would you classify your IL and DL skills?
- Do you see it as necessary to learn those skills?
- Is it interesting/boring for you? Why?
- Do you think that you know most of it?
- (Skills include the SCONUL skills: planning, gathering, identifying, scoping, evaluating, managing, presenting)
- Do you think that after the lecture your skills have improved (extensively/a bit?)
- Would you prefer more time, exercises, presentations, involvement in searching and using skills?

Questions on DL

- Do you use your mobile phone for literacy questions?
- For communication?
- For dissemination of thoughts, documents, information sharing?
- Are you aware of online ethics?
- What would you suggest to the library (or) lecturer to be better equipped with these skills?

UNIVERSITY OF CAPE TOWN

School of Education

RESEARCH ETHICS: STUDENT/SUPERVISOR JOINT STATEMENT

This form should be completed by the research student and then co-signed by student and supervisor: Tick the YES or NO box, and write in details where appropriate. Please read the UCT Code for Research involving Human Subjects before completing the form. Ask your supervisor for clarification and help if needed.

Student researcher: Name:

Susanne Noll

Title of research project:

Information literacy combined with the familiarity of digital literacy: a case study of 4th year Information Systems students at the University of Cape Town

Course detail: **EDN6057W**

Supervisor: Name: **Dr Cheryl Brown**

1. Have you read the Humanities Guide for Research Ethics? (available from supervisor or at the Humanities website http://www.humanities.uct.ac.za/hum/research/ethics)	YES √	NO
--	----------	----

2. Is your research making use of human subjects as sources of data?	YES √	NO
--	----------	----

Research focus

3. In the space below state what your research question/focus is, and give a brief outline of your plans for data collection.

The overall aim of this study is to ascertain the effectiveness of information literacy (IL) and digital literacy (DL) skills a group of 4th year students in an Information Systems course at UCT.

Specific objectives include:

- To understand the conditions under which students have to write an academic piece of work without being exposed to formal IL or DL education
- To examine the opportunities the students had in IL and DL training before their 4th year
- To investigate the effectiveness of the current IL intervention

RESEARCH QUESTIONS

In this case study I would like to evaluate the IL combined with DL provision to 4th year IS students at UCT. The research questions are:

- How deep are the students' IL and DL skills?
- How deep do the students THINK their IL and DL skills are?
- What are the students' perception of IL?
- What are opportunities for curriculum integration of IL in a 4th year course?

Data will be collected threefold:

1. a questionnaire in a class of 27 students in an IS Hons course at UCT whom I presented an IL class to,
2. discussion with a focus group of 6 -8 participants from that class and the simultaneous recording of the discussions
3. interviews with 2 lecturers who lecture in that class and the simultaneous recording of those interviews

How do I search for it? Several meetings will be held and replies, answers and discussions will be recorded with the consent of the participants to be able to apply interpretive validity as defined by Maxwell (1992) . This refers to generalizability beyond the specific case and could be representative of a larger group of the university population. It is important to understand the variation of the phenomenon of lacking academic

writing and research skills among this specific group of students to be able to understand a general problem with the lack of IL and DL skills.

It is important to understand the students' thoughts and experiences for the sake of validity in the greater context. Questions for the focus groups would include whether and how much IL skills they have been exposed to until now. They would also include questions such as what their understanding of IL skills is, and whether they see it as necessary to learn those skills. These skills include the defining, locating, comparing and evaluating of information. In terms of digital literacy questions on issues like online behavior, critical reading, and responsible publishing will be asked to keep the focus on the literacy skills.

As Morgan (2006) explains the power of the focus group strategy lies in bringing together participants from a common background to discuss the topic. In that way participants find it easier to connect and share and stay on the topic. No sensitive issues will be discussed in this case, merely experiences in terms of DL and IL skills, attitudes and invitations for suggestions and recommendations from the students themselves. For me it is important that the group has a mutual interest in the discussion and can therefore compare with each other their experiences, where they come from, which schools they have visited where, and whether IL was in anyway offered on school level. I am also interested in their general view on literacies, how they manage their DL skills and in which way they see IL skills as lifelong learning skills. Kruger (2009) in his 'guidelines' recommends how a focus group can be addressed, how to ask questions (e.g open-ended, focused, participant involving, generic) to get to. An interview schedule will be developed to ensure that all points are covered. Notes will be taken, and a recorder will be used to capture all the replies. Focus group participant will be invited with incentives, possibly tea/coffee and rusks/muffins.

The intention is to interview the 2 lecturers. Interviews allow the researcher to investigate responses and feelings. I would like to understand how the course is designed and structured. I would also like to understand on which basis students are accepted to the course and whether a specific minimum of pre-knowledge is expected. It would be important to know how the lecturers motivate the students and whether they use an interactive approach to teaching. Do they keep it student-centred and do they use technology-enhanced instruction? In which way are the students' interest taken into account? Do they offer extra assistance to students who show interest but cannot follow? The design of the course outline is important, and also on which grounds the students are expected to know how to write an essay. The objectives of the course are important and the question will arise whether the lecturers believe that they were successful in reaching goals. Again, for all these questions an interview schedule will be developed to ensure that all the points are covered.

However, I am also mindful of the fact that I will be getting the lecturers views which are reports on their practices. This does not guarantee that they do, what they say they do and might not be done at all. Whether they truly motivate the students I will only be able to find out when I ask the students themselves, in the questionnaire, as well as in the focus group discussions.

All respondents, lecturers and students, will be able to talk freely around the topic. Similarities and differences of the educational programme can be expected and will be analysed.

The online self-administered questionnaire will be administered to all 27 students taking the course. It will consist of a few general questions about the students' origins, the schools they come from, the courses they have attended and succeeded in already and what they expect of this specific course. These questions are independent variables – they are not dependent on any question asked before or after and they do not change. It is also important to understand whether they know how to participate, and engage, whether they think that the course content is well organized and clear and whether they believe that they have learnt what they had hoped and whether their abilities to think critically about the subject have been developed. Questions on how much time they spend on preparing for the subject, or doing readings and revising notes, and whether they believe that they did enough work to understand the subject comprehensively. The awareness on me as the researcher exists that answers to these questions are not necessarily the 'truth'.

Respondents could very well only tell me what they are prepared to tell and might not even be what they 'believe'. They could also be asked where the strengths and weaknesses of the course lay and what advice they would give future students who are interested in the course. This could also be very subjective and stem from personal perceptions and not necessarily be the 'truth'.

Information

<p>4. Will participants (research subjects) in the research have reasonable and sufficient knowledge about you, your background and location, and your research intentions? Describe briefly below how such information will be given to them. If there is any reason for withholding any information from participants about your identity and your research purpose, explain this in detail below.</p>	<p>YES √</p>	<p>NO</p>
<p>There will be no reason to withhold any information at all.</p>		

--

Consent

5. Will you secure the informed consent of all participants in the research? Will the consent be given in writing? Describe how you will do this in the space below. If your answer is NO to both or either of these questions, give reasons below. <i>Attach copies of your draft consent forms that you will use to get written consent</i>	YES √	NO
---	--------------	----

INFORMATION SHEET & CONSENT FORM – 4th year Information Systems students

Information literacy combined with the familiarity of digital literacy: a case study of 4th year Information Systems students at the University of Cape Town

Dear student,

my name is Susanne, and I am a librarian at UCT Libraries. I am conducting research towards a Masters degree. I am researching the information seeking behaviour and skills of senior students and would like to invite you to participate in the project.

The project is about introducing an Information and Digital Literacy skills component into courses to enable you, the students, to get acquainted with basic skills in order to write assignments without difficulties and hesitations.

I am interested in finding out about how much you were exposed to any information and digital literacy skills before you started this course

Please understand that you do not have to participate, ie your participation is voluntary. The choice to participate is yours alone. If you choose not to participate, there will be no negative consequence. If you choose to participate, but wish to withdraw at any time, you will be free to do so without negative consequence. However, I would be grateful if you would assist me by allowing me to interview you.

I would ask you kindly to meet with me twice for I hour each over lunch time in the library; pizza will be provided. I would invite you to a relatively informal chat, which I would like to record, with your permission.

Benefits for this research lie in the future planning of courses, so that we can guarantee better results for assignments and other projects.

There will be no harm whatsoever in participating in these focus group talks. Should you at any stage feel that you are emotionally tested you are welcome to leave immediately.

Confidentially will be maintained at all times, no names will be used.

Data will be interpreted without the identity of participants. The results will be grouped in clusters and interpreted anonymously.

The results will purely be used to suggest a recommendation in the information and digital literacy movement at UCT.

Thank you for your understanding,

Kind regards,

Susanne

6. In the case of research involving children, will you have the consent of their guardians, parents or caretakers? If your answer is NO, give reasons below. If your answer is YES, describe briefly how this consent will be got from the participants. Will the consent be given in writing? <i>Attach copies of your draft consent forms that you will use to get written consent.</i>	YES	NO
--	-----	----

No children will be involved in the research.

7. In the case of research involving children, will you have the consent of the children as much as that is possible? If your answer is YES, describe briefly how this consent will be got from the children. If your answer is NO, give reasons below.	YES	NO
No children will be involved in the research.		

Confidentiality

8. Are you able to offer privacy and confidentiality to participants if they wish to remain anonymous? If you answer YES then give details below as to what steps you will take to ensure participants' confidentiality. If there are any aspects of your research where there might be difficulties or problems with regard to protecting the confidentiality and rights of participants and honouring their trust, explain this in detail below,	YES √	NO
<p>Confidentiality and anonymity is a promise.</p> <p>The course code of the course will be generic, called a "PG Commerce course". The questionnaire will be completely anonymous, no name, no student number, no birthday or ID number will be asked.</p> <p>Only standard questions such as gender, age group, country of origin, race, home (res or private), previous higher education institution (if applicable) and personal ordinary opinions will be used.</p>		

Potential for harm to participants

9. Are there any foreseeable risks of physical, psychological or social harm to participants that might result from or occur in the course of the research? If your answer is YES, outline below what these risks might be and what preventative steps you plan to take to prevent such harm from being suffered.	YES	NO √
<p>Questions are quite straightforward and do not include difficult or sensitive issues. The participants will be duly informed about my background as a librarian, my long standing teaching efforts to teach information literacy (IL) with some digital literacy (DL) of late, my realization that all my efforts are quite ineffective and that I intend to find out what the reasons of this could be.</p>		

--

Potential for harm to UCT or other institutions

<p>10. Are there any foreseeable risks of harm to UCT or to other institutions that might result from or occur in the course of the research? e.g., legal action resulting from the research, the image of the university being affected by association with the research project, or a school being compromised in the eyes of the Education Ministry. If your answer is YES, give details and state below why you think the research is nonetheless worthwhile.</p>	<p>YES</p>	<p>NO √</p>
---	------------	-----------------

<p>There will be no risk of harm to UCT or UCT being compromised in the eyes of the Ministry of Education.</p>		
---	--	--

<p>11. Are there any other ethical issues that you think might arise during the course of the research? (e.g., with regard to conflicts of interests amongst participants and/or institutions) If your answer is YES, give details and say what you plan to do about it.</p>	<p>YES</p>	<p>NO √</p>
--	------------	-----------------

<p></p>		
---------	--	--

Signed:

Student:  *Signed*

Date: 11 January 2016

Co-signed:  *Signed*

Supervisor:

Date: 11 January 2016

Appendix E – Introductory letter of the online self-administered questionnaire to the students

Dear _____ IS _____ Hons _____ student,

My name is **Susanne**, and I am a librarian at UCT Libraries. I am conducting research towards a Masters degree. I am researching the information seeking behaviour and skills of senior students and would like to invite you to participate in the project.

The project is about introducing an Information and Digital Literacy skills component into courses to enable you, the students, to get acquainted with basic skills in order to write assignments without _____ difficulties _____ and _____ hesitations.

I am interested in finding out about how much you were exposed to any information and digital literacy _____ skills _____ before _____ you _____ started _____ this _____ course

Please understand that you do not have to participate, ie your participation is voluntary. The choice to participate is yours alone. If you choose not to participate, there will be no negative consequence. If you choose to participate, but wish to withdraw at any time, you will be free to do so without negative consequence. However, I would be grateful if you would assist me by allowing _____ me _____ to _____ ask _____ you _____ to _____ fill _____ in _____ this _____ questionnaire.

Benefits for this research lie in the future planning of courses, so that we can guarantee better results _____ for _____ assignments _____ and _____ other _____ projects.

There will be no harm whatsoever in participating in this questionnaire. Should you at any stage feel that you are emotionally tested you are welcome not to fill in the questionnaire.

Confidentially _____ will _____ be _____ maintained _____ at _____ all _____ times, _____ no _____ names _____ will _____ be _____ used.

Data will be interpreted without the identity of participants. The results will be grouped in clusters and _____ interpreted _____ anonymously.

The results will purely be used to suggest a recommendation in the information and digital literacy movement at UCT.

Click the button below to start the online self-administered questionnaire. **Thank you** for your participation!

Kind
Susanne

regards,

Appendix F – Participant Consent Form

Lecture Recording Discussion: Participant Consent Form

First Name:

Surname:

Mobile phone number:

Email address:

Before you participate,

Please circle all that apply:

I understand that I can withdraw from this discussion at any time without giving any reason:

YES | NO

I am happy to participate in this focus group: YES | NO

I am taking part in this discussion voluntarily: YES | NO

I am happy to allow the researcher to record our discussions: YES | NO

I am aware that the results of this research could be published: YES | NO

Signature:

Appendix G – Transcript Interview 1

Interview with Lecturer X (4/2/2016), called SVEN in the thesis, and answers are indicated with “K”.

Thank you for taking the time to chat to me today

My topic is **Re-thinking Information Literacy in a postgraduate Information Systems class at the University of Cape Town**

My aims of my study are:

- Understanding the conditions under which students have to write an academic piece of work without being exposed to formal IL or DL education
- Examining the opportunities the students had in IL and DL training before their 4th year
- Assessing levels of course satisfaction and course dissatisfaction
- Exploring the graduate attributes employers require from Information systems graduates and whether they think they arrive in their first jobs adequately equipped with these attributes

My research questions are therefore:

- What are the students’ perception of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a PG course?

For my research methodology I will be using a triangulation formula of a questionnaire of 20 questions, some focus group discussions and the interviews with you. Maybe, if it’s okay with you I could ask twice or 3 times?

I will first ask a few general questions regarding the course

And maybe if it’s ok with you ask you 2 or 3 times after this interview

K: ITS OK

And I will first ask a few general questions regarding the course

And then about your personal experience

K: just to clarify: we don't talk about FULL TIME students, because in W's course you need to make that clear to him, we mix the Full timers and part timers

S: OK

K: Part timers then are ppl who have generally been here for a year and they have gone through their PG Diploma

S:Ok

K: but they are working ppl who have come and done 1 yr diploma and then doing their part-time course

S: that would be part of my question: why do they go that route, but that would be...

K: just that you know that there are 2...

S: But they do go to classes together...

K: yes, part-timers and full timers go into the classes on writing and doing their research together, that is the only course they do together,

S:...and the rest of IS, they do different courses?

K: If I could sort of explain it to you: how it works is the FULL TIMers come in and they do 4 courses; they do a seminar course, the first half, and then there is an exam, and then they do a seminar course in the 2nd semester and then there is exam; then they do a system development where they do a system and that is for the whole year

S: OK

K: ..and then they do, what we call, empirical research, which is also the whole year...

....the part-timers in yr 1 do essentially those 2 courses

S:...as well..ok

K: ...they are **not** the same, they are different, because they come for block weeks...they come for a week and then they disappear again...

S: ..so they are working?

K: Yes, they are working ppl...so they do these block weeks. `there are different choices they have...such as Forensics or Business Processing or general Information systems etc. At the end of that year those who have higher than 65%, and there are 2 exams they write there, are then invited to come and do this course, only this course....so they excuse the development...because .to get into this they will have to have 3 years relevant working experience, which kind of covers that. So these are more mature students.

S: Is that the thesis? Empirical research?

K: Yes, that's the thesis, that's where the digital literacy comes in. They then join and the 2 do that together

S: OK

K: I'm just mentioning that so that you know what you are dealing with ...

S...that's good, because that wasn't clear...

K: W. is the course convener of that course.

I am the course convener of that, and I'm the course convener of that and Lecturer D is the course convener of that. So the students you are seeing, and here is different course conveners, its Lecturer E, it's Lecturer F, it's Lecturer G....

S: are those the students I'm seeing?

K: these are the part-timers ... depends on what you want to see...

S: I think it's a mixture, isn't it? It is both classes ...

K: I think what would benefit your research, if I may say so, is to know about that divide and divide them – you might get different perceptions from these and from these ...

These you would know are your typical come through university, no working, experience straight.

These have been working for at least three years, some many more..

..and you might want to look at the different participant timelines.

S: definitely...its very important, because these have obviously academically more trained than ppl who are in industry already.

K: Correct.

S: Ok, that clears up quite a bit. I have to ask them those questions in the questionnaire.

K: First question is probably set could be: are you FULL TIME or PART TIME, that would segregate them.

S: I will keep that in mind, definitely.

What are the general objectives of this course? Is it also different for the one to the other course?

K: They are slightly different, yes, because....I printed this out for you...this is the outline...for the Full timers, not the PART TIMers, and this one includes all 4 of these courses...this....

Because these the 4 different courses, they first have to finish that year, they have different course outlines, completely different. `They don't mirror these.

But if you look at this one – I mean I can give you this....spell out the..

And these are the objectives

You might need to know what these 4 courses are and their names. They are all INF, INF4026F, INF 4025S, and those are the 2 seminar courses...with exams. And those are both me.

And then there is INF4027W, that is a whole year course...and that is the system development course....which is `M P, and you wouldn't probably be interested in that one, and then there is...the last one, probably the most interesting one INF4024W and that is the research project, and that's W.

S: OK, so, the objectives definitely differ for both streams?

K: ja

S: I'll work that out.

So, I guess that answers my next question: what is the courses background? Differs – continuation, new course material, and the expectation that students remember

So, this would be continuation? This would be continuation and this would be....?

K: New

S: New course material for them, ok

K: they might have had limited exposure in here...they might have written one or 2 essays...these part timers

S: When?

K: During these courses, these part-time courses

S: But they don't do these necessarily at UCT?

K: they are ALL at UCT!

S: All from UCT? So these are UCT students as well?

K: Yes

S: Next question: are students usually from UCT, how did you advertise for the course? How did they find details about this course?

K: OK, now in both sides, in this FULL TIME, some are from UCT, some are from other universities,

S: Ah, FULL TIME?

K: yes, because they did their UGrad at UWC or wherever, so they are not all....I don't have the list with me,

S: Full timers are (also) from other universities and part-timers are from UCT...

K: Part timers, when I say they from UCT, means from previous years from UCT, but before that they might have done their FULL TIME degree anywhere....

S...but the precondition is, that they did

K: ...one of these courses at UCT

S: OK

K: It's only one year...so there is 3 years whatever before that...which they could have done anywhere

S: Ok, Allright...

So, what will they be trained for? With this I mean, is it to go back into the working world?
And be better equipped in Information Systems?

K: Ja, it's usually...most of them will becomejob title are things like a Business Analyst,
Systems analyst...

S: Ah, ok.

K:...and so...the ppl...these part-timers...are ppl who are already working in the industry...who
want to improve their prospects, get promotion, etc etc

S: Ok

K: these obviously are the 20....who have not started yet, so they are looking for those kind of
jobs...

S: are these students who are often sent by their companies?

K: Some of them are, yes, eg Vodacom for example pushes their ppl, the Police,

S: the Police? Interesting!

K: Yes, eg. The digital forensics..

S: Of course, ja...that makes sense!

S: Alright, oh cool, that solves that...

S: what do you think THEIR expectations are?

K: The students?

S: yes! To upskill?

K: I think, you have to separate these 2....

S: Ok, I didn't realise that...

K: ...the part-timers: their expectations is !) that they get up to date with what's happening –
shall we say - in the Information S world globally etc., I think that is probably their main
objective to get a recognised formal qualification in Information Systems Honours. Many of

them who come here tell me that it is the top university in Africa....those kind of things...they are chasing to get a formal qualification

S: Interesting!

K: the full timers: many of them are different...they are ppl who have finished their 3rd year and feel that they are not 100% sure what they shall do, where to go in the business world, and that another year would kind of round them off nicely. So, they are thinking that they would improve their prospects to get into the job market. And that whay they come to do the course.

S: Ok

K: That's what I think ...

S: Does....this take 3 years?

K: No. 1 year.

S: This all takes one year? Oh OK.

K: All 4 courses are 1 year.

K: Part-timers do 22, FULL TIMers:...

S: Allright, OK....

So the next question is: what are your expectations from the students?

K: Looking at them separately again: the expectations from the FULL TIMers is that they are going to develop more self-confidence, more application skills...so, where as in the UG year, they have basically been taught....in the Honours course is slightly different in that they have to learn and do. So, in UG all your lectures are given by the lecturer....in Honours, most lectures are given to you by yourself, or by some fellow students...., so they learn a different way of doing things. Here is an example: you, in first, second, third year, if we want to teach you something in big data...we get an academic who does research, develops a set of slides, and presents that to the class. The class listens and takes it in. In THIS course we say 'right, we've got a topic: big data, we then select one or two, dependent on the size, students, OKyou two are going now do the research and develop a lecture on big data. I, as the academic, am going to guide you and help you. So they start out trying to find textbooks,

usually not textbooks but journals, trying to find literature. They then bring it to me and I say 'No, that's wrong, change it, add this, you forgot this, in fact, blah, blah, blah'....so they then develop a set of slides, to present it to the class, PLUS they develop a 20 page document on this subject. Which is a document which is a literature review. It doesn't end there. They have got that 20 page written literature review. These 20 page lit reviews become their textbook. So they are building up their textbooks they go along and they are building it themselves. Okay. BUT: they are not allowed to do it totally alone. So, part of what they got to do...,if these 2 students are doing their presentation on Big Data and the 20 pages on Big Data, they also have to post questions on the online forum, and all the other students in the class have then got to answer and talk about those questions. When they get to the actual seminar, these guys do their 20, 30 minute presentation on their topic, and then discuss what the other students had sent or questions, to say, because the other students might say "I am not so sure what `Big Data is or whatever. So they have to reflect and discuss all of that...

And then we have an outside speaker from industry and you'll see on that list whom we've got, but anyway – so its ppl from companies like IBM etc.,

If the man, or woman from IBM comes and says...you know, if you are doing Big Data, the one thing you must never forget is mobile! And if they didn't touch mobile, they start losing marks. And then AFTER that they have to do a summary incorporating what they have said and anything different that the outsider said. So that seminar – a two hour seminar, they getting exposure to the 2: the literature review, they getting exposure to a vague discussion and they getting exposure to a knowledgeable outsider who works in that area. So, its half theoretical, and half practical

So then they should have an understanding of that topic both theoretically and applied. Now that is very very different from anything they would get in UG. Because UG really is just what someone telling them what's happening.

S:... and do they choose the topic themselves, or...

K: Not a chance!

S: You are?

K: I choose the topics, and the way I choose the topics is that every year I look at the top topics according to research that are trending, that ppl are worried about in industry.

S: Trending topics...

K: Yes, well, it's things like I look at surveys for example ... the famous one is "Society for Information Management", which is done globally, and they send out a questionnaire to all the top IT ppl in the world ... what is happening, what do you think you have got

So, topics come and go ... Big Data is very popular now, virtualisation was popular 2 or 3 years ago, it's kind of popped out of the top ten now ... so topics change

S:...and you definitively know a lot more than they are not reading that far yet.

K: Well, the interesting this is, I learn an awful lot in this as well. So, when I give them a topic, I found very often I now have to start reading up and see what is the flavor, what are ppl talking about, what are the actual issues concerning

S: Exactly, where does it come from?

K: So, for me it's exciting as well, because I get involved in these things. But it's a lot more work, than if I just had to prepare it. Because I just would have to gather it and prepare it. Now I let them gather it

Nonono that's wrong, you have interpreted that wrong, point here, you have forgotten to add this in,

That's the hard part

S: How many students are these, about equal?

K: No, these are about 28, and these are about 40, more of these, because these come from these 3 courses. Might be more than 40, might be 50. I actually don't know the numbers, I have not had a chance to see them yet, because I have been involved with this group.

S: Already? Ok!

K: They started on the 1 February, this group started yesterday...

S: I might have seen them already

K: You would see these...these go on a library tour, any of these 2

S: Ok, ja, I might have seen these already

OK, they seemed to be quite ... compared to last year....if it's the same group...

K: Just looking, don't they have a specific library...

S: I think, Lecturer D is involved here...he sent them, he arranged...

K: Then you saw those guys

S: Then I saw those guys

S: OK....the next question: do these students have any experience in academic writing, in information literacy skills..?

K: My answer is: very little.

S: Both?

K: Both sides!

This side...students who come through UCT have written small essays..

S: but not a thesis as such?

K: Not a thesis, and they have not done proper literature reviews etc. I mean, during this week, when I spoke to them, they were quite surprised, for example, which kind of shocked me...

I showed them some things on Google Scholar, and I said: how do you know that an article is good or not you can see how many citations it had...They had never looked at that before...they don't look at things like that...how to search? NO

S: Was that not also part of your frustration last year?

K: Yes! That has always been part of our frustration, and particularly the ones who come from other universities, even worse....

S: Oh really?

K: ja they are really bad

S: Wow, really?

K: Ja! They don't know how to use, how to reference properly, how to cite properly. We have to explain to them a lot about plagiarism. Again they sometimes think, I'm smart, I found this, if I copy this, no one will know ...

S: Really, that bad?

K: Yes, You have to emphasise plagiarism and say to them what plagiarism is

K: So you **think** that they have done it, and you see, even here is a section on plagiarism

S: OK, yes! I saw that

K: Because we mention it....THIS crowd from industry they tend to be slightly better, because plagiarism is also an issue there

S: Ok

K: because getting into a workplace if you just copy something from the internet, you don't have to disclose fully where you got it from, etc etc. So they fall short on the plagiarism side as well...

S: as well....ok...

K: the other thing that they all really really battle with, is the synthesis of the literature. So, they tend to look at the topic and find one paper and say AH...so, I found this, and just do that one all the time.

S: So they base everything on that one article?

K: Yes, a copy job, a summary job. I am trying to say to them, and what we are saying to them: academic writing is not just like a school essay where you copy and summarise we expect you to look at 4 or 5 or even more different sources.

OK, A says this, B disagrees, because of this or A and C say they agree, These guys just kind put it into kinda themes.

S: and that's what they battle with?

K: they really battle with that...to understand that concept

S: that argument...

K: And then the other thing they battle with is the credibility of sources. They often say things like 'my uncle told me this', and I say that has no credibility..

S: Both sides?

K: Ja..ja...or they say 'my boss told me this'...

S: ...laughs...

K...but where did your boss get that information from? I kinda joke with them and say to them ... you can go down to the pub, and you can interview ppl, and ask them what they think about Big data but: who are these ppl? What do they really know about that? So therefore your research is not really that relevantwhereas if you went to a ..., lets say, Big Data Conference, and interview those ppl, you will get totally different results. Those ppl are knowledgeable in the field, etc., so, part of research is who are you choosing to speak to.

S: Absolutely!

K:...you don't go down to Forries and speak to whoever is sitting there, because they won't know. They might guess, but that's not even good information. So, it's that kind of thing, and both suffer a little bit from that..

S: What is the reason for that? Didn't they have any need until then?

K: I think they haven't been taught that, they haven't been trained..

S: ...or is no interest? Or do they get enough help from elsewhere, like for example their boss?

So they don't think its necessary? Because they have got other sources?

K: I think they also think that it is not necessary to reference and cite correctly

S: Why were they not taught that in their first year already?

K: that is a very good question!

We do try, but many of us don't see it, and don't take it seriously

S: I know! That is part of our frustration as well.

K: Often they read an article, as if they are reading a novel, where, it doesn't always have the citations in, because it is a novel....

S: its fictitious.

K: its fictitious, yes....so, we show them papers and articles, and say: in Academia these you need to prove, you can't just make a statement and hope that its true. So, if you say something, like Jones said that, we want to know: who is Jones? Where did Jones publish that in? So, understanding those things, that I think they battle with.

S: It started too late, actually school is where it should start. Matrics should know – I was taught that in a private school...

K: where did you go to school?

S: at the German school here

K: Up in Kloof?

S: Well, that's where my children went, I actually went to the one in Windhoek...we were taught there already: you have to verify whatever you say in an essay, for example. Where does that statement come from? ... no sweeping statements

K: OK, I ... You are right – it would be great if it was in school already, then they could used to it. That's part of the problem!

S: So, part of my question is: I'll get to that just now: I just want to finish these questions: What are your expectations from the library? How far can we help? With that problem?

K: our expectations there are key to two problems, one is: We expect the students to use the library - we have that expectation, BUT, most of them don't..

S: Exactly

So where can we come in proactively a lot more?

K: I think you need to show them the benefit of using the library. To them as individuals. That the library – you know – I go to Claremont Library, just socially, and it always saddens me, if I go there, is to see who's there? And what I mean by that, I see is mothers with little children,

and I see old ppl like myself, but the middle bunch I actually don't see...and that's just a general library, where I can go and get books and I think that.....

You know, last year I actually spoke to the students, and I asked them what they read and where they get it from..

S: Oh did you?

K: Yes, that was informal and most of them said: magazines, and I said...I am talking about printed staff, I am not talking about online staff...so I asked them, have any of you read a novel lately? What you favorite novel? ... and most of them said, No, I'm too busy, I have not read anything like that. So I said to them: what do you read? – Magazines! Short articles, nothing long

S: ...and then also not on IS necessarily ...popular..

K:popular sort of stuff. Newspapers:amazingly....very few....

S: Even though that its short

K: ...even though that its short, but you have to go and get it and so on ... when we discussed online, there was more, BUT: and this is the funny thingmost information they get online, is from Facebook which is from.

S: conversations?

K: ... and friend support,etc. I said to them, how many of you look at news for example? From a critical source?

S: But facebook also has got credible sources nowadays

K: Yes, but they don't read those. We were also discussing then, the news. And that I discussed in class. And I said to the, you know, even credible sites, news sites like BBC, CNN differ. So, if something happens in the world, and you watch what what CNN says about it, and you watch what BBC says about it, or you watch what AlJazeera says about it, and what China TV says about it, you'll see that they have different views and different participant timelines. So, the incident can be the same, but people see it and reflect upon it differently. And I said, you know, in Academia it's the same kind of thing. So there is something like Big Data. Different ppl have different opinions of it. And if you want to get the best view, what

you do is try and get as many of those opinions . It doesn't mean that you agree with it. But if you think that and you suddenly get a different view, it might change the way you think. You might say, "I have never thought of that". And so that was quite – I think for some of them, they found it was quite different and enlightening.

S: Enlightening and new, but they have not heard

K: They have not thought ofwe also used that case, where a crime was committed, and you look at it in 3 different view points, or 4 different view points – you know, you get several: there is the perpetrator, what their view point is there is the victim and their view points, there is the bystander and what his or her view point is, there is the law and its different view point, there is the medium, so, everyone has different view points. I am not saying that its wrong or right. But if you only look at it from the victim's view point, you only see it from 1 side.

S: And actually you have to mention all sides ...

K: Correct, and one of the things to me, where the library can come in, because its such a rich source of information, and its not onlymany of them stupidly think, that the library is just printed text,

S: Do they still think that?

K: Especially some of these ppl think that ... they have got this old fashioned

S: OK, that something I can hook into here

K: You need to explain to them that the library, that one of the things the library does, which is benefit to me as an individual: you have pre-selected things. So you don't have the poor journals in the library, okay? I can take some satisfaction knowing that you have pre-selected stuff

S: Reliable sources...

– I am talking about the university library and that gives me a sense – and that's what I say to the kids – of some form of, its got a little bit more credibility....some of us checked it out and said: we are putting this journal on, or putting this title on the shelf, or whatever....

So, one must look at the library as that kind of thing – a source of higher value information. If I can use it – that term! Whereas when you go into Exclusive, they have everything.

S: So selling the library's resources better.

K: Selling the resources. And another thing, Susanne is, selling the librarian staff....that the staff are there to help you, to find things for you, to guide you, not to tell you, which book to read, but to say "have you thought of this one? Its This section you might have missed " That kind of thing....How to search for things!

S: Much more proactive

K: And even online stuff, you know, if you type in Big Data you can get stuff on Big and Stuff on data, which is totally different, whereas if you put them in quotes, it sorts it differently. That sort of stuff.

S: I know, that we need to be a lot more proactive

K: Going forwards, look at thi show them on Google Scholar and say " look at this", shows you this article, written n 2014 and it's cited by 200 ... and `I say, you can click on that and it will give you the 200 who have cited this, so you know - logically, these are written after this article, because they couldn't have written before, .. .and some say: what? `I say, how can I cite your paper, if you have never published, you can cite, if you have published it ... so this is going forwardits wonderful ... so I can get that and I can see...publish this article, you know, this is good ... and then I look at what future ppl say about this article

S: ... and there already you have got different articles, and not only the one

K: Exactly you can even get them published in different journals, so a psychological jnl will have a different view/take on it than an Information Systems jnl ... and look at not only at IS journals,, please! Because, for example "defense of mobile phones", etc., there is a lot in medical jnls written on it, there is a lot in sociology jnls written on it, because it affects those kind of disciplines. There is even stuff in the sports journals, ... business journals ... there is all over the show. So you don't need to be blinked ... and in fact, looking widely at it give you sometimes a very nice perspective ... different perspectives of things.

S: OK, that ...

K: I don't know if I am ...

S: You do, you do ...

The few times we did come in, like last year for the one session, after such a library session, do you find that it has changed a bit, or not really? Is it too short, one session ...

K: Its too short! I think it changes 1 or 2 ppl, but a large number sadly doesn't

S: ... and it's probably also not relevant for them at that stage, because they are not tackling their assignments yet.

K: So, all of these guys have to submit a literature review by the 10 February, and I bet you, very few are looking at the library.

S: So we should actually come in before the 10 February already...

K: They have to submit by the 10th

S: ... and if they all fail, like last year? And then they all come to me and say: we are so scared of Kevin, he is so strict with us, can you please help find 2 or 3 did that!

K: It would be better if they came before?

S: Yes

K: Why don't I send you their names, their emails, and you can send them ...

S: I have got slide shows, and I have got little video clips, on how to do a search and things like that ... do you think, something like that would help?

K: Yes! ... but I think, part of your research, you could say that you invited them to ... em ... emm Susanne Noll ... list of Information Systems...these are FULL TIME students, I'm just giving you their emails.

S: OK...is that now both groups ...

K: ... No, only this group

S: This group (PART TIME) doesn't have to do it, but the FULL TIME group has a 10 page, (is it 10 page?)

K: You can say, that you saw, that they have to

S: This is a very valuable document – it will help me a lot ...

K: it will also help them in their reflection, because they have to so

Reflection ... Unfortunately this documents just grows and grows and grows every year ... so: there is the literature review, 10 pages they need a minimum of 10 citations ...

you can just say "check with library before you submit to KJ ... something like that! You can maybe make it lighthearted or something ... and what I will do, send you that in soft copy, it would be nice, because then you can search easier

K: So the texted programme, you can check it out there...I think, just tell them something like that...

And just see what you get back, because that will be part of your research: that you have invited all 28 of them, 1 came back, 2 came back – whatever, maybe an email to identify yourself

S: Let's test it

K: and say that you are a FULL TIME Honours student or whatever....

S: K, that's a very good idea.

S: offering services, help and assistance...ok I'll do that!

K: Don't you offer students incentives, like coffee or stuff like that?

S: Well, that was my plan with the focus groups. If I decide for example to choose 2 groups of 2 ppl each, I would definitely offer them pizza or coffee or something, just to have an informal conversation, about

K: It shouldn't be WHY ppl come to the library

S: No, but you have to (offer incentives)

S: In your view: is it a matter of attitude or lack of training?

K: I think it's a mixture...it's a bit of attitude, but its also lack of training. Lack of awareness – I don't know what the library can do for me, I don't know why I should go to the library

S: I didn't need it until now, I came through university without until now

K: I always tell them the story when I started working for the British Government Legal and General....and my boss told me to do some research into 3 printers, and I did the research, wasn't really research and I presented an argument, and he looked at me and said: (they didn't swear in those days) who the hell are you? I don't want your opinion, what other ppl said to me, you as the 25 year old, and I was astounded. He said, didn't they teach you anything at university? This was in Jo'burg. He said, Go to WITS Library and see what's in there.....so I had to go. It was tough in those days. There was no internet, and I actually got access to the WITS library – I couldn't go to the general library, because they didn't have that kind of stuff. So that enabled me to take out the guides. I mean its much easier these days.....

They don't want to know what YOU think about

S: That's exactly what we try and teach them in the library session

K: Sorry I have to rush now to another meeting....

S: Just one more question: would you be interested in integrating Information literacy into the curriculum? Do you think that it would help

K: Yes

S: That would be once a week...and also: assessed

K: Yes: Because I know that there are other universities doing that, and they find it very helpful

K: We have included things, but we have not really focused on that. I think that will be good. I think the whole GC thing – the global citizenship....that would be really good, because all the the Honours students are forced to do the Global Citizenship, because the, - what his name – the VC, is pushing this GC programme. So part of the GC is actually – they have to look at things like violence, and war and peace, the future....

....where are they getting the information from? How are they becoming informed? So this is part of becoming informed and up to speed, and I think, the library should play a huge role in that. I don't know where they are at the moment...you know Manager O?

S: Too little, we are just at the periphery involved in that. offering resources, but we are not part of the whole development, Manager O? No.

K: I think you need to get involved with her, and say, hey! Its great what you are doing with GC., encouraging students to think about all these things....a lot of it is again: from Facebook, the friend from next door, which are not always informed opinions....and they tend to be one-sided. So, if I look at the GC course in ...

We as a university could do a lot more

S: Agreed, we have the resources, but we do market them enough

S: OK, Thank you for this interview, K.

Appendix H – Transcript Interview 2

Interview with Lecturer Y (15/2/2016), called PETER in the thesis and answers are indicated with “JP”.

S: Can I use my cellphone to record? I think this worked quite well with Lecturer X, so...I could understand him...he has quite a soft voice.

JP: He speaks better English than I do

S: Thank you for making the time

JP: That’s a pleasure

S: My topic is:

Re-thinking Information Literacy in a postgraduate Information Systems class at the University of Cape Town

My aims of my study are:

- Understanding the conditions under which students have to write an academic piece of work without being exposed to formal IL or DL education
- Examining the opportunities the students had in IL and DL training before their 4th year
- Assessing levels of course satisfaction and course dissatisfaction
- Exploring the graduate attributes employers require from IS graduates and whether they think they arrive in their first jobs adequately equipped with these attributes

My research questions are therefore:

- What are the students’ perception of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a PG course?

For my research methodology I will be using a triangulation formula of a questionnaire of 20 questions, some focus group discussions and the interviews with you. Maybe, if it’s okay with you I could ask twice or 3 times?

S: I will first ask a few general questions regarding the course

JP: So, these are the Full time students?

S: Both

JP: Both. The part-time students already come from a whole number of employers.

S: Yes. So that is their experience, or what was the experience from the employers when they employed them? I dunno, they are probably not very academic...They are more practical?

JP: It is a very very mixed bunch. Are you referring to their written work just to their essays? Or is it mainly focusing on their thesis? Their research project?

S: Well, essays are probably a first step to a thesis.

JP: Fulltime students – they write essays. Part-timers don't, because they have written essays in their course component. So, we normally talk about the PGDip students...and if they have a high enough mark go into Honours. Part-time students have a PG Diploma in course work, in Forensics, Management, Applied Resource Planning and then they, in their second year, just write a thesis.

S: and that becomes a Honours then?

JP: Becomes a full Honours. Some of the students come from another university with a degree, that is not necessarily IT. Some students come in the RBL scheme, they don't have an undergraduate degree, or just a fraction of it. So we have both:: ppl with a lot of practice, and ppl with less practice, and ppl who have some experience, but do have academic skills. They would be exposed to different genres sometimes: some of them come from the Science Faculty, they have a BSc, or Humanities Faculty, their writing genres they are used to and type of skills they are exposed to, are totally different. So that is a very different bunch from the normal main stream FULL TIME Honours that we have, we have the K (?) stream much more homogenous, because we know exactly what skills they have, apart from the 2 or 3, maybe 5 which come from other universities

S: I might have to separate them

JP: You will have to separate them

S: I did ask them in the questionnaire, whether they are Fulltime or Part time.

JP: ...separate them even further and check whether they had a UG degree before they came, also which diploma they took, because there is a big variety in terms of their skills, especially...I have a lot of experience in terms of their writing skills, because I mark a lot of their essays. I also give a writing skills lectures.

S: Oh you do!?

JP: So, there is a big difference even like a lot of Forensics students, who are much more technically focused, and quite weak academically. Whereas people who take Management or they tend to have less technical focus, more imaginative focus, who have fairly good academic skills. So those, I would think, come with fairly good digital literacy skills – they are working in an IT environment, but their writing skills may not necessarily be good. They often don't have formal literacy skills. `So they took a degree, but were never taught formally. As for the Major students, the Fulltime students, I don't think they have a formal digital literacy course either

S: I know that C B, who is my supervisor is working on something, or is for getting into the first year....? She is formally teaching some digital literacy skill, course, component...something like that

JP: To Commerce students?

S: All students, I think.

JP: So that's an academic skills course for students who come from that background, for Orientation or something, because they are focused, especially the ADP students

S: I have to ask her

JP: then you would need to find out from ADP again to see....are they Fulltime students, or are they ADP students? And the more main stream students, who are privileged are usually stronger.

ADP students come from less strong schools and don't have enough exposure to technology and stuff, and again: you need to look at the sub groups...

S: Kevin did explain a bit to me from this outline about the 4 streams...so I will have to

S: Why am I asking all these questions is to find out, where do we fit in? The library? Because many students think they do have digital literacy skills they automatically also have information literacy skills,.... and there is a huge difference. To be able to handle a mobile phone does not necessarily mean that you know how to cite and reference and find...

JP:... or if you think you know how to use Google, they think if I put a title to my research topic

S: ..and it would come up...

JP: It would come up...and they don't realise there is whole lot of tricks and ways of filtering...and even when they find references, they have no sense of how to ...even if its so called academic, how to assess the quality....and proper journals....

S: Are you teaching that?

JP: I guess the expectation from IS staff is that we, at that level, are less concerned with the metacognitive skills of high level skills in terms of trying to assess quality ...that would be more at the Masters or PhD level. At Honours level we are already happy if they can find peer-reviewed academic articles that are relevant. We often give them a couple to start off with. And if they then can cite, and sort off do the mechanics, and then only later on, on the Masters, we put the emphasis more on...

...having said that, we don't have a formula for that yet..on Masters, or PhD level we don't have a form...on Honours level we do have a session on assessing quality ...as far as I know...course work. We do look at the quality. How do they evaluate the quality of your references.

S: Exactly. Also bibliometrics....using bibliometrics...and things like that, which is becoming more and more...

JP:...but its at Honours I think! We already have enough trouble for the part timers to convince them White papers are not acceptable, web sources are often very suspect...even so-called research papers from companies like Gartner and Forrester or something, and industry research companies also have, not only not as much an agenda, but they do have an agenda....and they very much have an audience for which they write. The audience is not expected...to research the demographics and all those things. So in that sense... the audience also just expects predictions and subjective stuff and civiltries (? 10:28)) and all those things.

Its already hard enough to say “don’t get all the Gartner Hype-psych in your research.” The same for Wikipedia, although in IS Wikipedia is very strong...most of the articles are really well researched....I used to say 5 years ago.. ”No Wikipedia is not acceptable source and don’t quote Wikipedia”. But if you start with a new topic, I say “start with Wikipedia and follow the links, especially with an ICT topic, because well over 100 000 ICT researchers in the World is a huge part of knowledge and that stuff is fairly validated. But ja, hasn’t got a formal (?) 11:14) and act(?)

We don’t normally check it up, So, We still prefer to have them using journals or conference papers. Again: conferences, most of our conferences are also peer-reviewed, and we are lucky that we can use conferences in a lot of other disciplines. Conferences are based on acceptance of abstracts

S: ..and we have got the ACM database which includes conferences.

JP: we have ACM, we have AIS, we have IEEE ... so, in facet if I would rate them I would rate them the lowest IEEE, then AIS and ACM ... these are the 3 big sources...

S: (*Laughs*), many of my questions have been answered already. One of my research questions is: what are the students’ perceptions of IL?

JP: So, what is my perception of their perception?

S: To what extent does IL intervention once a year help to become IL? How effective is that IL intervention? What are opportunities for curriculum integration of IL in an Honours course?

JP: A once off intervention is pretty useless, although a workshop does actually work. Its infused with (?12:54) Its like academic writing. You can give them exercises and. you can give a one hour Powerpoint

S: Exactly, that is my experience

JP: So, the same for IL, we should actually have a formal way, where we....and again: they do that...they do critical reading at Masters and PhD level. They have to read something and then reflect, be critical about interpreting and how other people...apply ..information

S: and not only summarise it

JP:...and not only summarise it. It's really critical reading and often there are opposite views ... and in that sense we go way beyond information, which is the art of critical reflection, so ja, I don't know what the Honours students actually do any of that ...

S: Well, my suggestion in the end I hope will be that we can integrate ... but this must come from a higher level, a university level, so that we can sit together so that we can have a part in the first year or second year...

JP:But we have a standard essay writing guide, which also has an extra reference to IL. So you must get a copy of that. Its an IS Department writing guide. Its partly written by Tony Hooper, who was a librarian....

S: Oh yes ... and came to work for the department ...

JP: we upload it and students

S: Do you assess them at all on that?

JP: So, we don't assess them on that, but what I am saying is that its also part of the essay writing, so we have a formal assessment, where there is very little weight given to even referencing and the quality of references, its like 5(%) ... but it is an intervention for one of the essays, one of the early essays where students make themselves assess, formal assessment of what the quality of the resources is, and then give feedback on that....not just on how they write, but also on how they set about their search strategy and then the quality of the resources it could actually, technically open quite easily

It would be worthwhile if your actual research would be saying that are happy to get involved with the department and add on a little assessment thing, especially if you volunteer to mark it as well

S: That's a good plan! Because I'm so frustrated myself with this once off intervention and students coming to my door anyway, because they forgot what I said and ask me the same questions ... Don't know how to reference don't know how to find ... don't know which database to use....and all of that

JP: It may be because they don't have this on the website of students I work with the Masters and the PhD students and my Work Project ones and my PGDip students ... for them I set up their entire writing resources and set it ... put it on the website actually

S: OK, I'll have a look at that. My research methodology is triangulation, where I have got a online self-administered questionnaire, which I sent out this morning, some focus group discussions, I will still decide on that – probably only the Honours students, and these interviews with you.

Ok, what are the general objectives of your course? You are the PGDip convener...

JP: of ONE PGDip, of the Management one, also academic writing for Masters, also convener of the Practical Work project, which is the equivalent of the Honours, that's for those students who don't make it into Honours. They are writing a big writing essay - they write a practical work project. They get a PGDip.

S: What is the course's background? And by that I mean: is it a continuation of what they have done before? Or is it new, new course material?

JP: No ... new! PG Dip is, when they come they typically either come with a lot of practice skills and then formalise them, or they come for a career conversion type thing: they come with another degree and hope to formalise ICT skills.

S: So are they actually working while they do this course?

JP: Yes,

S: So they have got classes in the evening

JP: Yes, and they are doing blocks as well.

S: Full-time blocks? Like a week?

JP: Yes

S: are these students usually from UCT? Or are they from all over?

JP: From all over.

S: How did you advertise for the course? How did they hear about it?

JP: We used to place ads, but we don't do that anymore, so its word by mouth and the general website. We stopped advertising.

S: How many do you have?

JP: Between 30 and 40 for each of the PGDips, for the three streams.

S: What will they be trained for? Is it for Management? Are they usually sent by their employers?

JP: Often they are sent by their employers ... like Pick and Pay, Vodacom, Old Mutual, you are having a formal initiative by the organisation. But then a lot of them come out of their own hard work and initiative.

It's a bit different for the Forensic ones...they heard of this course. They are working in Law Enforcement whatever it is ...

S: So its quite focused on what they are doing, practically, so that they enhance their skills?

JP: So its usually, because of they reach a barrier without qualification...

S: OK, this we have talked about: do these students have any experience in academic writing and the relevant IL skills – those are the ones who don't have it necessarily.

JP: Well they can or not. Some of them do. Some come from other universities

S: That's what I am also asking them in my questionnaire.

S: ... and what do you think the reason is for their underdeveloped IL skills? Is there no need, no interest? Or do they get enough help elsewhere?

JP: It's a bit of everything, and also that there is not enough space in their curriculum. So many (skills?) depart on to them ... where do you stop? Numerical skills, meta skills, analytical skills, meta-thinking, critical thinking, writing, and then you have this huge body of knowledge that you also need to convey. Social responsibilities.

For us the first barrier is academic writing rather than (?) just a curriculum that is deprived of too many academic skills, the academic skills set portfolio is just too large to address completely. That's why skills development has a lower status or pecking order or whatever.

S: That makes sense.

What are your expectations from the library? Concerning that?

JP: so again: For me its really useful, that they know how to use electronic resources effectively. And then both: search skills and the assessment and evaluation of the quality of sources is a nice-to-have, that goes along with it.

S: So, what we are doing at the library now, we are developing quite a lot of online How-to videos, and things like that. Do you think that would be useful? More useful than standing in class

JP: Ideal would be a whole bunch of resources, writing resources are a very important aspect, and lots of exercises. The same happens on the students' side. We don't have enough space in the curriculum. They have so much information to process. So, unless it's linked to some form of assessment or whatever it is, students don't have the time....

S: I know ...

JP: So you can give all this information . It just needs to ... it either must fit in right the time right at the time when they need it, but best way is to link it directly to a formative evaluation or assessment. It needs be part of the educational learning process. Just making optional resources

S: What are experiences after a library session? Do you have the feeling at that time that they do know more?

JP: They definitely do know more. A lot of them are really impressed of what's happening I always sell it to them: the biggest advantage of being a UCT student is having access to this masses of information which the outside world does not have access to. And that not only electronic resources, but that you can wander around in the library and get excited about all this knowledge around you and pick up a book and read something ... and I try and sell it on that concept.

So there is definitely a positive outcome which is highly valued on this side. And is very important.

So right at the beginning of the PGDip course for instance, which means that at that stage they also have other things on their mind ... o maybe give it to them when they do essay writing, with their first essay topic. So that would actually force them to really listen...that's something I think of right now. That is actually much more useful, so we either move the library session to later, although that could be a bit tricky, or otherwise when we give them the assignment ... so before they go to library give them their essay assignment, and they could start working straight ... and then they would have something to concretise (?) of what they want to do.

S: Good idea!

JP: So will you remind me next year when I email you for the library session

S: I have got another one tomorrow with W's group ...

JP: See, for W's group it works well, because they already picked their topics now,

S: Oh is it?

JP: So they have something now so all of the sudden for them its real. But for ours, (the first full-time group, we fitted it in there)

at that stage they don't even know why they need it. So when they are given their essay topic then they are much more motivated.

Pause: JP types something to remember

S: So another question was, do you think that using their mobile skills has a positive or negative effect on their academic writing? Which includes literature searching skills. Also different groups again?

JP: I don't think it has a negative impact on it. WE all like to blame mobiles on a short span of concentration, and that sort of stuff, but I think it's a bit overrated. I think the whole school experience, especially for the Fulltime students, that maybe that a little....but not holistically.....I don'tcut and paste electronic resources ... I don't think one can say it reduced their literacy (?)

If anything it has ...made them more aware ... if we have a discussion at table at home and we are arguing about something and we stop for a few seconds ... out comes the phone ... and

who's right? So I don't think it is ... on the contrary! In that sense I think it deserves the blame it often gets ...

S:...and also your students, they are more responsible by now ... they would not pull out their telephone and look up something ...

JP: No, it's good!

S: If they do?

JP: Yeah ... they do it the whole time! If I am lecturing, they are checking while I am lecturing to see, whether I am right!

S: Whether you are right? Oh wow!

JP: That is great!

S: that is very positive. That is not done very often, because usually the lecturer is always right!

JP: I am always wrong! (laughs), I am occasionally right but I am already improving ... always wrong...my wife often thinks it, but doesn't say it

S: Why I am asking this question is: does it make them over-confident? To be able to use the mobile all the time..is that why they think they don't need to learn how to reference, because they think they can just look it up?

JP: I don't think so and I don't think its necessarily negative, I don't think its positive either...I don't think its strongly correlated at all with the digital literacy or the referencing and all those things. It does have an effect ... a slightly positive effect, in that they now feel empowered to check what's happening. `they may not always reflect that...not all resources are graded equally. But I think they slowly pick that up ... that to check things up against Wikipedia is more likely to be true than to check it up against IOL (?)

S: That is fantastic, that is critical thinking!

JP: So I think they slowly get there. Because they might have argument with their friends, and the one says A and he says Bthen I think they quickly resolve, where A uses Wikipedia and

B uses IOL ... and they decide that Wikipedia is better ... and that sort of debate does go on ... and I presume it slowly builds up like that ... so to me, it does have a positive effect. To have the internet at the finger tips? I think that definitely has a positivethey need to learn, to memorise less ... but that's fine!

S: There was an article 2, 3 years ago 'does Google make you stupid'

JP: Yes, it said we stopped thinking, we don't read long arguments, we don't read long text anymore, but does that make us stupid? I don't think that is negative. Having said that, I would love for the youth of today to be able to stick through a big book. And read a whole book. To understand that everything is context related, the history and everything like that. So that integrated approach thing.

The lost bit In terms of digital literacy the better - in terms of

They develop additional skills for that loss ... I don't think its necessarily rubbing off negatively off the quality assessment.

S: ... Good!

And the last question is: would you be interested in integrating IL into the curriculum?

JP: Yes! Especially if you do the marking of the IL part ... add it on the first essay...that would be wonderful. They could learn a bit about the primary resources

S: that would be great. They would then realise how important it is.

OK, Thank you for this interview!

Appendix I – Transcript Interview 3

Interview_Lecturer Z (11/3/2016), called CHRIS in the thesis and answers are indicated with “W” in the interview.

Thank you for taking the time to chat to me today

My topic is: **Re-thinking Information Literacy in a postgraduate Information Systems class at the University of Cape Town**

My aims of my study are:

- Understanding the conditions under which students have to write an academic piece of work without being exposed to formal IL or DL education
- Examining the opportunities the students had in IL and DL training before their 4th year
- Assessing levels of course satisfaction and course dissatisfaction
- Exploring the graduate attributes employers require from IS graduates and whether they think they arrive in their first jobs adequately equipped with these attributes

My research questions are therefore:

- What are the students’ perception of IL?
- To what extent does the IL intervention once a year help to become IL?
- How effective is the IL intervention?
- What are opportunities for curriculum integration of IL in a PG course?

For my research methodology I will be using a triangulation formula of a questionnaire of 20 questions, some focus group discussions and the interviews with you. Maybe, if it’s okay with you I could ask twice or three times?

S: I will first ask a few general questions regarding the course

W: On that number of students: there are two groups of students

S: Yes, the full-timers and the part-timers

W: So the group you have met, was the full timers

S: Yes

W: you met the part timers last year

S: At the beginning of the year in January ... it was a group which Lecturer X sent to me ...

W: But that group ... those guys are second-years.

S: The ones which I saw this year?

W: So, our Honours class: the full timers come from the BCom ... those are the 27 students you met ...

S: ... those are?

W: The full-timers ... they are coming from BCom, from Business Science – so they are 4th year, but it's the same product ... they are coming through the undergraduate stream ...

S: And mainly from UCT?

W: Yes. Mainly from UCT. We have a few come from other universities from UWC and so on. But the majority are from our undergraduate students. But I think all come from the BComm background.

They struggle when they come in, but that is another discussion for another day

Then the part timers: about 50 or so this year. These part timers come from 3 different PG Dip streams ... I am not sure whether they have library ...

So what happens: in the 1st year of the PGDip they do course work, so they are doing ... whatever they are doing: with Lecturer M, with Lecturer N, and with Lecturer O...

So after that first year, then they join this programme, the Honours programme. So they get a library session in the year before. So the graduates, who are in their in the Honours now, got a session last year.

So now you are talking to them one year after/since you taught them. So they are on different levels of processing information.

So they are about 50 something, if you have about 80

S: So 42 is not a bad response.

W: it's not.

S: I did ask (about) 30 questions, already, about what they are thinking, and I also got a few comments, a few nasty comments and a few friendly comments...

W: (Laughs heartily)

S: My first question is: what are the general objectives of the course? This Honours FULL TIME course which you are convening. What is the general objective? Do you want to make them ready for industry? Or are they becoming academics? Or... what is the goal?

W: The goal is for them to be able to conduct research ... so I don't think they are academics. I think for them to work as IS graduates they need to be able to do research. So that is the main objective. In industry, when they are given a situation, they can do research and find answers ...

S: ... and analyse ...

W: So that is the main objective ... of course its an Honours programme: they have to do research - it is requirement

S: They do write a thesis – don't they?

W: Yes, they do. They end with about a 50/60 page thesis.

S: And they all doing it in one year?

W: Yes, one year. They complain that it is short ... so they begin in January submitting a final document in September.

So, our aim is to train them for industry, to be able to analyse, and reason

S: So quite an academic training, really?

W: It is an academic training ... and about a small number of 10% end up in the Masters programme.

S: OK, about 10%?

W: Yes, and the number is increasing. Maybe we are doing something right. We are sparing them enough, or we are doing something wrong, in that they want to check again

You cannot do a Masters without Honours research.

S: You cannot?

W: You cannot do this Masters programme without the Honours course. It is a requirement to continue with postgraduate studies ...

S: What is the courses background? I think you answered that already ... is it continuation? Or is it new course material? And are you the expecting that the students remembered what they have learnt before?

W: That's a difficult question for us to deal with! Its something new. I think the issue we have in general in IS department, is that is almost a continuity from undergraduate to postgraduate. So in undergraduate we train them to design systems; train them to look at technical issues ... so all of a sudden, in postgraduate we train them to do research, and they struggle with that. The have never seen this before. They have never prepared for this. So students think that it is different and they struggle because it is not fitting in the pattern of the other courses they do. The part timers are a bit better prepared: in their first year they are doing it kind of almost links to the research in what they are doing...you do an essay in the first year in the PG Dip., then take that essay and write that as a research in the Honours. So for the part timers the link is a bit easier – they are working on the same topic they did, but for the full-timersand the struggle we have is: there isn't much writing essays in the undergraduate training. So they never have written essays as they write reports and so on. So that to say "You should think of a topic and write an essay and look for information ..."is overwhelming.

S: And you find that now already – in March?

W: Ja! The full-time students are stressed.

S: I do get quite a few of them coming to me for assistance ...

W: I mean there are things which you think they should have known by now...from somewherebut they don't! Like the issue with peer-reviewed articles ... how to students respond? ...:What do we mean by 'peer-reviewed'? This is in the second month of the course...Honours Course! and the students don't understand what ... ja sure: they ask about the vocabulary we can use.

S: You actually said that already: Are students usually from UCT? Yes!

W: Yes, these are mainly UCT students.

S: ... and if nothow did you advertise for the course? Or how did they find details for the course?

W: We advertise through the media we carry (?) one of the main papers every year where we advertise for the whole postgraduate

S: Do you like the Mail and Guardian?

W: Yes the M+G.

S: Do you find that you get a lot applications through that?

W: The advert carries for all the postgraduates, so we do get a good (response ...

Most of our students, the part timers come from the same companies, like if Old Mutual students were here, then they tell their friends, and new applicants ... so there is also word-of-mouth ... it is quite common ...

The full timers advertise to the third years and try to convince them to continue.

But see again ... there is one thing we should remember about this course: that in theory these are supposed to be the best students, because from third year going into Honours, you have to get 65%. So these are generally good studentsand from PGDip you have to have 65% to go onto Honours otherwise you end up with a diploma. So these are generally the top of their streams. So they should be coping with their struggle. They should be good but they still struggle.

S: That confirms what Lecturer X and Lecturer Y's experience is as well. They actually expect the students to know that there is a library and that they know how to search for articles and things, and they are always surprised to find that the students don't know how to do that.

W: I think they become lazy with Google – that is the easiest option

S: That is exactly the part of my research – do they think they are Information literacy? Because they are quite handy on Google, they find it on their mobile phones, they can pull it

out wherever they are – maybe they became too self-confident, so that they think they understand

W: ... they read stuff but(... plain basic ... if they have looked for... peer-reviewed?)

So they can find anything easily. They go to Google which give anything ... so ...

Often I get students who ask me – these are third students – that they are looking for this paper and can't find it. I then ask them: 'have you checked hard enough?' there is a book on it ...you can return it ...

S: That is the sad thing, because it's all there! We subscribe to so many fantastic things and Google works with all the databases by now. The accessibility is actually phenomenal, if you know how to ...

W: It's so easy!

S: So, what will they be trained for? Will they go into industry as trained IS specialists?

W: Analysts!

S: Analysts ...

W: Yes, business analysts.

S: ... and what do you think, their expectations are? So, if they leave from here, do you have the feeling that they think that the job finding has become a lot easier? Or their prospects of doing something, entrepreneuring something themselves is a lot easier. What are their expectations of the course?

W: OK, we are fitting into a programme. So there is a bigger programme of IS, just feeding them the one component of research. The majority of our students get employed, so by the end of the year they will have jobs in the same companies that employed them Open Box, Excension, Standard Bank – the typical business of industry ...

S: Fantastic – so their job prospects actually rise through this course.

W: Yes! And what you see for the part timers, which kind of works towards their advantage. I think just going through the course their job prospects – if I am correct – go higher, because

they worked already. So most of them either get employed in the same position which is busier for their studies or every year you get 5 or 10 students who get other jobs within the year, because now they are more marketable in their second year at UCT. And therefore they become too busy for the course the employers themselves are very keen because its adding some value ...

S: To the company?

W: Hma ja!

S: and what are your expectations from students? Do you expect them to do the work they are supposed to do, such as the readings, that they come back with their essays on time ... what is 'mature behavior'?

W: (*Laughs*) wish we could get that!

It's a very independent course, so you are given content at the beginning, and then you go. `meet them again after some time. You expect them to be reading

S: To argue?

W: Yes, you expect much more arguments and writing: writing is the biggest expectations we have. By the end of this course we want them to write academically

S: And fluently?

W: I had a meeting with the class reps from the part time guys. They were complaining about why do they have to do much writing academically. They were from industry – they don't need that! I answered, no, but that is what the course says! If you have to argue in an academic context you have to write that with (?) the other people, the academics will be for work. So expect them to write academically, to argue. They are kind of self-managed. They should know when what is ...

S: Do these students have any experiences in academic writing? And the parallel Information literacy skills?

W: the part timers have. Because they have the course last year, they have done essays, so they ...

S: Yes, that's what you have told me earlier.

W: The challenge we have though with the part timers: we have 3 streams of part timers: 2 streams are more academic, they deal with more theoretical stuff. The one stream is more practical: so, they learn how to hack into a computer, how to protect hackers, the forensic side.

S: Ah yes, the forensic students.

W: So, they come after their first year, after they have learnt so much technical stuff, ... little writing, so they struggle with their writing, because they have not done much writing. They are no academics, they are no forensics - they know tools and procedures, but they have not done many essays. So, generally at the beginning you get that disparity. The guys from forensics are struggling.

S: So the guys from forensics, if they are part timers, they also come from companies who send them? Or who would be interested in forensics? Police?

W: Yes, from police, we have people working in Banks, so the departments of forensics – so I think all big companies have departments of forensics. I think now people are worried about hacking into their computers, and they worried about how can they recover from those kind of things.

S: Yes, I understand that FNB is struggling at the moment

W: Ja, the FNB. So they often have forensic experts.

S: ... and that's what they learn in this course?

W: Ja! So, I think after this course they can apply for some certification. So its quite a useful course. The demand is high.

S: Sorry can I just ask again: So do they get a Honours degree in IS specialised in Forensics?

W: No! Unfortunately not. So what happens: the PG Dip programme, if you come in First Year, you can proceed to do the business report and do a PGDip in Forensics, a PGDip in Business

Processing. But if you choose to come into the Honours stream, then you lose that Forensics brand. You get a BComm Management.

S: So, it's an Honours?

W: It's an Honours. So Forensics gets lost in the Brand – it happens in the First year, but in the end they get an Honours without saying they did Forensics. But strangely enough they all want to get an Honours. An Honours seems to be – I thought they want to get Forensics, but they all want to get the Honours! Some say, please get me into Honours....how do I get an Honours, I had these issues, but now I want ...

.

S: So they want to get that academic degree?

W: They want that academic degree, they want that Honours, this specific one ...

S: I'm getting it ...

What do you think the reason is for their underdeveloped Information literacy skills? Is it no need? No interest? Do they get enough help from elsewhere? Is it our fault?

W: It is! I think we cannot, as a department, we know they need to write essays. Almost every week. We should have writing workshops. But we don't do it. It's writing an essay and researching on content. In IS it is not part of the culture.

I think, if you come, and we train you on databases and design systems, and programming, that's what they do. So the books and discussions and seminars provided for an undergraduate are enough for them to survive. So there is really no need for them to go to the library. You can do without the library in the first 3 years. In the Honours we change the programme completely. We become research oriented. So that shift takes them a bit by surprise. So far they survived up to this stage without the library. So I think it takes them a bit of time to realise 'oh, I think this a different project – we need different skills.'

So, in undergraduate, is where the ... I don't know exactly where the problem is ...it's a different ... And I think that whole discussion of they-should-be-writing, I know they should be writing ... but ... they should be writing WHAT? We are not clear... so far in undergraduate we don't write, we are not in a writing environment

S: It is not an academic discipline, it never was, like History or Languages, or....

W: I did a course, 4 years back, in Social Anthropology .I was sitting in an undergraduate course and I was very surprise by the amount of reading ... (?)

Wow, I never teach so much reading!

In Computer Science postgrad Don't do that much.

So, I think the undergraduate structure is at fault

S: We might be able to change that.

W: we need something before we

S: So my next question is: could the library help? Could you do it with the help of the library?

We are – at the moment - developing a lot of online videos for example, which we can embed in library guides, or in Vula, or something. If we became a lot more pro-active in showing them what we have, what is available, would that be helpful?

W: Yes, its also the physical position ... the library seems so distant. I find it so distant.

S: Do you mean geographical?

W: I don't knowcould be! Could be geographic, or maybe I could say I have other options. So I can sit here and do this. So why should I leave my desk to go to the library. I go to the library when I am looking for something. A physical book, or something so detailed that, and so focused, then I go to the library.

So, so I think if I can use the library, and people are not using it, I ask 'Why are they not using the online library resources?'

S: Because they don't know how to. I think that is the problem.

W: even our postgrads, even the PG guys, don't know how toI've got some PG students (Un-understandable) ... and they all ask one guy to find papers for them..*(laughs)* ... so they ask this guy to find and send them papers by email. So, the others don't know how to so, IF there could be some assistance, some online tutorial video, which one could access and know how to check stuff

S: ... Ja, that is what we are testing now with all our... .if you go to the library's website, when I leave now, you will see that we have a lot of tutorials, quizzes, for them to self-check how

much do they know, how much don't they know ... if they don't know, there will be a video, or slides or something. So we are trying to get into their lives more subtly than beforeto combat that distance. There is a distance.

W: There is a distance! ... there is some ... it is far

S: we should be integrated a lot more.

W: And I often think, when I use the library content, it is often Google Scholar through UCT Library. It is only when I can't find something through Google Scholar, that's when I think, maybe I should go through the library property. So Google Scholar makes me use the library, and I can see what is available at UCT. But I do that because I had training, I sat in the training. I think tutorials, short video clips would help. Students, when they are working in IT So, students when they doing programming, when they struggle, they open a video, watch the video and then continue working.

S: I saw that! That's the modern way to learn...

W: So they are doing something to find a video clip, so it seems like

S: They are doing 2 things at the same time

W: (*Laughs*) I don't know how they do it i should get used to, but I am not yet used to...

S: It's a generational thing ...

W: Yeah, just get the books back, 2 days, for most of us ... we give them videos

S: Excellent ... that's part of my last questions

W: ..and they are watching them ... that's interesting to them ...

S: What are your experiences after a library session? Do you have the feeling, that after we had a library session that the interest is a little bit more, or that they are quite happy with what they have heard maybe it opened some sort of opportunities for them to find something they didn't know beforeis it a little bit better after

W: Hmmm. The main change one sees is that they want to use RefWorks ...

S: Is that so?

W: Yes! I think we should not ... (regit?) ... with something

S: Yes, that is my last question

W: That's what they are struggling with ... in practice. They I think you come in the second or third week and then you have a session, and then the students are just going on with their lives ... so we don't have ... we don't have a way of assessing or forcing them forcing them to engage with the library content. So I think at the end we are ticking boxes ; OK, done with the library session! That's what I should do ...now I have done it.

It's the same thing...they struggle with the ... yeah, at the beginning we bring the library and we bring the writing and communications department

S: Yes, the Writing Centre.

W: So they struggle. OK. It's the ticking boxes: I've done Library, I've done writing Or can we find another way of integrating, so that we able to say: Okay, I have been to the library can the library demonstrate to us, and force you to look for this ... item. So we need to think more around that!

S: OK.

W: I think an hour or two, then you are gonethen, some of them are using, some of them are not

S: Exactly...and that is exactly my last question: would you be interested in integrating it into the course? Say, for example in the first 6 months that we have a part in their Vula assignments and they are assessed with 5 or 10% or something like that. I know that UWC does that: in their first year courses. They have an integrated Information literacy component. The last question of every assignment is: are you able to find journal so-and-so, number so-and-so, go to the library's homepage and see whether you can find the full text of that article. If you did, you will x points or something. So that is how they assess their Information literacy part. Or would that be too distracting?

W: The tricky part is that the full-timers may need that; but the part-timers have done this in the previous year, so they don't need this ... so it is difficult to find ... we could addit, I think this year add it to thing s... strong marks ...

So they have their 100 marks, and add it for strong marks ... for other tasks, which are not linked to ... Quite a number of Students have done that ... assignment for strong marks ... at the beginning ... they all want ... for strong marks, so we could find a way of doing that. Because, actually, I gave them an assignment. So this assignment was for me to see whether they are engaging with what I covered in the first part ... it was basically: can you reference using APA ... and can you phrase a research question. So we could embed in this the library ... question to force them to engage with the library material.

S: If you are interested I can send you the links to our three quizzes for example, just as an example, where they can test themselves on how much they know or how much they don't know? Mainly these quizzes are based on referencing like: do you know how to reference ... if you see something in Italics, is that the title of the article? Or is that the title of the journal? And some other box ticking exercises

W: Last year we had quite a few students who failed the course and had to submit...some of them failed and other processes ...

These five and others ..., I think one of the issues was, that they couldn't even reference properly. So they have gone through the year of Honours and months of teaching and sweating and students couldn't even reference ... skills that are acquired in the first months of this course. So I think if you could force them to learn referencing so that its out of the way ...: we now know this! and then: we know how to find papers, that's out of the way. If you can get that in the first twp or three months, then it's also easier for the supervisors can concentrate on the proper content as opposed to how to find proper papers, find peer-reviewed, reference properly, so that thing is ...

S: ... out of the way, so it becomes part of their ... then they don't need to struggle about that anymore ... like: where do I find the paper: oh, its there! Reference? And even if they don't know how to reference, but at least they can go and have a look on ...

W: ... a video or whatever in the library,.and they can engage with the web and then go and do it ...

Strange, because on their assignments, in the marking guide, referencing is assessed! But they still don't ...

S: I often say to them the difference is often between a second and a first ... if you get those 10 extra marks, you might get a first in your...

W: Yeah, referencing here, I said is 10%, but in reality marking is more than 10%. Because if you don't reference properly, I'm kind of thinking: so the background is giving me: is it proper? So it forces me to think It also affects my perception of your work, if the referencing is not and the articles, the few articles, and the articles are not ...

S: ... making sense?

W: So, the 10% is just there, but it's bigger! It affects other sections of examining
And you are thinking: oh this student ...: you keep on thinking: the argument is it complete, I mean, how come you didn't ...
So it is much more than ...

S: IT is! For example also they often put reference into their reference list, references which they have not used in their text. So: do they want to impress the professor? I have read so much, but where is the evidence that he used it, or he read it, or built it into the argument or something ... that alone is such a difficult concept for students to understand: that what is in your reference list, you have used.

W: Yeah, They might do it to impress, so that I think: WOW! If you bring me your proposal soon, if you give me 40 references, I even doubt that you have read 40 papers; by this stage you haven't! And I know you are lying.They do that to impress.

S: ... and they think they have to do it ... and that's where the fault lies: with us!

W: Some of them think there are things, which they think we want to see, so they give it to you: they give you 40 references, 50 references in their first page document

S: Yeah, I think I did that in my first year too!

W: (*Laughs*)! WE all go through that phase

S: Yeah, you have to be punished, and then you know: that's not on!

Thank you so much W! I really appreciate it

W: Is this a report for the library?

S: No, its data collection for my Master's thesis.

Appendix J – Transcript Focus Group 1

Susanne Focus group: 6 April 2016 PG (12 ppl out of 8) in LC2B –(outside faculty office of Leslie Commerce)

This is a group which attended voluntarily after not reacting to 2 invitations to meet regarding a FG discussion. I was encouraged by the lecturer (one of the interviewees) to talk to them and remind them that we are all researchers and that I would also be willing to be interviewed should they need data for their own research. I realised that I needed to make the FG discussion as convenient as possible for them and met them in their classroom at lunchtime with 4 large pizzas and 10 cool drinks, as promised.

Q: Background about IL, do you know what IL is? And what do you imagine it could be, if you don't know, considering the lecture we had and considering the assignment you had to do for KJ – what is IL?

A: To find literature; to understand; to be able to use the tools,

Q: Did any one of you have IL training before this intervention?

A: 4 voices say NO.

Q: Which school do you come from?

A: SACS.

Q: Did they have a library?

A: Yes, we didn't have specific IL training, but we did learn about the Dewey Decimal System

Q: Well that is a little bit already – that is how to find literature....and the others?

Q: No school libraries?

A: I have a question: Normally first years are attending a DL class, before they start the year. Does that count?

Q: That counts as well, because in that course you are also taught how to use DL responsibly. IL and DL is very close to each other. So if you say DL does that make more sense to you than IL?

A: Yes (1) ... I am asking you what IL is....I am not sure what is is ... (yeah ... sort o f... I know its part of initial learning)

Q: Why would ppl say that it is a lifelong skill? Why?

A: Because we are always writing reports ...

Q: What about normal information? Not only literature? How do you find information?

A:..... once you understand how we find literature in the context of studying, understand what is between the lines or at the bottom, find information, analyse information. Is IL not also part of being skeptical about what you read? For example If you can do a search and then if you are IL, then you can say this is nothing good? Not biased ...

Q: Absolutely! That is part of the skills: to determine whether it is viable information. What about the others?

A: Sound like, what ppl are saying, like journalism. Journalists go out and try and find information from different perspectives ... to find the story, what is beneath the story, so, from what you are saying that is what it sounds like ...

Q: Being able to judge, whether the literature is accurate? Whether it is not biased, whether it covers the whole spectrum? All that?

A: Yeah (4 voices).

Q: What about the others? Did you have a school library? Anybody? If yes, did you use it?

A: No ... maybe for novels ...

.

Q: So no one ever taught you about encyclopedias and dictionaries?

A: Encyclopedias and dictionaries, yes ... but not in books. Encyclopedias you get on discs. Like the Britannica ... we knew that is where to find information (person from SACS)

Q: But that's good, that's good literature...on a disc, digital or in print does not matter....

A: We did not really take note that that was “learning”, or analyse information,

Q: So what happened in your first year of studies? How did you write your essays? Where you not required to look for information or articles or some historical background?

A: Google Scholar

Q: At least Google Scholar ...!

A: Wikipedia.

Q: Wikipedia is actually very good, especially in IS. Its very sought-after.

A: KJ does not think so.

Q: No, but JP does! I had an interview with him, and he thinks, because its peer-reviewed, but a group of experts, he thinks that its very good, except...only in the last 5 years it developed, before it was also doubtful information,

A: This stuff is not as reliable as peer-reviewed. There is no citation counter (?)

Q: Exactly, so you have to test it, check the references, whether the links are working, whether it is available, whether there is an author for example, someone you could contact,

A: See whether you could use the page’s sources....because these sources refer to other sources, which you could use.

Q: Did you all go to school in CT?

A: No Johannesburg, Trinity,

Q: Are you here since three years? Or did you only come here for this Hons course?

A: I have been in CT or the last five years.

Q: How do you like your course, IS?

A: Too much work! (4 voices)

Q: What does that entail? What do you need to do?

A: Reading, analyzing, typing, essays. It is such a jump, because we didn't write much, and now we are expected to be good at it.

Q: Did you have any information skills training in your first, second, or third year?

A: No not at all. We only wrote one essay a year, a 2000 word essay, that does not prepare you...

Q: And how was that assessed?

A: You just got a mark and that's it.

Q: And you don't really care?

A: No, you just want to get it over and done with.

Q: But do they teach you something about the structure, the introduction....

A: Yes, they do have a lecture on that. Each time you have an essay you have a lecture before ...

Q: So what else do you do in your course? If you don't write essays....what do you do? Do you get lots of notes? Last year, the year before?

A: A lot of practical assignments. Diagrams, designing IS systems, coding gathering information around that. In undergrad they were not strict where you got your information. For the coding we found resources on the internet on how to do things, open sources, open internet, Google!

Like "Stack""Overflow" (?) On forums, where you pose questions and people answer,

Whilst here, now, you get punished, and you are expected that

Q: See, that's what I find so fascinating, why do they punish you now, but they didn't teach you in the first three years on how to do it ...

A: That was my question to UCT I just feel I feel that they over-emphasise the importance of where we get the information from ... They are strict on ... it must be journals, must be staff, while I feel that you can use any information as long as you justify on why you think it is important ...

Q: So, at the moment they are training you on what is peer-reviewed, and academic

A: It has to be a journal it has to be newer than 24 months it has to be... it has to be...

A: it is strange to be in our course: a lot of things change after a couple of years...and when people have new things they have, like two citations it is relevant and you want to use these ... but you can't

Q: So do you argue with your lecturers about that? Because that is quite a valid point!

A: No, they did say, as long as 70% of your references they consider as good, then it doesn't matter that some are "old" ...

Q: At the end of this year you write a thesis?

A: Yes. Over and above what we are doing now.

Q: How do you gather your data?

A: online self-administered questionnaires, interviews, quite a bit of qualitative, and quantitative,

Q So are taught how to do that at least?

A: Yes, yes, sort of. They are trying to teach us. A lot of resources that we are referred to ... and also if we have questions, we can ask them.

Q: So, do you think that if you had more training in IL, that this year would be easier for you? In the first 3 years? Say, more regular training?

A: I think that some element now that we are learning would be in undergrad, the understanding of literature review and empirical research, we could concentrate on qualitative and quantitative data. All that technology slowly introduced in undergrad....

But I think that actually doing it instead of just learning about it ... it is actually pointless. You forget ...

The only problem with that is, you can't really teach something in undergrad that is to be used in postgrad. How many people are actually going into postgrad? So you be teaching undergrad about thesis, etc ...

Q: Well it very much depends on the discipline. In Humanities for example, students in their first year they learnt exactly that. Using literature, arguing, telling the reader why they argue in this way.

So, did any one of you do a Humanities Degree before? No? all of you BCom?

A: No, Science.

In science they train us they give us a short, a three week course, they gave us a textbook and showed us how a report should be written ... PopCom, something by the commerce Faculty ... we had Claudia and Terri, and they showed us how to write report, do the layout, like guidelines ... we wrote a report about a little research project. As a group. That makes it easier, group work.

Q: And now, are you working on your own? All of you? You don't do any group work at all?

A: In the lit review we park in pairs or 3, but the thesis will be on our own.

Q: So, how is it going with your literature review? Did you find that that one session we had together, did that help you?

A: Yes, for you, but not for KJ.

You really did help us to recognise and find online tools, in the library search and also Google Scholar, with all the fancy things you can do, that was really very useful! But in terms of, actually writing, and formulating arguments, citing and referencing, that is still an issue.

Q: That is training! Exercising.

A: In group work, getting input from everyone ... even then ... it is not to Kevin's satisfaction ... if it doesn't flow ... even the generated references are not up to his standard....like RefWorks, never use that! Because I never knew 100%, but I thought RefWorks would help me. I think the references they gave are not entirely correct, e.g. the page number. refWorks puts in the wrong information.

Q: Yeah, you have to check it all the time. Thoroughly.see this is all training that we could have done. We, Library, would like to be much more involved in this training and show you how to do things, and what the problems are, where you must put your attention to.....but

we only have this one session ... and why I am doing this research is, to find out whether more session would be useful ... for especially 4th year students.

A: I have another question: in terms of citation: if every sentence is a fact, you can't say in referencing, just to take the author and the year, or you have a sentence that continues from that ... I have seen other citations where there was just the name ... so It is these specifications that KJ wants ...

Q: Yes these are his rules ...

A: Another question: If we are not using the library, but using the internet more than to find physical books, But: if we want to get a IS degree and we only know how to use Google Scholar, to find information. So, how can we use the library more effectively?

Q: Well, I could show you quite a few databases, which have IS specific journals only which includes GS to a certain degree, but only on the periphery. The better information, the more precise information – and I think, that is what KJ is thinking about – is much deeper in certain databases.

A: So does the library have that?

Q: Yes!

A: I didn't know that!

Does the library provide the journals from Scholar? Like if you login in through EZProxy, it says provide by UCT Libraries

Q: Yes, you need to login! Its licence agreements.

A: Even on Google Scholar there are article which we sometimes cannot access. Even if we are logged in ...

Q: That means that we don't subscribe to it. But we do have a fantastic ILL service. If you find an article that you really really need

Q: Do you all know where the library is? Do you work in the library?

A: I tried one day and it was packed!

Q: Do you use your mobile phone to access information

A: No, it's too small! Never, it's too time consuming!

Q: So which devices do you use?

A: Laptops, computers, tablets

Q: But you do know that you can receive everything on the phone as well...?

A: I prefer to work on the computer, because at least you can highlight

Thank you all!

Appendix K – Transcript Focus Group 2

Focus group discussion with 4 students who requested a workshop in academic Information seeking skills.

Originally 7 students planned to attend, but for various reasons only 4 could make it. 2 hours preceded the discussion with an intense training workshop. The students requested the session voluntarily and without the assistance of their lecturer, who was one of the interviewees for this data collection. He supported their request, but he did not arrange it for them. The workshop and following discussion happened on a Saturday morning on campus, which was extremely busy because of an Open Day which UCT had arranged. That was possibly the reason the other 3 participants could not attend – they did not find parking.

16 April 2016

Q: Question asked by interviewer

A: One answer by any participant

X,Y,Z additional answers by other participants to the same question

Q: What do you understand under IL?

A: Do you understand how to access the information that you require? And what the methods are that are available to you in the academic context. Last year for example I had very little IL, and towards the end of the year it started to become easier. With the help of the writing centre, things. Obviously before this session I had even less IL I'd use some of the tools, but not in a holistic and constructive way, which I think I use much better going forth.

Q: The others?

A: I pretty much agree with what K says., namely how to find information and where to find it.

Q: How about HOW to use it?

A: and how to use it, yes!

I think the evaluate part is, as you've mentioned before is HOW you recognise that and author is credible. Because there re lots of sources of information.

Y: So currently we are building our evaluation muscles. It's the skills.

Q: When first in your lives encounter IL? Where? The schools you come from? Did they have libraries? Were you taught a little bit of IL there already? Which backgrounds do you have?

Y: I come from a Apartheid school system, so: we had a room, that they called the Library. And when it was library class, then you basically sat there and talked to your friend.

Q: Were there books?

A: A few, yes. Like I said, it was room, they called it the library, may be there were 5 or 6 books, but that was our library.

Q: And the others?

A: I think my one was very similar to hers as well. The library in my school was just a room. Not really books, just a few textbooks that you have already.

Q: Did they teach you how to use the books, encyclopedias ...

A: No! Nothing ...

Those things we first learnt at university level. High school – nothing.

Q: Do you all come from the Western Cape?

Yes, I amNoI'm from the Eastern Cape.

Q: So what about your first years at university then?

You are now in your 4th year, I think? You did your PGDip first?

A: Yes.

Q: What happened in those first three years? Did you have any IL training then?

A: Well, we did have a lecture last year where they showed us the library's website a quick overview, a walk-through ... for example, this is where you need to go, Google Scholar, you

will find your information here, and use APA referencing ... here is a Libguide, and off you go. It wasn't really as session like this, where we sat down, and focus on literature...

Q: So, how did you manage in your essays?

A: Poorly!

Y: I passed all my essays, in the range between 56 and 64%

Q: and was one of the main reasons the sources?

A: Yes.

Y: It wasn't for me, because I referenced quite well ... because as soon as you have Mendeley or Refworks or Endnote, it is easy to put it together ... the problem is: how do you construct the literature review in the relevant framework, addressing a persistent and relevant problem in the field or domain you are actually dealing with?

Now that linkage, in terms of your reasoning and how you construct your argument, there was NO training on that! Zero! I don't know whether I was expecting that, or not expecting it, I just didn't know that! But towards the end of the year, I met two very very strong academics, who actually guided me on the path, understanding that logic, and it got easier. That's why I am here today!

Q: What about your peers? The others? How did they cope with it?

A: I think we were in different streams last year.

Q: Do you mainly come from BCom?

A: All Commerce

Y: I actually finished my BCom two years ago ... I was at UWC, and I don't know whether their library programme has changed, but they didn't teach us that stuff.

They also didn't?

A: No, I was a part-time student. My first year of university was in 2008. They might have changed how they do things. But in 2008 they didn't show us any of this...

Z: There is very little of thisnot only UCT, but I also was at Varsity College just down the road, there is very little academicnot only the IL, the whole academic rigour and the

thinking ... like if you practice you will be good at it ... and if you don't practice enough, if you don't read enough, if you don't construct correct arguments, if you don't understand where the information is ... even now, there are databases, like I was looking at Google Scholar thinking that Google Scholar picks up EbscoHost stuff, but it doesn't! That's a new revelation to me! So those kinds of little things, you would need to practice over and over again to get good at it.

Q: Exactly, that's why I am always surprised that it doesn't start in the first year at university.

A: I also have no idea ...

Y: Education is anyway a problem in this country ... because what you are saying is the truth: you have to start right at the beginning ... I was fortunate enough, that my mom took me to the library ... so I was familiar with the library, but not academically!

Q: But at least you had some encounter with books. You knew there is a table of contents, and at the end there is an index list. You have that kind of very basic knowledge, already. Then it becomes easier. I am just wondering whether ... if there were more skills in the IL line, the output of students would be so much larger.

A: All: I think it would be!

If there was some sort of plan from say Std 8, or what's it called now – Grade 10 ... I had a library card for Claremont Library, and Wynberg Library since I was 8 years old. BUT that did not prepare me to utilise this library ...

Q:i understand! `The literacy part ... however, literacy also means the love of reading and the curiosity that comes with that, things like the wish to read more and research more....it starts actually at a very young age

A: If you don't get that sort of understanding, if you don't get the world of reading, this is going to be impossible.

Q: I am always surprised that in 4th year, lecturers approach us to give an information literacy session to students. Which always makes me wonder how did the students get through their first three years?

A: I actually asked our professor last year: now why are you not giving this grounding at the beginning of the year? even for PGDip students. At the beginning of the year – do that rather! That would be a much more useful tool, then you would not have to spend HOURS trawling through that stuff you don't need to trawl through!

Q: So you do see it as necessary to learn about these skills?

A: Fundamental! Absolutely!

Q: ... and quite early already?

A: Yes!

Q: Would you - for example if it would be embedded in your courses - would that be helpful? For example, if you do a lot of online learning, do your lecturers send you lectures via VULA for example?

A: Yes, and then we have to submit it via VULA, which is kind of online learning...

Q: Yes, if these IL skills are embedded in that, for example, each time you submit an essay, there would be a part which is IL, would you think that is a good idea?

A: I think, that some type of tutorials, maybe a video with a quiz or test, would be quite useful

Q: For marks as well?

A: Yes, something like that or “how to reference”, or “how to find things” and have a practical bit afterwards.

Y: You know, what I would have found helpful last year, that when you get your essays back, they would tell you, what you did wrong, but they don't tell you how you could have done it better; how you could have rephrased it or reframed it, for me that would have been helpful. Because it's easy to tell somebody that's wrong, but How to I fix this?

Q: So, did they ask you to submit again?

A: No! I did pass all of them, I just didn't get the results I wanted!

Q: And you don't know why not?

A: In hindsight, yes, I do know why, but at the time I would have appreciated if someone would have said "You know there is a better way of doing it", "... maybe you should think about doing this, instead of ...",

Q: So, part of the problems you are having: could that also be technological? That you don't have laptops available? Wifi available? Connectivity?

A: No that's not a problem, not an issue anymore.

Y: No, wherever you go you have wifi at home, or the library,
Now we get to the good stuff, the people stuff.

Q: So that is not the reason why you didn't get the marks you expected?

Q: I think for many students that is still the problem: they don't have access...they don't have devices ... do you use your mobiles?

A: Yes, but I think because all of us are working, we do have laptops and mobiles ... from the context that if someone is in his first year university, maybe they don't have devices and accessibility.

Z: First year, first generation, all those are all societal contextual issues. From a IL point of view, if they didn't have the tools, as long as they have the IL tools, they would still be able to make use of the facilities here to actually upskill themselves.

Q; So, I can feel there is a big interest at least in the 4 of you ... definitelybut my experience is, that if I offer a class like this, to, say, Actuarial Science students, on a voluntary basis, from 40 maybe 7 or 6 come, why is this non-interest there? What do you think? Or is it that they THINK that they know how to find information? Why can I not attract people to a class like this?

A: (*Laughs*) I think I have a very clear understanding why...I mean you can't blanket them all...but I think they are so quantitatively based, number crunching, they already understand the data, the numbers they have to crunch, to do morbidity tables, they use a modeling tool! For them, that's easy! So they understand what they need to do! They do not need to look at different schools of thought to do a literature review. Do I have to go and look athow I could change the view of someone in Act Sc in this specific context....? so (all this) is not

relevant to them, because Act Sc is Act Sc is Act Sc! That's how the big financial services companies work, actuaries exactly work the same way

Q: Still: they need to do a literature review for their thesis, for their empirical research..they
o need to read!

A: ... and they do pass it!

Q: But they are not interested!

A: Maybe they believe they don't need to...but the question then is, that's is very quantitative field, compared withArt! or Drama, or Philosophy do you find them coming more to your classes?

Q: Definitely!

A: They need to have this, definitely! So, I think its: context! Or discipline. So, an engineer might not necessarily come to your class either. `But a Drama student might come! Because they want to hear about Descartes, or whatever

Q: So you think, its discipline-specific? The literature requirements and usage?

A: Yes, yes!

Z: Yes, I have noticed also with Engineering students, they don't pay much attention to a course like Communication. They just treat it like a minor subject, whether I fail it or not, its just minor – it doesn't give a lot of credits either. That's the thinking behind it.

Q: It's very interesting, because we do call ourselves an academic institution. And part of academic is literature. But I do agree with you: Actuarial people are more interested in the number crunching and the understanding of that and using financial databases, which we also have ... and maybe the literature is really not that important or maybe it not developing fast enough, or maybe there are just a few core-authors, who are quoted all the time – you don't need a lot of research thereI not quite sure myself.

A: I will give an interesting scenario: at Metropolitan in Belleville, which is now part of the MMI (?) Group – I started there a long time ago, about 9 or 10 years ago – they were using

the Doyle model for HIV modeling. When I left, they were still using the Doyle model for HIV modeling. So

Nothing has ACTUALLY changed in 10 years.

Q: That my feeling as well

A: They use profit, they use Moses (?) all of these calculation engines have underpinning frameworks. They are built on these models that are existing for however long.

Q: So its not literature based

Y: But its true what you are saying, if you don't know better, you can't do better. So you are stuck in the same way.

Z: Especially when it come to the specifics: I want to model an insurance product. The product is: I want to pay X amount, and I am going to get Y. And the experience of the industry has been, that people die at the age of 60 or 65, because of all these unrelated causes. They are going to model that and its going to be the calculation engine is going to kick out the same thing over and over again, unless there is a dramatic change in the way the population is. Suddenly people are living until 102, or 105. Then the actuaries would have that kind of conversation.

Q: Then they would change?

A: Yes, because that's where the money is. Its figures.

Q: So, form the replies you gave me, I can assume that this session, which we had today, is that your IL skills are little better developed?

A: I found a book in the library! First of all: I found the library!

Q: So, this is all your first time in the library?

A: X: no not really. I have attended a session here, that was done by PG studies. It was also in this room. Last year.

Q: and did you find that it helped you? In general, with your searching techniques?

A: It was something to do with referencing as well. I actually found it out too late. Only towards the end of the year. So I looked at the history of the events,but I don't see it this year!

Q: I think they might still be coming ... I am not sure

A: I actually found it out very late!

Q: But it did help you?

A: Yes, it did help me....could have been better, if I found it earlier!

Q: That's what everybody says! But this is voluntary: that you are here today? JP didn't help you setting this up?

A: We just informed him.

Q: I saw your e-mail, in which you copied him in.

A: I wanted help – I am the class rep. So I thought if I want help, maybe there is somebody else who also wants help. Then I put feelers out there and 7 people responded.

Q: How big is your class?

A: We are about 22 ...

Q: I wonder how the others are doing!

A: Well they will find out on their mark sheet.

Q: Maybe they have attended sessions before but on the other hand they wouldn't have, if you didn't!

A: Look it also depends: everyone has different environments and contexts in which they work. Like last year, I could have gone to the Writing Centre in the first semester, but I didn't! Because I didn't have time.

Q: So it's also a time problem?

A: But ... its time and commitment, especially when you're doing it part-time.

Z: But it's also part of your curriculum for the year. Because you know: in your second week, you come to class. It's going to be an information session. Then it would help everyone with timing. Instead of ...; just here is a couple of things, and VULA ... on how to do referencing and all that ...

Z: But then the thing is ... you are talking about the volume-based ... because we are struggling with getting all the information in all of the slide packs, of all the lectures....so I don't think if you are given the stuff they are trying to teach you that is a tool, I think, to make this easier! So if you had a slip, you could catch up. I think the lecturers are trying to get other information across to you ... from their specific domain. We struggle with specific IT and in a block in a week ... and `I have to tell you, `I still know nothing about it `...

Y: You know what I think the real problem is? At primary and secondary school level, they don't exercise our brains enough in terms of literacy and the library and stuff. So because they don't exercise our brains. So to learn to love reading is a learned thing ... it doesn't come naturally. We have never been encouraged to love reading or do academic research, or to find out more about stuff on our own. So no one is going to do it.

Q: Fascinating actually. Maybe that is why this country is not really going forward. The lack of education in general.

A: But it is also the COST of education! Don't forget the cost! There is a financial imperative in primary school already. They have changed – I don't have children, but ... they have changed – if you are not based or located, in close proximity of the school your child wants to go to, you can't send your child there. And that is particularly stupid. I know that people want to send their children to the best schools ... for instance, I lived in Claremont and I went to High School in Rondebosch - in these days I couldn't have done that. I would have to go to school in Claremont. But it's not about the best schools anymore. So things are changing at a remarkable rate and the cost is exorbitant. High schools, Primary Schools, - I know that at my old High School - I think it costs more to send a child to high school than to do my PGDip.

Y: That is insane! My friend told me to send a child to nursery school costs 2000 – 3000....what are they doing for 2000 – 3000 a month?

Q: If they at least bought resources and teach the children, how to do puzzles or read,

A: Apparently, if someone in the neighbourhood decides ...

Q: So it really starts at school level ...?

A: I think critical reflection is a skill, which you have to learn! You can't blindly accept everything that comes your way ... BUT that is also not encouraged in the workplace, definitely not encouraged in cultural groupings that I have met ... so the societal construct that exists, says that is what you should do doesn't really make people start questioning it, thinking ...

Q: That is also shocking, because that is the old dispensation, the apartheid dispensation, where you were taught from top down, and you had to believe everything ... we are 20 years later now, and it still hasn't changed.

A: You can't UN-teach people, it's true what you are saying – it was very top down then, You can't change the way people think, you have to teach people to think differently!

Z: It's conditioning ... across society ...

Q: Yes exactly, you are not asked to read, and arguing, academically arguing, and finding literature which supports your point of view ... those are the skills I am looking for... which are lacking ...

A: We don't have those ...

Z: We should not only be encouraged to read, but to seek knowledge. Because a lot of the time, I find that it's easier to me, to talk something out, and reason it out, and then maybe I will come to a different realisation, than what I saw when I was reading it. Because sometimes you just have this voice in your head. But when you talk about it, and bounce it off somebody else, it also has a critical thinking mentality. That also helps! Specifically from a IL point of view. Because then you start reference other authors – in conversation! Like this was positive (?) by this author, who's got these principles. Now you think: well, let me go and find out about that author. And maybe they have been referenced enough, that actually they are a good foundation.

Q: That is actually exactly how it should be! That's my dream!

Really, then we would be politically far ahead, economically far ahead, if we had that kind of conversation with each other.

A: But that is very difficult! The conversation itself. People have to understand that it is a social construct! You actually have to buy into something, and go: Ok, it could be real, it could not be real. People need to think, it could be or couldn't be real, but I have to think about it ... and IS the claim that has been made, factually backed up?

Is there a body of knowledge which says that its right, is this body of knowledge real? Or is just something somebody made up in the backroom?

Q: So, would you in a case like that, use your mobile phone? Pick it out and have a quick look at the facts, that someone throws at you and you don't believe it or so, would you do that? Would you Google it?

A: I would first ask. So if the person is telling me, he is a social scientist, I would say, ok, why are you saying this? What are the circumstances? What is the evidence that you have to back this up? And inevitably, if you go in your work situation, for example, companies that I consult with ... if you ask enough questions, you'll find out that the truth, is very very far from what the claim is. It's almost never very close and that why consultants are always in business. Companies create their own self-sustaining system. So if I learn to talk in a specific way, then you learn to talk in a specific way now are getting into a meeting and we start start talking about the thing.

For example, if I say to you: come lets have a "jad" (?) session all business analysts will know exactly what I am talking about, but how do we approach it? It's going to be difficult, due to all the time...due to who ever you are.

And it just happens, it's very fun, its very interesting

Q: Is that your experience as well?

What do you do during the day?

A: Z: I am working for ICTS ... I do support via ICTS

Q: How do you converse with your colleagues? .Not factual? You have computers all over the place, you can always go and have a quick look at ...

A: Z: I think from what I have noticed, that at UCT, if you have worked here for 10 or more years that they have a certain way of doing things ... they are not really open to new ways of

working, ... like it works in the corporate ... because I used to work for a corporate ... and that was a totally different experience ...

Q: Is that your experience as well? You are also in an UCT IT department~?

A: That's right! Look, things are changing very quickly, because of the size of the organisation, and the ... the amount of people who are having a say in making a change, so if you want to put in some new system, it needs to be approved by some committee, or whoever, and that's why things don't change here so quickly as in a corporate environment. Finding information in the university ... its open, its there ... you have ... (?)you have the library ... the question is: are you willing to GO OUT and get that information?

Q: ... and you? Your employer is ...?

Z: I am employed by Santam ... insurance ...

Q: So did your employers all send you to this course? Or is it voluntary? Is it what you wanted to do?

A: Voluntary, for personal development ...

Q: And your employers were happy with your choice?

A: No

Z: They didn't have a say

Y: I am my own employer ... I am consulting

A: This is what I found: as somebody who is working and has decided to go back to university, your employer will always tell you: we think that it is absolutely great, its fantastic what you are doing for yourself, but ... just don't let your studies interfere with your work. Then there is problems! So they will say that they are supporting you, but they really don't ...

Q: Is that at UCT as well?

A: I think they support a lot. Because it is also included in your performance as well...so you are doing something for your personal development.

Z: Is that not dependent on the manager? To what extent your manager supports you ... there are other managers who claim that studies cut in on your productivity.

Y: I think in our department most of us colleagues are studyinglike Trevor... .it was on the IS course last year...."enterprise systems and business process management".

From here (34,5 min) unfortunately the recording stopped. It went on for another 7 or 8 minutes, but the recording colleague confirmed that the rest of the time was more chatty than informative anyway. It did not touch on the important issues relating to IL experiences anymore.