

**An analysis of the Content of Information Literacy Programmes in South African
Institutions of Higher Learning: A study of Rhodes University and the University of
Fort Hare, Eastern Cape Province**

by

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Declaration

I, Mathew Moyo hereby declare that the contents of this thesis is my own original work and that it has never been submitted at any other university that I know of for degree purpose. Any published or unpublished materials that I have consulted during the course of writing this thesis were duly acknowledged.

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Dedication

To Edlyne Leane and Floyd, with lots of love. You mean everything to me.

I mean it.

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Abstract

Due to the exponential increase in the volume of information available particularly online, information literacy for students and other information users has become much more important than ever before. Universities as producers and custodians of knowledge are implored to develop appropriate information literacy programmes which satisfy the needs of students at all levels of study. This study investigated the content of information literacy programmes in South African Institutions of Higher Learning, paying special attention to Rhodes University and the University of Fort Hare. Both Rhodes University and the University of Fort Hare offered information literacy to students particularly at the entry level. The main aim of this study was to analyze the content of information literacy programmes and their contribution to students' success. Seized with this broad aim, the study sought to fulfill the following objectives: to find out aspects of and instruction methods which are covered in the information literacy programmes at both Rhodes University and the University of Fort Hare, to find out standards of information literacy which are used at both Rhodes University and the University of Fort Hare, to determine perceptions of students on the contribution of information literacy instruction to superior academic performance, to establish the impact of Information Communication Technologies on the provision of information literacy at Rhodes University and the University of Fort Hare; and, to identify constraints which impinge on information literacy instruction best practices and suggest content that may inform policy formulation on information literacy programmes in South African institutions of higher learning.

A review of literature on information literacy programmes' content revealed great similarities in most aspects that are covered the world-over. The aspects include the general introduction to library facilities and services, introduction to reference sources, library catalogue (manual and Online Public Access Catalogue), methods and tools for searching information, how to search on the Internet and CD-ROM databases, how to use databases of e-journals and eBooks, referencing, and documenting research work.

The study employed a survey research methodology and used interviews, questionnaires and content analysis to gather data. Interviews were conducted with a sample of 10 Instruction Librarians selected from both Rhodes University and the University of Fort Hare using purposive sampling technique. In addition, self-administered questionnaires were distributed to a sample of 387 obtained using quota sampling of the students from the two universities. In addition, content analysis of both Rhodes University and the University of Fort Hare webpages was also conducted focusing on aspects of information literacy.

The findings include that Rhodes University and the University of Fort Hare information literacy programmes' content covered aspects which are used globally. There was however, lack of collaboration among the key stakeholders of librarians, faculty and administrators with regards to the development of information literacy course content. The study further revealed that there were no clear cut policies to cater for the provision of information literacy. Despite these major setbacks, the study revealed that the students to some extent, found the information literacy programme very useful to their studies.

Based on the findings of the study, the researcher recommended that librarians, faculty and administrators should collaborate on the development and delivery of information literacy programmes. It was also recommended that Rhodes University and the University of Fort Hare should develop information literacy programmes that cater for the needs of local students rather than adopting standards used in the developed world. The study further recommended that Rhodes University and the University of Fort Hare should develop institution-wide policies on the development and delivery of information literacy skills so as to make the programmes more effective.

List of Abbreviations and Acronyms

ACRL	Association of College and Research Libraries
ALA	American Library Association
ANZIIL	Australian and New Zealand Institute of Information Literacy
CALICO	Cape Library Cooperative
CAUL	Council of Australian University Librarians
CHE	Council for Higher Education
CHELSA	Committee for Higher Education Librarians of South Africa
CCFOs	Critical Cross Field Outcomes
CUT	Central University of Technology
DUT	Durban University of Technology
HEQC	Higher Education Quality Committee
HESA	Higher Education South Africa
ICT	Information Communication Technology
IL	Information Literacy
ISP	Information Search Process

IT	Information Technology
LIASA	Library and Information Association of South Africa
MPC	Multi-Purpose Centre
MUT	Mangosuthu University of Technology
NMMU	Nelson Mandela Metropolitan University
NQF	National Qualification Framework
NWU	North West University
OPAC	Online Public Access Catalogue
PEST	Political, Economic, Social and Technological environment
RDP	Reconstruction and Development Programme
RSS	Really Simple Syndicate
RU	Rhodes University
SAQA	South African Qualification Authority
SEALS	South East Academic Libraries System
SUN	Stellenbosch University
UCT	University of Cape Town
UFH	University of Fort Hare

UFS	University of the Free State
UJ	University of Johannesburg
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UL	University of Limpopo
UNESCO	United Nations Education Scientific and Cultural Organization
Univen	University of Venda
Unizulu	University of Zululand
UP	University of Pretoria
USA	United States of America
UWC	University of the Western Cape
VUT	Vaal University of Technology
Wits	University of the Witwatersrand
WSU	Walter Sisulu University

Chapter 1

Conceptual Setting and Background of the Study

1.1 Introduction

Due to the exponential increase in the volume of information available particularly online, information literacy for students and other information users has become much more important than ever before. Despite the argument that developments in technology have helped facilitate access to information, Pinto (2010: 86) thinks that “there is ongoing concern that university students are still not becoming information literate, that they cannot retrieve and evaluate the information that will be required for problem-solving and decision-making in the workplace and in society.” Griessel and Parker (2009: 13), in a research commissioned by the South African Department of Higher Education and Training also found out that “new university graduates lacked basic skills required by the world of work.” One of the areas in which new graduate employees were found lacking was “information literacy, which is the ability to find and use information and the skill to select appropriate information for problem solving.” Similar findings were raised by Dadzie (2007: 266) whose study revealed that employers complained about graduates’ “inability to think analytically and to demonstrate problem-solving skills.” Badke (2008: 1) notes that “while the need for comprehensive information literacy in today’s society is becoming increasingly apparent ...there is evidence that information literacy within higher education today is failing to meet its dual intentions of becoming credible with the academic community...” Despite

these observations, Information Literacy has become an integral skill embraced in the policy of higher education, not only in South Africa but the world over. At the policy level, the South African Higher Education Quality Committee (HEQC) embraced the concept of information literacy and directed that library resources be integrated into teaching and learning (HEQC 2007: 7). The University of Fort Hare (UFH) and Rhodes University (RU), among other universities in South Africa have taken a standpoint in which Information Services Librarians have been recruited to train students on information literacy. The driving force behind the increasing interest in information literacy is as has been said earlier, the exponential increase in the volume of information available online. Rader (2004: 3) posits that “effective use of this information requires relevant information skills.” Rader further argues that these skills stretch beyond the technical skills of using specific databases or sources to include: the ability to determine information needs, evaluate information and its sources critically, apply and incorporate information intelligently and understand the social, economic and legal issues surrounding the use of information.

Both Rhodes University and the University of Fort Hare would want to have students exit the institutions upon graduation with information literacy skills that will not only promote long-life learning but also skills that are relevant to the workplace. This can only be achieved when the content of the information literacy meets the expectations of the users and in line with international standards. Seemingly, there is a gap between the information literacy provision and the user needs. From the users’ perspective, the information search process relates to finding meaning from information in order to extend their knowledge on a particular topic and yet information literacy goes beyond

finding meaning to encompass high-order search abilities such as assessing search results for quality and relevance, evaluating the reliability, validity, authority and timeliness of retrieved information and what Pinto (2010: 87) refers to as “applying new information to the planning and creation of scholarly and professional pursuits.” The current study therefore seeks to analyze information literacy programmes content in South African Institutions of higher learning in general and at Rhodes University and the University of Fort Hare in particular. In addition, the study seeks to assess the relevance of the content to library users with a view to understanding gaps that might exist in the current practice. Both Rhodes University and the University of Fort Hare have been chosen for this study because available literature shows that information literacy has been provided to students and faculty for over a decade now and yet students continue to be reluctant to embrace it, a point also noted by Somi & de Jager, (2005: 265). The University of Fort Hare is a historically disadvantaged institution of higher learning, while Rhodes University is a formerly white and rich university. This researcher therefore thinks that a study of the two institutions may provide a fairly balanced view of the state of information literacy content in South African Institutions of higher learning.

1.2 What is information literacy?

Information literacy has been variously perceived. According to ALA (1989: 1) “to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information”. Adding more dimension to this definition, is the Association of College and Research Libraries

(ACRL) which views information literacy as the set of skills needed to find, retrieve, analyze and use information (ACRL 2000). Yet another interesting view of information literacy is that it sprung from two influential areas namely information science and bibliographic / or library instruction. Borrowing from this view, Johnston and Webber (2003: 336) define information literacy as “the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society”. This study however, aligns itself with the definition of information literacy provided by the American Library Association given above.

1.3 Why Information Literacy?

With the wide variety of information resources available today in libraries and online through search engines and e-books, web-based news sources and databases, students are easily overwhelmed. Reuters (1997) posits that about 1000 books are published internationally every day, and the total of all printed knowledge doubles every five years, adding that as of June 2002, the Google search engine had indexed over two billion websites. Cunningham and Lanning further cite a 1999 Spring article which revealed that an estimated 25 new web pages go online every second. This state of information explosion calls for all information users to critically evaluate the contents of information they find particularly on the Internet. International organizations such as the United Nations Education Scientific Cultural Organization (UNESCO) through its Information For All Programme, has information literacy as one of its priorities which

assist to measure knowledge societies (Catts and Lau 2008: 5). Information practitioners and the education fraternity at large have a role to play in devising intervention measures that will ensure that users are able to evaluate information they get from the Internet. There is also a shift in the publication industry where online publication is now preferred to print publication. This changing landscape has also necessitated that libraries change their collection development policies to meet the dynamic demands of the online environment. Although libraries are positively responding to the environment through the injection of more financial resources into the online resources and the provision of information literacy instruction, little analytical research on the suitability of such programmes has been conducted. Hart (2006: 173) asserts that there has been only limited research in the views of the people arguably at the Centre of information literacy programmes, library staff. As highlighted earlier on in this research, a study commissioned by the Department of Higher Education and Training in South Africa in 2009, found out that new graduates lacked information literacy skills, which is the ability to find and use information and the skill to select appropriate information for problem solving. This background information triggers the present study in which used information literacy programmes and their relevance to user needs will be carried out.

1.4 The Information Society

Information society relates to a community of people who believe in information as the key source of power. An information society is able to use information communication

technologies to produce information necessary for decision making. Melody in McQuail (2005: 105) describes information societies simply as those that have become “dependent upon complex electronic information networks and which allocate a major portion of their resources to information and communication activities.” Melody further asserts that information societies are characterized by an exponential increase in production and free flow of information of all types due to a reduction in costs emanating from increased technology. Due to the exponential increase of information generation and flow particularly online, challenges of how to process, use, or even receive much more of the increasing supply chain have emerged. However, not all the information generated is relevant for academic needs, among other life pursuits hence the need for information literate societies (Usluel, 2007).

An information society is largely characterized by an ability to use information and related technologies to solve life problems. McQuail (2005: 108) identifies some of the characteristics of an information society as including:

- Predominance of information work,
- Great and accelerating of information flow,
- Problems of information overload,
- Integration and convergence of activities,
- Growth and interconnection of networks,
- Globalizing tendencies,
- Dependence on complex systems,
- Loss of privacy,
- Reduced constraints of time and space, and;

- De-politicization.

In this vein, information can be safely considered as a public good and not a commodity; a community shared social construction, not a private property (Banisar, 2005). It is available to support all life pursuits, but to do this successfully, people must be information literate.

With regards to the role of libraries in information society, IFLA (2005) issued a statement entitled 'Beacons of the information society: The Alexandria proclamation on information literacy and lifelong learning (Wastawy, 2006: 4). The statement urged governments to support:

- regional and thematic meetings which will facilitate the adoption of information literacy and lifelong learning strategies within specific regions and socio-economic sectors;
- professional development of personnel in education, library, information, archive, and health and human services in the principles and practices of information literacy and lifelong learning;
- inclusion of information literacy into initial and continuing education for key economic sectors and government policy making and administration, and into the practice of advisors to the business, industry and agricultural sectors;
- recognition of lifelong learning and information literacy as key elements for the development of generic capabilities which must be required for the accreditation of all education and training programmes. (IFLA, 2005).

The statement further affirmed that vigorous investment in information literacy and lifelong learning strategies creates public value and is essential to the development of the information society. The Alexandra proclamation statement came after the first world summit on information society in 2003 (Samasse'kou, 2006). Wallis (2005: 218) argues that “the role of library and information professionals has to evolve, from intermediaries to facilitators and trainers” in the modern information society.

1.5 Access to Information

The South African constitution provides that all people in the country have the right of access to information held by public institutions or private persons (RSA Government, 1996). At the international level, access to information is expressed as the right to “seek, receive and impart information and ideas, through any media and regardless of frontiers” (Sturges & Gastinger, 2010: 195). Access to information is considered as basic human right and as such, section 32(1) of the Bill of Rights specifically provides that; everyone has the right of access to:

- any information held by the state; and
- any information that is held by another person and that is required for the exercise or protection of any rights.

In addition, the same constitution stipulates under section 29 (1) that everyone has the right to both basic and further education (RSA Government, 1996). It follows then that all individuals have the right of access to information, in this case, in pursuit of their educational dreams. However, for individuals to know that they have the right of access

to information, they should be able to know where to find it and how to use it in an ethical and legal manner. Users and in this case students, should have the means to access required information which may be in various formats including print and electronic. In some cases, access to information is inhibited by inequalities such as physical status, race, gender and religion (Ochola, 2009). Both Rhodes University and the University of Fort Hare have libraries that provide students with access to a variety of information sources including access to computers which enable access to online information. Related to the concept access to information, is the open access (OA) regime and electronic publishing. Open access is perceived differently. According to Cerf (2013: 2), it denotes “free of charge while for others, it may mean “downloadable.” Cerf further says in principle, most definitions revolve around the notion that content is easily found and freely available. There is however an element of digital divide associated with open access since it relies on the Internet. If one does not have access to Internet, then they will not have access to information. As recent as October 2013, Rhodes University Library signed the Berlin Declaration which advocates for open access to information (Rhodes University Library, 2013). Both Rhodes University and the University of Fort Hare libraries have electronic institutional repositories where they upload Theses and Dissertations, conference papers, pre-prints and related grey literature as a demonstration of support for open access and electronic publishing. However, students and other users need to be trained on how to use the portals and this can be realized through information literacy training (www.library.ru.ac.za; www.ufh.ac.za/library). Both institutions also collaboratively subscribe to e-journals and e-Books in response to the shifting publishing industry where more and more

information resources are now available online. To make the resources more visible and accessible to students, information librarians are responsible for ensuring that students are trained on the use of e-journals and e-Books through information literacy programmes.

1.6 Information Literacy and Information Communication Technologies

Information literacy is related to Information Technology (IT) skills but has broader implications for the individual, the educational system and for society. IT skills enable an individual to use computers, software applications, databases, and other technologies to achieve a wide variety of academic, work related and personal goals (Katz, 2005). Owing to this relation, information literate individuals necessarily develop technology skills.

Information literacy, while showing significant overlap with IT skills, is a distinct and broader area of competence. Increasingly, IT skills are interwoven with and support information literacy (ACRL, 2000: 3). IT skills can be viewed in the narrower sense of computer literacy, which focuses on skills to use hardware and software applications, while fluency with technology focuses on understanding the concepts of technology and applying problem-solving and critical thinking to using technology (ALA 2000: 3). Cole and Kelsey (2004: 190) contend that computer literacy and information retrieval techniques are both skills that are required to pursue further education studies effectively.

Additionally, information literacy focuses on content, communication, analysis, information searching and evaluation, while information technology focuses on a deep understanding of technology and the use of it. Yet another relationship of information literacy and information technology is revealed in the description of information literacy ALA (2000: 3) which looks at it (information literacy) as “an intellectual framework for understanding, finding, evaluating and using information activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most importantly, through critical discernment and reasoning.” Information literacy initiates, sustains and extends lifelong learning through abilities which may use technologies but are ultimately independent of them.

1.7 Information Literacy and Self-Directed Learning

Most higher education learning scenarios require advanced information literacy competencies. If students are to be successful in their learning endeavours, they need to engage in what ALA (2000: 3) describes as framing a significant question or set of questions, the research or creative exploitation to find answers, and the communication skills to convey the results. In such a case, inquiry is the norm, problem-solving becomes the focus, and thinking critically is part of the process. Information literacy enhances self-directed learning as students become competent in information handling and use. However, achieving competency in information literacy requires integration of information literacy and the curricular to further the influence and impact of such student-centered teaching methods as problem-based learning, evidence-based

learning, and inquiry learning (ALA, 2000). With the expert guidance of faculty and others in problem-based approaches, students reason about course content at a deeper level than is possible through the exclusive use of lectures and textbooks. To take utmost advantage of problem-based learning, students must often use thinking skills requiring them to become skilled users of information sources in many locations and formats, thereby increasing their responsibility for their own learning. Kong (2007: 132) posits that higher education “students should be empowered with the capacity to manipulate the information required with respect for the free access of information that is available in the learning environment”.

1.8 Information Literacy and Cyberspace

Cyberspace is described by Wallis (2005: 218) as “the cultural and psychological information space created by computer and communication networks...” Cyberspace has brought with it some mixed reactions with some viewing it as positive while for others, it has been a source of much hate and aggression. Joint (2005: 80) agrees that “many of the most notable social impacts of the Internet on our collective well-being have been harmful” but goes on to say “its potential for promoting active citizenship and enhancing democratic activity” is great. Wallis (2005: 220) notes that “insurgents in Iraq used the web to communicate their commitment to violence by using it to distribute video footage of the murder of hostages, with horrific emotional impact.” Wallis (2005: 220) goes on to say “the nature of cyberspace as an information environment is complex and contradictory – anarchic self-expression is juxtaposed with commercial

interests, information sharing communities with commercial content providers.” Due to the vast amount of information available on the Internet, information literacy can never be more important than ever before. Bundy (2004: 14) contends that “sheer abundance of information technology will not in itself create more informed citizens without complimentary understanding and capacity to use information effectively”. Savolainen (2001: 218) identifies four basic requirements of network competence in information seeking as;

- The awareness of networked information resources and their organization (knowing what is available on the Internet and how information resources are organized);
- The skilled use of ICT tools such as web search engines needed to access information;
- Judgment of information, that is, the evaluation of its quality, filtering out irrelevant information and focusing on specific needs; and,
- Communication - that is, creating and transferring messages describing one’s information needs, criteria of preferred information types, etc. by using the tools of computer-mediated communication, such as e-mail.

People in general and students in particular need special skills which will enable them to navigate the complex cyberspace environment in order to give meaning to the information they find. Savolainen (2001: 211) agrees that the networked information environment epitomized by the Internet places new demands on people’s competencies in everyday information seeking. Wallis (2005: 221) foresees, as a result, life-long learning as likely becoming a centre of a social and political agenda of many nations for

the foreseeable future with information literacy coming as an important part of that agenda.

1.9 Information literacy and digital divide

Cullen (2001: 311) describes digital divide as “the gap that exists between those with ready access to information and communication technology tools and those without such access or skills to enable access.” The South African information technology development has never been even and can be traced back in history spanning apartheid era. With special reference to the education sector, historically rich institutions of higher learning have enjoyed better access to technology than the formerly disadvantaged institutions of higher learning. Fourie and Krauss (2010: 109) assert that “there are many challenges to be faced in training in a developing country such as South Africa, especially in townships and rural areas.” Most students who join university from mostly rural areas have had no or limited access to information communication technology tools because of lack of electricity (Bookhorst & Britz, 2003: 68), hence they find it difficult to use online information resources to answer their assignments. Naidoo and Jaya (2011) assert that many students currently in institutions of higher education were born in the digital era but not all of them have prior experience or exposure to technologies of today. The divide should therefore be bridged by an innovative information literacy programme which seeks to address diversity in the classroom. Information literacy modules should ideally begin with some aspects of computer applications and use, before zooming into the areas of finding and using information.

Cole and Kelsey (2004; 192) suggest the following areas of computer technology as necessary for an information literacy module:

- Basic concepts of information technology (including the physical make-up of a personal computer and basic information about use)
- Using the computer and managing files
- Word processing
- Spreadsheets; and
- Presentation using graphs and charts.

The skills derived from these topics will be necessary for accessing and using / or communicating information. Teaching information literacy skills to a computer literate person is a lot easier than teaching a student who does not know how to handle a mouse and a keyboard. However, the researcher has observed that information literacy programmes in South African institutions of higher learning do not cover computer literacy. The information literacy programme developed for Rhodes University and the University of Fort Hare, do not cover technology skills.

1.10 Social networking and Web 2.0 in information literacy

Social networking and web 2.0 have become buzzy words in library circles (Virkus, 2008). Due to their popularity with librarians, it is worth highlighting their value to libraries. According to Click and Petit (2010: 137) "...social networking and other web 2.0 technologies provide effective ways for libraries and librarians to engage students and communicate with them via the preferred methods of the millennial generation." It

must be mentioned from the outset that there must be clear objectives for establishing social platforms to ensure their viability in libraries or else the value will be lost. One clear objective should be to meet the users where they are and better serve their information needs through social networks and web 2.0 tools.

On one hand, Click and Petit (2010: 138) considers the idea of web 2.0 technologies as commonly “associated with web applications that facilitate interactive information sharing, interoperability, user-centered design, and collaboration on the World Wide Web, allowing users to interact with one another or edit or add to website content.” On the other hand, Click and Petit view social networking as the building of online communities which provide a variety of ways for members to interact, from email to instant messaging to photo tagging. Web 2.0 refers generally to web tools that, rather than serve as a forum for authorities to impart information to a passive, receptive audience, actually invite site visitors to comment, collaborate, and edit information, creating a more distributed form of authority in which the boundaries between site creator and visitor are blurred (Oberhelman, 2007: 5). Anderson, (2007: 2) describes Web 2.0 technology as “a read/write tool.” The fact that web 2.0 tools are interactive makes it pertinent for librarians to use them in imparting information literacy skills to library users. Two most popular social networking sites which have become permanent features on some library web pages are Facebook and Twitter. These facilitate a two way communication between the library and its body of users. Training materials on information literacy can be posted on Facebook and tweets can also be sent to users through Twitter. Click and Petit (2010: 138) give an example where one library posted

information about a new language learning database and the patrons responded with gratitude and questions about how to use and locate the database. The questions are believed to have been answered by other Facebook users and the library staff. The communication and education roles of both Facebook and Twitter cannot be overemphasized. They both provide users with easy lines of communication with library service providers and among themselves. Pempek *et al* (2009: 227) contend that users spend more time observing content on Facebook” which further emphasize its importance in information dissemination.

Other platforms include YouTube which is home to videos of all kinds. Users are able to load and share their own videos or just watch videos of their choice. Virkus (2009: 264) contend that YouTube “allows members to upload videos for everybody to see and vote on their popularity.” Yet another popular Web 2.0 platform is the wiki, which is basically a page or a collection of web pages designed to enable anyone who accesses it to contribute or modify content (Click & Petit, 2010; Kennedy, *et al* 2007). Most libraries create Wikis which they share with their users and they facilitate a two way communication between the users and their community of users. Additionally, librarians can also create blogs for the purpose of sharing information with fellow librarians or users. An individual who writes and publishes a blog is called a blogger and there is a provision for users to respond through the comment section. Related to blogs, is the concept of RSS (Really Simple Syndicate) feeds which provide alerts on items of interest to users. Most information databases provide links for users to register and

receive updates on scholarly information of interest to them. RSS feeds are regarded as excellent tools for filtering and keeping up with information (Click & Petit, 2010).

However, there are challenges with the use of social platforms such as unsuccessful implementation where users will not be able to find the library and of course opening up to more patron feedback. Virkus (2009: 272) admits that “Web.2.0 technologies alone cannot deliver educational success.” Be that as it may, the fact that users are already on the social platforms, seeks to outweigh the risks described above. The most compelling reasons for libraries to use these technologies are two-fold;

- Our users are already there and may be talking about us; and
- By using these technologies, we better understand our users and help them become surviving consumers and creators of information (Click & Petit (2010: 142).

On the whole, social media reduces barriers that existed in the past between libraries and the users who may not always find time to physically visit the library. The interaction is set to improve the information literacy capacities of users since they are able to pose questions and receive feedback from the information librarians who are charged with the aspect of information literacy. A closer look at both Rhodes University and the University of Fort Hare library websites shows that they participated on social media to enhance communication and information sharing between the libraries and the students.

1.11 Information literacy versus Academic literacy

Information literacy is largely regarded as a common denominator of all literacies, academic literacy included. However, there is confusion among students and even some academics about the difference between the two which makes it necessary to differentiate the two concepts in this study. For the purpose of this study, academic literacy refers to the literacy that is meant to prepare students in the literacies that a tertiary institution requires of them (McCabe, 2011). It is usually meant for students who are at risk academically because they are tripped up by language (Weideman, 2006: vii). In South Africa, there has been a shift from elitist (bottleneck) education to mass university education, resulting in an increasingly diverse student population. According to Holder *et al* (1999), the changing student profile, coupled with demands from both the government sector and employers, has brought the importance of literacy and other generic academic attributes and skills more sharply into focus. This statement adds weight to the current research study focusing on information literacy as one of the required competencies for graduating students.

Academic literacy focuses mostly on the four branches of language namely speaking, listening, reading and writing competencies. Most university students in South Africa, particularly those in the rural and remote environment, find it very difficult to relate properly in the English language and yet most sources of information come in English. Instruction also takes place mostly in English (Lenta, 2012: 171; Sommer & Dumont, 2011: 386; Stephen *et al* 2004: 42). Stephen *et al* (2004: 44) further argue that “the

critical impact of English proficiency cannot be underestimated (as) most black students have problems pertaining to reading and writing ability.” It is therefore important to offer them academic development support that covers all the branches of language and information literacy skills to allow them to realize their full potential. Academic problems and any other problem for that matter are better solved if one is able to source out relevant information to the task at hand and have capacity to use it. In this regard, academic literacy has to be complimented by information literacy skills to help solve day-to-day problems. If students lack academic and information literacy, their educational achievement is no doubt retarded, hence the importance of the two. It is however quite commendable to note that both Rhodes University and the University of Fort Hare have academic development units seized with the role of assisting students to develop their academic literacies. The researcher observed that at the University of Fort Hare, information librarians were collaborating with the Teaching and Learning Centre (TLC) in the training of students on areas such as referencing and use of electronic databases.

1.12 Information literacy and plagiarism

The concept ‘plagiarism’ is variously defined. De Jager and Brown (2010: 513) perceive plagiarism “as an aspect of academic dishonesty or misconduct [whose] penalties for being found guilty are usually severe.” It “encompasses several different misuse of information” (Freeman & Balta, 2010). Knowing how to use information in an ethical and legal manner is a key aspect of information literacy. Plagiarism is one key aspect that

an information literacy programme seeks to solve. Given the abundance of information available especially on the web, plagiarism has become a central focus for many institutions of higher learning. George, Costigan and O'hara (2013: 141) supported by Walden and Peacock (2006) concur that “plagiarism is a vexing issue for higher education, affecting student transition, retention and attainment.” Most institutions of higher learning have responded to the misuse by developing policies and information literacy programmes. The policies include the use of detection tools, punishment and developmental programmes (Kellum, *et al* 2011). Learning how to find and use information is as alluded to earlier, a vital step in achieving this information literacy standard and avoiding plagiarism. The aspect needs to be attended to early enough at the first year level of university studies with the aim of improving students' interaction with information (Freeman & Balta, 2010), and there should be collaboration between librarians and the faculty (Lampert, 2004).

1.13 Library Environmental Analysis

To put this study into proper perspective, it was imperative to analyze the Political, Economic, Social and Technological (PEST) environment in which University libraries operate. An organization exists in a complex political, economic, social and technological environment which influences the future. The researcher has observed that changes to the education sector in the past few years with regards to PEST have made it difficult to predict the future. Hart and Nassimbeni (2013: 14) contend that “there are changes in the environment – gradual or sudden and libraries have to adapt to

change or face extinction.” Due to changes, Muswaba and Worku (2012: 148) posit that “ leaders (of universities) need to monitor and understand the external environment in which colleges operate so as to make insightful decisions about the viability of these institutions in the face of changing student demographics of personnel.”

1.13.1 Political environment

The political environment in South Africa prior to 1994 was very unstable. Most systems, including education were mainly in favour of the white minority. Due to the unevenness of the socio-political environment, students did not have equal access and exposure to educational resources of all kinds (de Jager & Nassimbeni, 2003; Sayed, 2002). However, the first South African Democratic elections in 1994 resulted in the inauguration of a Government of National Unity. Once the Unity Government was in place, there was dismantling of the oppressive structures of the previous apartheid era though the process had very little impact on library and information services. Prior to 1994, Underwood (2007: 150) noted that “the education system consisted of a mixture of state and private provision, overlain by separation on racial lines, a system developed by the former apartheid state”. The consequences of this policy, according to Underwood above “were readily apparent, principally in a skewed allocation of resources, largely to the detriment of schools attended by non-white children and schools in rural areas”. The policy gave birth to the disadvantaged institutions which were poorly resourced during the apartheid era and the stigma continues to haunt such institutions even in the democratic South Africa. Sayed and Motala (2012: 115) affirm

that “South Africa’s educational failings are neither technocratic nor managerial, but instead political...” However, politics should not interfere with education as that will likely weaken people’s empowerment. Education is all about learning to be free, and means ultimately setting students free from their teachers too (Schoeman, 2010).

1.13.2 Economic environment

Addressing the higher education system was widely regarded as being the first priority for economic development by the new Government of National Unity (Underwood, 2007). There were some anticipated problems though related to the capacity of the economy of the new South Africa to support such an approach. Today, the historically disadvantaged institutions of higher learning continue to be poorly funded at the expense of the historically advantaged institutions. Budgets for information resources continue to sour (Buchanan & Stilwell, 2012), making it difficult for most institutions to meet the information demands of their clients. Human capital is regarded as an important determinant of economic growth (Abiodun & Lyiola, 2011; Hoskins & Stilwell, 2011) and as such, they need sound information resources for them to actively participate in economic growth. The sources of such information are usually libraries hence they need to be fairly funded for them to contribute meaningfully in economic development. Raubenheimer (1998: 71) posits that “there has been an adverse economic climate in South Africa over the past few years, including an unfavourable exchange rate of the South African currency”. Raubenheimer further observes that “this has led to cuts in library budgets which have compelled the SA library ‘community’ to

embrace some cooperative arrangements”, better known as consortia, to share and pull resources together for their mutual benefit. However, since South Africa became a democratic country, previously imposed sanctions against her have been lifted, which made access to international aid a lot easier. This contributes favourably towards curbing the country’s economic problems.

1.13.3 Social environment

The reduction in employment levels (Hart & Nassimbeni, 2013:15) was further reducing the student population who would otherwise contribute to library services through the payment of levies to help build sizeable library stocks of both print and electronic resources. The vision of South Africa, namely to move from apartheid to a developed social and economic environment for the benefit of all was spelt out in the Reconstruction and Development Programme (RDP) of the National Congress in 1994. Local developments such as the establishment of Multipurpose Community Centres (MPCs) (Ndlela *et al* 2006: 236) in the provinces were designed to serve and support the aims of the RDP. The aim of these centres is to create places to assist community development and provide widespread access to information. These developments would be important instruments to effective redress and transformation and should have an influence on the information practice (Raubenheimer 1998: 71). The situation on the ground is however that the centres are inadequately funded hence they have been rendered dysfunctional in most cases. In any case, for citizens of a nation to be able to

access information, they need to have the necessary skills which are in most cases attainable through information literacy training.

1.13.4 Technological environment

One of the major forces for change is the faster pace of technology and that without technology, an organization's ability to compete is reduced drastically. Most institutions of higher learning are giving "substantial attention to investing in ICTs in order to give more people access to applications that have the potential to enhance their use of digital information resources" (Mansell, 2004: 1). In South African institutions of higher learning, technology was rapidly changing the face of libraries (Kwanya *et al* 2009; Buchanan & Stilwell, 2012) and creating a range of new channels for identifying, attracting and retaining users. Notable developments in the last 15 years included the introduction of the Internet, electronic document delivery, automated circulation services, classification and cataloguing, management services and networking. Other technological developments in academic libraries include the socio-business networking tools commonly known as library 2.0 tools such as blogs, Facebook, twitter, wikis and, discovery tools. These have enhanced communication between libraries and their body of users regardless of where they are located. However, the technological landscape still differs greatly between the historically advantaged institutions and the historically disadvantaged institutions with the former still enjoying advanced technological conditions while the latter lag behind. Even the skills of the users of the technology still exhibit the differences. Raubenheimer (1998: 72) argues that although South Africa now

has access to the latest technology, “its cost is still high and closer cooperation between institutions is still essential for cost effectiveness and efficiency”. The high cost associated with technology largely renders a bigger section of our society information illiterate due to lack of access to information technologies.

1.14 Backgrounds of the Institutions under study

To further place this study into context, it is pertinent to understand the historical developments of both Rhodes University and the University of Fort Hare. The two institutions of higher learning are both situated in the Eastern Cape Province of South Africa and this made it fairly convenient for the researcher to gather data without having to travel long distances, which would have been very costly in terms of both time and money. The major difference between Rhodes University and the University of Fort Hare lies in their historical establishments. While Rhodes University was introduced to cater for the educational needs of the white minority in South Africa, the University of Fort Hare was largely meant to cater for black Africans. Rhodes University belongs to the formerly rich white dominated institutions while the University of Fort Hare belonged to the so called disadvantaged black institutions of higher learning. Although the government of national unity which assumed power in 1994 under the leadership of Nelson Mandela has since tried to address past imbalances in the education sector and other areas, the discrepancies especially in the levels of infrastructure and even funding, were still evidently uneven (Underwood, 2007; De Jager & Nassimbeni, 2003). This study though did not seek to compare the two institutions but rather, sought to holistically analyze the content of their information literacy programmes. This was made

easier by the fact that the two institutions' enrolment catchment area is largely the same. The researcher has observed that most of their students come from the largely rural province of the Eastern Cape where access to libraries and computers is still very low (KPMG, 2007) which is partly blamed for the under-preparedness of students for higher education (Hart and Nassimbeni, 2013). With regards to the University, Bank (2013: 40) agrees that "the university attracts undergraduate students from poor Eastern Cape communities". Below, is a brief and closer look at each of the two institutions.

1.14.1 Rhodes University

Rhodes University, initially Rhodes University College, was founded by Act of Parliament on May 3 1904. It was later inaugurated on March 10 1951 with Sir Basil Schonland as its first chancellor. The University College of Fort Hare was affiliated to Rhodes University until 1959 (www.ru.ac.za).

Like many other starting universities, Rhodes University faced challenges which threatened its existence in the early years, but survived with grants from the government of the day and support from local municipalities (www.ru.ac.za). According to information available on the Rhodes University website above, its' vision is to be an outstanding internationally respected academic institution which proudly affirms its African identity and which is committed to democratic ideals, academic freedom, rigorous scholarship, sound moral values and social responsibility. In pursuit of this vision, the university strives to produce outstanding internationally accredited graduates

who are innovative, analytical, articulate, balanced and adaptable, with a life-long love for learning; and to strive, through teaching, research and community service, to contribute to the advancement of international scholarship and the development of the Eastern Cape and Southern Africa.

In pursuit of the above mission, the university undertakes to, among other things;

- Acknowledge and be sensitive to the problems created by the legacy of apartheid, to reject all forms of unfair discrimination and to ensure that appropriate corrective measures are employed to redress past imbalances.
- To create a research-based teaching and learning environment that will encourage students to reach their full potential, that is supportive of students from disadvantaged backgrounds, and that will produce critical, capable and skilled graduates who can adapt to changing environments.
- To promote excellence and innovation in teaching and learning by providing staff and students with access to relevant academic development programmes.
- To provide an attractive, safe and well-equipped environment that is conducive to good scholarship and collegiality (www.ru.ac.za).

The future of Rhodes is believed to lie not in greater numbers, but in increasing academic excellence and building upon almost a century of academic achievement

(<http://www.ru.ac.za/rhodes/introducingrhodes/historyofrhodes/>)

1.14.1.1 Rhodes University Library's Vision

Rhodes University Library aims to be an excellent internationally-respected academic library through the provision of ready access to information resources, and by aiding in **equipping people for lifelong learning**. It is committed to quality user-focused service, fairness, innovation, professional integrity and social responsibility.

1.14.1.2 Mission

To support its vision, the Library aims to:

- meet the information needs of the university students and staff members, to support and enhance high standards of teaching, research and scholarship, and thereafter support the needs of the wider community;
- provide ready access to information through effective management of its resources;
- implement strategies to foster optimal use of its information resources;
- provide a personalized, nondiscriminatory, user-friendly and high quality information service;
- employ library staff who are skilled, proactive, and who display a commitment to realising Rhodes University Library's mission.

In achieving its mission, the Library undertakes to among other things:

be sensitive to its users' different information needs and varying levels of **information literacy skills**, and contribute to the development of the users' abilities to retrieve, analyze, evaluate and organise information.

(<http://www.ru.ac.za/library/aboutus/visionandmission/>)

Rhodes University library provides information literacy to students particularly at the entry level. It has state of the art learning commons, post-graduate commons and research commons servicing 7 435 students. The library collection comprises print and electronic books, print and electronic journals, among other resources (www.ru.ac.za/library)

1.14.2 University of Fort Hare

The University of Fort Hare was founded in 1916, having started much earlier as the South African Native College. Like Rhodes University, the University of Fort Hare was confronted in its development, with a lot of challenges ranging from political to economic and this later led to its transformation to a college for Xhosa speakers. According to the university's website (www.ufh.ac.za), the University of Fort Hare was as racially inclusive as it could that time, with black, coloured and indian students studying as one, though the staff / worker component was predominantly white.

At some point, the University of Fort Hare was reduced to one of the 'Bush Colleges' that were instituted in many homelands. However, the university survived notably due to its determination, under the dynamic new leadership since 1999, pulling back from the

brink of institutional collapse, to refute any misconceived national attempt at higher education rationalization that would cause it to fade away or disallow its distinctive voice to be heard. Since 1994, the University of Fort Hare has been expanding and operating on three campuses, namely Alice, Bhisho and East London, which as alluded to earlier, formerly belonged to Rhodes University (www.ufh.ac.za).

The vision of the University of Fort Hare reads as ‘a vibrant, equitable and sustainable African University, committed to teaching and research excellence at the service of its students, scholars and wider community. The mission of the university is to provide high quality education of international standards contributing to the advancement of knowledge that is socially and ethically relevant, and applying that knowledge to the scientific, technological and socio-economic development of our nation and the wider world. The university community is affirming that a crucial role of education is to instill in students, respect, tolerance and social responsibility in environment of academic freedom, dialogue, friendship and understanding as provided for in the university charter. One of the university’s core values is to undertake teaching and research that will responsibly harness the benefits of all sciences for the well-being of humanity, being conscious of the harm inherent in the irresponsible use of knowledge (www.ufh.ac.za/mission). In its strategic plan 2009-2016 document, the University of Fort Hare “aspires to continue to be a relevant skills and knowledge producer, as well as a thought leader....”

1.14.2.1 University of Fort Hare Library

The purpose of the University of Fort Hare is:

- to provide the university community with access to quality information services and resources in a variety of formats and delivery systems that the teaching, learning, research and service mission of the university of Fort Hare; and,
- to foster the skills which are necessary for independent lifelong learning thereby contributing to the social, cultural, intellectual and economic development of South Africa.

The main library based in Alice provides information literacy to students of more than 6 958. The researcher observed that more focus is on first year students where a collaborative arrangement with the LKA is in place. According to information available on the library page, www.ufh.ac.za/library, the library has more than 165 000 volumes of books, electronic books, print and electronic journals, among other resources. The library has two computer laboratories comprising 66 and 25 computers respectively. The laboratories serve as training hubs for students on how to access and use information (www.ufh.ac.za/library).

From the background information provided here, there is no doubt that the two institutions have come a long way in trying to establish themselves as beacons of education not only in South Africa but in Africa and beyond. The two institutions face

almost similar challenges of absorbing students from disadvantaged schools with serious challenges including those relating to limited access to information technologies and lack of libraries to stimulate information literacy skills at an early stage of learning (Jiyane & Onyancha, 2010; Lwehabura & Stillwell, 2008; Hart & Nassimbeni, 2013).

1.15 Statement of the Problem

Institutions of higher education in South Africa are making concerted efforts to provide information literacy skills to students at various levels of study. In the Eastern Cape Province of South Africa, four universities comprising Nelson Mandela Metropolitan University, Rhodes University, University of Fort Hare and Walter Sisulu University, developed an information literacy programme for use by the four institutions. In addition, the four institutions, among other universities, are making substantial investments in the provision of cutting edge information through joint subscription to electronic information resources for use by their students. Unfortunately, literature reviewed for this study reveals that university students still lack information literacy skills required to solve academic problems. In a study of information literacy skills at the University of Fort Hare, Somi and de Jager (2005) concluded that students lacked information literacy skills, which include the abilities to find and use information. A further study of new employees coming out of universities in South Africa by Griessel and Parker (2009) revealed that graduates joining the world of work lacked information literacy skills. The question why students continue to be information illiterate when information literacy programmes are available for them continues to beg for answers. Seemingly, the

problem is that the information literacy content adopted by the South East Academic Libraries System (SEALS) which is the consortium of the Eastern Cape Universities in South Africa does not adequately cater for the needs of students. Thorough consultation of library users will determine what variables are important in ensuring that information literacy content addresses their needs. Inadequate understanding and support of information literacy programmes might lead to unsuccessful implementation.

This study was based on the argument that although information literacy instruction was going on at Rhodes University and the University of Fort Hare and even at similar institutions, no critical evaluation audits and analysis of the information literacy programmes have been conducted to measure their effectiveness in addressing user needs. If information literacy is to be effective, there is a need to find out what kind of skills are required by the users at the exit level and then design effective programmes to meet such needs. The present study will attempt to bridge the gap between the information literacy instruction content and their relevance to user needs as a way of accounting for the information literacy skills needed.

1.16 Research Questions

This study sought to answer the following questions:

- (i) What aspects are covered in the information literacy programmes at both Rhodes University and the University of Fort Hare and to what extent did they address student needs?

- (ii) What standards are used as benchmarks in the provision of information literacy at Rhodes University and the University of Fort Hare?
- (iii) How do university students perceive information literacy instruction in the contribution it makes to academic success?
- (iv) What is the impact of Information Communication Technologies on information literacy programmes?
- (v) What are the challenges of improving information literacy instruction at both Rhodes University and the University of Fort Hare and how may such challenges be translated into opportunities?

1.17 Aim and Objective of the Study

The aim of this study is to analyze information literacy programmes' content and their link to students' academic success focusing on Rhodes University and the University of Fort Hare. The objectives derived from this aim are:

- (i) To find out aspects of and instruction methods which are covered in the information literacy programmes at Rhodes University and the University of Fort Hare and their relevance to students' academic success.
- (ii) To find out standards of information literacy which are used at both Rhodes University and the University of Fort Hare.
- (iii) To determine perceptions of students on the contribution of information literacy instruction to superior academic performance.

- (iv) To establish the impact of Information Communication Technologies on the provision of information literacy at Rhodes University and the University of Fort Hare.
- (v) To identify constraints which impinge on information literacy instruction best practices and suggest content that may inform policy-formulation on information literacy programmes in South African institutions of higher learning.

1.18 Significance of the Study

Most studies conducted on information literacy programmes have been carried out in different environments particularly in the developed Western countries, whose conditions are not similar to South Africa. It would therefore be not advisable to rely 100% on such studies. This study would provide an indication of the extent to which the UFH and RU are addressing the information literacy training needs of both students and staff. It will also offer insights into whether and how the use of online information in scholarly work is affecting teaching and learning activities. Further, the study would assist in policy formulation at both Rhodes University and the University of Fort Hare management and the Department of Higher Education and Training. The study would also create new knowledge on the information literacy best practices which may benefit universities and other institutions that have embraced the concept of information literacy into their academic programmes.

1.19 Justification of the study

There has been a lot of debate the world-over on the aspect of information literacy. With particular reference to South Africa, studies on information literacy programmes have been conducted by scholars such as De Jager and Nassimbeni (2002; 2003; 2005), De Jager, Nassimbeni and Underwood (2007) and Jiyane and Onyancha (2010) among others. Further debate on information literacy has been noted during the Library and Information Association of South Africa (LIASA) national conferences (De Jager & Nassimbeni, 2003) and during the Council for Higher Education Libraries of South Africa (CHELSA) Directors' meetings (Esterhuizen & Kuhn, 2010). From the meetings of the South East Academic Library System (SEALS) that the researcher has attended, the aspect of information literacy is one of the most discussed topics, making it a priority item for the group. However, to the best knowledge of the researcher, no special work has been focused on the content of the information literacy programmes alongside the perspectives of students and staff on same. Scholars such as Pinto (2010), Somi and De Jager (2005), Griessel and Parker (2010) among others, have concluded in their respective studies that students are not becoming information literate despite efforts by librarians to teach them information literacy skills. It is against this backdrop that this researcher developed an interest to conduct this research focused on the content of information literacy programmes at Rhodes University and the University of Fort Hare.

The study further sought to find out the relevance of the content from the perspective of students and librarians. The study was informed by the new liberal art framework of

information literacy by Shapiro and Hughes (1996) which focuses on the curriculum of an information literacy programme. In addition, the study also borrowed from the ACRL (2000) information literacy standards among other models that were discussed. It is hoped that this study will bring forth new knowledge that will help university authorities, academic library management and librarians rethink the best practice of information literacy. Therefore, this study is didactic in nature, that is, it is designed to impart information or offer advice on information literacy content, delivery and assessment methods. It is also hoped that the study will contribute new knowledge towards the development and delivery of information literacy content to instruction librarians at both Rhodes University and the University of Fort Hare.

1.20 Scope and limitations of the Study

The study analyzed the content of information literacy programmes in South African institutions of higher learning in general and with special focus on Rhodes University and the University of Fort Hare. South African universities were included in this study and all institutions of higher learning outside universities were not part of this study. An effort to find out the relevance of the information literacy programmes to user needs was carried out through interviews with instruction librarians and questionnaires in the case of students. The researcher had also wanted to gather data through focus groups targeting information librarians but this proved difficult due to too much bureaucracy at one of the research site. In the end, the researcher relied on purposive sampling which

allowed the research to use his knowledge (Nueman, 2006) of librarians who would provide useful data for the study.

In addition, due to constraints related to finance for travelling and accommodation, as well as the time available to conduct the research, the researcher only collected data from the main campuses of the two institutions. In addition, the researcher also faced a limitation in terms of time to conduct a full scale study given the demands of his full-time employment. However, every effort was made to ensure the study met its objectives.

1.21 Dissemination of research findings

The Universities of Rhodes and Fort Hare libraries operate in a vibrant consortium environment which also includes the Nelson Mandela Metropolitan University (NMMU) and Walter Sisulu University (WSU). The four institutions normally hold workshops for various categories of units of the library including information training services. The researcher, being based at one of the four institutions, hopes to be afforded an opportunity to share the results of this study through paper presentation at such meetings and at national conferences. The researcher wishes to also write papers emanating from the study and publish them as a way to share and contribute to the body of knowledge on the area of information literacy. The findings of the study would further be made available on the university of Fort Hare institutional repository as a way to ensure wide access.

1.22 Definition of key terms

1.22.1 Bibliographic instruction

This entails instruction focused on teaching learners on how to locate and use information beyond the confines of the local library building and beyond the institution's boundaries (Mellon, 1987).

1.22.2 Information literacy

Information literacy is variously defined. In this study, it refers to the ability to recognize when information is needed and have the ability to locate, evaluate and use the needed information effectively (ALA, 1989).

1.22.3 Information Society

The concept of information society is defined from various perspectives. For the purposes of this study, information society refers to a situation in which a society relies heavily on information communication technologies to process information for decision making. The technologies may include computer technology and telecommunications technologies which have transformed people's lives (McQuail, 2005).

1.22.4 Library instruction

This refers to a programme meant to prepare students to cope with multimedia information resources and how to deal with the realities of the world's information explosion (Breivik, 1982). It equips students with knowledge to find and use library resources.

1.22.5 Library orientation

This entails introducing new students and staff to a range of library services which include organization of materials, the classification scheme in use, available databases, the library staff hierarchy, the library levels and library policies (Mellon, 1987). In most cases, library orientation lasts no more than half an hour and this also depends on the number of people being oriented. It provides the librarians with an opportunity to market their services to the users so that they will be tempted to come back for in-depth training.

1.22.6 Plagiarism

Plagiarism is the use of somebody's work without acknowledging the author of that information. It is an aspect of academic dishonesty or misconduct [whose] penalties for

being found guilty are usually severe (De Jager and Brown, 2010). Policies are usually developed and put in place to deal with instances plagiarism.

1.23 Thesis structure

Chapter 1: The Problem and its setting. This is an introductory section which contains the background of the study, the statement of the problem, aim, objectives, research questions and the significance of the study and definition of key terms. It also touched on the library environmental analysis focusing on the impact of politics, technology, social and economic on university libraries. It also considered terms that surround information literacy such as academic literacy and technology literacy and went ahead to show how the results will be disseminated to interested parties.

Chapter 2: Theoretical Framework. Information literacy models and standards such as the big 6, Kuhlthau's Information Search Process and the ACRL standards of information literacy are covered in this chapter in any effort to anchor the study on a solid foundation.

Chapter 3: Literature Review – World Information literacy. This consists of an outline of available literature on information literacy. It focused on world information literacy and various aspects of information literacy such as assessment and critical thinking skills.

Chapter 4: The state of Information Literacy in South African Universities. This chapter is dedicated to taking a closer look at IL instruction in Universities and with a closer look at the UFH and RU.

Chapter 5: Research Design and Methodology. The survey research design is discussed and the research instruments and methodology are also discussed to give the study a proper plan and direction.

Chapter 6: Data Presentation, Analysis and Interpretation – All data collected will be presented, analyzed and interpreted in order to give it meaning.

Chapter 7: Summary. This will give a summation of the findings in relation to the problem, the methods used to reach the findings and how they relate to the study objectives.

Chapter 8: Conclusions and Recommendations. Will seal off the study by discussing the conclusions and recommendations reached and their implications for policy makers and further research.

1.24 Chapter Summary

Chapter one looked at the conceptual setting and background of the study, the statement of the problem in which the issue of students not becoming information literate despite information literacy programmes being in place in institutions of higher learning was explored. This necessitated that an analysis of information literacy instruction programmes in South African Higher Education Institutions be carried out. The chapter also looked at the research questions and objectives. The key aim of the study which was to analyze content of information literacy was also highlighted alongside the study's significance to policy makers and the Department of Higher

Education and Training. The urgency of the topic was also emphasized under justification of the study where it was noted that information literacy was a topical issue in the Eastern Cape and the whole country. Key terms were defined in the context of the study. The next chapter which is chapter 2, looks at theoretical frameworks / models over which the study was anchored.

Chapter 2

Theoretical framework

2.1 Introduction

In academic terms, a theory is defined as a logical explanation for why something is as it is or does as it does. Theories are however not cast in stone...but they are the best explanations we currently have (Hofstee, 2006: 92). Leedy and Ormrod (2013: 20) agree with Hofstee that “a theory is an organized body of concepts and principles intended to explain a particular phenomenon”, which in this case is information literacy. Theoretical frameworks assist researchers to make predictions and make sense of the world around them (Chigona & Licker, 2008; Hofstee, 2006). Theories further provide researchers with guidelines with which to observe and measure only some things, leaving out others (Chigona & Licker, 2008). In this case, the theories assisted the researcher to understand the composition of information literacy. A number of theories or models of information literacy have been developed by researchers in an attempt to understand information literacy and outline information seeking process. Models act as roadmaps for navigating information and help researchers to find, evaluate and communicate information. It was not feasible though to discuss all the available models given the timeframe for the study. Taking a leaf from Erdelez *et al* (2011: 4) who believe that models can be “selected based on their longevity and popularity in the literature” and also on suitability for the study, the following were considered:

- The new liberal art
- The big 6
- The Information Search Process
- The Information Literacy Model; and
- The ACRL standards as basis to frame information literacy curriculum

Moreover, the five were selected among others because of their flexibility in accommodating alternative strategies rather than being a linear and rigid process (Low & Eisenberg, 2005). It is pertinent though to mention from the outset that the new liberal art anchored this study because of its comprehensive approach to what should constitute an information literacy programme (Cunningham and Lanning, 2002), a view equally raised by the founders of the framework, Shapiro and Hughes (1996). The framework adequately covers technological literacy as part of information literacy which in the view of the researcher is key to the context of both Rhodes University and the University of Fort Hare. The new liberal art framework and the ACRL information literacy standards have been used to guide this study as detailed below.

2.2 The new liberal art

Shapiro and Hughes (1996: 3) pose a very important rhetoric question; “what does a person need to know today to be a full-fledged, competent and literate member of the society?” In an attempt to answer this question, several possible answers around the area of information literacy emerge. One will obviously need to have basic computer skills, one will have to know how to access information and use it effectively in an

ethical and legal manner. The framework of liberal art has its roots in grammar, logic and rhetoric (Shapiro & Hughes, 1996). In the same vein, Shapiro and Hughes (1996: 2) believe that information literacy should be regarded as a new liberal art in that it has become what it means to be a free person in the information age. They go on to describe seven dimensions that should be considered in designing a curriculum that promotes comprehensive information literacy. The current study, as alluded to earlier, is going to draw from the new liberal art framework. The seven dimensions are described as tool literacy, which is the ability to print and use electronic resources, hardware and software. The implication is that an information literate person should be able to use all kinds of information including print such as books and online resources that include e-journals and software such as library software used to manipulate information. The Rhodes University and the University Fort Hare uses a common library OPAC which an information literate student should be able to use to find required information to answer academic assignments.

The second dimension focuses on resource literacy which is an ability to understand the form, format, location and access methods of information resources. In this regard, students are expected to understand the various forms in which information is presented such as a book or a journal which could be either in print or electronic format. Users of information resources should have the capacity to search for location aids such as call numbers of books and also be able to employ query construction strategies using Boolean operators in order to locate resources from their location.

The third dimension addresses the social-structural literacy. This is knowledge of how information is socially situated and produced, including the process of scholarly

publication. The information user should acquaint himself or herself with the process of information generation and publication so that one becomes familiar with scholarly information and differentiate it from non-scholarly information.

The fourth dimension focuses on research literacy which is the ability to understand and use information technology tools to conduct research, including discipline related software. The knowledge encompasses the use of organized information sources such as statistical software programmes which are used to manipulate statistical or quantitative data.

Publishing literacy is the fifth dimension described by Shapiro and Hughes (1996), and further supported by Cunningham and Lanning (2002:344). Publishing literacy is the ability to produce a text or multimedia report of research results. It follows that an information literate student should be able to produce an academic piece of work for possible publication and should be able to attend to proper citation principles which normally give students a difficult time when writing research projects.

The sixth dimension, which should be considered when designing a programme that promotes information literacy is emerging technology literacy, which is the ability to adapt to, understand, evaluate and use continually emerging innovations in information technology. Usually the tendency is that students just know of technology but without necessarily making use of it.

The seventh dimension is critical literacy which is an ability to evaluate information technologies critically in terms of their intellectual, human and social strengths and weaknesses as well as their potentials and limits, benefits and costs. This encompasses

the use of new technologies such as smart phones and ipads to process information. An information literate person should be able to choose the best option in terms of which gadget to use for a given task.

According to Cunningham and Lanning (2002: 344), these seven dimensions of information literacy give us a theoretical framework on which to build an information literacy programme. They serve as tools for assembling the raw materials to build a homestead, a place where information literacy may be nurtured. This is consistent with the views of Shapiro and Hughes who believe that;

Once we start to take information literacy seriously in this multi-dimensional sense ...we are really talking about a new curricular framework: one that equips people not only with a bunch of technical skills but with a broad, integrated and critical perspective on the contemporary world of knowledge and information, including its origins and redefinitions of experience and social life, its philosophical justification, biases and limits, its potential for human emancipation and human domination, and for growth and destruction (Shapiro and Hughes, 1996: 5).

The dimensions may be used in conjunction with the American College and Research Libraries Information Literacy Competency Standards for Higher Education which provides specific instructional objectives for the outcomes from the competency standards (Cunningham and Lanning, 2002) and these are also discussed here as part of the theoretical body of literature. This study was therefore anchored on the new liberal art framework by Shapiro and Hughes, supported by the ACRL information literacy standards, which focus more on the abilities of an information literate student.

2.3 The Big six model

Several authors among them, Erdelez *et al*, (2011), Johnston and Webber (2003), Probert (2009), Lowe (2009), and Brand-Grumel *et al* (2005) refer to the Big6 as one of the widely written about information literacy model which was propounded by Eisenberg and Berkowitz (1987). It is a step-by-step approach to information problem solving with some interlinked steps. It begins with (1) task definition which is all about determining the purpose and need for information. Under this stage, the user defines the problem and go on to define the information requirements of the problem. The problem could be to write an assignment in which case students would be expected to be clear of what they need to do and be able to pinpoint the information needed to complete the assignment.

Coming next is (2) Information seeking strategies where the user examines alternative approaches to acquire the appropriate information to meet defined needs. Students determine the range of possible resources and evaluate the different possible resources to determine priorities. Students should ask what they can use to find what they need, that is to say, will it be a database, a book, a print journal or a general website? They should look at all possible sources of information in an effort to solve the problem at hand. In the end, they should be able to select the best sources available.

Information seeking is followed by (3) location and access which entails locating information sources and information within sources. Under this step, locate sources

intellectually and physically and find information within resources. The question to ask here is; where do we find the information we need to answer our assignment? This will enable students to locate the sources of information. They will also be able to use the result of their searches to find information within sources.

Use of information follows as step (4) where students use sources to gain information. Students engage the information in various sources through reading, hearing and viewing. They go on to extract information from its sources in an effort to solve a problem at hand. At this stage, students need to ask; what information can we use? This will enable them to think critically and engage in serious reading, listening and viewing various sources of information at their disposal. They will then extract the most needed information and leave out unwanted information.

Up next is step (5) which is synthesis and is about integrating information drawn from a range of sources. Sub-steps under this synthesis are organizing information from multiple sources into a meaningful product and present information, which could be in the form of an assignment. At this stage, students should be able to ask the question: how can we put the extracted information together in a coherent and cohesive manner? They will be expected to organize information from a variety of sources that include print and electronic. This will enable them to perform well in their academic endeavours since they will be acting from an informed position. In other words, their performance will be of the highest standards.

The final step of the big 6 elements is evaluation which is step 6. It involves making judgments on a set of criteria. Under evaluation, students judge the product in terms of its effectiveness and also judge the information problem-solving process in terms of efficiency. In addition, students should be curious about how well they performed in a given task. This will show in the feedback they get from the academics who would have assessed their work. But perhaps before submitting their work, they should be satisfied with it. They should be content with the information they will have put into their assignment.

Despite the fact that the Big6 model is widely used as alluded to earlier, Johnston and Webber (2003: 338) feel that “the name Big6 itself flags up the overall tendency to adopt a recipe approach to information literacy, i.e. that it can be broken down into six steps which will form the golden pathway to information success.” However, Probert (2009: 25) views the breaking down of the model “into manageable stages” as a positive development in information literacy. An approach to information literacy that is broken down into steps is likely to yield better results with information users.

2.4 Kuhlthau’s model of the information search process

The Information Search Process (ISP) is largely referred to as the user’s constructive activity of finding meaning from information in order to extend his or her state of knowledge on a particular problem or topic (Kuhlthau, 1991). It is believed to have been developed after a series of studies of mostly public library users to determine their interaction with information. The ISP model is widely used today in studies involving

information seeking behaviour. The model has however been challenged by other scholars such as Kobe and Kim (2006), who view it as based on academic research and needs to be adjusted so that it can also address life information needs. Be that as it may, others, like Thomas (2004), represents the Kuhlthau's model as having been developed and empirically tested over a 10-year period. The model represents the user's sense making process of information seeking which incorporates three realm of activity: physical, actual action taken; affective, feelings experienced; and cognitive, thoughts concerning both process and content (Kuhlthau, 1991). Environmental constraints such as prior experience, knowledge, and interest, information available, requirements of the problem, and time allotted for resolution, as by the relevancy of the content of the information retrieved , influence the criteria for making choices involving the three realms as further observed by Kuhlthau,(1991).

Like the Big6 model, the ISP is also broken down into six stages covering initiation, selection, exploration, formulation, collection and presentation. Each of the six stages of the ISP model incorporates three realms of affective (feelings), the cognitive (thoughts), and the physical (actions). At the initiation stage, Kuhlthau (1991: 336) says that

when a person first becomes aware of a lack of knowledge, feelings of uncertainty and apprehension are common. At this point, the task is merely to recognize a need for information. Thoughts center on contemplating the problem to prior experience and knowledge. Actions frequently involve discussing possible topics and approaches (Kuhlthau, 1991: 336).

During this part of the search process, the student is according to the model, believed to experience feelings of anxiousness because of the uncertainty of what might lie ahead (Kobe & Kim, 2006).

At the selection stage, the task is to identify and select the general topic to be investigated or the approach to be pursued. Again, feelings of uncertainty often give way to optimism after the selection has been made and there is a readiness to begin the search. Once the search is performed, the best results with the greatest potential for success in an assignment or any other given task for that matter, is selected. When selection is delayed, feelings of anxiety creep in until the choice is made (Kuhlthau, 1991).

The third stage is exploration, which is basically focused on probing information sources in an attempt to gain more insights to a given topic. Kuhlthau (1991: 366) says “actions involve locating information about the general topic, reading to become informed, and relating new information to what is already known”. The student or the information seeker can jot down brief notes as they read through the various information sources to enrich their own work. Kuhlthau above concedes that users may find the situation quite discouraging and threatening, causing a sense of personal frustration which ultimately may result in abandoning the search process. At the same time, the researcher’s confidence may begin to drop due to inconsistencies encountered, incompatibility with

preconceived ideas, and self-doubt as to whether the task can be accomplished (Thomas, 2004).

Next on the information search process is the formulation stage which Kuhlthau (1991: 367) describes as “the turning point of search process where feelings of uncertainty diminish and confidence increases. Thomas (2004: 32) describes formulation stage as “focus formulation”. The stage involves critical thinking on the part of the users for them to be able to identify and select ideas that best inform their topic. It is a stage where an information seeker becomes clear about the topic at hand.

The second last stage is collection and basically the task is to gather information related to the topic at hand. Steps taken at this stage include the selection of information relevant to the focused perspective of the topic at hand and making detailed notes on that which pertains specifically to the focus as general information on the topic is no longer relevant after formulation (Kuhlthau, 1991; Thomas, 2004). The already confident user seeks at this stage, as it were, to find more relevant and focused information from available information sources.

Last is the presentation stage where Kuhlthau (1991: 368) says “feelings of relief are common with a sense of satisfaction if the search has gone well or disappointment if it has not”. The stage otherwise marks the end of the search process and involves the

presentation or use of the findings (Thomas, 2004). Other skills involved at the presentation stage are the gleaning and summarization of the search results so as to remain with only relevant information, ready for presentation. The presentation may take the form of a written assignment or a presentation in class, that is, in the case of students. This leads us to the next model of information literacy.

2.5 Loertscher's information literacy model

This model is according to scholars such as Corral (2008), Sundin (2008) and Markless and Streatfield (n.d), the most recent review of the information literacy research. It places the student at the centre of the research process. Like the other models discussed in this study, Loertscher's information literacy model comes in seven interlinked steps, starting with the student formulating and shaping an inquiry, in an effort to address an information need. At this stage, the student questions and wonders about a lot of things including where to find required information. It is then followed by mapping and navigating information sources. The student finds or discovers required information and sorts it into categories addressing various parts of the task at hand.

The next step will involve reading, viewing, listening, observing, collecting and computing information. It is a step where the student consumes and absorbs the information. The third step of the model is where the student engages in critical thinking and become creative. The student is able to compare and contrast, that is, they can judge and test the validity of the information that has been gathered. The step that

follows involves drawing summaries and conclusion of the write up, if it was an assignment. The student draws together a position based on the best information. This is where a student argues for or against a given topic using available facts.

The fourth step is where the student or information user, communicates the information in a variety of formats or media. The student may be required to submit an assignment or present it verbally. This step leads to a stage where the student reflects on the process and product. The question; how well did I do will arise. If the end product is satisfactory, the process ends but if it was not, then the process starts all over again with the student re-formulating and re-shaping an enquiry. The focus of this model is however on the process of finding and using information just like the Big6 model and the Information Search Process by Kuhlthau, as discussed above. They however guide in developing information literacy programmes as one will pay special attention to what goes on when a student is searching for information to answer an assignment or any academic task.

To end this section on information literacy models, a comparison of three of the discussed information literacy models is given in table 1 below to allow for their close comparative overview. The three have similar stages in some cases as demonstrated in the table.

Table 1: Comparison of information literacy models

Eisenberg/ Berkowitz Big6 Information Problem Solving	Kuhlthau Information Seeking	Loertscher's Information Literacy Model
1.Task definition 1.1Define the problem 1.2 Identify information requirements	1.Initiation 2.Selection 4.Fomulation of focus	1.Formulates and shapes an inquiry
2.Information seeking strategies 2.1Determine range of sources 2.2Prioritise sources	3.Exploration (investigate information on the general topic)	2.Maps and navigates information space
3.Location & access 3.1Locate sources 3.2Find information	5.Collection (gather information on the focused topic)	3.Reads, views, listens, observes, collects, computes
4.Use of information 4.1Engage (read, view, etc) 4.1Extract information		4.Compares and contrasts; judges and tests
5.Synthesis 5.1Organise 5.2Present	6.Presentation	5.Draws together a position based on the best information and communicates
6.Evaluation 6.1Judge the product 6.2Judge the process	7.Assessment (of outcome/process)	6.How well did I do and how could I do better right now

Source: MacDonald and Darrow, 2003.

The table reveals similarities in stages one, two and three with slight differences in terms of terminology. The Big6 model has however subsidiary stages which make it more flexible in terms of its applicability to different scenarios. The three models also end with an aspect of assessment which is critical the teaching and learning of information literacy.

2.6 Information literacy standards, performance indicators and outcomes.

Information literacy competency standards for Higher Education as propounded by the Association of College and Research Libraries (2000), provides a framework for assessing the information literate individual. The standards attempt to provide higher education with an opportunity to articulate its information literacy competencies so that a continuum of expectations develops for students at all levels. The competencies outline the process by which faculty, librarians and others pinpoint specific indicators that identify a student as information literate (ALA, 2000). The competencies will also be helpful to students because they provide students with a framework for gaining control over how they interact with information in their environment. Information literacy will also help to sensitize them to the need to develop a metacognitive approach to learning, making them conscious of the explicit actions required for gathering, analyzing and using information. More specifically, the *Information Literacy Competency Standards for Higher Education* provides that an information literate student needs to have skills to:

- Determine the extent of information needed;

- Access the needed information effectively and efficiently;
- Evaluate information and its sources critically;
- Incorporate selected information into one's knowledge base;
- Use information effectively to accomplish a specific purpose; and
- Understand the economic, legal, and social issues surrounding the use of Information, and access and use information ethically and legally. (ACRL, 2000: 3)

For the standards to be implemented fully, an institution should first review its mission and educational goals to determine how information literacy would improve learning and enhance the institutional effectiveness. To facilitate acceptance of the concept, faculty and staff development should be of high importance. A close scrutiny of the mission of Rhodes University and the University of Fort Hare would assist to determine if aspects of information literacy are well embraced in their curricula.

Below, is a comparative summary of the ACRL, ANZIIL and SCONUL IL standards at the level of each stage.

Table 2: Summary of the ACRL, ANZIIL and SCONUL IL standards

The three bodies identified an information literate person as having an ability to;			
ACRL		ANZIIL	SCONUL
1	Determine the nature and extent of the information needed	Recognise a need for information and to determine the extent of information needed	Recognise information need
2	Access required information effectively and efficiently	Effectively and efficiently locate information	Identify ways in which an information gap may be addressed
3	Evaluate information and its sources critically and incorporate selected information into one's knowledge base and value system.	Critically evaluate information and the information-seeking process	Construct strategies for locating information
4	Use information effectively to accomplish a specific task	Manage collected information	Locate and access information
5	Understand the economic, legal and social issues surrounding the use of information and access and use information ethically and legally	Apply prior and new information to construct new concepts or create new understandings	Compare and evaluate information obtained from different sources
6	-	Use information with understanding and acknowledge cultural, ethical, economic, legal and social issues surrounding the use of	Organise, apply and communicate information appropriately

		information	
7	-		Synthesise and build upon existing information, contributing to the creation of new knowledge

The standards are also characterized by similarities and differences in some cases. For instance standard one and two are similar while three of the ACRL and ANZIIL also refer to the same thing. The SCONUL standards go all the way to seven stages while the ACRL standards end at five. However Johnston and Webber (2003) seem to oppose the ACRL approach when they say there is a danger that a strategy like that of ACRL results in a tick the box approach, reducing a complex set of skills and knowledge to small, discrete units. Nonetheless, the ACRL have been successfully used in the United States of America (Probert, 2009) and beyond. The fact that they are broken down into five, makes them very manageable. Both Rhodes University and the University of Fort Hare information literacy programmes follow these standards which begin with the recognition of an information need. This makes the standards more universal.

2.7 Chapter Summary

This chapter explored the theoretical framework which informed the study. It discussed models of information such as the Big6, the new liberal art, and the ACRL standards of information literacy which are important when developing information literacy curriculum. Models assisted in the form of the competencies that the students who have undergone information literacy are expected to demonstrate. The chapter concluded by comparing the models in a table form. The table revealed a relationship among the three models that were compared. The next chapter, which is chapter four, reviews literature on information literacy which is related to the topic. The literature review is divided into two chapters. Chapter four reviews world literature on information literacy guided by the research objectives while chapter five, reveals through related literature in the context of South Africa.

Chapter 3

Literature review

3. 1 Introduction

Literature review refers to the process of looking again at what others have written in areas that are similar, though not necessarily identical to, one's own topic of investigation (Leedy and Ormrod, 2013: 51; Hofstee, 2006: 91)). Literature review is important in that it assists the researcher to find out if other researchers have already covered the topic that one is researching. Hofstee argues that a good literature reviews shows:

- that you are aware of what is going on in the field , and thus your credentials;
- that there is a theory base for the work you are proposing to do;
- how your work fits in with what has already been done (it provides a detailed context for your work);
- that your work has significance; and,
- that your work will lead to new knowledge (Hofstee, 2006: 51).

Leedy and Ormrod (2013: 51) sum up the purpose of literature review by saying “the more you know about the investigations and perspectives related to your topic, the more effectively you can address your own topic.” In this regard, the researcher reviewed literature which focused on the pertinent issue of content covered in information literacy. More specifically, the themes that are covered in this literature review include: the

historical development of information literacy, world higher education discourse on information literacy, attributes of an information literate student, information literacy content, delivery and assessment methods, and students' perceptions of information literacy and challenges of information literacy.

The phrase information literacy is, according to Bopp and Smith (2001: 179), “the most recent development in the theory of ‘library’ instruction”. The emphasis of information literacy is on learning rather than the process of teaching. Prior to the emergence of information literacy, other terms had been developed for instruction in the use of libraries and information, most notably library orientation, library instruction, and bibliographic instruction (Bopp and Smith, 2001: 178). To embrace the information age, the phrase ‘information literacy’ was adopted and would cover the use of Information Communication Technologies (ICTs) to find and evaluate information for problem solving.

3.2 The development of Information Literacy

Information literacy evolved from the traditional concept of library orientation which comprises activities designed to welcome and introduce users and potential users to services, resources, collections, building layouts and the organization of materials (Bopp and Smith, 2001: 179). Library orientation later developed into library instruction in which users were given instructions on how to use libraries with an emphasis on institution specific procedures, collections and policies such as library rules and

regulations. Bopp and Smith (2001: 179) argue that library instruction focuses on in-depth explanation of library materials, concentrates on techniques in using periodical indexes, reference sources, card and online catalogues and bibliographies. The advent of the Internet and the vast increase in the volume of online information resulted in the development of information literacy intervention measures to tame the Internet and safeguard users from “drowning in the abundance of information that floods their lives (Breivik & Gee 2000: 52). The concept of information literacy largely departs from the notion of teaching to emphasize a process of learning. To produce a citizenry who has information literacy skills, Bopp and Smith (2001: 1) suggest that it will require that schools and colleges appreciate and integrate the concept of information literacy into their learning programmes and that they play a leading role in equipping individuals and institutions to take advantage of the opportunities inherent within the information society. Ultimately information literate people are those who have learned how to learn, hence the emphasis on information literacy. More specifically, the phrase information literacy was first made reference to in 1974 in a report to the USA government compiled by Paul Zurkowski who was president of the Information Industries Association (Kapitzke 2003: 38; Corral 2008:26; Owusu-Ansah 2003: 224). Kapitzke notes that as part of the 1974 report for the National Commission on libraries and Information Science, Zurkowski reviewed the kinds of skills needed by employers in the burgeoning information services sector. His description of the issue formed a conceptual template that was subsequently adopted by librarians and educationists. He regarded people trained in the application of information resources to their work as information literates as they will have learned techniques and skills for utilizing a wide range of information

tools in moulding information solutions to their problems. He emphasized the importance of information in problem solving.

Due to the importance placed on information literacy now, Corral (2008: 26) notes that “libraries around the world have championed the development of information literacy through their professional associations”. Corral further argues that “despite Zurkowski’s emphasis on the importance of information literacy in the workplace, the main arena for subsequent developments has been formal education”. As testimony to this, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has endorsed information literacy and has sponsored two seminal international meetings of experts in 2003 and 2005, which issued important statements on information literacy, known, respectively, as the Prague Declaration and Alexandria Proclamation. These confirmed information literacy’s critical role in personal, economic, social and cultural development and asserted the need for governments and others to support vigorous investment in information literacy and life-long learning strategies to create public value and enable the development of the information society.

3.3 Information Literacy as a process

The acquisition of information literacy skills is not a once-off encounter, but is a continuous process that begins with a realization of a need for information (Bruce 2002).

The acquisition of information literacy skills is a step-by-step process that begins with need identification and ends with communication of information. Upon evaluation of the information found, the information user may decide to refine the search terms and

strategies and restart the process until the required information is found. The process begins with task definition, creating information seeking strategies, locating and accessing information, using information, synthesizing information and evaluating information (Eisenberg & Berkowitz, 1987)

3.4 Information literacy attributes

An information literate student according to the ACRL is by behaviour able to:

- Determine the nature and extent of the information needed,
- Access needed information effectively and efficiently;
- Evaluate information and its sources critically and incorporate selected information into his or her knowledge base value system;
- Uses information effectively to accomplish a specific purpose;
- Understand many of the economic, legal and social issues surrounding the use of information and accesses and uses information ethically and legally (ACRL, 2003: 3).

These attributes align themselves well with the ones identified by Rhodes University and the University of Fort Hare in their information literacy programme available on www.ufh.ac.za/library.

Other attributes exhibited by an information literate person include that he or she recognizes that lifelong learning and participatory citizenship requires information

literacy, expands, reframes or creates new knowledge by integrating prior knowledge and new understanding individually or as a member of a group (CAUL, 2001).

3.5 Critical thinking skills

To overcome the problem of information overload and to be able to take full advantage of the numerous choices offered by the electronic environment, students must be equipped with critical thinking skills (Oberman, 1991: 189). Students should have skills that go beyond the ability to locate required information. They should question the validity of information, its authenticity, the authority and relevance to one's task. According to Leicester and Taylor (2010: 8) students "need to develop the habit of asking questions, learn to recognize good questions and take account of context." The two authors go further to say "by imagining alternatives they learn that there is often more than one way of thinking about something or doing something." Critical thinking can be thought of as a toolbox of skills which enable children to think more deeply and clearly about what they believe (and what they read or are told in the media etc.), and about what they should do. Such thinking will help them to be better informed (Leicester and Taylor, 2010: 2).

An information literate student should be able to promote a person who becomes competent in identifying needed information, formulate query construction strategies and evaluate information. Andretta (2005: 9) believes that "such competencies are necessary to develop higher – level thinking skills and they therefore underpin research practice in any field." Higher order skills include evaluation, synthesis, communication

and knowledge creation which are necessary for students to acquire (Secker & Coonan, 2013). Critical thinking skills also enable students to assess currency, relevance and logical consistency of a given piece of information.

In contrast, lower – order thinking skills entails very basic information search skills to find information. Andretta (2005: 46) concurs with Parker (year) that “lower-order thinking skills include the identification of key words, synonyms and related terms for the information required”. However, for effective learning to take place, an information literacy programme should start with lower – order thinking skills and gradually go up to higher – order thinking skills. This will result in a student who is fully conscious of the information search process, one who would be able to make sense of consulted information and be able to add value to it through the creation of new information.

According to McCluskey (2013) a critical thinker:

- Accepts responsibility for learning;
- Uses answers as an opportunity to ask more questions; is not constrained by the specific requirements of a course or project;
- Understands multiple perspectives;
- Has the ability to self-critic

These attributes enable an individual student to be an active member of an academic society where they are likely to make meaningful contribution in their academic life.

3.6 Information Literacy and Life Long Learning

The goal of information literacy is to produce independent and lifelong learners. The World Initiative on lifelong learning cited in Andretta (2005: 21) defines lifelong learning as “a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environments.” This implies that people who are information literate are lifelong learners because they have capacity to find and use information to solve a variety of life problems. Lifelong learners fit very well into a knowledge-based economy which according to O’Sullivan (2002: 8) are “characterized by the need for continuous learning of both codified information and the competencies to use this information.” O’Sullivan further argues that as access to information becomes easier and less expensive, the skills and competencies relating to the selection and efficient use of information become more crucial. This is an area that a proper information literacy programme should address where students would be required to embrace new technologies of finding and using information ethically and legally into their knowledge framework. In fact, as alluded to earlier, Information literacy is the backbone of both independent learning and lifelong learning. However, differentiating the three concepts (information literacy, independent learning and lifelong learning) is like hair splitting. Candy (2002: 6) concedes that the profile of a lifelong learner provide a high degree of overlap between lifelong learning and information literacy, arguing that the two are “inextricably intertwined.” Examples of such a profile include the knowledge of major current resources available in at least one field of study, ability to frame researchable

questions in at least one field of study, ability to decode information using a variety of forms; written, statistics, graphs, charts, diagrams and tables (Andretta, 2005). One such similarity that stands out between information literacy and lifelong learning is the critical analysis or evaluation of information which is key to successful use of information. If one is able to evaluate information, it means one is able to develop new information from what has been read. Information literacy is therefore an essential aspect necessary for lifelong learning. In support of the cause of this present study, Candy (2002: 12) asserts that “few, if any, national governments have committed to major educational or social initiatives that would see widespread adoption of Information literacy training or assessment for their populations.” Candy adds that “most initiatives tend to be piecemeal, in general aimed at limited sections of the population such as school children, university students....”

3.7 Information Literacy in Higher Education

There has been much interest worldwide on the teaching of information literacy particularly so in institutions of higher learning (Bruce, 2000; Herpworth, 1999; Scheepers, *et al.*...2011). This is so because of the value that it adds on students and other researchers to improve their throughputs. Besides, the exponential increase in the volume of information calls for Internet users to be information literate to avoid drowning in the vast amounts of available information. The researcher has observed that most institutions have research, community engagement, and teaching and learning as part of their mission statements, hence information literacy plays a pivotal role in universities

realizing these critical ingredients of education. Information literacy enables individuals to be able to find, organize, evaluate and communicate information ethically and legally (ALA, 1989). This implies that an individual has capacity to teach, learn, research and get involved in community engagement projects to reap what has been learnt in the community. Through information literacy, students are empowered to become autonomous and able to make their own informed judgments about any given scenario (Secker & Canoon, 2013). The researcher, through interaction with librarians from both Rhodes University and the University of Fort Hare, realized that students relied heavily on librarians to find information to fulfill their academic pursuits.

3.7.1 Overview of the worldwide information literacy in Higher Education

It is imperative to note from the outset that the conduct of information literacy differs from one institution to the other (Jiyane and Onyancha, 2010) and from one country to the other. According to Rockman (2002: 189), there is really “no one solution for all.” ALA (1998) took a stand on information literacy when it says “how our country deals with the realities of the information age will have enormous impact on our democratic way of life and on our nation’s ability to compete internationally. Within America’s information society, there also exists the potential of addressing many long-standing social and economic inequalities. To reap such benefits, people as individuals and as a nation must be information literate.” This is an assertion on how some individual countries have taken positions on information literacy in the information age and knowledge economy. For example, in Australia, it is believed that students still have

poor information literacy competencies as they cannot find the information they need and are forced to rely on others for its retrieval (Andretta 2005). Hepworth (1999: 6) found out that students in Singapore were not information literate as they found it difficult to define a problem, define where to go for information and developing search strategies, among other competencies. These competencies are in agreement with those of the ACRL (2000) which acted as core anchor to this present study. In the UK, Andretta (2005: 8) in a study of first year undergraduate students at the University of North London, observed that students' inability to cope with multiple answers to a given problem was compounded by lack of critical thinking reflected by the difficulties of defining the focus of the topic of research and by their selection of inappropriate terminology and search strategies. A similar trend was noted in the USA where a survey on the student population of a university in Michigan produced a profile of Internet use which revealed that one-third of the respondents were unable to evaluate the source's reliability and quality (Andretta, 2005: 9). Reliability and quality of information are key aspects covered by Shapiro and Hughes (1996) under resource literacy and also standard three of the ACRL (2000). This trend of students' lack of information literacy skills makes it a global phenomenon. However, Secker (2010: 75) notes that "information literacy standards seem to be better established in USA universities as they suit the academic culture of a general education covering a broad range of subjects for the first two years of university as compared to the UK's induction programmes.

3.8 Objectives and outcomes of information literacy

The widely recognized information literacy objectives are those developed by the Association of College and Research Libraries (ACRL) on behalf of the American Library Association (ALA). The ACRL (2000) noted five key objectives which ALA also refers to as standards and are accompanied by their corresponding learning outcomes (www.ala.org/acrl/site/ala.org.acrl/files/content/standards/standards/pdf). These provide a framework for assessing information literate students. The outcomes range from lower order thinking skills to higher order thinking skills. Lower order skills entails basic skills of information literacy while higher order skills encompasses skills such as critical thinking skills. The objectives can be summarized as follows:

Objective 1

Determines the nature and extent of the information needed.

Outcomes include: identifies key concepts and terms that describe the information need and defines and modifies the information need to achieve a manageable focus.

Objective 2

Locate and access information resources effectively and efficiently.

Outcomes include: selects efficient and effective approaches for accessing the information and investigates the scope, content and organization of information retrieval systems.

Objective 3

Evaluates information resources critically and incorporates information into his or her knowledge base.

Objective 4

Use information effectively to accomplish a specific purpose.

Outcomes include: organizes the content in a manner that supports the purpose and format of the product or performance and articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance.

Objective 5

Understands many of the economic, legal, and social issues surrounding the use of information ethically and legally.

Outcomes include: identifies and discusses issues related to privacy and security in both the print and electronic environments and demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted information material.

These objectives as alluded to earlier, are closely related to the ANZIIL and SCONUL information literacy competences where the difference is in most cases a matter of diction and the total number.

3.9 Information literacy performance indicators

This is basically what an information literate student is able to do. The indicators act as an exhibit of what information literate students are able to do in assignments, class, group work, and in general life situations that demand their contribution as honest citizens of a country. Edzan (2008: 226) refers to the performance indicators as information literacy competencies. These are widely acknowledged by other scholars of information literacy and the competencies include:

- Ability to identify the need for information;
- Ability to identify ways to overcome the problem of information unavailability;
- Ability to construct strategies to find information;
- Ability to access information;
- Ability to compare and evaluate various information sources;
- Ability to arrange, apply and communicate information in a way suitable to the situation; and,
- Ability to develop the existing information to build new and useful knowledge.

The ACRL identify 33 indicators and they include among others:

- The information literate student defines and articulates the need for information.
- The information literate student identifies a variety of types and formats of potential sources for information.

- The information literate student considers the costs and benefits of acquiring the needed information.
- The information literate student re-evaluates the nature and extent of the information need.
- The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.
- The information literate student constructs and implements effectively-designed search strategies.
- The information literate student retrieves information online or in person using a variety of methods.
- The information literate student refines the search strategy if necessary.
- The information literate student extracts records and manages the information and its sources.
- The information literate student summarizes the main ideas to be extracted from the information gathered.
- The information literate student synthesizes main ideas to construct new concepts.
- The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

However, most of the 33 indicators of information literate students are closely related such that separating them is mere hair splitting. For instance, the third last talks about

understanding many of the ethical and legal issues which again is referred to in the second last which says the information literate student follows laws....Despite this setback of what appears to be duplication, the indicators tally very well with those established by Esterhuizen and Khun (2010) for the 23 public universities in South Africa.

3.10 Aspects of Information Literacy

According to Jiyane and Onyanha (2010: 17), the content of information literacy programmes vary from one institution to the other depending on the emphasis placed on it by the institutional authorities. However, a study by Pattar and Kanamadi (2010: 103) revealed that most institutions used “General introduction about library facilities and services and Introduction to Reference Sources”. Pattar and Kanamadi also revealed that some information literacy content had; library catalogue (manual and the Online Public Access Catalogue), methods and tools for searching information, information skills for searching resources on Internet, CD-ROM databases, about using electronic –journals and online databases, locating library resources and introduction to multimedia materials. However, Patter and Kanamadi (2010: 103) also noted that none of the institutions surveyed had, as part of their content: understanding citations, bibliographic instructions and documenting research work. Hart and Davids (2010: 33) identified similar issues in a study of challenges of information literacy education at the Cape Peninsula University of Technology (CPUT). The aspects included: formulating a search statement, knowledge of various types of documents, use of OPAC, use of full-

text databases and ethical and legal use of information. Jiyane and Onyancha (2010: 18) agree with Hart and Davids on the content of information literacy in libraries. Jiyane and Onyancha identify topics such as library orientation where students are taught; library etiquette, procedures for checking in and out of items, renewing of items, introduction to the classification scheme used by the library, how to find a book on the shelf, identifying title, author and edition of a book, and using the table of contents and index, use of library databases to locate required information, introduction to the Internet, searching the Web and using webmail to communicate information. More importantly, Jiyane and Onyancha (2010) identified five key content areas namely; (i) library orientation which covers the library tour, and use of the catalogue, (ii) special collection services, (iii) information retrieval/ Information problem solving which included defining the information task, identifying and locating information sources, selecting information sources, organizing and presenting information, evaluating the process and information selection, (iv) database searching and reference services. Edzan (2008: 274) while concurring with Hart and Davids (2010); Jiyane and Onyancha (2010), categorizes the content into basic and advanced. The basic content covers basic library skills which is a direct result of library orientation and basic library skills classes. The advanced content which is meant for postgraduate students covers advanced information literacy skills which are relevant for students who conduct research. This approach could be suitable for the development and delivery of information literacy skills at Rhodes University and the University of Fort Hare, as a way to cater for all levels of study. Advocates of the new liberal art framework, Shapiro and Hughes (1996: 4) classify most of the aspects discussed here under “resource literacy, or the ability to

understand the form, format, location and access methods of information resources.” However, the reviewed literature underplayed tool literacy which Shapiro and Hughes (1996) referred to as the ability to understand and use the practical and conceptual tools of current information technology. Tool literacy is important especially in the context of South African education, where basic education does not adequately prepare students for higher education due to lack of libraries and other technological resources (Jiyane & Onyancha, 2010; Hart and Davids, 2010). This further justifies why the new liberal art theory was adopted for this study.

3.11 Delivery methods of information literacy programmes

Studies on delivery methods of information literacy conducted by Edzan (2008); Patter and Kanamadi (2010), reveal that delivery methods of information literacy are just like delivery methods of other conventional courses. On one hand, Edzan (2008: 274) suggests six methods namely “lecture guided tour, instructional session, video presentation, exercises and multimedia”. On the other hand, Patter and Kanamadi (2010: 108) cite 11 information literacy delivery methods. The differences in some of the delivery methods are a matter of diction. The 11 methods according to Patar and Kanamadi are; “introductory briefing on the orientation programme, library tour, library guides/ handbooks, individualized instructions, small group interaction, demonstration, CD-ROM instruction, audio-video lectures, online instructions, web-based instructions and scheduled workshops in the library”. From the survey conducted by Patar and Kanamadi, not all of the mentioned delivery methods are in use in all the cases.

3.12 Information literacy integration models

Information literacy programmes can either be offered as formal qualification or non-formal programmes (Jiyane & Onyancha, 2010). The information literacy programmes could be offered as stand-alone or embedded into other course curricula. Andretta (2005: 49) argues that information literacy could be generic, where it is offered as extracurricular while in some cases, the programme could be parallel in which case, it will complement the curriculum. It could also be integrated which implies classes and packages that are part of the curriculum. Others may be embedded which implies a curriculum design in which students have ongoing interaction and reflection with information. Bruce (1999: 12) concedes that the embedded model is the most effective because it covers three crucial elements of learning involved in the information literacy process as follows:

- Experiencing information literacy (learning)
- Reflection on experience (being aware of learning); and,
- Application of experience to novel contexts (transfer of learning).

Doherty *et al.*... (1999: 3) bemoan students' lack of skills to apply what they have been taught. Doherty *et al* ... therefore suggested three approaches to information literacy provision namely: "discipline specific", in which basic library instruction is given to support writing classes, "course specific instruction", which consists of advanced sessions on higher-level research concepts such as controlled vocabulary and citation techniques and "credit classes" which emphasize critical thinking and information literacy skills by uncalculating skills necessary for finding needed information and

evaluating it for relevance. Andretta (2005: 50) also argues that information literacy can be offered at the institutional level where it must be part of the institution's mission and goals, at the programme level to frame curriculum objectives, learning outcomes and assessment criteria, and at student level where it is expected to give learners an awareness of the importance of information literacy as the basis for lifelong learning.

Furthermore, information literacy skills must be integrated into the subject curriculum through catering appropriately for all kinds of learners at all the various levels of learning and having clear aims based on sound pedagogical foundations, having quality and feedback mechanisms built in and attempting to measure initial and final competence as a way to demonstrate impact (SCONUL, 1999: 8). SCONUL (1999: 9) further contends that the skills must be managed and delivered cost effectively and should make valid use of new technology and other innovations. In this regard, the Council for Higher Education (1995) argues against a stand-alone course because "information literacy transcends disciplines, enabling students to transfer basic skills from one specific disciplinary concept to another." For information literacy to succeed, institution-wide collaboration among faculty staff, library staff and IT staff who have each a critical role to play in the successful implementation of an information literacy programme is needed (ACRL, 2000; Snaveley, 2001). The support should be enlisted right from the top echelons of the institutions to the lower levels so as to get the buy-in of students.

3.13 Assessment in Information Literacy

Information literacy is a skill that is critical for students and as such, librarians need to measure it. Assessment determines the very character and quality of education (McMillan, 2013: xix) and it seeks to gather information about student performance and gives feedback in order to contribute to student learning (Timmers & Veldkamp, 2010: 923). It is important to establish mechanisms to assess how well our educational system is doing in providing students with information literacy skills and then hold educational leaders accountable for the results. In any case, assessment in information literacy helps librarians to demonstrate their value to the teaching and learning missions of their higher education missions (Belanger & Bliquez, 2011: 68). Webber and Johnston (2000) propose that assessment practices in the area of information literacy should address the purposes of: “diagnostic testing, formative and summative feedback and quality assurance evaluation”. Diagnostic testing is believed to be a more effective method of integration particularly at the undergraduate level of provision while both formative and summative assessment strategies are more appropriate at the postgraduate level. These can be explained further as follows:

- **Diagnostic testing: consists of quantitative assessment techniques involving** pre- and post-tests questionnaires and surveys. The approach provides more information about what students know when starting to engage information literacy and tracks the improvement or changes during the information literacy learning encounter. Andretta (2005: 63) believes that diagnostic testing increases students’ motivation to engage with the subject.

- **Formative and Summative feedback.**

- In general, formative assessment refers to assignments and tests undertaken by students as a way of gauging if learning is really taking place while summative assessment relates to the examination that is given at the end of the programme (Harlen, 2007). Both formative and summative may contribute to the final assessment resulting in credit award. Andretta (2005: 63) asserts that “the formative strategy refers to continuous feedback given during the programme of study, which can be linked to formal assessment strategies that occur at the end of the programme of study.” Information literacy programmes that are credit bearing motivate students to engage with the process more than non-credit bearing programmes which are deemed peripheral.

- **Quality assurance evaluation**

- Basically there are two types of measurement for this purpose, namely student performance and overall progression data (Webber & Johnston, (2000). In this case, students can self-evaluate or can be assessed by the instruction librarian or expert.

3.13.1 Portfolio as an assessment method

Portfolio is according to Klenowski (2002: 43), “a more expansionist form of assessment which allows multiple sources of evidence and a range of assessment measures to be incorporated into the portfolio collection.”

In this method, students’ information literacy competences are ascertained through performance-based tasks. However, a combination of both diagnostic and competence based assessment methods is useful because “tests may measure how well students have learned information, but they may not demonstrate how well students can solve problems using that information (Rockman, 2002: 193). Andretta (2005) further points out that the portfolio also includes a self-reflective activity, which yields benefits such as the enabling of students to evaluate their progress on completion of the information literacy programme, provision of a clear profile of information literacy skills by the cohort that feeds into the revision of the information literacy syllabus and the provision of information-rich data on the contextualization and transferability factors associated with the information literacy skills. To sum it up, Rockman (2002: 192) posits that it is important to emphasize the “positive impact of information literacy through enhancement of the students with a renewed confidence in learning, improving student motivation and providing a strong foundation for the retention and transferability of learning to any new experience.” For assessment to be much more meaningful, Snively (2001: 2) advocates for collaboration between library and faculty to generate assessment strategies for information literacy that are appropriate to subject –specific

contexts. Snaveley goes on to affirm that assessment methods should be “performance based”, and focus on the research process.

3.14 Students’ perceptions of information literacy

Many studies in the form of journal articles and conference proceedings have been conducted and published on the information literacy theme but literature on students’ perception about information literacy remains scanty. Lebbin (2006: 204) agrees that research studies providing assessment data is still lacking. On the contrary, Walsh (2009: 21) in a study on information literacy assessment methods reveals that librarians mostly used among other tools; “essays, analysis of bibliographies, final grades, multiple choice, questionnaire, observation, portfolio, quiz/test, self-assessment and simulation.” The author however was quick to reveal that most studies make little attempt to check the reliability or validity of their test instruments in assessing information literacy skills.

On a more positive note, Lebbin’s 2006 research study further revealed that students perceived integrating information literacy into various courses as meaningful as it was easier for them to apply information literacy skills when the knowledge is still ‘fresh in their brains’. The study further revealed that students liked information literacy components such as the ability to locate sources of information, finding items in the library, searching databases and navigating the Internet. Lebbin (2006: 212) quotes one student participant of his study who said thus “you have an easier time in the rest of your years doing things on your own...you don’t get stuck writing papers, not being able

to find sources, which is a big thing...”. Lebbin further gives positive feedback from students on areas such as citation methods and how to use resources of a much bigger library as compared to a high school library. In a related study, Morrison (1997: 7) sought to find out perceptions of students on the four main information literacy skills namely; “recognizing a need for information, locating information, evaluating information and effectively using information”. Whilst Morrison noted some different perceptions on whether or not recognizing a need for information constituted a skill, there was an agreement that locating information was a skill particularly “today because of the recent technologies and the abundance of sources”. In the study, students found the skill of evaluating information to be the most advanced of the four skills. The rankings are summarized in the table below.

Table 3: Ranking of information literacy skills by complexity

Skill	Ethnographic summary	Written Exercises
Recognizing a need for information	4 th	4 th
Locating information	2 nd	3 rd
Evaluating information	1 st	2 nd
Effectively using information	3 rd	1 st

Adapted from Morrison (1997: 8)

While most researchers believe that information literacy instruction should rest with the library, students in Morrison's study perceived 'evaluating and effectively using information as skills that would primarily be developed outside the library'. The overall picture painted by Morrison is that students perceive the library as playing a key role in helping them develop the skill of locating information, a challenging skill, given today's dynamic information landscape as a result of increased technology. Maybee (2006: 84) contends that "a relational approach should be employed to embed information literacy values into course curriculum that focuses on students conceptualizing information use in increasingly complex ways."

3.15 Collaboration for Information Literacy

The South African Higher Education Quality Committee (HEQC) criterion 7, expects libraries to be integrated into teaching and learning. In addition, the South African Qualification Authority (SAQA), in its critical cross-field outcomes, has acquisition and use of information as one of the outcomes expected from graduating students. Libraries need to embrace these policy provisions through collaboration with other key stakeholders in an effort to achieve information literate societies.

The concept collaboration is as old as humankind. It stems from a conscious endeavor by human beings to pursue an idea regarded as an imperative in (an) organization (Kennedy, 2008). Collaboration in the context of information literacy is a must because it paves the way for effective library instruction. To collaborate is to cooperate, aid, join,

collude, concert and concur or to get together. It can also be described as a process that begins with people meeting and connecting, getting into contracts and start to work for a common cause. If the collaboration has a time frame, then the process will end with a closure, but if there is a need to review, the collaboration may be reviewed and it will go on and on in a cyclic manner.

In contracting, great care should be taken to ensure that no part will regret the decision to collaborate. The contract should be a win-win affair and parties should be prepared to let go of some of their rights.

3.15.1 The role of collaboration in Information Literacy

Collaboration seeks to among other things:

- Enhance student learning and the development of lifelong learning skills;
- Engenders communication within the academic community to garner support for the programme;
- Fuse information literacy concepts and subject content;
- Identify opportunities for achieving information literacy outcomes through course content and other learning, evaluation and refinement of the programme (Mounce, 2010).

3.15.2 Areas of collaboration

Collaboration could take place in a number of areas where information literacy is involved. Such areas include information literacy course development / curriculum planning, which would involve librarians, academics and students. This will ensure ownership of the programme by all those involved. Other areas of collaboration for information literacy include research, assessment and teaching (Mackey & Jacobson, 2011; Brasley 2008). Faculty and the library may collaborate in research on trends in information literacy practices and assessing information literacy competencies in the students. They may also join hands in teaching information literacy thereby ensuring a joint responsibility between the library and faculty. Rhodes University collaborated with the extended programme while the University of Fort Hare collaborated with the Centre for Trans disciplinary Studies (CTS) in the delivery of information literacy to first year students. The researcher, during his course of duty, has also experienced some collaboration with individual lecturers in the provision of information literacy skills at the University of Fort Hare.

3.15.3 Ingredients for successful collaboration

For collaboration in information literacy to succeed, there must be a mutual commitment by the parties involved. The parties should have shared understood goals alongside a shared vision. There must also be mutual respect, tolerance and trust for each other. The participating members must also have competence for the task at hand and there

should be ongoing communication among the members. Some learning outcomes should also be established (Arp & Woodard, 2006) on which students would be assessed. Once there is mutual respect for each other that will pave way for successful information literacy collaboration. The researcher observed a lack of trust between librarians and the Centre for trans-disciplinary studies at the University of Fort Hare when they were negotiating for collaboration in information literacy. Whilst the Centre for Trans-disciplinary Studies realized the importance of the collaboration, they still felt they were better qualified to teach than the library counterparts. This was in contradiction with the findings of de Jager and Nassimbeni (2003: 112), who found out that “competencies and skills required for effective information handling are best taught when they are fully integrated into the curricula and taught by librarians and academics in partnership.” The teaching of information literacy that involves librarians and academics is therefore more desirable than where either librarians or academics teach alone.

3.15.4 Models of collaboration

There are a number of models that have been used for collaboration in information literacy. These range from the traditional ones to modern ways of conducting information literacy. Brasley, (2006), identified nine models, six of which are described below because their relevance to academic work:

- **The introductory model**

This follows a one or two – session presentation on information literacy in the form of seminars, orientation, etc. The major focus is on introducing the research process which covers: definition of research question, effective search and retrieval techniques, and evaluation of sources and websites. The goal is to assist students to complete research based assignments. The authors however warn that the model can give false impressions that information literacy has been achieved after taking students through one or two sessions, which they say is not the case at all.

- **The general education model**

This model provides for information literacy outcomes which are integrated into the course curriculum. In this model, there is some measure of mutual responsibility and potential for collaboration among discipline faculty and librarians. However, Brasley (2006) warns that information literacy goals and programming can be set adrift because of the generalized nature of the general education courses. There is therefore a need to keep monitoring the programme as a way of keeping it viable.

- **The learning outcomes model**

In the learning outcomes model, faculty and librarians work together to create departmental disciplinary information literacy learning outcomes. This comes as a

realization of the need to produce highly qualified graduates with information finding and evaluative skills as demanded by the world of work (Brasley, 2006).

- **Information literacy course model**

The information literacy course model encompasses credit bearing information literacy courses where faculty involvement will be in the form of provision of resources and course approval. The course could be a stand-alone or could be tied to a discipline-based course.

- **Faculty focus model**

It entails a shift from episodic information literacy content, developed solely by the library, to a strategic, curricular based discipline-faculty driven plan for facilitating students' attainment and mastery of these life-long learning skills.

- **On demand model**

Used to be the most popular model where faculty would request for information literacy instruction from the librarians as and when need arose. Due to emphasis on the need to respond to information overload coming as a result of the information explosion, the researcher has observed that dedicated instruction librarians have now been introduced

in most academic libraries. They go out to faculties to request for training slots as part of the library's liaison programme.

Whichever form or model of information literacy presentation is adopted, three groups of individuals are essential for it to be successful and these are; librarians, faculty and students. However, for some like Hooks and Cobert (2005), the question of what is the best way of presenting information literacy remains. Seemingly, both Rhodes University and the University of Fort Hare employed mixed models that include: the on demand model, the introductory model, and the general education model, in an effort to provide information literacy for students at all levels of study.

3.16 Impact of Information Communication Technologies on Information literacy

Information communication technologies (ICTs) impact information literacy in a variety of ways. The impact may be positive or negative. Bruce (2000: 7) argues that "those of us responsible for the implementation of information literacy education are naturally turning to new technologies for solutions to problems of access and communication." However, Rockman (2002: 186) warns that "although technology promises to make information more accessible, it can also limit (or telescope) the information that students may actually receive, especially if students place primary or sole emphasis on the World Wide Web." Oberman (1991: 191) agrees with Bruce (2000) that the impact of ICTs on library instruction and the design of instruction has been, and will continue to be acute. This is so because as librarians mount databases and online access catalogues (OPACs), the opportunity to educate patrons about the effective use of these electronic

systems provides a new means to enhance and integrate library instruction into the curriculum (Rockman, 1989; 2002; Oberman, 1991). As a result of technology, Bruce (2000: 7) notes that in Sweden, the Into Info Project had developed a range of electronic, subject specific, learning materials and used by researchers and students while in Australia, considerable work had been done exploring the use of technology for information education in distance learning programmes. In Botswana, Mutula and Mutula (2007: 134) note that the government supported the use of ICTs in education in its 2016 national development strategy. This demonstrates the positive values of ICTs on information literacy. However, Mutula and Mutula (2007) reveal that the ICTs distribution in Botswana schools was still patchy and that affected the quality of students entering university. This prompted the University of Botswana to introduce a general education course focusing on ICTs and information literacy skills.

ICTs are also important in the assessment of information literacy skills. They have actually enhanced assessment methods. Balajthy (2007) agrees that ICTs have necessitated the use of online access to student scores, computer based reporting and assessment administration. However, for users to be able to take full advantage these ICTs products and services, they need to be information literate. This justifies why Usluel (2007) recommended the need for further studies in the area of the interface between information literacy and ICTs. Shapiro and Hedges (1996)'s tool literacy under the new liberal art frameworks plays a part here with a view to achieve total information literacy of students.

3.17 Challenges of Information Literacy

Like many other programmes offered at universities, information literacy has challenges that date back to the time of its inception. Wiggins (1992: 73) identifies three key challenges associated with information literacy at large universities. The author noted that “at the university level, it is much more difficult, if not impossible, to reach every student” hence the size of the student body was cited as one of the key challenges as the information literacy programme can only be tailor-made to meet the needs of a certain level of students such as undergraduate level, leaving graduate students out. Related to this problem is what Wiggins (1992: 75) described as “insufficient staff”. Wiggins above, noted that “although librarians hope to reach out to every academic discipline, and some are approaching that goal, most simply run out of staff”. Most importantly, Wiggins further noted that it is difficult to coordinate a student’s work from one class to another and from year to year. He reckons that if librarians are expected to provide all of the instruction for information literacy, exhaustion and failure are guaranteed. The third challenge noted by Wiggins above is “coordination among different libraries” where different libraries could be running information literacy independently with no administrative coordination. Some universities do not have a common course that cuts across different faculties hence it would be difficult to have a unified approach to information literacy. Other researchers categorize challenges related to information literacy from various angles. Hepworth (2000: 28) focuses on challenges associated with “attitudes, knowledge infrastructure and finance.” On attitudes, Hepworth (2000) says that both faculty and librarians need to have distinct mindsets that embrace change and willingness to learn new skills and roles. With

particular reference to faculty, the author says it can be difficult to get faculty staff to give weight to information literacy and incorporate it into the curriculum because they are not necessarily well trained in information literacy themselves. Concerning knowledge, Hepworth believes that librarians need to develop teaching and training skills so as to be able to develop and deliver content and learn assessment techniques particularly those that lend themselves to learning information literacy and encourage deep learning. However, Hepworth (2000: 31) cites infrastructure as “one of the most challenging areas”, adding that “there is little significant increase in funds for the higher education especially for libraries. This makes it difficult to make the necessary infrastructure changes such as re-engineering of library space to create learning and knowledge commons. Coupled with the challenge of infrastructure, Hepworth (2000) writes about finance, which is required for additional staff, training and the acquisition of the teaching and learning aids. On the other hand, Cunningham and Lanning (2000) discuss challenges related to promoting information literacy. One such challenge is lack of collaboration among faculty, librarians and administration which Cunningham and Lanning refer to as the biggest impediment to the success of information literacy. Other challenges include the ever-changing information technology environment which makes it difficult for stakeholders to keep pace in order that they stay current. Yet another challenge is the lack of clarity as to who should be responsible for the information literacy programme. Integrating information literacy into courses across disciplines and assessing its impact requires the buy-in of all stakeholders which is difficult to secure. Additional challenges identified by Cunningham and Lanning (2002) are perceptual in nature where librarians work in isolation from faculty while faculty maybe reluctant to

seek help from the librarians or they may just perceive information literacy training as remedial while students may not be aware that they need help.

3.18 Chapter Summary

This chapter reviewed literature pertaining to the concept of information literacy in higher education in line with the objectives of the study. The development of information literacy since about 1974 was traced and information literacy was defined from various perspectives. Aspects such as information literacy as a process and attributes of information literacy were also examined. The chapter further discussed critical thinking skills as an aspect that could be promoted through information literacy. The interface between information literacy and life-long learning was discussed, including objectives and outcomes of information literacy. Information performance indicators as provided for by mostly the ACRL (2000) were equally examined and went on to look at aspects of information literacy, delivery methods, integration models and assessment. These aspects were looked at in line with Shapiro and Hughes' (1996) seven dimensions of information literacy, supported by the ACRL standards of information literacy as key theory frameworks for the study. Other frameworks that informed the review were the Big6 model, Kuhlthau's ISP model, and Loertscher's information literacy model. The literature review also included collaboration for information literacy, areas and models of collaboration. It also tackled the area of the impact of ICTs in information literacy. The chapter ended with a world view of challenges encountered in the provision of information literacy as they relate to higher education. A whole range of challenges such as lack of coordination of the programme, inadequate staff members to offer information

literacy and student-staff attitudes were revealed. The next chapter focuses on information literacy literature in South Africa, in an attempt to place the study in the local context.

Chapter 4

Information Literacy in South African Institutions of Higher Learning

4.1 Introduction

Several research articles on information literacy in South African (SA) institutions of higher learning have been published in the last decade (Jiyane & Onyancha, 2010; Hart & Davids, 2010). The manner in which information literacy has been implemented differs from one institution to the other. Some information literacy programmes are offered as stand-alone while others are integrated or embedded with individual course modules. Stand-alone information literacy courses are mostly offered by library schools while libraries offer embedded information literacy (Jiyane & Onyancha, 2010). It must however be acknowledged from the outset that most institutions still conduct information literacy sessions on *ad hoc* basis where academics and librarians arrange for such sessions during the lecture periods of the lecturers concerned. The information literacy programmes are usually not on the institutional time tables (Jiyane & Onyancha, 2010) hence the need for librarians to negotiate for session times with academics.

4.2 Historical Perspectives of Information Literacy in South Africa

South African students come to the world of education with severe disadvantages that might not be as evident in the developed world (de Jagger and Nassimbeni, 2003). The two authors contend that information literacy interventions and assessment should be

specifically designed for the requirements of the South African students. Major strides in information literacy in South Africa began in the late 1990s when the Cape Library Cooperative (CALICO) launched a large information literacy needs assessment study which revealed serious discrepancies between students from historically disadvantaged and historically white universities (de Jager & Nassimbeni, 2003). However, Moll (2009: 40) notes that “the first document on the position of information skills in the curriculum appeared in 1994 as the core teaching programme of information literacy skills. Outcomes of the information skills expected learners to demonstrate among other things, the ability to:

- define the goal of an information task,
- find sources of information,
- select appropriate resources,
- interpret the sources’
- use the information to communicate the results (Moll, 2009: 41).

These abilities were later summed up in the critical cross-field outcomes by the South African Qualification Authority (SAQA) as the ability to “collect, analyze, organize and critically evaluate information, (SAQA, 2005)”.

The CALICO assessment study further revealed the need for information literacy programmes in South Africa that were highly dependent on context, emphasizing the need to develop information literacy interventions that would address the specific requirements of the South African student body.

In 1995, INFOLIT (Information literacy) Project, a major information literacy undertaking with financial support from the Reader's Digest South Africa was launched. The project identified the following key objectives:

- promoting the concept, value and importance of information literacy in the context of globalization and redress to key players in the region,
- launching a series of pilot projects which explore and establish various means of spreading information literacy education in the region,
- investigating information literacy models, programmes and initiatives in other countries that could be adapted to local conditions (de Jager, Nassimbeni & Underwood, and 2007: 110).

Following these objectives, workshops on information literacy were conducted around the region among key stakeholders that included librarians and academics. The workshops later spread to the Library and Information Association of South Africa (LIASA), the official library and information workers professional association. This resulted in the spread of information literacy to the rest of South Africa (de Jager, Nassimbeni & Underwood, 2007). Since then, there has been a measure of success although there is still a wide gap between already developed standards from the Western countries and what could suit the local student population paying special attention to historical imbalances.

4.3 Current perspectives on information literacy in South African institutions of higher learning

Past studies on information literacy instruction notably by de Jager and Nassimbeni (2002), de Jager, Nassimbeni and Underwood (2007) and Jiyane and Onyancha (2010), among others, reveal that a lot of interventions have taken place. However, it was also noted that librarians were still finding it difficult to make inroads into the academic curriculum (de Jager, Nassimbeni & Underwood, 2007). As a result, supportive programmes ranging from the general and traditional library orientation to introduce students to the library and its holdings were still on offer. On request, interventions for students and academics which covered, among others, training on the OPAC, electronic databases and bibliographic referencing were also conducted (de Jagger, Nassimbeni & Underwood, 2007: 113). However, there was some meaningful measure of success with regards to imparting information literacy skills to students in higher education in South Africa. Some institutions such as the University of Pretoria and Cape Peninsula University of Technology had managed to integrate information literacy into the mainstream academic curriculum (Esterhuizen & Kuhn, 2010; Jiyane & Onyancha, 2010). The majority of courses were still generic and stand-alone while some were credit bearing (de Jager, Nassimbeni & Underwood, 2007: 113; Jiyane & Onyancha, 2010: 20). Some institutions of higher learning, as presented below, had information literacy as part of the libraries' mission and had components of self-taught information literacy programmes available on their websites. The information presented on each institution is dependent on the amount of information literacy related aspects available on the webpage.

4.3.1 Cape Peninsula University of Technology

http://library.cput.ac.za/information_literacy/

The information literacy programme online comprises the six steps of 'before starting, starting out, finding information, evaluating information, legal use, and communicating information. The library has a clear commitment to information literacy available on the website above and it reads; 'the Library provides resources, information and information literacy programmes to support the learning and research programmes at the various campuses'. The statement underlines what the university libraries at CPUT are all about. Basically, the programme is based on the ACRL (2000) standards of information literacy.

4.3.2 Central University of Science and Technology

<http://www.cut.ac.za/library/>

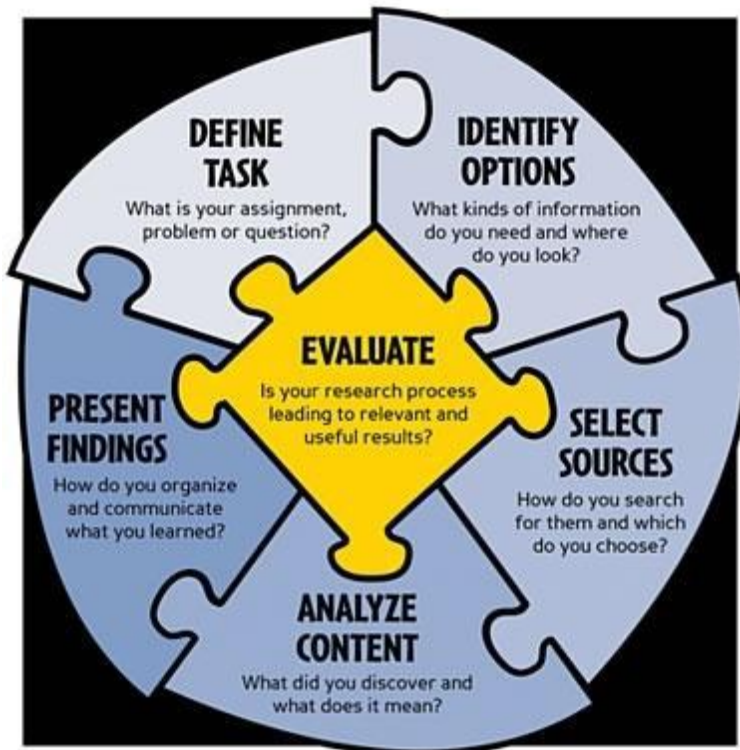
The library website contains links on how to use the library, how to use RefWorks, audio-visual material and databases. As part of its mission, the library seeks to 'take leadership position to provide the information resources, technological platform, study space and information skills necessary to attain excellence in the Central University of Technology's (CUT) endeavours'. This mission reveals some level of commitment to the provision of information literacy at the university. No online tutorial was available for review of the researcher.

4.3.3 Durban University of Technology

<http://library.dut.ac.za/visionandmission.htm>

The mission of the Durban University of Technology (DUT) library according to information available on the above website is "...the provision of information services, access policies and instruction programmes in line with the objectives of the university." The library values among other things, 'mentoring excellence'. The page further reveals that the library has subject librarians on all their campus libraries charged with the responsibility to impart information literacy skills to library users. Tutorials available on the page include; 'research it right tutorial, plagiarism, referencing guide and information literacy learner guide. A click on the information literacy learner guide reveals a comprehensive seven point information literacy module modelled along the lines of the ACRL, ANZIIL and the SCONUL information literacy competencies, of course with some tuning to suit local conditions. It begins with the chart below.

REFLECT • LEARN • CONNECT



INFORMATION LITERACY

(Extracted from <http://library.dut.ac.za>)

The seven information literacy module comprises unit 1 focusing on the nature and need for information, unit 2, the organization of information, unit 3, the information discovery tool, unit 4, the nature and use of a variety of printed materials, unit 5, the nature and uses of electronic resources, unit 6, collecting, analyzing and evaluating information and unit 7, academic integrity which focuses on plagiarism, referencing and copyright. The module ends with a section on assessment focusing on both formative and summative types of assessment.

4.3.4 Mangosuthu University of Technology

<http://www.mut.ac.za/libraryservices>

The vision of the Mangosuthu University of Technology (MUT) is according to the library's website above to be, 'a hybrid library that will empower our stakeholders to reach their potential in their learning, teaching and research needs. The page further shows the information literacy programme which is composed of workshops, computer based instruction, lectures, guided tours and demonstrations. The module focuses on the following broad areas modeled along the lines of the ACRL (2000) information literacy competencies:

- Introduction to the library and its services in order to recognize and use it for academic purposes
- Locate information in the library by making use of the library homepage and the in-house databases for academic purposes
- Information Sources
- Use relevant formats of printed and multimedia for academic purposes
- Identify and use various electronic databases on the Electronic Resources Portal for academic purposes
- Plan assignments/reports and apply the Harvard referencing method to present research that comply with international standards for academic purposes (<http://www.mut.ac.za/informationliteracy>)

4.3.5 Nelson Mandela Metropolitan University

<http://library.nmmu.ac.za/Training/Search-strategies>

Comprise training material on search strategies and tutorials on the use of the Internet and databases including video tutorials. Although Nelson Mandela Metropolitan University (NMMU) was part of the South East Academic Library System (SEALS) which had a five step online information literacy module available on the University of Fort Hare library webpage, it did not appear on the NMMU library webpage. Neither did the library webpage mention information literacy in its vision or mission. There was however commitment on ensuring students had at least self-taught material on how to use electronic resources as demonstrated by the availability of tutorials on the use of databases.

4.3.6 North West University

<http://www.nwu.ac.za/library/index.html>

Information on the website reveals that North West University has three campus libraries. On each campus, there are information librarians who are responsible for instruction of users on how to find and use information. The page further reveals information about how users can request for information searches from the library and a guide on how to renew books electronically. The page also provides LibGuides which are accessible to users and are developed by subject librarians. The guides provide a one stop facility for information searches relating to a particular subject coming from a

variety of sources such as journal articles, theses and dissertations. The page also has links to guides on referencing, undergraduate and postgraduate information, information retrieval and plagiarism and copyright. The library's training programme available on the webpage focuses on such aspects of information as search engines, use of endnote and how to write an assignment. The training sessions are arranged collaboratively by information librarians and lecturers. There was however no comprehensive information literacy programme available on the webpage.

4.3.7 Tshwane University of Technology

<http://lib.tut.ac.za/>

The website above shows a full-fledged information literacy programme comprising six units focusing on library orientation; library home page and in-house catalogues; prints and multimedia materials; browsers and search engines; referencing with Harvard method; electronic resources portal and online databases. According to the website above, the module first introduces students and other library users to the library page and the library's holding before taking the user through other aspects of information access and use, in an effort to produce a well-rounded graduate. The information literacy guide for academic institutions in South Africa produced by Esterhuizen and Kuhn (2010) borrows a lot from the TUT information literacy programme.

4.3.8 University of Cape Town

<http://www2.lib.uct.ac.za/Training/Infolit/infolit/InfoLit.html>

Comprise an online information literacy tutorial in a six step process starting with 'before you start' and ends with 'plagiarism and copyright'. The website has several other tutorials and library guides to help users find information. The library mission and vision statements were not explicit on the concept of information literacy. The online tutorial is again modeled along the lines of the ACRL (2000) standards of information literacy.

4.3.9 University of the Free State

<http://library.ufs.ac.za/content.aspx?uid=150>

The library website at the University of Free State shows a library skills tutorial comprising how to write assignments, how to search databases and ethics which covers plagiarism and copyright issues. The website also contains detailed level specific user guides focusing on information available for both undergraduate and postgraduate students. The mission of the library “- assuming an active role in the achievement of academic excellence and developing life-long learners” speaks well to the concept of information literacy, which is central to life-long learning. It was not clear though to tell the standards adopted although the website reveals some aspects of the ACRL information literacy competencies expected of students.

4.3.10 University of Johannesburg

<http://www.uj.ac.za/EN/Library/Pages/howdoifind.aspx>

The library webpage provides a link on how to find and use resources of the library. The sub-links include e-books, e-journals, theses and dissertations. According to the information available on the webpage, the library conducts training for users once per week during the semester time. The library's mission aims at among other things, 'promoting information literacy and life-long learning'. This aspect of the mission provides good ground for the conduction of information literacy at the University of Johannesburg (UJ). It was not clear though which standards were followed by UJ in the provision of information literacy.

4.3.11 University of KwaZulu-Natal

<http://library.ukzn.ac.za/Homepage.aspx>

The university library page shows guides and tutorials on the use of the library. It shows in particular, guides on referencing using various styles to avoid plagiarism, use of the catalogue, use of government publications, electronic databases, Internet evaluation, rules for consulting materials, subject searching and many more. The database search guide includes information on search preparation, searching and search results, which prepares users to become competent information users. The page further shows training dates and times at various libraries of the UKZN. The mission statement was

not clear on the issue of information literacy, neither was there a comprehensive online tutorial available on the webpage.

4.3.12 University of Limpopo

<http://www.ul.ac.za/index.php?Entity=Libraries>

In a welcome note by the Library Executive Director, users of the library are invited to an individual or group instruction and guidance, focused on navigating, selecting, locating, evaluating and using information effectively and ethically. This reveals some commitment by the library leadership on the concept of Information literacy. According to the library website, the university of Limpopo (UL) has two campus libraries and two branches with each having information librarians responsible for information literacy. There is also a library guide available on the webpage with information on the library opening hours, check in and check out procedures, how to use the library catalogue and how to request materials from other libraries. The library's training programme covers library orientation which is at the beginner's level and advanced level meant for senior students while the former is meant for new students and staff members. The advanced orientation which they also call bibliographic instruction is offered to students and staff throughout the year. The main information literacy programme covers, the structure of the book, online catalogue, periodicals, electronic resources (databases), reference materials, plagiarism and copyright

4.3.13 University of Pretoria

<http://www.library.up.ac.za/index.htm>

The library webpage above provides links to teaching support materials, Research Support, Assignment Support, Copyright, Plagiarism, Referencing Techniques and training thereof. The University of Pretoria (UP) library page also provides links to information on how to write assignments and how to evaluate information from the Internet. The mission statement and vision of the library were however silent on the concept of information literacy. However, according to Scheepers *et al* (2011: 75), a comprehensive information literacy “based on the process model (Eisenberg & Berkowitz, 1987) and the REACTS model (Thomas, 2004)” was available and offered by the Department of Information Science.

4.3.14 University of Venda

[http://www.univen.ac.za/index.php?Entity=About the Library](http://www.univen.ac.za/index.php?Entity=About%20the%20Library)

The university of Venda library mission is to ‘provide a comprehensive information service to its students, staff and the surrounding community’. Further information on the library page reveals that the library, through its information librarians, provides training on information literacy to enable its users to be critical thinkers and life-long learners. The library offers training ranging from the general orientation for new students and follow up school or faculty based orientation. The training is also structured in levels of

introduction, intermediate and advanced to cater for the needs of all the users. The library page also provides guides to users on registering for alerts on databases such as Science Direct, Google Scholar and Emerald. There is also a research guide which provides tips on among other things, how to locate published information, how to use information, search strategies and evaluation of information. The content of the information literacy programme reflects that of the ACRL and the SCONUL.

4.3.15 University of the Western Cape

<http://libguides.uwc.ac.za/content.php?pid=143040&sid=1217840>

The website shows a seven point information literacy tutorial which addresses each stage of the research process, including selecting a topic, identifying information needs, selecting sources, locating information, evaluating information, and citing sources. The module begins with an orientation to the UWC library and ends with plagiarism and copyright issues. The website also contains guides on referencing styles using a variety of methods and tutorials on the use of databases. The mission and vision were not explicit though on the concept of information literacy. The online tutorial embraces both the ACRL and the SCONUL information literacy standards.

4.3.16 University of the Witwatersrand

http://www.wits.ac.za/library/457/information_fluency_information_literacy.html

The library webpage provides a link to information fluency which guides users on how to access and use information. It further has guides and tutorials on how to reference using a number of styles such as MLA and Chicago. The guides include text and videos. The link further provides for information literacy programmes focused on both undergraduate and postgraduate students. This categorizes the programme into basic and advanced. The library commits itself to 'teaching students how to access and utilize electronic information as an important function of the Library, and the electronic classroom, the first of its kind in South African libraries, which provides fascinating insight into modern information retrieval techniques'. This statement forms part of the mission and vision of the library.

4.3.17 University of Zululand

http://www.unizulu.ac.za/res_library.php

According to the above library website, Information Librarians are available to 'assist users with information inquiries ranging from factual questions to complex research projects. Point-of-use instruction for online catalogs, CD-ROMs and other electronic databases is available. Librarians identify and locate materials on and off campus, provide reference service, and perform simple and comprehensive database searching and training'. There is also a plagiarism link which yields into a Turnitin anti-plagiarism software with some help instruction for users to follow. No clear statement could be obtained from the website, neither was there a comprehensive online tutorial available.

4.3.18 Vaal University of Technology

<http://www.vut.ac.za/new/index.php/library>

The university library page reveals a variety of services geared towards achieving an information literate user. It has guides on the use of electronic information (databases), and how to use the library catalogue. Specific services under the aegis of information specialists who are charged with the concept of information literacy include: research consultations, literature searches, course related presentations and orientation, current awareness and collection management. Course related presentations and orientation focus on electronic databases relating to a particular faculty. The page has also a link to training guides on the Harvard referencing style, structured in two parts to cater for the needs of both undergraduate and postgraduate students. The mission and vision statements were not explicit on the concept of information literacy which may jeopardize the library's efforts. There was also no comprehensive online tutorial on information literacy available on the website.

4.3.19 Walter Sisulu University of Technology

<http://www.wsu.ac.za/academic/academic.php?id=library>

The vision of the library, according to the website above is to 'be a leading African Information service, supporting the teaching, learning and research using cutting edge technologies to achieve sustainable development and life-long learning' while one of the components of the mission statement is 'to provide education and training programmes

on the effective use of information, for life-long learning'. This displays some policy framework for the conduct of information literacy by the library. The page also shows a link to the library catalogue which has help guides on searching strategies. There was however no comprehensive online tutorial on information literacy available on the website.

4.4 Information literacy standards in the South African context

According to de Jagger and Nassimbeni (2003: 108) “during the 1990s, and partly in response to rapid developments in the field of information technology, the information and library profession began to note the increasing importance of information literacy and recognized the need for standards and benchmarks with which to measure competencies”. Widely recognized standards such as those by the ACRL, SCOUNL and those by the Council of Australian University Librarians (CAUL) were adopted in most institutions despite the uniqueness of South Africa. Due to the continued realization that South Africa is different from other countries, the Council for Higher Education Libraries of South Africa (CHELSA) has developed some guidelines for the conduct of information literacy in South Africa. Esterhuizen and Kuhn (2010: 84) say “...there has been little cooperation, coordination or consensus amongst universities and their libraries about what, when and how information literacy should be taught, ... adding that at some universities, information literacy has been institutionalized and courses are offered by academic departments but generic and add-on information literacy training remains largely the domain of libraries and is often credit bearing”. In

South Africa, information literacy is a need in terms of addressing past imbalances (Underwood, 2007; Esterhuizen and Kuhn, 2010). The new South African National Qualifications Framework (NQF) embraces some aspects of information literacy (collect, analyze, organize and critically evaluate information) and thus provide the Librarians with a policy framework within which to push for information literacy training (SAQA, 1997; de Jager and Nassimbeni, 2005; Esterhuizen and Kuhn, 2010). It is further noted that further impetus to formalize information literacy training has come from new requirements of the National Qualifications Framework (NQF) of the South African Qualifications Authority (SAQA) which include generic literacy outcomes known as critical cross field outcomes (CCFOs), (SAQA, 1997; Hart & Davids, 2010; Esterhuizen and Kuhn, 2010; Lockhart, 2011). The CHELSA guidelines are modeled along the ACRL (2000) standards and the module content covers six units as follows:

- Become familiar with the library and information services (LIS) to empower users to recognize their need for information and to make independent use of services, departments and sources to find information for academic purpose.
- Locate information in the library using the library homepage and in-house catalogues to retrieve and find information sources necessary for the assignment at hand.
- Select and use various information resources whether printed, electronic and/ or in multimedia format to ensure optimization of information necessary for specific academic purposes.
- Access, retrieve, evaluate and apply Internet and other electronic information for academic use.

- Identify and use various electronic databases from the electronic resources portal (ERP) retrieving scholarly information for academic and research purpose.
- Comprehend the ethical issues of copyright and plagiarism and apply the Harvard referencing method that complies with International Standards for academic purpose to support research (Esterhuizen and Kuhn, 2010).

The guidelines recognize a number of exit level and learning outcomes. The content however does not cover computer skills which are very critical for students to be able to access information in a world where it is available mostly in electronic formats. Students also need computer literacy skills for them to be able to navigate the electronic library catalogues (OPACs) to locate resources in libraries. A copy of the guidelines is attached to this thesis as Appendix H. The draft guidelines only serve as guide and are therefore not prescriptive.

4.5 Challenges of information literacy in South African institutions of higher learning

Information literacy provision in South African institutions of higher learning is confronted with a multitude of problems ranging from minor to very complex and from economic to legal impediments (de Jager & Nassimbeni, 2003; Selematsela & du Toit, 2007; Hart & Davids, 2010; Moll, 2009; Jiyane & Onyancha, 2010). The challenges, as shall be highlighted below, probably explain why the topic has been an issue of concern to many authors.

In as much as information literacy has been accepted by most librarians, the same cannot be said about their academic counterparts in most institutions of higher learning in South Africa. The lack of support and collaboration among librarians and academics has not helped either in terms of information literacy policy formulation. Most university missions and goals still cast a shadow on information literacy thereby making it difficult for librarians to move forward. It is largely believed that information skills are best learned and practiced as students undertake their real work hence the need for collaboration between the library and the faculty (Hart & Davids, 2010). The major challenge posed on information literacy emanates from the unpreparedness for university education. Most students come from poor backgrounds where the standard of education is still very poor with little or no access at all to libraries and technology (Jiyane & Onyancha, 2010; Hart & Davids, 2010; Woods & Marsh, 2007). Such students are reluctant to partake in information literacy programmes because they are largely computer illiterate. The lack of computer literacy results in low number of attendees to information literacy sessions (Stoffberg & Blignaut, 2008). In the researcher's view, information literacy skills training should be preceded by training in computer skills as a way of empowering students in proper information retrieval.

Jiyane and Onyancha (2010: 19) identify challenges related to delivery of information literacy. They also raise concerns about the lack of basic information handling skills, including basic computer skills by students who join university for the first time. The two further observed the problem faced in attracting students to attend information literacy sessions which were not mandatory. The net effect of that is very minimal development

of the students' information literacy competencies and skills. Yet another challenge related to IL delivery in South Africa is lack of appropriate facilities and resources such as computers and skilled instructors. This is as a result of shrinking university library budgets, (Jiyane & Onyancha, 2010), which in turn result in less focus on acquisition of state of the art and development of librarians as teachers (LaGuardia in Selematsele & du Toit, 2007: 120).

The lack of adequate budgets breeds other serious challenges such as keeping up to date with the dynamic ICT environment and infrastructural development of spaces such as knowledge and learning commons. Language and culture present other challenges that instruction librarians have to contend with especially in a country like South Africa, also known as the Rainbow nation because of its race, ethnic and linguistic diversities. Selematsele and du Toit (2006: 120) urge instruction librarians to 'use language flexibly in order to accommodate students, especially those whose first language is not English. With regards to culture, Selematsele and du Toit assert that cultural knowledge and cultural values are at the basis of reasoning, inferring and interpreting meanings hence librarians must acknowledge and respond to the cultures of students in order to maximize participation in information literacy instruction. Additionally, another challenge for information literacy provision is lack of home grown standards. It is only as recent as 2010 that the Council for Higher Education Librarians of South Africa (CHELSA) has developed draft guidelines for use in South Africa (Esterhuizen & Kuhn, 2010). Other than these, most academic libraries used standards developed in the Western

developed countries which may not properly fit in the local context comprising an unbalanced past.

4.6 Chapter Summary

The chapter focused on literature pertaining to information literacy in South Africa. It examined both current and historical perspectives of information literacy in South Africa. A review of the 21 public universities in South Africa was conducted and excluded Rhodes University and the University of Fort Hare whose programmes are reviewed and analyzed in chapter 6. The review revealed a measure of information literacy success at all the public universities though at various levels. Some challenges were also examined and they included but not limited to: lack of support and collaboration among librarians and academics, lack of recognition of the information literacy programmes by most university management and the general lack of information technology skills on the part of most students, which makes it difficult to impart information literacy skills to them. Lack of collaboration between librarians and faculty may result in information literacy content which does not meet the requirements of the curriculum and the needs of the students. The next chapter describes the research design, focusing on the methods that were employed to gather data for the study.

Chapter 5

Research Design and Methodology

5.1 Introduction

The study sought to analyze content of information literacy programmes offered in higher education institutions in South Africa in general and in particular at Rhodes University and the University Fort Hare. The study employed content analysis of library instruction material that was available on the institutions' library websites, questionnaires and interviews to gather data on the content of information literacy programmes, delivery methods, perceived value to superior academic success and challenges encountered.

5.2 Research design

Decisions regarding what, where, when, how much, by what means concerning a research study constitute a research design (Kothari, 2004: 31). Research design also refers to a programme that guides a researcher in collecting, analyzing and interpreting data and giving meaning to it (Ngulube, 2009). Closely related to this definition is the one given by Kothari, (2004: 31) who sees it as “the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.” The design decisions happen to be in respect of:

- What is the study about?
- Why is the study being made?
- Where will the study be carried out?
- What type of data is required?
- Where can the required data be found?
- What periods of time will the study include?
- What will be the sample design?
- What techniques of data collection will be used?
- How will the data be analyzed?
- In what style will the report be prepared?

(Kothari, 2004: 31).

These questions were answered in this chapter as part of the research design and methodology. A research design is important in that it serves as a plan that specifies the sources and types of information relevant to the research problem, a strategy specifying which approach will be used for gathering and analyzing the data and the time and cost implications of the study. The study adopted a descriptive survey research design. A descriptive research design is meant to answer questions about the current state of affairs, describing the thoughts, feelings and behaviour of individuals.

As part of the plan, the researcher developed questionnaires and interview schedules for use in data gathering. These instruments were piloted using the East London Campus of the University of Fort Hare to minimize errors and ambiguities before the main study could be conducted. The data collection process took up to three months as it involved travelling between Rhodes University and the University of Fort Hare. Moreover, some respondents kept on postponing interview schedules and the return of the questionnaires.

Once the interviews were conducted and questionnaires collected, the researcher proceeded to code and analyze the data using both SPSS version 19 and Ms Excel. Some qualitative data from the interviews and content analysis was grouped under various themes to facilitate easier analysis.

5.3 Survey Research

Survey research entails acquiring information about one or more groups of people – perhaps about their characteristics, opinions, attitudes, or previous experiences – by asking them questions and tabulating their answers. The ultimate goal is to learn about a large population, thus we might call this approach a descriptive survey or normative survey (Leedy & Ormrod, 2013; Neuman 2006: 273). Muijs (2011: 30) says “survey research is probably the most popular quantitative research design in the social sciences”. Survey research has among other strengths, the advantage of being flexible and is much easier to generalize the findings to a wider population. Muijs (2011: 39) further argues that survey studies are also efficient in terms of our being able to gather

large quantities of data at reasonably low cost and effort compared to other methods such as observation. In this regard, the researcher was able to distribute 400 questionnaires over a period of a month which is much shorter than it would have taken in an observation method. The only major cost encountered with the use of questionnaires was printing and having to travel several times to Rhodes University especially for the purpose of distributing the questionnaires and to collect them. The other advantage is that of ensuring respondents' anonymity which may lead to what Muijs (2011: 39) referred to as "candid answers than less anonymous methods such as interviews." A researcher may easily compare participants' responses.

Limitations of surveys include their rigidity to allow the researcher to control the environment since the respondents are left alone to complete the questionnaires. Muijs (2011: 39) says another limitation is that "it is difficult to come to deeper understanding of processes and contextual differences through questionnaires, which are standardized and by their nature, limited in length and depth of responses". To counter the limitations of survey research, this researcher also employed interviews and content analysis which to a larger extent, yielded qualitative information which complemented the mostly quantitative information derived from questionnaires.

5.4 Quantitative and Qualitative Research Paradigms

For more than a century, there has been debate about quantitative and qualitative research paradigms (Johnson & Onwuegbuzie, 2004). The debate centers on whether

quantitative and qualitative research paradigms can be used together in a single study. For some writers, the philosophical premises of quantitative and qualitative methodologies are considered to be incompatible, which leads them to advocate their use in parallel, each playing to its respective strengths (Denscombe, 2008: 273). However, according to Leedy and Ormrod (2013: 259) “the ways in which a researcher might combine qualitative and quantitative methods are almost limitless, restricted only by the researcher’s imagination and creativity and of course, by the nature of the research problem”. To the contrary, Muijs (2011: 3) posits that two fundamentally different world views underlie quantitative and qualitative research, describing quantitative as being realist or positivist while the world view underlying qualitative research is viewed as being subjectivist. On one hand, Muijs says realists take the view that what research does is uncover an existing reality where the researcher’s role is to use objective research methods to uncover the truth. On the other hand, he referred to qualitative researchers as subjectivists who believe in reality as something created by people mostly through observations. A close scrutiny of the two approaches on a one by one basis is given below.

5.4.1 Quantitative

The study employed a quantitative approach to analyze data gathered through questionnaires. According to Kumar (2011: 394), quantitative research “is a second approach to enquiry in the social sciences that is rooted in rationalism, follows a structured, rigid, predetermined methodology, believes in having a narrow focus,

emphasizes greater sample size, aims to quantify the variation in a phenomenon and tries to make generalizations to the population". It entails looking at amounts or quantities of one or more variables of interest and a qualitative researcher typically tries to measure variables in some numerical way, perhaps by using commonly accepted measures of psychological characteristics or behaviours such as tests, questionnaires and rating scales (Leedy & Ormrod, 2013). It explains phenomena by collecting numerical data that are analyzed using mathematically-based methods (Muijs, 2011). The purpose of quantitative research is to seek explanations and predictions that will generalize to other people and places. The focus is on establishing, confirming or validating relationships and to develop generalizations that contribute to existing knowledge (Leedy & Ormrod, 2013). Generalizability is, according to Maxwell (2012: 141), the extent to which one can extend the account given of a particular situation or population to other persons, times, or settings than those directly studied ... and is more prevalent in quantitative than in qualitative research. This study focused on two institutions of higher learning in the Eastern Cape province of South Africa. The research study used questionnaires, interviews and document analysis to gather data. The data was then analyzed using a Statistical Package for the Social Sciences (SPSS) version 19 and Microsoft excel and was presented in tables and charts.

5.4.2 Qualitative

Qualitative research is an approach that is more focused on examining people's experiences in detail by using a specific set of research methods such as in-depth

interviews, focus group discussions, observation, content analysis, visual methods and life histories or biographies (Hennink, Hutter & Bailey, 2011). It entails qualities that cannot be entirely reduced to numerical values (Leedy & Ormrod, 2013). Qualitative research is based on a philosophy of interpretivism or constructivism (Denscombe, 2008: 273). Constructivism is a philosophical view on how people come to understand a particular phenomenon (Savery & Duffy, 2001). To understand the content of information literacy at Rhodes University and the University of Fort Hare better, the researcher also gathered data through content analysis and the employment of open-ended questions on both the questionnaire and interview schedules.

5.4.3 Distinction between Quantitative and Qualitative Research Approaches

Quantitative and qualitative research approaches differ in a number of ways. According to Creswell & Clark (2011: 8), “qualitative data provide a detailed understanding of a problem while quantitative data provide a more general understanding of a problem.” Qualitative research studies a few individuals and explore their perspectives in great depth whereas in quantitative research, a large number of people are examined and responses assessed based on a few variables (Creswell & Clark, 2011: 8) On one hand, Denscombe (2010: 242) postulates that “quantitative data take the form of numbers and are associated with surveys and the use of research methods such as questionnaires and observation.” On the other hand, qualitative data take the form of words and visual images and are associated with case studies and research methods such as interviews, documents and observation (Denscombe, 2010: 242; Remler & Van

Ryzin, 2011: 12).” Below is a further illustration of the distinguishing characteristics of quantitative and qualitative approaches;

Table 4: Distinction between Quantitative and Qualitative Research Approaches

Question	Quantitative	Qualitative
What is the purpose of the research?	<ul style="list-style-type: none"> • To explain and predict • To confirm and validate • To test theory 	<ul style="list-style-type: none"> • To describe and explain • To explore and interpret • To build theory
What is the nature of the research process?	<ul style="list-style-type: none"> • Focused • Known variables • Establishing guidelines • Predetermined methods • Somewhat context –free • Detached view 	<ul style="list-style-type: none"> • Holistic • Unknown variables • Flexible guidelines • Emergent methods • Context bound • Personal view
What are the data like and how are they collected?	<ul style="list-style-type: none"> • Numeric data • Representative, large sample • Standardized instruments 	<ul style="list-style-type: none"> • Textual & / or image based data • In format, small sample • Loosely structured or non-standardized observations and

		interviews
How are data analyzed to determine their meaning?	<ul style="list-style-type: none"> • Statistical analysis • Stress on objectivity • Deductive reasoning • Inductive reasoning 	<ul style="list-style-type: none"> • Search for themes and categories • Acknowledgement that analysis is subjective and potentially biased
How are the findings communicated?	<ul style="list-style-type: none"> • Numbers • Statistics, aggregated data • Formal voice, scientific style 	<ul style="list-style-type: none"> • Words • Narratives, individual quotes • Personal voice, literary style (in some disciplines)

Adopted from Leedy and Ormrod, 2013: 96

Table 4 above further reveals that the purpose of quantitative research is to explain and predict, confirm and validate while the purpose of qualitative research is to describe and explain, explore and interpret. Using both quantitative and qualitative approaches in this research study assisted to solve the research problem.

5.5 Advantages of using both quantitative and qualitative approaches

The employment of both quantitative and qualitative data collection methods assisted in catering for the weaknesses of one method over another. Researchers such as (Babbie, 2010; Neuman, 2006; Stangor, 2011) argue that the weaknesses of the quantitative

paradigm are found in the strengths of the qualitative paradigm and vice versa. Jha (2008: 50) adds that “each approach adds to our body of knowledge by building on the information derived from the other approach,” which Jha further describes as “the premise of the interactive continuum.” Literature further reveals that neither the qualitative research approach nor the quantitative research philosophy encompasses the whole of research. Both are needed to conceptualize research holistically (Jha, 2008). Scholars (Creswell and Clark, 2011: 12; Denscombe, 2010: 138) sum up the strengths of using mixed methods by saying “it is practical in the sense that the researcher is free to use all methods possible to address a research problem” adding that “individuals tend to solve problems using both numbers and words.” This study therefore adopted mixed approaches with a view to solve problems with the content of information literacy programmes in South African institutions of higher learning. However, Creswell & Clark warns that the use of mixed methods is not the answer for every research problem as its use requires resources for extensive data collection and analysis. The researcher however strived to collect as much data as possible as a way to go round the problem of extensive data requirements.

The study gathered data through the use of questionnaires which were completed by student participants and interviews conducted with 10 instruction librarians from both Rhodes University and the University of Fort Hare. Additionally, a content analysis of mostly information from the two institutions’ libraries web pages was also conducted and it contributed to the data for the study.

5.6 Triangulation

This research study adopted a mixed approach in which both quantitative and qualitative data were collected. In triangulation, Leedy and Ormrod (2013: 102) agree that multiple sources of data are collected with the hope that they will all converge to support a particular hypothesis or theory. Triangulation is the idea that looking at something from multiple points of view improves accuracy (Neuman, 2006: 149; Denscombe 2010: 139). Neuman adds that triangulation of methods means mixing qualitative and quantitative styles of research and data to ensure their complementary strengths are enhanced. Wisker (2008: 231) contends that analysis of results and findings from a mixed methods approach can be drawn from several sources through the vehicle of several methods to ensure increased validity.

5.7 Population of the study

A population is, according to Stangor (2011: 110), the entire group of people that the researcher desires to learn about. Neuman (2006: 224) defines population as the abstract idea of a large group of many cases from which a researcher draws a sample and to which results from a sample are generalized. In this regard, Rhodes University and the University of Fort Hare were selected. The two were selected for the convenience of the researcher who was based at one of the two institutions separated by a distance of less than 100km. The two universities also used English language as the medium of communication, thereby making it easy for the researcher to study the two. It would have been very costly for the researcher to study all the 23 public

universities in South Africa because of the time scheduled to complete the study hence the focus on the two.

5.8 Sampling

In most cases, researchers do not have the resources to study the whole population and will need to sample (Muijs, 2011). A sample is, according to Neuman (2006: 219), a small collection of units from a much larger population. However, Fraenkel and Wallen (2009: 105) consider sampling as “the process of selecting the individuals who will participate ... in a research study.” A sample should produce accurate generalizations about the larger group. In this study, probability sampling and quasi-probability sampling were combined. In probability sampling, the components of the sample are chosen from the larger population by randomization: selecting a sample from the whole population in such a way that the characteristics of each of the units of the sample approximate those of the total population (Leedy, 2010). The statistics of the 2012 student population from both Rhodes University and the University of Fort Hare were established from the university registries. According to available statistics, Rhodes university had a total undergraduate and postgraduate student population of 7 435 while the University of Fort Hare Alice Campus had a combined student population of 6 958. The student population can be further broken down into faculties in the following manner.

Table 5: Sampling frame for students

Faculty	Rhodes University	University of Fort Hare	Total Population
Education	780	786	1566
Law	186	-	186
Management and Commerce	1616	1647	3263
Science and Agriculture	1984	2209	4193
Social Sciences and Humanities	2869	2316	5185
Total population	7435	6958	14393

The Law faculty at the University of Fort Hare was not considered for this study as it was based on the East London campus which served as a pilot for the study.

5.8.1 Categories of sampling

There are two major categories of sampling methods which are basically probability sampling and nonprobability sampling applicable in survey research. These can be further discussed as follows:

5.8.2 Probability sampling

According to Leedy and Ormrod (2013: 207), “every part of the population has the potential to be represented” in the sample under probability sampling. Probability sampling uses chance to select people from the population (Remler & Van Ryzin, 2011: 157). The selected sample is assumed to represent the entire population’s characteristics. In probability sampling, a researcher can make use of established statistical sample calculation methods which enable the researcher to estimate the extent to which his findings for the sample differ from the population from which it was drawn. Probability sampling involves a number of sampling techniques such as simple random sampling, stratified random sampling, proportional stratified sampling, cluster sampling and systematic sampling (Leedy & Ormrod, 2013; Remler & Van Ryzin, 2011). A researcher has the luxury to use any of the techniques depending mostly on the size of the population, among other variables. However, researchers normally depend on the cooperation and willingness of the sampled respondents to partake in the study so as to achieve a true random sample (Bell, 2010). In this study, the researcher would have wanted to make use of multi-stage random sampling and stratified sampling given the nature of the population frame where faculties and departments had different student enrolment sizes. In addition, some students were registered in more than one department and at different levels of study which made it difficult to deduce their study levels. However, the researcher’s hopes could not be fulfilled as student enrolments were only given at the faculty level.

5.8.3 Nonprobability sampling

In nonprobability sampling, Leedy and Ormrod (2013: 214) argues that “the researcher has no way of predicting or guaranteeing that each element of the population will be represented in the sample,” which is exactly the opposite of probability sampling. However, nonprobability sampling has the advantage of bridging constraints in research such as lack of resources (time, money) and difficulty in finding the population (Remler & Van Ryzin, 2011; Maree, 2007). Sampling techniques which fall under nonprobability sampling include convenience sampling, quota sampling and purposive sampling (Relmer & Van Ryzin, 2011).

In this study, quota sampling and purposive sampling techniques were employed as a way to go round the problem of unavailability of students’ statistics at the departmental level as alluded to earlier. Such information is necessary in probability sampling. Another reason why non-probability sampling techniques were used is that once permission was granted particularly at Rhodes University, the researcher was advised to collect data from willing students as it was almost examinations time.

5.8.4 Quota sampling

Quota sampling is a variation of convenience sampling and it selects respondents in the same proportions that they are found in the general population (De Vos 2011: 232) but not in a random fashion (Leedy & Ormrod, 2013: 214). Quota sampling may be at two levels; that is proportional quota sampling and non-proportional quota sampling. In

proportional quota sampling, the researcher attempts to represent the major characteristics of a population by sampling a proportional number of respondents required from each category. While in non-proportional quota sampling, the researcher specifies the minimum number of sampled units he or she wants in each category. The researcher is not concerned about having a number that matches the proportions in the population but rather the focus is on having adequate numbers in the sample (Trochim, 2006). De Vos, (2011: 233) adds that “the idea is to specify all variables in the population that are of interest to the investigation, and then see to it that each dimension is represented by at least one case.” This study therefore adopted the non-proportional technique to determine the number of respondents from both Rhodes University and the University of Fort Hare.

5.8.5 Purposive sampling

The study employed purposive or judgmental sampling in the case of selecting staff participants for the interviews. Purposive sampling allows a researcher to use his knowledge in selecting participants (Neuman, 2006: 222; De Vos, 2011: 232), for a specific purpose (Remler & Van Ryzin, 2011: 58). In this regard, a list of instruction librarians was given to the researcher who also used information on both Rhodes University and the University of Fort Hare Library websites to determine the participants who were charged with the concept of information literacy at their work places. The researcher identified seven staff members from Rhodes University Library and five of them agreed to participate in the interview study while at the University of Fort Hare

Library, all five identified instruction librarians participated in the interviews. The number of participants was limited in line with the advice raised by Remler & Van Ryzin (2011: 58) that it is important to limit the numbers “because of the more intensive, time-consuming character of qualitative data collection and analysis.”

5.8.6 Sample size

There is no one size fit all in terms of a sample size. Leedy and Ormrod (2013: 215) posit that the larger the sample, the better. Fraenkel and Wallen (2009: 106) argue that “samples should be as large as a researcher can obtain with a reasonable expenditure of time and energy”, adding that “ a recommended minimum number of subjects is 100 for a descriptive study...”. However, the sample must be a representative of the total population (Creswell & Clark, 2011: 174). Leedy and Ormrod further cite Gay, Mills and Airasian (2000) who say if a study population is “beyond a certain point (about N = 5,000) the population size is irrelevant and a sample size of 400 will be adequate.”

Using Cochran’s (1977) sample size formula for categorical data as cited by Baartllettt, et al (2001: 47) the calculation is as follows:

$$n = \frac{t^2(p)(q)}{d^2}$$

Where

t is the value corresponding to the critical value of a two sided standard normal distribution.

p and q maximum possible proportions that produce the maximum sample size and are set at 0.5

d acceptable margin of error for proportions being estimated set at 0.05.

$$n = \frac{1.96^2(0.5)(0.5)}{0.05^2} = 384.16 \sim \text{approximately } 385.$$

Rhodes University had a population size of 7 435 while the University of Fort Hare (Alice) had 6 958, giving a combined total of 14 393. The sample size is therefore 385 which constitutes 2.7% of the total population and is less than 5% of the population hence no correction for sample size is used.

However, the researcher was able to collect 387 completed questionnaires. Since the calculated sample of 385 was an approximation, the researcher preferred to use all the 387 returned questionnaires.

5.9 Data Gathering Instruments

The research study used questionnaires to survey the student participants and conducted interviews with instruction librarians about the content of information literacy. The researcher also analyzed documents using content analysis as an instrument to gather data about information literacy from mostly the two universities websites.

5.9.1 Questionnaires

The researcher used questionnaires to gather data from sampled students at both Rhodes University and the University of Fort Hare. The researcher was convinced that

the use of questionnaires was the best way to reach them. The questionnaire (Appendix F) comprised four key sections as follows; Section A: Background information, Section B: Information literacy content; Section C: Information Communication Technologies; Section D; Assessment. Section A was meant to provide background information such as level of study, language, age, gender, university of affiliation and faculty, with a view to find out if these variables had any bearing on information literacy. Section B was the major focus of the study addressing; aspects of information literacy and methods of instruction and basically covered objective bullet number 1. Section C comprised questions focusing on the impact of ICTs to address objective 4 of the study. Section D focused on assessment where objectives iii and v (on students' perceptions and contribution of information literacy to superior academic performance and challenges of information literacy) were explored.

The questionnaire consisted of mostly closed questions with a few follow up open ended questions. The closed questions yielded data that was analyzed statistically while the open ended questions yielded data that was qualitatively analyzed. Open ended questions have the advantage of allowing the respondents to freely formulate an answer, thereby allowing the researcher to discover opinions or answers that one had not thought about before. However, open-ended questions are time consuming, an issue which may discourage possible respondents from answering them. Closed-ended questions on the other hand have the advantage of allowing the researcher to analyze the results easily. However, they have a disadvantage of limiting answers to those given by the researcher (Muijs, 2011: 40). The researcher turned around this problem by

making provision for follow up questions which allowed respondents to say more about the answers given in some closed questions.

Leedy and Ormrod (2013: 191) further note that from the perspective of survey participants, respondents answer questions with some assurance that their responses will not come back to haunt them usually because of the distance between the researcher and the participants. Thus, they may be more truthful than they would be in a personal interview, especially when addressing sensitive or controversial issues. Some of the draw-backs include low return rate and the people who do return them are not necessarily the representative of the originally selected sample. Respondents' responses will reflect their reading and writing skills and perhaps, their misinterpretation of one or more questions (Leedy and Ormrod, 2012).

5.9.2 Interview Schedule

The researcher used structured interviews to complement data collected by way of the questionnaires. Interviews were conducted with Instruction Librarians from both Rhodes University and the University of Fort Hare. The Interview schedule (Appendix G) was divided into sections; A, B, C, D, and E. Section A sought to find out respondents' background information such as gender, university of affiliation, level of education, capacity of employment and work experience, and this helped to determine the appropriateness of the respondents to provide information literacy. Section B focused

on content and development of information literacy and aspects covered which basically addressed objective i. Section C of the interview guide addressed objective number ii which was on standards of information literacy. Sections D and E sought to address objectives on impact of technology and challenges of information literacy from the service provider point of view.

The interview schedule comprised both closed and open-ended questions. According to Wisker (2008: 194), structured interviews “rely on the interviewer completing a set of structured questions with multiple-choice responses, and asking questions according to the order of these questions. A structured interview has the advantage of guiding the respondents clearly, making analysis simpler, but can be very guiding and limiting, easily ignoring feelings (Wisker, 2008). The researcher included open-ended questions in order to counter the limitations of the structured interview. The sample comprised six Faculty Librarians from Rhodes University Library and four Information Librarians from the University of Fort Hare. Management at Rhodes University Library supplied the researcher with the list of Instruction Librarians while the researcher used his knowledge of Fort Hare University Library to identify the Information Librarians. According to the list of Faculty Librarians made available to the researcher, Rhodes University had more Faculty Librarians than the University of Fort Hare. Questions for the interview were identified in advance and were linked to the objectives of the study. Appointments were made to meet with the Instruction Librarians in their offices and written permission was obtained, see Appendix B and C. Responses were recorded verbatim. The interview schedule comprised questions that were analyzed both quantitatively and qualitatively. Responses to the few open-ended questions assisted to

provide additional insights into the numerical data which emanated from the more structured questions (Leedy & Ormrod, 2012). The open-ended questions comprised mostly of follow-up questions and two questions that sought any additional information on the concept of information literacy. Other qualitative information emerged from answers that required further clarification.

5.10 Content analysis

The researcher used content analysis to study documentary material that was available on the Rhodes University library and the University of Fort Hare websites. Content analysis is a detailed and systematic examination of the contents of a particular body of material for the purpose of identifying patterns, themes or biases (Leedy and Ormrod, 2012). Fraenkel and Wallen (2009: 472) describe content analysis as “a technique that enables researchers to study human behaviour in an indirect way, through an analysis of their communications.” Approaches to analyzing data in content analysis include interpretative, social anthropological and collaborative social research (Miles and Huberman (1994). This study however adopted the interpretative approach which focuses on organizing data in order to determine its meaning and relationships. The approach was mainly narrative. The other two were found not to be appropriate for this study because of their bias towards field studies and the use of people as subjects. In this study, the data gathered from content analysis complemented the data generated through the interviews with Instruction Librarians and questionnaires completed by the students from both the two institutions. This triangulation approach was adopted to

caution Krippendorff's fears that reliability and validity issues in content analysis still remain unresolved (Krippendorff, 1980).

Only content which addressed aspects of information literacy was studied in order to perform what Berelson (1952) referred to as "to describe trends in communication content." Guided by the research's aim which was to analyze information literacy content, the researcher read through documents which were available on both Rhodes University and University of Fort Hare's library websites. Themes aligned to major aspects of information literacy were identified with a view to making the analysis easier. The themes that were identified are: need definition, finding information, evaluation of information, legal and ethical use of information and communication of information.

5.11 Pilot study

When a researcher develops questionnaires or interview questions, some questions may be ambiguous or misleading and may result in un-interpretable or useless responses. To save time, one needs to ask a few respondents to answer them in a pilot study. This will help to find the weak spots and address them (Leedy and Ormrod, 2013). Andres (2012: 8) contend that the purpose of piloting is manifold; to ensure that the level of language used in the questions is appropriate and understandable to the audience; to assess whether the questions are understood as intended; to test different versions of a question; and, to determine whether the order of questions is logical and skip instructions are correct. In this regard, the questionnaire and the interview guide used for this study were pilot-tested on the East London campus of the University of

Fort Hare and the campus was eventually left out of the study sample. The researcher went to East London campus on three different occasions for the purpose of administering pilot questionnaires to students and interviewing Instruction Librarians. On the first day, 20 of the 30 printed questionnaires were distributed to students as they came to the library. The remaining 10 were later distributed and collected by a colleague. In total, 22 were returned. One Instruction Librarian of the two who took part in the pilot interview was interviewed on the first day of visit while the other one was available on the third visit. The pilot assisted in addressing ambiguous questions that were likely to trouble respondents of the actual study. During the pilot test, the researcher noted that some respondents were not familiar with the phrase; information literacy. A definition of information literacy was therefore added on the questionnaire used in the main study. With regards to interview piloting, it assisted in what Neuman (2006: 312) referred to as “examining how respondents answer questions during pilot tests.” Muijs (2011: 44) agrees that “the single most effective strategy to minimize problems is to make sure you pilot your instruments... by having colleagues read them ... and then use them with a small group of people from the population you want to sample”. The East London campus was selected for the pilot study so that the main study would be focused on the main campus which was almost similar in size with the other study site, Rhodes University.

5.12 Reliability and Validity in Research

On one hand, reliability is the consistency with which a measuring instrument yields a certain, consistent result when the entity being measured has not changed (Denscombe, 2010) while on the other hand, the validity of a measurement instrument is the extent to which the instrument measures what it is intended to measure (Leedy and Ormrod, 2012; Denscombe, 2010). Both validity and reliability show the extent to which error may occur in the measurement. Major questions to be asked under reliability and validity respectively are:

- Would the research instrument produce the same results on different occasions (all other things being equal)?; and,
- Are the data the right kind for investigating the topic and have they been measured correctly? (Denscombe, 2010: 298).

For a researcher to be able to draw meaningful conclusions from the data gathered, the instruments used to generate data must have both validity and reliability for its purpose. The researcher had wanted to audio-record the interviews with Information Librarians but this proved difficult as they were not comfortable with being recorded. The researcher then resorted to simply writing notes as the interviews proceeded. Some quotes of the participants from both the interviews and the questionnaires were used in the thesis in order to ensure that the true conversations were reflected.

5.13 Response rate

Response rate is the percentage of the people who participate in a survey research (Leedy and Ormrod, 2013). A total of 387 questionnaires were returned from students at both Rhodes University and the University of Fort Hare. Rhodes University had a return rate of 40.8% (158) while the University of Fort Hare 59.2% (229). A self-introduction letter (see Appendix E and F) was attached to the questionnaire requesting for the respondents' consent. On average, the questionnaire took about 30 minutes to complete.

The researcher also interviewed 10 instruction librarians. The University of Fort Hare had five information librarians who took part in the interview while Rhodes University had five respondents also. An interview consent form was also signed by the interviewees. On average, the interview lasted for about 30 to 40 minutes. Both the questionnaire and interview schedules were distributed as hard copies.

5.14 Problems encountered during data collection

The researcher was fortunate enough to be based at the University of Fort Hare, which formed part of the study sample. It is widely believed that survey research respondents have little or nothing to gain by answering and returning the questionnaire and so many of them usually do not return them (Leedy and Ormrod, 2013). Indeed, questionnaires presented a big challenge to administer particularly at Rhodes University. Once

permission was granted by the responsible Rhodes University officials, the researcher faced problems of lack of cooperation by staff members who were supposed to avail themselves for the interviews as well as assisting with the administration of the questionnaires to students. A list of instruction librarians together with their contact details was emailed to the researcher by the university authorities to facilitate communication. Five instruction librarians responded positively. One of the targeted librarians referred the matter to a subordinate who eventually participated in the interview. Once the researcher visited the Institution for the third time, he was told at that level that it was difficult to distribute questionnaires to an over-researched group of students. After convincing the officials that the researcher would not force anyone to take part in the study, a number of suggestions were given for the researcher to consider including inviting and asking students if they were willing to participate in the research study. The challenge strengthened the researcher's resolve to get the questionnaires distributed. Senior students who worked as tutors volunteered to assist and were allocated questionnaires to distribute according to faculties. The researcher trusted the senior students as responsible students since they worked as tutors who were respected by their peers. The questionnaires distributed at the University of Fort Hare presented problems in terms of return of some of them. In the end, the return rate was encouraging though. With regards to interviews conducted at the University of Fort Hare, only two instruction librarians took their time to accept the interview citing pressure of work but they eventually co-operated.

5.15 Data analysis

Data collected through questionnaires, semi-structured interviews and content analysis were scrutinized for consistency and reliability. In addition, the data gathered through questionnaires and interviews were analyzed using both Ms Excel 2010 and the Statistical Package for the Social Sciences (SPSS) version 19 as was applicable. The data were eventually transferred to Ms Word 2010 for presentation as graphs.

The data that were gathered from the libraries' webpages was analyzed manually by organizing it into various themes. Some follow-up and open-ended questions from both the questionnaires and interview schedules, also yielded data which the researcher analyzed manually by content analysis.

5.16 Ethical considerations

Most research studies in the social sciences involve the use of human beings as subjects for investigation. Leedy and Ormrod (2013: 104) advise that whenever human beings or other creatures with the potential to think, feel, and experience physical or psychological distress are the focus of investigation, researchers must look closely at the ethical implications of what they are proposing to do. Leedy and Ormrod go on to cite four categories of ethical research namely; protection from harm, voluntary and informed participation, right to privacy, and honesty with professional colleagues (Babbie, 2010; Neuman 2006).

The study involved gathering data on information literacy from students and instruction librarians at Rhodes University and at the University of Fort Hare. The researcher therefore had to seek permission to conduct research on the two institutions in compliance with the Human Science Research Council's (HSRC) guidelines on research studies involving human beings (HSRC, 1997). After the proposal for this study was approved by the Faculty of Social Sciences and Humanities Higher Degrees Committee at the University of Fort Hare, the researcher applied for a clearance certificate from the research ethics at the same university. This was granted and is attached in this study as Appendix D. Formal requests to conduct research at the two institutions were done with the expert assistance of the supervisor (see Appendices A).

Once approval to conduct the study was granted on either side, the researcher sought to obtain potential participants' informed consent by drafting and attaching a letter to the questionnaire which sought to introduce the researcher and also spell out the purpose of the research. Leedy and Ormrod (2013: 105) stress that participants or legal guardians in the case of children and certain other populations must know the nature of the study and grant written permission. In line with this, an informed consent form was attached to both the questionnaire and the interview schedule. The consent form covered the following areas which are articulated by Leedy and Ormrod (2013: 106) as follows:

- A brief description of the nature and goal(s) of the study written in simple English language
- Duration of participation

- A statement indicating that participation was voluntary and could be terminated at any time without penalty
- A description of how institutions of higher learning in South Africa would benefit from the study
- A guarantee that supplied information would remain confidential and anonymous
- The researcher's contact details including contact numbers in case participants needed to clarify something; and,
- Provision for participants to sign and date the letter, indicating agreement to participate

With particular reference to the right to privacy, Stangor (2011: 51) and Neumann (2006: 139) agree that privacy of all participants need to be respected. A name of a participant can only be released with his or her consent in writing (Leedy and Ormrod, 2013). Privacy in the study was at two levels namely anonymity and confidentiality where the researcher made sure nobody was able to identify the participants' names and that given information was not disclosed to any other person not directly involved with the study. More specifically, participants were assured of respect of their privacy.

With regards to honesty with professional colleagues, the researcher sought to be as honest as possible and undertook to report the findings without misrepresenting any facts or misleading anyone about the nature of the findings. Leedy and Ormrod (2013: 108) reinforce that under no circumstances should a researcher fabricate data to support a particular conclusion, no matter how seemingly noble that conclusion might be, adding that such an action constitutes scientific fraud. Scientific fraud is according to Neuman (2006: 130) falsifying or distorting the data or the methods of data collection, or

plagiarizing the work of others. To avoid the temptation of plagiarism, the researcher acknowledged all the ideas taken from other research products. Leedy and Ormrod (2013: 108) refer to it as giving credit to where it is due, adding that honest researchers do not hesitate to acknowledge their indebtedness to others.

The findings of the study would be made available to the two institutions which participated in the study as a way of ensuring the rights of the participants to be informed. This would also assist the two institutions which participated in the study, to inform their information literacy policies and practices. Journal articles would also be written based on the findings of the study as a way of communicating the results to the scholarly community (Bless, Higson-Smith and Kagee, 2006).

5.17 Chapter Summary

This chapter described the survey research methodology that was used in the study. The study employed both quantitative and qualitative research in which interviews and questionnaires were used to gather data, in addition to content analysis. The data collection procedures and problems encountered in the field were also highlighted. Data analysis as well as ethical considerations was clearly articulated. The next chapter focuses on data presentation and interpretation.

Chapter 6

Data Presentation, Analysis and Interpretation

6.1 Introduction

The previous chapter outlined how the researcher gathered data for the study. The purpose of this current chapter is to present, analyze and interpret data that was collected using content analysis, interviews and questionnaires. The gathered data was both quantitative and qualitative in nature and this worked well for the study as the two approaches complimented the weaknesses of each other. The major aim of the study was to analyze content of the information literacy programmes at Rhodes University and the University of Fort Hare. For the study to remain focused, this chapter was guided by the study's research objectives which were as follows:

- To find out aspects of and instruction methods which were covered in the information literacy programmes at Rhodes University and the University of Fort Hare and their relevance to students' academic success.
- To find out information literacy standards which were used by both Rhodes University and the University of Fort Hare.
- To determine perceptions of students on the contribution of information literacy instruction to superior academic performance.
- To establish the impact of ICTs on the provision of information literacy at Rhodes University and the University of Fort Hare.

- To identify constraints that impinged on information literacy instruction best practices and suggest content that may inform policy-formulation on information literacy programmes in South African institutions of higher learning.

What follows, is the presentation, analysis and interpretation of data based on each instrument used to gather data.

6.2 Content analysis

This study sought to analyze content of information literacy programmes in South African Higher Education Institutions focusing particularly on Rhodes University and the University of Fort Hare. This section of the study therefore looked at mostly links on the two universities' websites which advanced the topic of information literacy. As aluded to earlier, the content analyzed was broken down into the following themes; recognition of information need, finding information, evaluation of information, legal use of information and communicating the information. This made the analysis easier. The course was based on the Cape Higher Education Consortium (CHEC) Information Literacy prototype and developed as an initiative of the South East Academic Libraries Systems (SEALS) Consortium Information literacy project to which both Rhodes University and the University of Fort Hare belong as key members. The module was available on the University of Fort Hare library website (www.ufh.ac.za/library) and a further guide was found on the Rhodes University website (www.ru.library.ac.za see Appendix I) but was specifically designed for Rhodes University's extended programme. The Rhodes

University programme differed slightly from the one available on the University of Fort Hare in that it started with a welcome to the Rhodes University library accompanied by a virtual tour of the library. The rest of the aspects were similar to the one on the University of Fort Hare website.

The skills which students were expected to have after undergoing the course include the following:

- Ability to define their need for information;
- Ability to find the correct information;
- Information evaluation skills;
- Understanding of the legal and ethical implications when using information, and;
- Ability to communicate the information effectively.

These skills were in conformity with those propounded by ACRL in 2000.

6.2.1 Requirements

For students to be able to do the course, they were required to have computer skills that include the use of the mouse, keyboard, and to understand what a browser is and how to navigate between web pages. Beherens *et al* (1999: 173) advises that “before you try to use electronic information sources, you may need to acquire some basic computer skills.” According to Beherens *et al*, the skills include “learning how to log on to a

computer, how to use a keyboard, how to type, how to use a mouse, how to follow instructions, provided by the software, how to print out a document, how to download and how to save a file.” However, there is no mention in the module as to who should provide these critical computer skills to the needy students.

The themes that emerged from the content analysis are discussed below;

6.2.2 Recognition of information need

This implies that students need to first of all; recognise their need for information and seriously think about the need. This is what Eisenberg and Berkowitz (1987) referred to as task definition under which the problem will be identified together with information requirements. Kuhlthau (1991) perceived recognition of need as initiation under which the information seeker selects and investigates information on the general topic. ANZIL (2004) referred to the theme as recognition of need for information and to determine the extent of information needed. Beherens *et al* (1999: 20) posit that one needs to pause a bit and “think about why you need information,” when faced with a situation where a decision should be taken. Information would be very necessary where one’s knowledge base requires expansion in order to make the required decision or solve that particular problem (Beherens *et al*, 1999: 20).

The module provides that once the need has been realised, students are required to read about the topic and begin to define keywords. At this stage, the module also provides that students need to be aware that some information resources are free while

others are at a cost. The module further provides that students will know that they need information when they receive an assignment from a lecturer, have a personal need that requires certain information before they can make a decision and generally whenever one is not certain they can find information that will help one take the correct decision.

6.2.3 Finding information

This theme covers techniques of searching using Boolean logic, truncation/ wild cards, and phrase searching. This theme is also step number 2 of the Big6 model propounded by Eisenberg and Berkowitz (1987). The theme covers information finding tools and systems such as the Online Public Access Catalogue (OPAC), databases, Web-bridge, the Internet, and the Dewey Decimal Classification (DDC) System. OPAC assists students to find items that are contained in the library while databases provide students with cutting edge information sources. The DDC System facilitates the proper location of required items either in the physical library or on the virtual library. The theme (finding information) further covers information sources such as dictionaries, encyclopaedias, grey literature, broadcast media, atlases, conference proceedings / reports, almanacs and yearbooks, books, periodicals / journals, newspapers, audio-visual materials, the Internet, maps, Government publications, standards, museums and archives. Myburgh (2005: 36) describes the theme as “information retrieval which mostly revolves around Boolean searching on databases such as that provided by dialogue, and more recently using search engines on the Internet.”

6.2.4 Evaluating information

It has been widely acknowledged in this study that there is an information explosion particularly on the web due to increased technology (Julien, 2000; Pattar & Kanamadi, 2010). This has resulted in students getting overwhelmed by the volume of information that they find online and this makes this theme on evaluation of information very critical. The theme takes care of the following critical attributes of information; fact versus opinion, currency, authority, audience, publishing body, popular versus academic, primary versus secondary sources, critical reading, elimination of irrelevant information, Internet, CARS (Credibility, Accuracy, Reasonableness and Support) checklist. Concerning authority, Pattar and Kanamadi (2010: 105) point out the availability of information through multiple media formats pose authenticity challenges. In this regard, students are therefore encouraged to answer the following questions with regards to the authority of the information:

- Who is the author of the information?
- What are the credentials of the author, e.g qualifications?
- What else did the author publish, especially in the same field?
- Is the author in any way biased?
- Is the information written by a person who is a specialist in the field of concern or is it merely someone's hobby or opinion?
- Is the content verified, reviewed or peer-reviewed in any way?

- If the information is published by an organisation, is that organisation recognised and reliable source / authority?

With regards to audience, when authors write, they do so with a specific audience in mind. Beherens *et al*, (1999: 218) assert that “when we write, we always write for a particular audience or readers”. A read through the preface of a book would therefore assist in determining the target audience. Modern search engines also indicate the targeted audience of certain information.

Evaluating information also focuses on critical reading which is described in the module as concerned with understanding what the author is saying, following his or her argument and looking for evidence that support the author’s viewpoint. Myburgh (2005: 41) contend that “reading is quite rightly viewed as a beneficial activity for a number of reasons” which may include leisure and academic. Students are urged not to believe everything that they read but rather, check for logic. Students need to begin their reading by skimming the material which entails reading the introduction, summary, conclusions, and headings and highlight the important items. They are further encouraged to determine the purpose of the text and make judgements about the context and end by examining the evidence as a way of unpacking the statements given.

The theme also focuses on the Internet which appears to have promise as a means to disseminate information and enhance communication, and facilitate a wider range of interactions (Baker *et al*, 2003: 240; Hope *et al*, 2001: 13). The module acknowledges that there is a plethora of information to use on the Internet for assignment purposes but

goes on to warn that students need to take cognisance of the fact that there is also an overabundance of garbage on the Internet. The module therefore encourages students to analyse web resources before using it for assignments. Pattar and Kanamadi (2010: 105) posit that “increasingly information comes unfiltered (and) this raises questions about authenticity, validity and reliability.” Myburgh (2005: 36) posit that “information can be evaluated in terms of authority, currency, and completeness.”

On the whole, the theme addresses the qualities that should be used when evaluating information.

6.2.5: Legal use of the information

With regards to legal use of information, Simmons (2005: 300) argues that “while most librarians probably would like to emphasize this standard five of the ACRL standards into information literacy practices, it tends to be reduced to a brief warning about plagiarism in 50-minute information literacy sessions.” The available module provides that students need to know the legal implications for them to best use the information found. The proliferation of information mostly through the Internet presents significant benefits for users. However, Hodge *et al* (1999: 1466) argues that “it also presents new legal challenges in 3 interconnected areas: privacy, reliability and quality, and tort-based liability.” Students need to be aware of the concept of plagiarism and its consequences. In particular, the theme covers areas such as what plagiarism is, what a paper mill is, detection tools, SA copy right law, practical tips, own versus others’ work.

The University of Fort Hare module describes plagiarism as the use of ideas, words or findings of others without acknowledging them as such. It further asserts that plagiarism can take various forms and can either be blatant theft or accidental borrowing. As examples, a student may submit an assignment done by another student or from a paper mill as their own. A student may also pay another student to write an assignment and hand it as their own. Furthermore, a student may copy and paste sections from someone else's work and add it to their work, without acknowledging the source. Students are also encouraged to guard against the use of paper mills which are basically web sites that provide Internet users with completed assignments which they may easily convert and make them appear as their own.

6. 2.6: Communicating information

This theme is broken down into several parts that include: how to write an essay or assignment, tips for presentations, tips for designing a poster, tips for designing a brochure, tips for displays, e-communication guidelines, writing styles and ends with a quiz. Students need to be taught how to write in an academic context (Wright, 2006; Chimbganda, 1998). The information literacy module on the University of Fort Hare Webpage reveals that, students are taught on best ways to consult information sources of various kinds which may include books, periodicals, audio-visual material and the Internet. The theme further introduces students on how to read and make notes for their assignment including how to cite in-text. This also includes how to compile a list of bibliography from the consulted sources using referencing styles such as Harvard and

APA. Students are also familiarised with the concept of writing as a process in which the theme takes them through writing the first draft, revising the assignment, writing the final draft, collating the assignment, and checking the final draft.

6.5 Interview Results

This section of the chapter provides the results of the study by comprehensively examining every section of the interview schedule. The structured interview schedule comprised five sections. Section A provides biographical information of the study sample while section B provides information on the content of information literacy. Section C provides information on benchmarking of information literacy while section D provides information on assessment of information literacy and section E provides information on challenges and solutions. Interviews were conducted with selected Faculty / information Librarians to compliment data gathered through content analysis and questionnaires distributed to student participants. The instruments addressed various parts of the research objectives and sought to provide information from various angles.

6.6 Section A: Biographical Information

The purpose of this section was mainly to provide and present the demographic characteristics of the respondents which entail gender, age, and employer, capacity of employees, highest qualification and work experience

The majority, 6 (60%) of the interview participants were females while 4 (40%) constituted the male component of the respondents.

6.6.1 Distribution of respondents by age

Universities comprise staff whose age groups start from about 20 years up to 63 or 65 which is normally the retirement age. The tender age of about 20 or so is normally a ripe age in terms of productivity at work while those that are in their 50s play a guidance role to the young ones.

The results show that most respondents, that is 4 (40%) of the respondents were 42 years or above followed by those who were in the minus 30 – 35, and 36 – 41years, each constituting 3(30%) of the respondents. This implies an age range of a very productive group who can easily design and impart information literacy skills to students. The results show that the respondents participated equally, which means that 50% of the respondents were employed by Rhodes University, and 50% by the University of Fort Hare.

6.6.3 Employment capacity

Instruction librarians are usually recruited at various levels depending on the organogram and nomenclature used by an organization. At Rhodes University, instruction librarians were generally referred to as Faculty Librarians while at the University of Fort Hare, they were described as Information Librarians.

Most interviewees who participated were at the grade of librarian with 5 (50%), followed by information librarians with 2(20%) and 2 (20%) faculty librarians. However, 1 (10%) was at the Assistant Librarian grade. This implies that nine were full librarians while one was at the Assistant Librarian grade. As already alluded to, the instruction librarians were described as either Faculty Librarians or Information Librarians. However, for the purpose of this study, they were all considered as librarians responsible for information literacy. The distribution of responses suggests a fair representation of the librarians involved with information literacy at the two university libraries.

6.6.4 Distribution of respondents by qualifications

Qualifications reveal the intellectual capacities of the interviewees. This has a bearing on the manner in which the instruction librarians handle information literacy content in terms of development and presentation and the way they provide answers during the interviews.

Most people who participated in the study held Honors Degrees with 8(80.0%), followed by Postgraduate Diploma with 1(10.0%) and a further 1(10%) occupied by a participant who held a Bachelor of Information Degree. This implies that all the instruction librarians who took part in the study had at least a degree in library and information science and therefore had potential to speak authoritatively on the concept of information literacy. It also implies that there was a measure of some respect for them since they were all graduates.

6.6.5 Work experience

Work experience and educational qualifications normally go hand in hand. In fact, work experience has to be strengthened by the right qualifications. For instruction librarians to speak authoritatively about information literacy, they need to have both the right experience and qualifications.

A significant number of participants, that is, 4(40%) had more than 10 years of work experience followed by participants who had 2 to 5 years of work experience with 3(30.0%). The result also indicates that 2 (20%) of the participants had 6 months to 2 years of work experience while 1(10%) had 5 to 10 years of work experience. This reflects fairly experienced instruction librarians with capacity to develop and integrate information literacy into teaching and learning.

6.7 Section B: Information literacy content

The purpose of this section is mainly to provide and present the information literacy content which the interviewees indicated as being covered at their respective libraries. The opening question on this section sought to find out if the selected interviewee was involved in the designing and teaching of information literacy skills.

All the participants confirmed that they were involved with information literacy instruction at their respective library. This question assisted the researcher to proceed with the interview as this confirmed the correct selection of the participants.

Most participants 9(90%) indicated that librarians were responsible for the development of information literacy while 1(10%) indicated that librarians and lecturers were all responsible. This suggests that librarians developed the content of information literacy on their own without any input from students or lecturers. One response which indicated that information literacy content was developed by librarians and lecturers implied that lecturers who cooperated with the library in the instruction programme had a contribution on the content.

6.8 Aspects of information literacy

Faculty / Information Librarians from both Rhodes University and the University of Fort Hare were interviewed to determine the aspects of information literacy that they covered in their information literacy programme. Respondents answered the question from different dimensions ranging from the basic orientation to the library up to advanced skills in finding and using information. More specifically, respondents revealed that they covered aspects such as orientation to the library, reference sources, interpreting a reading list, information searching skills, OPAC, evaluation of information sources, how to use information, collating and communicating the information, plagiarism and copyright, databases and setting up of off-campus access. This suggests conformity to internationally developed standards such as those by the ACRL and SCONUL. Respondents also indicated that they did not teach computer literacy although it was evident that students needed it.

It is quite evident that answers given varied from one respondent to the other. However, a closer look at their answers reveals some relatedness and commonalities in them. For example; aspects such as orientation, OPAC, evaluation of information and databases feature prominently in the answers. The commonalities may suggest a common source of authority for their answers by way of a standard information literacy programme.

6.9 Programme integration into the curriculum

Literature reviewed for this study reveals a wide range of information literacy practices (Jiyane & Onyancha, 2010; Idiodi, 2005; Pattar & Kanamadi, 2010). Some such scholars argue for integration while others are for stand-alone and credit-bearing information literacy programmes. Shenton and Hay-Gibson (2013: 172) argue that information literacy skills are used to benefit the work in other programmes. This implies that the two scholars argue for integrating information literacy programmes into various courses for the benefit of those courses.

Interviewees were asked if their information literacy programmes were integrated or embedded within course programmes.

The majority, 5(50%) of the interviewees said it was integrated or embedded while 4(40%) indicated that it was not. However, 1(10%) was not sure if the programme was integrated or not. Generally, the interviews revealed that the information literacy

programmes at the two institutions had some measure of interestedness while at the same time not credit-bearing. For instance; Rhodes had a six week programme for the extended programme while the University of Fort Hare had some measure of integration of their information literacy programme into the Life, Knowledge and Action (LKA) unit which cuts across all faculties of the university focusing on first years. Both programmes at Rhodes and the University of Fort Hare were formally assessed with the libraries' information literacy, contributing to the assessment marks.

6.10 Section C: Benchmarking of information literacy

The purpose of this section is mainly to provide and present the information on the benchmarking of information literacy of the respondents. Benchmarking provides information on best practice from industry leaders (Daft, 2010, Daniel, 1996). It encourages standardization of services (Poll & Payne, 2006). Interviewees were asked if they benchmarked their information literacy programme.

The majority, 7(70%) of the interviewees who took part in the study said they benchmarked their information literacy programme while fewer 2 (20%) said they did not benchmark. The tenth interviewee was not sure if their information literacy programme was benchmarked. The responses portray a very health situation where the majority said their information literacy programme was benchmarked against others. This ensures quality which according to the observations of the researcher has become one of the major issues in South African higher education discourse.

6.11 Information literacy standards

Information literacy standards serve as guiding principles for instruction librarians. They provide a mechanism by which students become lifelong learners and critical thinkers (Marcoux, 1999: 13). Most of the information literacy standards available in the literature are based on the ACRL developed in 2000. The question on which standards was in use at the interviewees' libraries presented a challenge to most of the participants. One of the participants revealed that they used the CHELSA information literacy standards which were recently initiated by the academic libraries in South Africa. The CHELSA guidelines were not in any way prescriptive but they serve as a guide for the conduct of information literacy.

They were benchmarked against local and western programmes such as those of the Tshwane University of Technology and Cape Peninsula University of Technology and ALA's ACRL. One of the interviewees indicated that they used standard 1,2,3 and 4 of the ALA. The four standards are as follows:

- The information literate student determines the nature and extent of the information needed.
- The information literate student accesses needed information effectively and efficiently.
- The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge.
- The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose (www.ala.org).

However, 2 (20%) of the interviewees were not sure of the information literacy standards that were used, including 1 (10%) who also said there were no standards used. This suggests a need for library authorities to engage with instruction librarians on the standards used as this was very important for them to know.

6.12 Section D: Assessment of information literacy

The purpose of this section was mainly to provide and present the information of the respondents to the interview questions on the assessment of information literacy. Assessment of information literacy skills is generally an issue of concern to many librarians (Walsh, 2009). In most cases, instruction librarians just teach without some form of measurement to test their efforts. Of late though, librarians and libraries have been faced with challenges of demonstrating their value to universities, therefore, assessment of information literacy skills could provide a good basis to demonstrating value to faculty and students' work. Interviewees were asked if they used any assessment methods in their practice of information literacy. The interviews yielded a variety of answers from which it was clear there was some measure of assessment of information literacy skills.

Two (20%) of the interviewees indicated that they used quiz, test and practice. Others revealed that they gave the students homework and short answer questions. It was also observed that others used verbal questions to test students' understanding during session times, formal examination, online tests, multiple choice, mandatory pre/post session readings and group discussions. However, 2(20%) of the interviewees indicated that there were no standardized methods whereas 1(10%) said they did not remember using any assessment methods.

6.13 Technology for assessment

Advances in technology have enabled and facilitated easier methods of assessment. Instructors are now able to assess students' work using computer packages such as the ordinary Microsoft word and specialized commercial software packages such as Blackboard. It was clear from the interviews that the two libraries studied had embraced technology for assessment.

The majority, 6(60%) said yes they used technology while 4 (40%) said they did not use any technology. The fact that the information literacy programmes were not necessarily stand-alone and credit bearing might justify those who said they did not use any technology. Interviewees further revealed that it was difficult to assess using technology since students were released for library instruction for very limited time slots.

As a follow up question to those who said they used technology to assess, interviewees were further asked to reveal the technologies that they used. They gave various answers as narrated below.

Four (40%) of the participants revealed that they were not using any technology while the rest were using RUconnected, Moodle, Doodle and other computer packages. This further reveals that indeed technology was used to assess information literacy skills.

6.14 Feedback on the impact of information literacy

The researcher further sought to find out if faculty information librarians received any feedback from students on the impact of information literacy. From the researcher's perspective, feedback helps librarians to know exactly the areas of strengths and weaknesses which they can work on. In any case, information literacy training should be more engaging just like other university courses. Engaging with students during instruction encourages critical thinking, which is one of the goals of information literacy. The responses about feedback from students on the impact of information literacy on their work are further discussed below.

The majority 8(80%) of the interviewees received feedback on the impact of information literacy on students' work although 2(20%) said they did not receive any feedback. The high number of those who said they received feedback concurs with the students' responses in the questionnaires where 53% of the respondents revealed that information literacy had high impact on their work.

6.15 Competencies expected of students who have undergone information literacy skills training

Competencies are the abilities of students to handle information when writing assignments, doing research projects, presentations and many other areas in pursuit of superior academic standards. Normally, the abilities would be in relation to the

objectives of the information literacy module. The researcher has observed that students possess different levels of skills with regards to handling information. Some have advanced skills while others do not have even basic information handling skills. Question 17 of the interview guide sought to find out the expected competencies of students who would have undergone information literacy training. A wide range of answers emerged from the interviews. Three (30%) of the interviewees indicated that students were expected to make effective use of the library. This implies that once students have been trained, chances are that they will know how to locate library resources of all formats and are likely to frequent the library because they know how and where to find required information unlike those who would not have been trained. This view was supported by other interviewees who thought that students would be able to assess their information needs by being able to answer the question how much and what type of information is needed. In addition, interviewees felt that students would be able to search, using search aids such as the OPAC, to locate needed information.

Yet another competency that was revealed by the interviewees was the ability to match information sources to one's need. The researcher, through practice, has discovered that students at times fail to match the information that they are given by librarians with the assignment at hand. This may imply a lack of understanding of the assignment topic, including lack of evaluative skills. Other competencies that were revealed during interviews include the ability to construct search strings and the ability to evaluate information retrieved to ensure quality. This will entail the use of Boolean logic and mind maps to put in correct keywords that will yield desired results. The researcher has

encountered some students who, because they are not able to develop correct key words, give up searching scholarly articles from information databases and resort to using general search engines such as google.com. The ability to use information ethically and legally was also cited as one of the competencies of students who will have undergone information literacy skills training. In this regard, students are expected to cite and reference information obtained from other scholars' work using prescribed reference styles such as Harvard and the American Psychologists Association (APA). The interviews further revealed that students are expected to become critical and analytical thinkers and be able to recognize information literacy as a prerequisite for lifelong learning. With regards to independent and lifelong learning, interviewees said that 'students become very independent compared to those who have never attended'. More competencies that were reported by the instruction librarians include the ability to incorporate information into one's knowledge base; communicate it effectively and economically; classify, store and manipulate information. However, some of these abilities take a long time before they can show in students.

6.16 Section E: Challenges and solutions

The purpose of this section is mainly to provide and present the challenges and solutions presented by the respondents. Most articles on information literacy reviewed for this study indicate a myriad of challenges associated with information literacy in higher education. Interview participants to the study were asked if they encountered any challenges in information literacy and below, are their answers.

All interviewees who participated in the study encountered some challenges in the provision of information literacy. This suggests that university authorities in general and library directors in particular have some work to do in order to address those challenges as revealed by the unanimous assertion that challenges were there.

Forty percent of the interviewees revealed that they encountered lack of cooperation from both lecturers and students and poor Internet connection as major challenges while 1(10 %) faced challenges such as difficulty in introducing first year students to the use of OPAC. In addition, 1(10%) encountered poor information literacy class attendance while another one (10%) said information literacy was not taken seriously by the academics and one (10%) of the participants said students responded to information literacy workshops when the lecturer was involved. One (10%) of the interviewees said they encountered difficulties in knowing where to pitch the lesson while another one (10%) said information literacy was not incorporated into the curriculum, and was therefore difficult to enforce to students.

6.17 How the challenges could be overcome

There were a number of suggestions on how to overcome the identified challenges of information literacy development and provision. It was firmly suggested that the challenges needed to be addressed on an individual basis rather than making assumptions.

This suggests that there was a possibility that librarians generalized their perceived challenges to all students instead of identifying the real sources of problems. Yet another one suggested that the solution was to embed information literacy in the curriculum modules as a way of making it compulsory to students. Collaboration between lecturers and librarians was also suggested as a possible solution to the challenges. If librarians continued to work on information literacy alone, they would supposedly continue to find it difficult to make inroads into the curriculum.

Other suggested solutions included requesting university authorities to increase bandwidth as a way to do away with slowness in downloading required information from online sources. The need for clear cut policies recognized by the university authorities was also pointed out as a possible solution to the challenges hindering the success of information literacy. This suggests that the policy would address most of the challenges cited above.

Two (20%) of the interviewees said information literacy programmes should be fully embedded within the curriculum and information librarians should strengthen cooperation with academics. Another one (10%) said they were still trying to find the right solution to the challenges while 1(10%) said they have to introduce library...and 1(10%) also suggested strengthening relations with academics and students and dedicate reliable internet connection. One (10%) said stakeholders should recognize the need for the programme and administrators should provide required resources while another one (10%) suggested that the Internet bandwidth needed to be increased and that faculty needed also to acknowledge the importance of the programme. One (10%)

also said librarians needed to market the programme vigorously suggesting it as a way to get the buy in of all the stakeholders, students and academics included.

6.18 Any other information

Interviewees were asked if there was anything else that they would like to bring to the attention of the researcher with regards to information literacy programme content and its relevance to student needs. One suggested that the information literacy programme offered to the extended programme mostly in the case of Rhodes University was worthwhile and suggested that the programme could be extended to all students. This may suggest that the librarians got positive feedback from those trained on the benefits of information literacy to students' academic success. Yet another suggestion was the marketing of the information literacy programme with a view to win the hearts of the target market. In this regard, the researcher assumes that if the content is properly crafted with students in mind, then the programme will market itself.

In addition, instruction librarians wanted also to have access to students' scripts and results for assessment purpose. One interviewee revealed that more time was needed to be spent on the area of formulating searches and using research databases. This implies that there was feedback or observed need to that effect. Another interviewee bemoaned the lack of school libraries as students were found to be lacking basic library skills such as the use of OPAC. One respondent implored the researcher to take note of the given challenges and make recommendations on how they could be solved.

6.19 Questionnaire results

The purpose of this section of the study is to analyze, present and interpret data that was gathered from students through the questionnaires. The questionnaire sought to find out the aspects of information literacy that were covered in their programmes and to determine the instruction methods that were in use. It also sought to find out how students perceived information literacy and the contributions it made to their academic success. Every aspect of the questionnaire was developed in relation to the objectives of the study. The questionnaire comprised four sections. Section A focused on the biographical information of the respondents while section B looked at the information literacy content. Section C focused on Information Communication Technologies while section D looked at assessment as presented below.

16.19 Respondents' level of study

Participants for the study were drawn from all the levels of study at both Rhodes University and the University of Fort Hare. This ranged from first year right through to doctoral students. It was assumed that students at various levels of study would have different perceptions about the concept of information literacy hence it was necessary to identify participants from all the levels of study. The majority (19.9 %) of the respondents were recorded from the second year level students followed by first years with 19.4%; third years, 13.2%; fourth years, 12.7%; Honours, 15.2%; Masters, 11.4%; Postgraduate diploma, 4.1%; Doctoral, 4.1%. Table 9 below gives a summary of the levels of study of the respondents.

Table 9: Education level (N = 387)

Level	Frequency	Percentage
first year	75	19.4
Second year	77	19.9
Third year	51	13.2
Fourth year	49	12.7
Post-graduate Diploma	16	4.1
Honours	59	15.2
Masters	44	11.4
Doctoral	16	4.1
Total	387	100.0

6.20 Respondents' home language

Home language could have an influence on students' information literacy skills. From the researcher's experience with students, those who use English language as their home language tend to have better information search skills as they command a lot of good vocabulary. Being able to use the language used in a database is a requirement for successful direct content access (Cosijn, *et al* 2002; Fourie, 2003). Figure 11 below reveals the home language of the respondents.

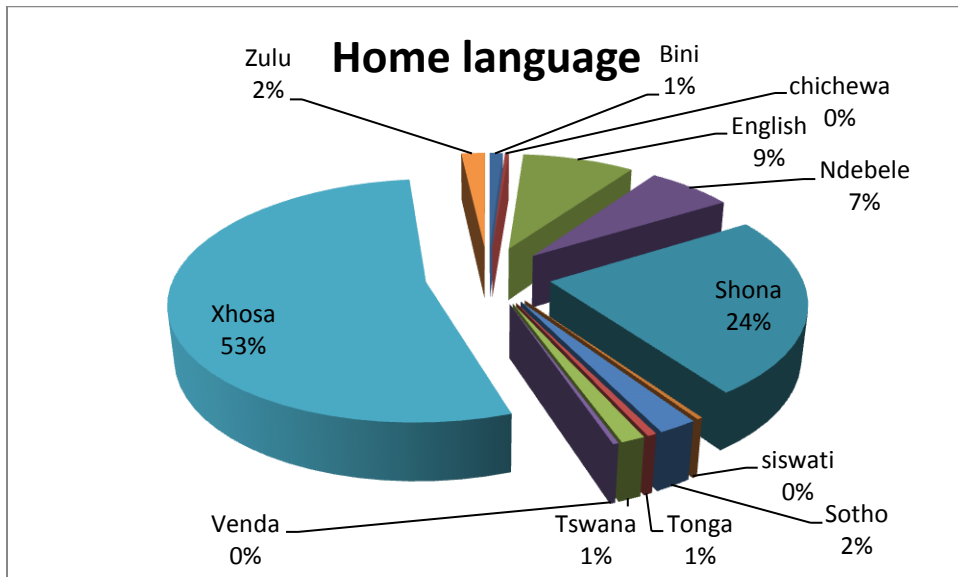


Figure 11: Home language (N = 387)

The majority (53%) used Xhosa as their home language, followed by Shona with 24%. Home languages that recorded low response rates were Venda (0.3%), SiSwati (0.3%), and Chichewa (0.3%).

6.21 Distribution of respondents by age

The highest response rate was recorded in the 24-29 (44.4%) age group, followed by 18-23 age range with (40.8%). The least number of respondents was recorded in the 36-41 age bracket with 3.5%.

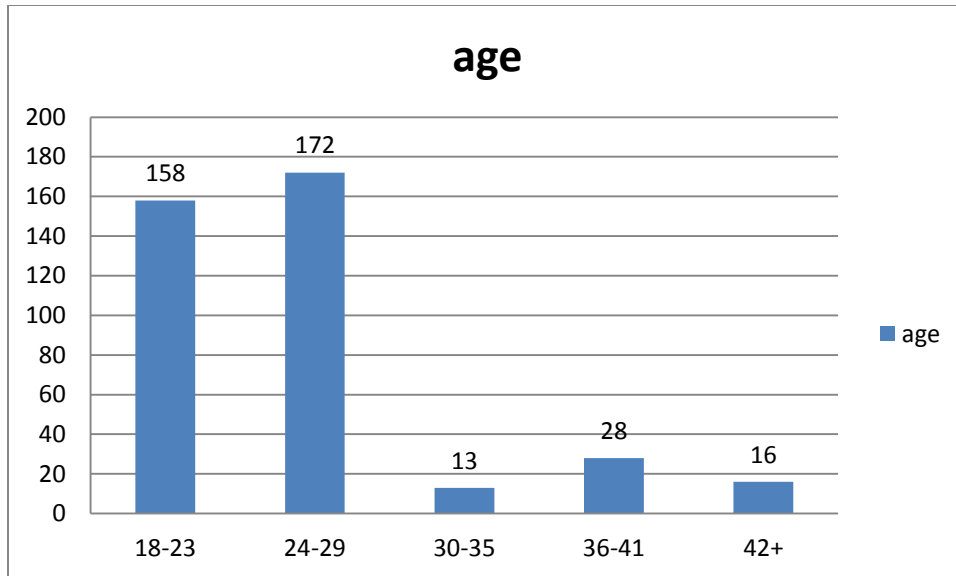


Figure 12: Age group

Figure 12 above also confirms that the majority of the respondents were drawn from first year students who tend to be in the 18-23 age groups. This could be justifiable because the trend in most universities in general is that there is a low percentage of postgraduate students as compared to undergraduate students. The other reason could be that most of the postgraduate students who may be in the 30 and above age category could have been engaged in their research studies at the time of data collection especially judging by the low response rate.

6.22 Distribution of respondents by gender

Gender could have an influence on how prospective respondents perceive the aspect of questionnaires. The chart below shows that the majority (62%) of the respondents were females.

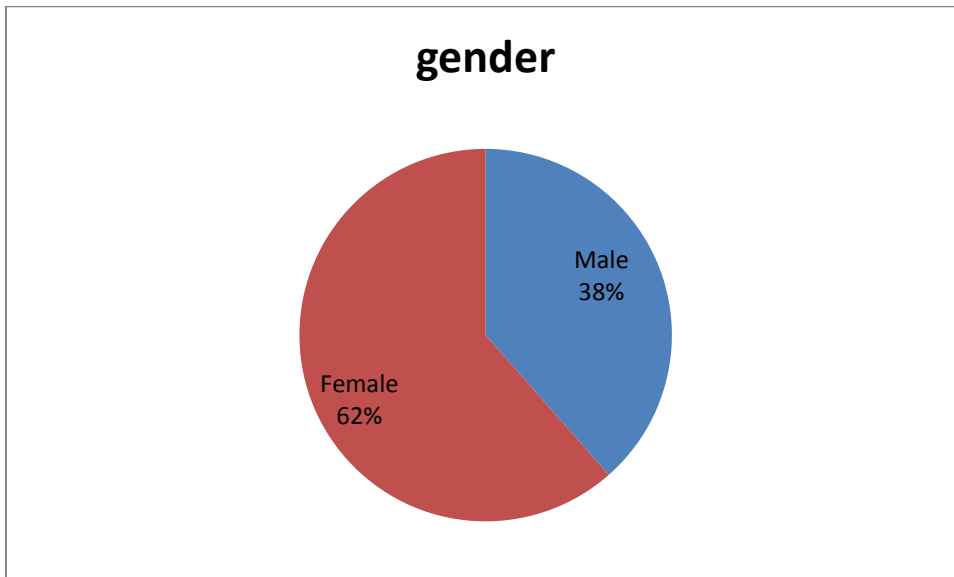


Figure 13: Gender

Figure 13 above also shows that 149 (38.5%) were males. This shows that the two universities had more female students who were receptive to participating in questionnaires.

6.23 Distribution of respondents by university

Two universities, that is, Rhodes and Fort Hare, participated in this study. The table below shows the respondents by university.

Table 10: Respondents by university

University	Frequency	Percentage
Rhodes University	158	40.8
University of Fort Hare	229	59.2
Total	387	100.0

The table above shows that the University of Fort Hare had more respondents with 229 (59.2%) while Rhodes University had 158 (40.8%). The high return rate for the University of Fort Hare was necessitated by the fact that an additional 80 questionnaires were distributed in addition to the initial two hundred per each institution to cushion for those questionnaires which were not returned. As alluded to earlier on, the study was not comparative and the student population tended to be more homogeneous in terms of characteristics hence to the researcher, the additional 80 questionnaires could have been distributed at any one of the two institutions.

6.24 Distribution of respondents by faculty

From the researcher's experience with library users, students in social sciences and humanities tend to use libraries more than those students from other faculties. The

graph below shows the total number of students from each faculty at both Rhodes University and the University of Fort Hare.

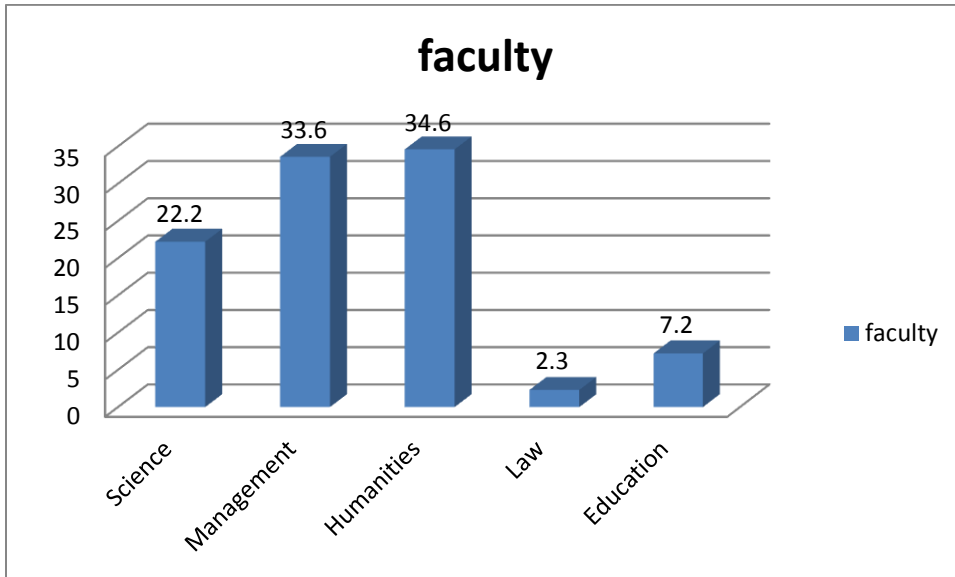


Figure 14: Faculty

From figure 14 above, the faculty of humanities had the highest number of respondents with 134 (34.6%). This was followed by the faculty of management which had 130 respondents (33.6%). The lowest number of respondents was recorded in law with 9 (2.3%) of the respondents. Science had 86 (22.2%) respondents while education had 28 (7.2%).

6.25 Information literacy training

Libraries of all kinds have since time immemorial been offering training of various kinds and depth to their users. The training offered begins with the common library orientation comprising library tours to user education which focuses on how to use the library catalogues and how to check in and out resources. Due to advances in technology, the training has transformed itself into information literacy where more emphasis is placed on information handling. In figure 15 below, respondents were asked to indicate if their university libraries offered information literacy.

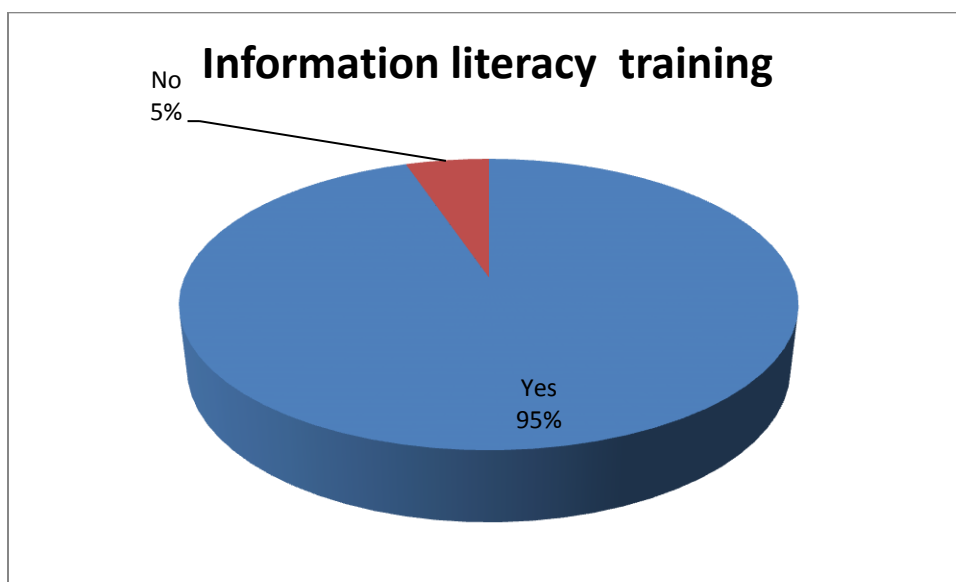


Figure 15: Information literacy skills training

Figure 15 above shows the distribution of responses on whether students received any training. A greater number, 367 which constitute (94.8%) indicated that they received training while 20 (5.2%) said they did not receive any training. This may suggest a need

for the faculty / information librarians to devise means of reaching all students. The researcher has observed that some students miss orientation as they join university due to logistical challenges such as late registration and even late admission at times.

6.25.1 Frequency of training

As a follow up question to whether the two institutions offered information literacy to their body of users, respondents were asked to indicate the frequency of the training.

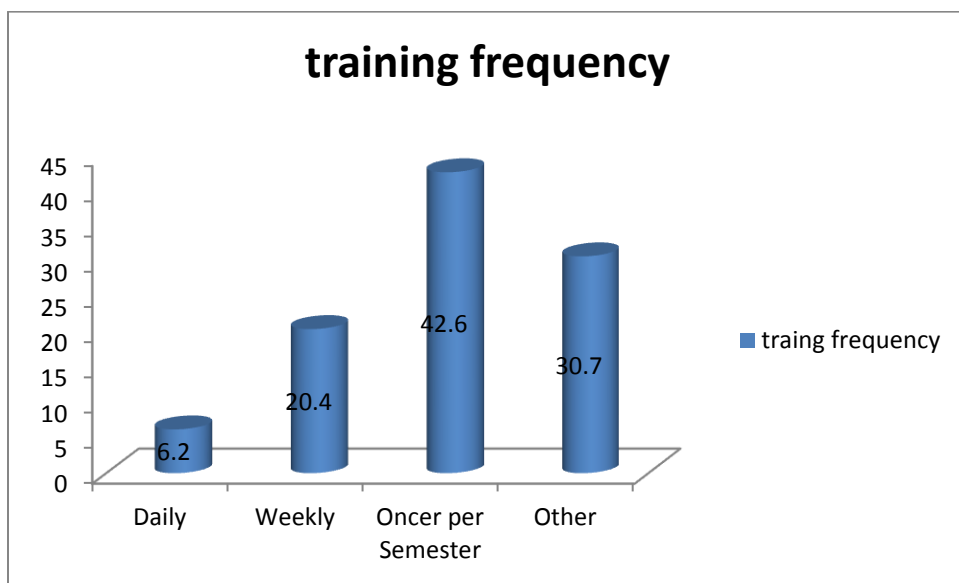


Figure 16: Training frequency

Respondents were required to choose from a set of answers ranging from daily, weekly, once per semester, and, other. The frequency, other, had 119 (30.7%) respondents while 165 (42.6%) indicated that they received training once per semester. A low number, 24 (6.2%) indicated that they received training daily. However, no specific frequency of training was given by those who selected 'other' prompting the researcher

to think that they probably received training once in their entire period of study, which may not really be adequate.

6.26 Aspects of information literacy

Aspects of information literacy constituted the content items of the programme. Respondents were asked to indicate those aspects which were covered by their library. A list of eight aspects was provided for the respondents to choose with an additional box covering 'other' where respondents were required to specify the aspect should they selected it. Responses are presented in both table 11 and figure 17 below with additional interpretation provided in each case. The additional interpretation of table 11 and figure 17 below starts from section 6. 26.1 to 6.26.8 where each of the aspects indicated by the respondents is presented.

Table 11: Aspects of information literacy

Aspect	Aspects of Information Literacy			
	Percentage		Frequencies	
	No	Yes	No	Yes
General library orientation	26.4	73.6	102	285
OPAC	14.7	85.3	57	330
Methods of accessing	37	63	143	244

information				
Information searching techniques	39.5	60.5	153	234
Sources of information	39.3	60.7	152	235
Evaluation of sources of information	71.3	28.7	276	111
Information organization	69.3	30.7	268	119
Use of information	31.2	38.8	237	150
Other	98.2	1.8	380	7

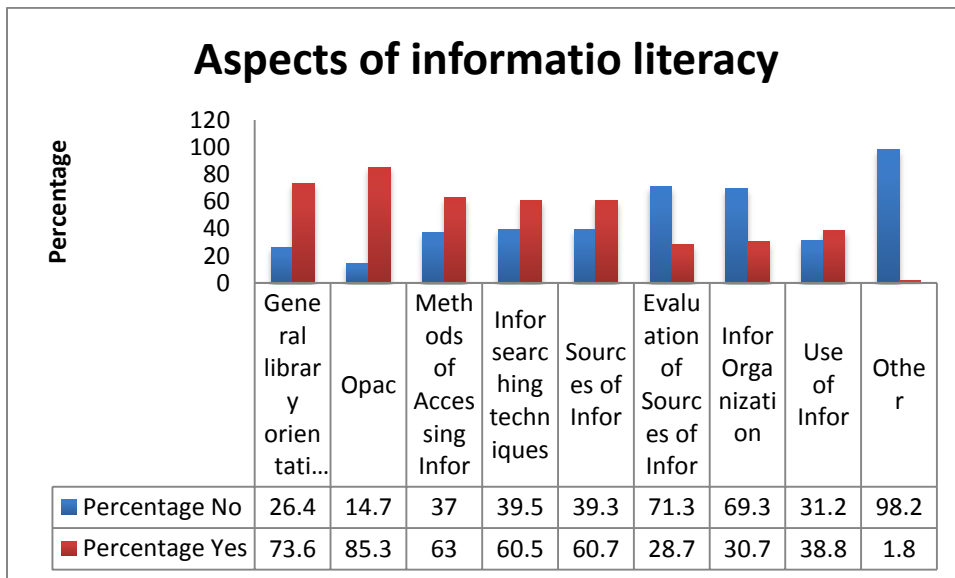


Figure 17: Aspects of information literacy

6.26.1 General library orientation

General library orientation covers a general tour of the library, introduction to staff members, library hours, the dos and don'ts in the library, and location of resources, among other things. This is usually conducted for first year level students. In this regard, respondents were asked to reveal whether they had attended library orientation or not.

As shown on figure 17 above, 285 (73.6%) said they had undergone general library orientation while 102 (26.4%) indicated that they had not gone through the general library orientation.

6.26.2 Online Public Access Catalogue (OPAC)

The library's OPAC saves a one stop pointer to the holdings of a library comprising both print and online resources.

Respondents were asked to indicate whether OPAC was covered in the content of their information literacy programme. The majority, 330 (83%) indicated that it was covered while 57(14.7%) said it was not. This may suggest that the respondents who said no might have not even attended the general library orientation where the use of OPAC to find resources in the library is normally emphasized. It may also suggest a gap in understanding of what OPAC entails, that is if at all the respondents were trained on the use of the online catalogue.

6.26.3 Methods of accessing information

Users of information have various ways of accessing information of various formats. The information could be print or electronic and may require various techniques to tape it for use. Respondents were asked to indicate if methods of accessing information were indeed part of the content of their information literacy programme.

Table 11 and Figure 17 above show that the majority, 244 (63%) of the respondents confirmed that methods of accessing information was one of the subject covered in their information literacy programme. However, a significant number, 143 (37%) answered in the negative, giving an impression that there were no methods of accessing information that were taught as part of the information literacy programme.

Information searching techniques entail use of Boolean logic, use of keywords, use of synonyms and mind maps, among other techniques. Respondents to the questionnaire were asked to indicate if any searching techniques were covered in their information literacy programme.

Figure 17 above reveals that 234 (60.5) of the respondents said search techniques were covered while 153 (39.5%) answered in the negative. This may point to the fact that those who said no may not have been afforded an opportunity to undergo information literacy programme or it could suggest lack of appreciation of what they were taught.

6.26.4 Sources of Information

Due to advances in technology, information comes from a number of sources in various formats. Information could come in the form of the traditional book, databases of both e-journals and e-Books and print journals. Equipped with this reality of the now several sources of information, it is critical that users are taught as a way to make them aware of the various sources that could address their varied needs of information. In this view, users were asked to indicate sources of information that they had access to.

Table 11 above shows that the majority of the respondents, 235 (60.7%) agreed that sources of information was one of the aspects covered by their information literacy programme. On the same note, a relatively high number, 152 (39.3%) did not confirm sources of information as one of the subject matter covered in their information literacy programmes. This again could suggest a gap in knowledge or ignorance of the content of information literacy.

6.26.5 Evaluation of information

One of the goals of information literacy is to produce critical thinkers who are able to judge the value of information. With the exponential increase in the volume of information available especially online, students should be equipped with information evaluative skills in order for them to be able to determine reliable sources of information.

Other aspects that are important in evaluation of information are accuracy, originality, facts versus opinions and authority. Respondents were asked to indicate if the critical aspect of evaluation of information was part of the content of their information literacy programme.

Table 11 above shows that a lesser number of 111 (28.7%) said evaluation of information sources was not part of their information literacy content while the majority, 276 (71.3%) said it was not covered. This may point to a general lack of clarity on issues that are covered in information literacy at the universities.

6.26.6 Organization of information

Organization of information is another critical aspect of academic writing. It relates to the acknowledgement of sources which one has used in writing his or her own piece of assignment. Under the aspect, students are taught how to reference using various referencing styles that may include Harvard and APA. In this regard, respondents were asked to indicate whether organization of information was one of the aspects taught in their information literacy programme.

Table 11 shows that 111 (30.7%) of the respondents answered yes, while a higher number of 268 (69.3%) indicated that organisation of information was not one of the aspects covered in the content of their information literacy programme. This may suggest an ignorance of the programme content on the part of the respondents since

the aspect is widely covered in library literature as one of the aspects that libraries teach students on. It may also suggest that the instruction librarians at the two focus institutions of the study do not emphasize the aspect, hence it becomes very little known despite its importance.

6.26.7 Use of information

The focus of use of information in an information literacy programme is on copyright issues and plagiarism. These aspects normally fall under the heading: legal use of information. Participants to the study were asked to indicate if use of information was covered in their information literacy programme as indicated in the graph below.

Figure 17 shows that 150 (38.8%) responded that they were taught how to use information while the majority, 237 (61.2%) implied that it was not covered in their programme. This again gives an impression of a gap in information literacy capacities of the respondents.

6.26.8 Other aspects

Although this was not qualified, it sought to check with the respondents whether there were other aspects that were covered in their information literacy programmes apart from those presented above. The answers are revealed below.

Table 11 indicates that, 7 (1.8%) revealed that there were indeed other aspects that were covered while the majority, 380 (98.2%) indicated that there were no other aspects covered apart from those presented above.

6.27 Ranking of aspects according to perceived value

In a follow up question, respondents were asked to choose five aspects, one being the most important. Figure 18 below demonstrates the choices of the respondents.

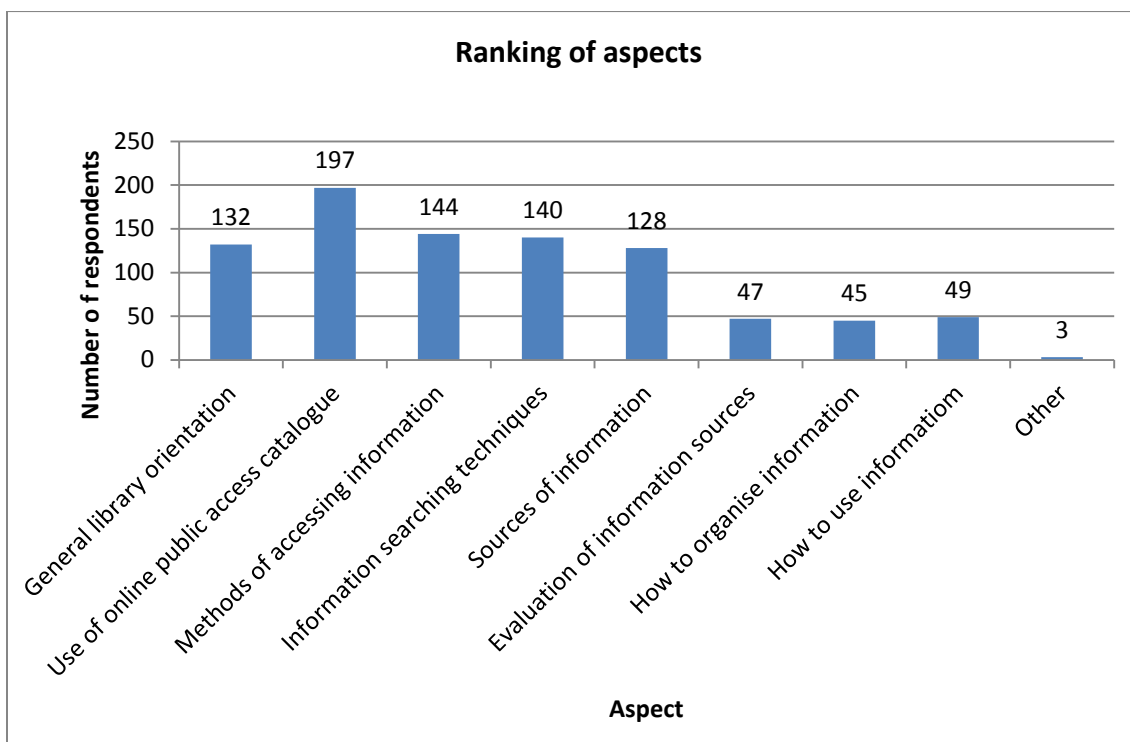


Figure 18: Ranking of aspects of information literacy

The majority of the respondents, 197 (87%) indicated instruction on the use of the OPAC as the most important aspect, followed by methods of accessing information

which was selected by 144 (64%) respondents. Information search techniques had 140 (62%) respondents while general library orientation got 132 (58%). Surprisingly, among the least selected was how to organize information which includes the aspect of referencing. Literature shows that most students find it very difficult to reference their work properly and in most cases are found guilty of plagiarism. One would have expected the aspect of organization of information to be one of the most selected items. It may also suggest that respondents did not quite understand the meaning of the aspects so as to be able to select their answers properly. A few of the respondents, 3 (1%), selected other but could not elaborate on what the other aspects were.

6.28 Methods of Instruction

Information literacy instruction may come in a number of forms which may range from one on one instruction to large or small classroom lectures. Respondents were asked to indicate the methods of instruction choosing from thirteen methods that were listed. Each of the methods is presented below indicating the number of respondents who marked the aspect as one of the methods used.

Table 12: Methods of instruction

Method of Instruction	Percentages		Frequencies	
	No	Yes	No	Yes
Classroom lecturers	70.3	29.7	272	115
One on one instruction	73.1	26.9	283	104
Library Manuals	63.6	36.4	246	141
Small group Interaction	64.1	35.9	248	139
Demonstration	61.5	38.5	238	149
Printed Guides	67.4	32.6	261	126
Library Orientation	51.2	48.8	198	189
CD-ROM instruction	91.5	8.5	354	33
Audio/Video lectures	87.6	12.4	339	48
Online Instruction	64.3	35.7	249	138
Library Workshops	61.8	38.2	239	148
Internet Based Instruction	73.1	26.9	283	104

Seminars	79.8	20.2	309	78
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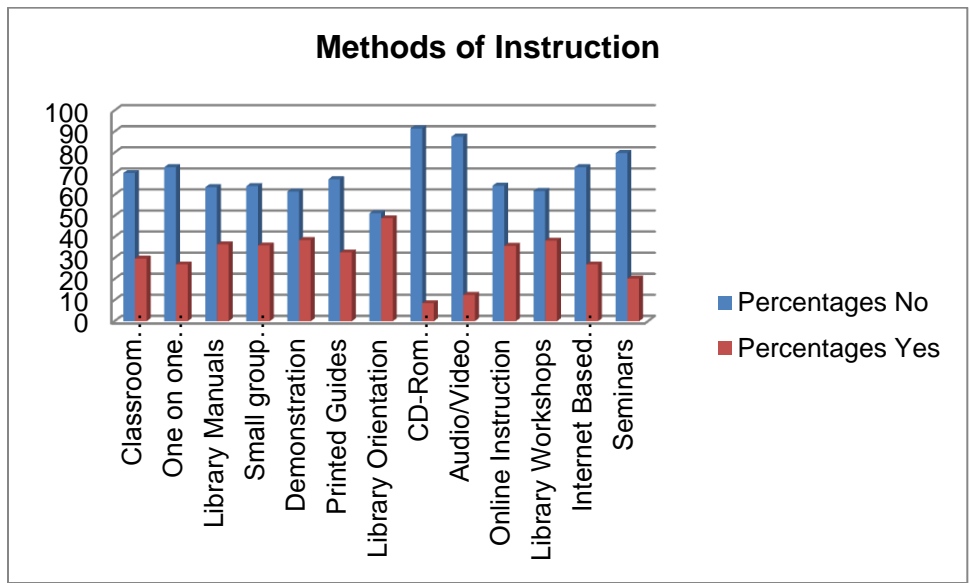


Figure 19: Methods of instruction

6.27.1 Classroom lectures

Classroom lectures implies Information Librarians going to classes to conduct information literacy lessons for students. Respondents were requested to indicate if classroom lectures was one of the methods used by information librarians at their university.

Table 12 and Figure 19 above show that 115 (29.7%) respondents said classroom lectures was one of the methods used to teach information literacy. However, a large

number, 272 (70.3%) indicated that it was not one of the instructional methods used by the librarians. This may suggest that some students could be taking library laboratories to be classrooms, much as librarians sometimes go to the classrooms.

6.27.2 One-on-one instruction

One on one instruction is normally popular with students and instruction librarians in the comfort of their offices. Library users who fail to master certain concepts of training during group training are usually afforded time to consult on an individual basis. In this regard, respondents were asked to indicate if one-on-one was one of the methods of instruction afforded to them by their information librarians. Table 12 indicates that 283 (73.1%) said no, while 104 (26.9%) revealed that one-on-one was one of the methods of instruction employed by their information librarians. The high rate of the respondents who indicated no may not be aware of that opportunity for individualized training. It may therefore imply that information librarians need to go out and inform their users about such a facility.

6.27.3 Library manuals

Manuals provide library users with information on a number of areas relating to how to find and use information. Library manuals may either be in print or electronic and the latter is usually found on library websites. Of late, library manuals have been replaced

by LibGuides, which are developed by information librarians to guide students on the use of library resources and are available online. Asked whether library manuals were used as methods of instruction, 246 (63%) of the respondents indicated that they were not used while 141 (36.4%) revealed that they were used as forms of instruction.

6.27.4 Small group interaction

Small group interaction entails library instruction organized for small groups of students. This method ensures participation of all and close attention is given to each participant in the small group as compared to large groups. Respondents were asked to indicate whether small group was used as a method of instruction. The majority of the respondents, 248 (64.1%) indicated that small group instruction was not part of their instruction methods. However, 139 (35.9%) indicated that indeed small group interaction was one of the instruction methods employed in their information literacy programmes. This may suggest a gap in terms of awareness of instruction methods employed by the instruction librarians.

6.27.5 Demonstration

Demonstration as a method of instruction in the context of information literacy entails information librarians giving practical instructions to students on for example how to find information using the Online Public Access Catalogue, how to use a referencing

software such as Endnote and how to evaluate information sources using the CARS checklist. In this regard, respondents to the questionnaire were asked to indicate if demonstration was part of the methods employed by the information librarians. The majority of the respondents, 238 who constitute 61.5%, indicated that it was not part of the methods. However, 149 (38.5%), answered in the positive. This again may suggest a more robust instruction programme for the information librarians so that students understand all the information literacy teaching approaches.

6.27.6 Printed guides

Guides assist library users to address their problems relating to the how, where, when and why of information. These guides are developed by librarians so that students can follow when addressing their information needs. Asked whether printed guides were used as part of the instructional methods, 126 (32.6%) indicated that they were. However, the majority, 261 (67.4%) sought to differ as they indicated that printed guides were not part of the tools used for instruction. Understandably, this may be so because of the introduction of online guides in most academic libraries. Rhodes university library, had for quite some time, been developing LibGuides of various kinds while the University of Fort Hare had just started developing some online guides for their students and other users in general.

6.27.7 CD-ROM instruction

CD-ROM used to be popular in academic libraries but due to advances in technology, they are fast fading out. Although they were popular, users needed to have the gadgets with which to operate them which became a big challenge for many. Today, some books mostly from the United States of America still come with CDs attached to them to complement the print copy. Respondents were asked to indicate if CD-ROM instruction was in use at their libraries. Very few respondents, 33 (8.5%) indicated that it was used while the majority, 354 (91.5%) indicated that it was not. The high rate of respondents who indicated that it was not may suggest a reliance on the Internet and print sources of information by the students.

6.27.8 Library orientation

Orientation of new students on mostly how to use the Online Public Access Catalogue, how to borrow and return books and introduction to the library policy, is a common feature in most academic libraries the world over. Orientation will then be followed by intensive training on how to find and use resources in the library. Respondents to the question were requested to indicate whether library orientation was one of the methods of instruction afforded to them. Of the 387 total respondents, 189 (48.8%) indicated that it was while 198 (51.2%) indicated that it was not, suggesting that they probably missed the general orientation when they joined the university. This may as well indicate a need

for follow up orientation programmes by librarians as not all students attend when it happens at the beginning of the academic year.

6.27.9 Audio-Video lectures

Audio-video lectures facilitate remote learning. Students or the facilitator could be stationed at some remote place and can be linked via video. It comes handy for distance learners and in multiple campus institutions. However, there is a need to have good network lines and strong monitors to ensure audibility and clear picture quality. Very few respondents, 48 (12.4%) indicated this was one of the instruction methods in use in their information literacy programme while the majority, 339 which constitutes 87.6% of the respondents indicated that it was not in use. Audio-video instruction requires sophisticated equipment which costs a lot of money and this could explain why the majority indicated that they had not been exposed to this type of instruction.

6.27.10 Online instruction

With the advances in technology, instruction online has become a common phenomenon in education. This has given birth to the Massive Online Open Courses (MOOCS) mostly driven from the developed Western countries along with the Open Education Resources (OER). Libraries are also employing online instruction as a quick method to assist users with their information needs. Respondents to the question were

asked to indicate if online instruction was one of the methods in use and 138 (35.7%) agreed while 249 (64.3%) indicated that it was not. This may suggest a need for information librarians to step up efforts on online instruction since students have very easy access to the Internet because of wireless networks around campuses.

6.27.11 Library workshops

At some institutions where information literacy is not credit bearing, librarians reach most of the students through workshops in computer laboratories. Students either register voluntarily to attend or are organized by their lecturers. Library workshops mostly emphasize practicing how to search OPAC and databases of e-books and e-journals. It may also cover the use of Boolean logic / operators and how to reference resources. Of the 387 respondents, 148 (38.2%) concurred that library workshops were part of the instruction methods employed by the information librarians. However, a high response of 239 (61.8%) indicated that library workshops were not part of the instruction methods employed in information literacy at their institutions. This high frequency could mean that respondents were probably not sure about the demands of the question since library workshops are very common in most academic libraries.

6.27.12 Internet based instruction

This refers to instruction materials that are found on the Internet to guide users on how to use web-based information. The Internet is home to several zillions of articles some of which are instructional. The Internet has broken boundaries of all forms (Chetty, Lee-Roy, 2011). Google, as a search engine has instructional materials on almost all subjects and users normally search such instructional material to solve their day-to-day information needs. Librarians are actively involved also on the Internet, creating blogs and wikis on a variety of subjects mostly focused on students or library users in general. In this regard, respondents were asked to indicate if Internet based instruction was a method that information librarians at their institution used when conducting information literacy. Of the 387 respondents, 104 (26.9) agreed that it was while 283 (73.1) indicated that it was not a method used for instruction in their information literacy programme as shown in table 12. This again may suggest a gap in knowledge as to what constitutes Internet based instruction on the part of the respondents.

6.27.13 Seminars

Seminars are normally held in a lecture format with a presenter presenting on a given topic for a limited amount of time. Seminars are generally common in most academic institutions. Respondents were asked to indicate if Seminars were used in their information literacy programmes. Out of the 387 total respondents, 78 (20.2%) revealed that they were used while 309 (79.8%) said they were not used. The high response rate

of those who indicated that seminars were not part of the instruction methods used may suggest that seminars were not popular with the instruction librarians who conducted information literacy with the students.

6.28 Ranking of methods of instruction

Respondents were asked to indicate five methods from a list of thirteen methods according to their preferences in order of importance. Figure 20 below shows the distribution of responses by preference of method of instruction.

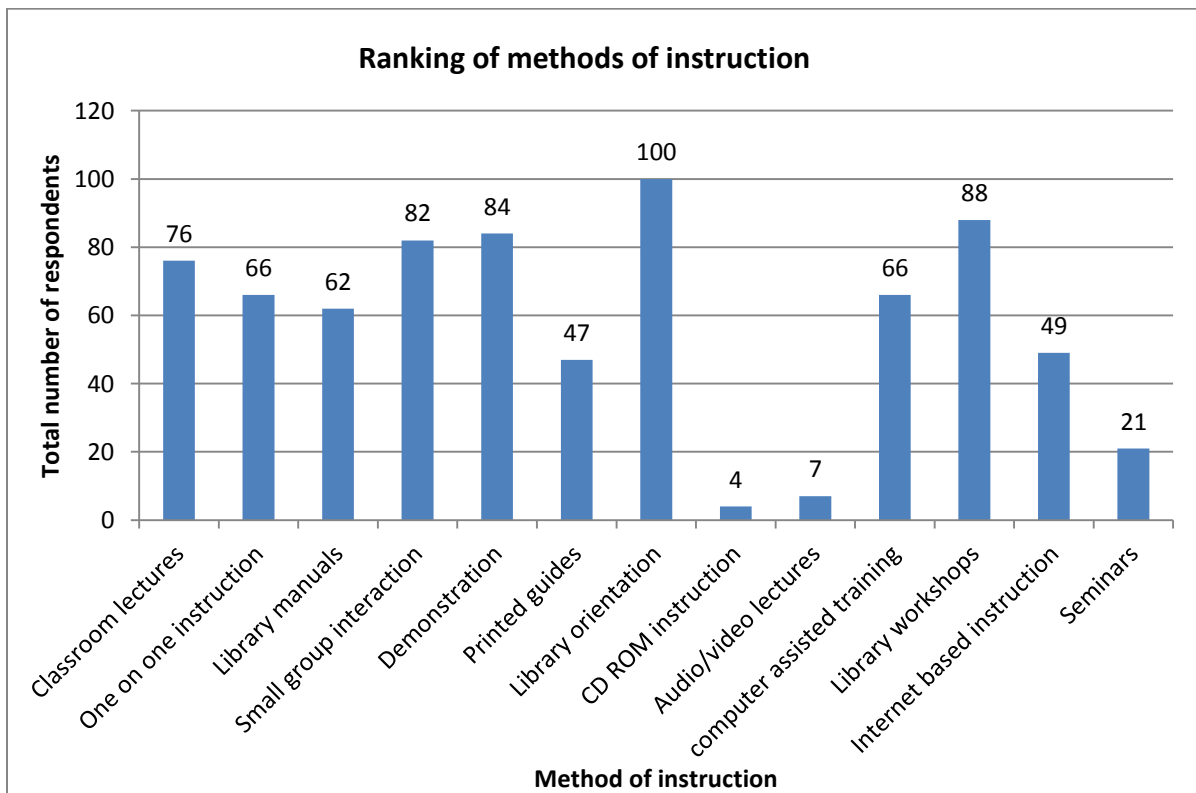


Figure 20: Ranking of methods of instruction.

The above graph reveals an exciting selection of methods by the respondents with five of them highly rated. Library orientation was the most rated with 100 (45%) respondents, followed by library workshops with 88 (40%) respondents. Other high numbers were recorded on demonstration with 84 (38%) respondents, small group interaction with 82 (37%) while classroom lectures had 76 (34%) respondents. Among the least selected methods were CD-ROM instruction with 4 (2%) and audio / video lectures with 7 (3%) respectively. The overall impression painted by the distribution of responses suggests that there is a need by instruction librarians to focus on some of these methods which students perceive as having a meaningful contribution to their academic success.

6.29 Ownership of a computer

In modern day, a personal computer is one of the student's packages when enrolled at a university. This makes it easier for the student to address their assignments, research work and for communication purposes. Due to the advent of wireless networks around most university campuses, a computer is indeed a necessity for every student. According to Feather (2013: 202), owning and "using a computer, has become as much a part of life in the 21st century as switching an electric light or driving a car." However, at times the computer price is beyond the reach of many students and these would rely on computer laboratories around campus. Respondents to the questionnaire were asked to indicate if they owned a computer as shown below.

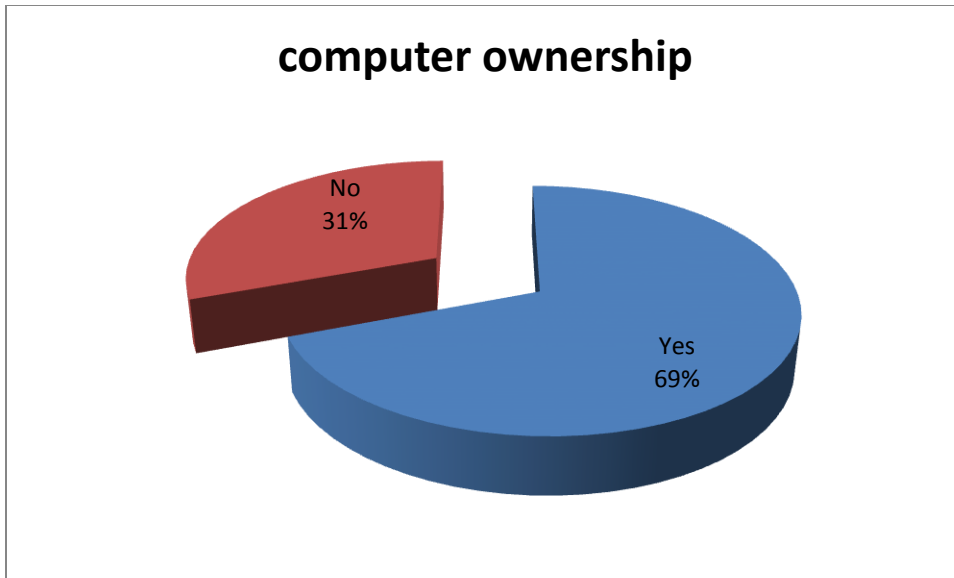


Figure 21: Computer ownership

Figure 21 indicates that 268 (69.3%) owned personal computers while 119 (30%) indicated that they did not own computers. Computer ownership improves students' information handling skills once they know how to use it well and it also improves access to information online if they are in a wireless environment.

6.30 Place of access to computers

Most universities have networks of computers placed in laboratories in the libraries, teaching departments and faculties to facilitate easy access for the purpose of research. Respondents were further asked to indicate where they had access to computers as shown below.

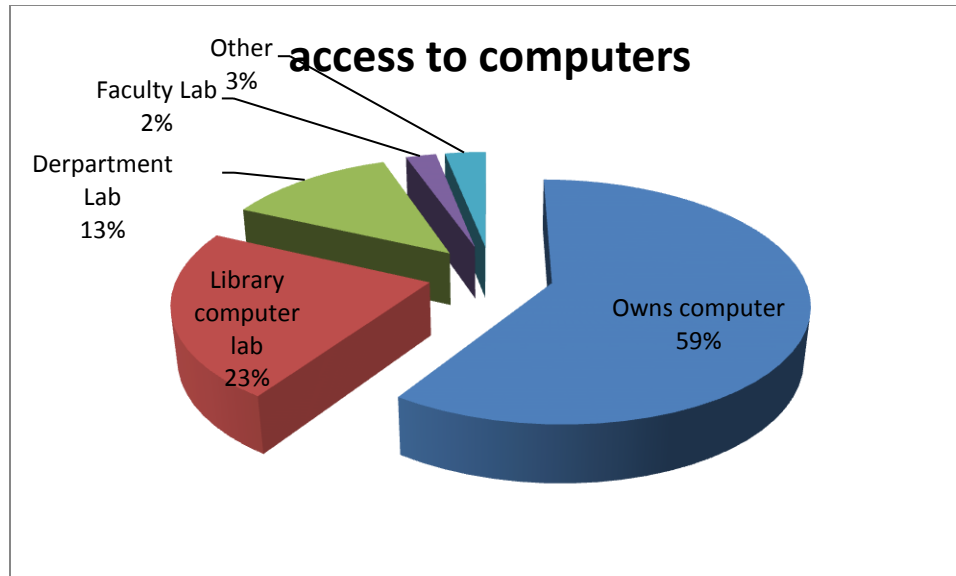


Figure 22: Place of access to computers

Figure 22 above reveals that the majority, 230 (59.4) had access to own computers while 87 (22.5%) accessed computers in the library laboratory. Departmental and faculty laboratories had 49 (12.7%) and 9 (2.3%) respondents respectively. Other, which could be commercial Internet Café, or home family computer, had 12 (3.1%) respondents. The high number of the respondents who had access to own computers could serve as a good basis for information literacy. Instructing a student who is computer literate on how to find and use information particularly that which is available online, becomes much easier.

6.31 Duration of access to computer laboratories

Access to computer laboratories, especially library ones is sometimes limited as a way of ensuring equitable distribution of limited resources. Respondents were asked to indicate the amount of time they were allocated for use of laboratory computers.

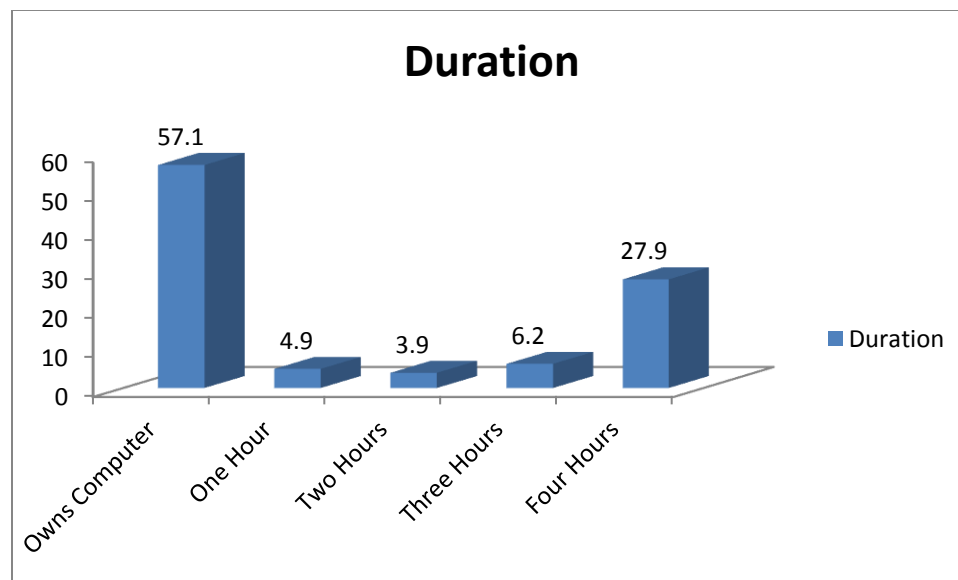


Figure 23: Duration of access to computers

The graph above shows that a high number, 221 (57.1%) had unlimited access which may suggest that they used their personal computers. One hour had 19 (4.9%) respondents while two hours had 15 (3.9%) respondents. Three hours had 24 (6.2%) respondents while 108 (27.9%) indicated that they had access to computers in laboratories for four hours. The high number on four hours may suggest that they prefer laboratories where they are allowed more time on computers for their academic work.

6.32 Impact of Information Communication Technologies

The question sought to find out if Information Communication Technologies had any impact or influence on the content of information literacy. The responses were spread on the given tentative answers as presented below.

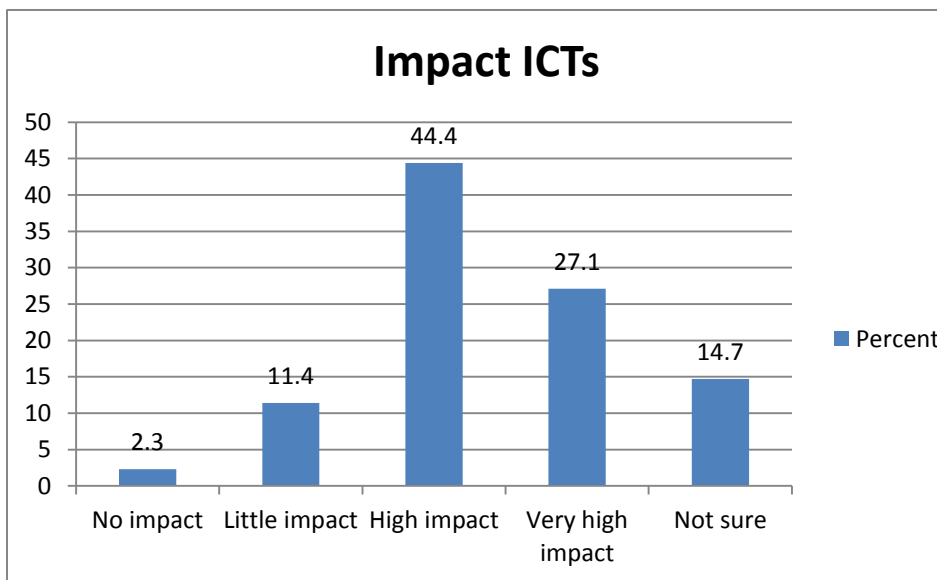


Figure 24: Impact of ICTs

Figure 24 above shows that 9 (2.3%) indicated that ICTs had no impact while 44 (11.4%) indicated that ICTs had little impact on information literacy content. However, 172 (44.4%) revealed that it had high impact backed by 105 (27.1%) who even went a step further to indicate that it had a very high impact. In addition, 57 (14.7%) respondents were not sure if ICTs had any impact on information literacy content. This may suggest a gap in knowledge about what both ICTs and information literacy entails.

6.33 Social media

Social media has great influence on how people in general and in particular students, handle information. Academic libraries among other institutions have been in the forefront of spearheading social media. A study published in 2011 by Curties R Rogers at the State Library of South Carolina, revealed that 78.6 percent of libraries were using social networks to communicate with patrons as the belief was that a library presence in these new platforms is integral to libraries' continued relevance in the age of social media (Steirier, 2012: ix;, Knight, Megan & Cook, Clare, 2013: 4).

In an environment where almost every student has a cell phone, some of them smart phones, sharing of information through social media platforms has become much easy. Training students on how to find and use information especially in an electronic environment where the use of social media is prominent enhances the literacy capacities of students. On this section of the study, respondents were asked to indicate some social media that they had access to as presented below.

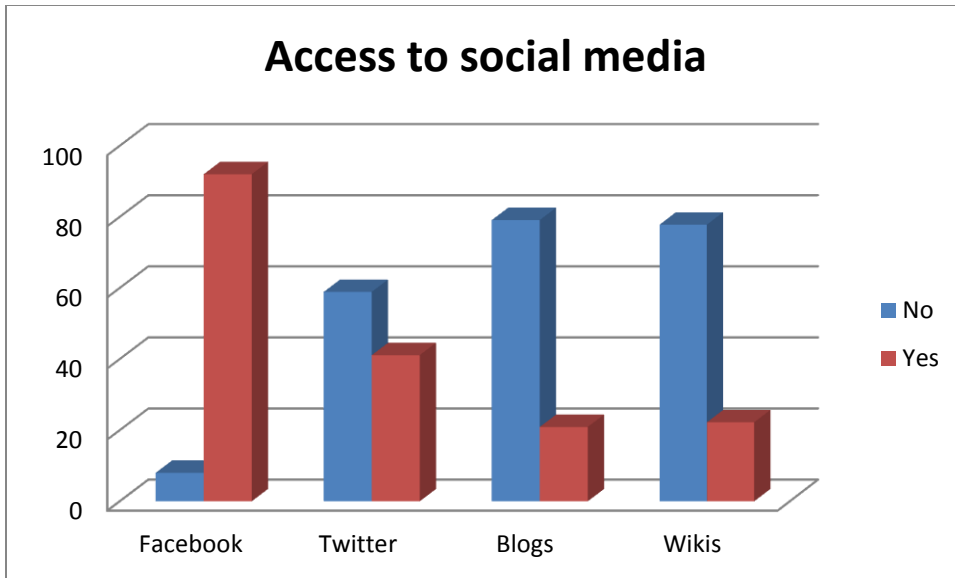


Figure 25: Access to social media

6.33.1 Facebook

Facebook is a common social network used to share a wide range of information profiles at the individual level and at organisational levels. It facilitates a two communication process as one can easily get feedback from followers. It also provides social and emotional support and information (Joinson, 2008). Smith (2010: 70) acknowledges the value of Facebook when he says “developing instruction space through Facebook groups and / or Facebook pages puts instruction in a web environment where users already spend time on a daily basis.”

Figure 25 indicates that 356 (92.0%) had Facebook accounts while 31(8.0%) indicated that they did not have any Facebook accounts. The high number of respondents on the

Facebook platform may suggest a positive move towards an information literate society. The high number also confirms Acquisti and Gross's research who found out that the market penetration of Facebook was impressive, and could easily account for over 80% of undergraduate students across college campuses in the United States (Acquisti & Gross, 2006)

6.33.2 Twitter

Twitter is also one of the most popular social platforms used to share information in organisations and at the individual level. It allows for sharing very brief and times length files of information to keep followers up to date with what is going on in their areas of interest. It allows users to tweet links to files of information hence its great value in the sharing of both social and research information. Murthy (2013: 1) agrees that "the aim of twitter is for users to respond to the question: what is happening in 140 characters or less."

Respondents were requested to indicate whether they were on Twitter. As shown on figure 25, 228 (58.9%) of the respondents indicated that they did not have Twitter accounts while 159 (41.1%) indicated that they indeed had accounts on Twitter. The high number of respondents who indicated that they did not have Twitter accounts may suggest a gap in knowledge about how it may contribute to one's ability to find and use information.

6.33.3 Blogs

These are also platforms on the web, meant to inform and share a variety of information. A person who writes a blog is normally referred to as a blogger and usually writes on a certain topic of interest. The blog can also include links to detailed information on a topic available on the web. Followers of the blog are able to give feedback as appropriate.

Respondents to the questions were distributed as follows. A smaller number, 81 (20.9%), indicated that they had blogs while the majority 306 (79.1%) revealed that they did not have any blogs. This high number of respondents who did not have blogs gives the impression that the participants to the study has a limited culture of sharing in as much as they want to search and benefit from other people's contribution to the world of information available online

6.33.4 Wikis

Wikis function along the same lines as blogs. The intention is to share information on certain topics as widely as possible. Respondents were asked if they had wikis. The majority, 301 (77.8%), did not own wikis while 86 (22.2%) had wikis. The low number of those who owned wiki pages on the web may again suggest limited knowledge on the part of the majority of the participants who did not have.

6.34 Information resources

Information resources entail a whole range of library materials which are accessible to the users. Levitan (1982: 44) asserts that “an information resource is defined as a stock of information that has been societally institutionalised for reuse by one or many classes of users.” Respondents were asked to indicate information resources which they had access to in pursuit of their academic programmes. Figure 26 below represents the responses.

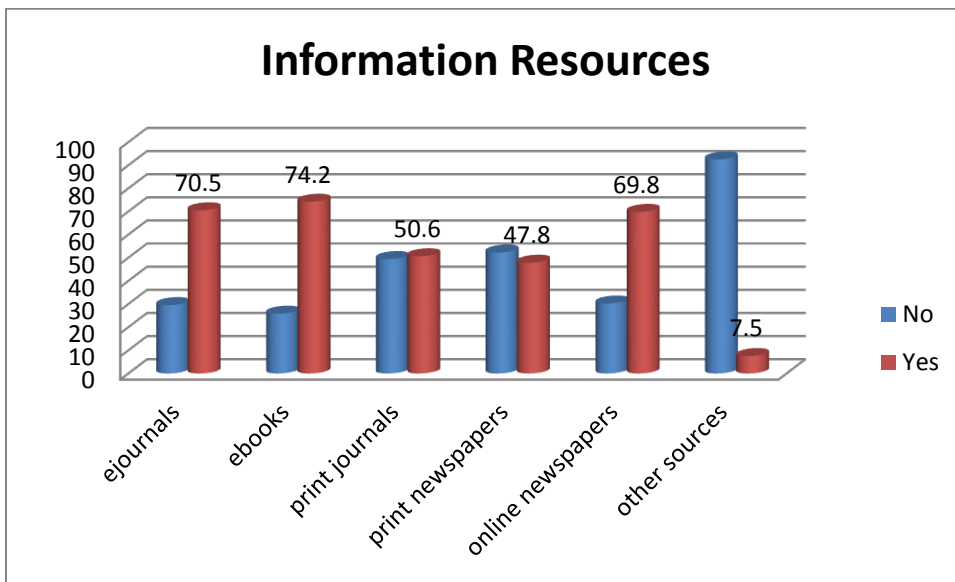


Figure 26: Information resources

6.34.1 E-journals

In the language of libraries, e-journals are contained mostly in packages of information normally referred to as databases. E-journals bear testimony to the shifting landscape in the publishing industry as a result of increased technology. In the past, they used to come only in print which is now slowly fading as the online and open access regimes dominates the publishing industry. The majority, 273 (70.5%) of the respondents indicated that they had access to e-journals while 114 (29.5%) of the respondents indicated that they did not have access to e-journals. The impression painted by those who did not have access to e-journals is that of a gap in knowledge about what sources of information to use. It could also mean that even if they use them to get some of the cutting edge information, they did not understand the question. Various sources of information are usually emphasized in library instruction.

6.34.2 E-Books

E-books provision in academic libraries mostly is one of the in-thing again as a result of advances in technology. Some publishing houses now prefer to publish online as opposed to print probably because of the reduced time circle it takes. Just like e-journals, e-books are available in libraries in packages referred to as databases. Online books have the added advantage of being available to a number of users at the same time unlike in a print environment where if one is using a certain copy, nobody else has access to the same copy. Respondents were asked to indicate if they had access to e-

books and their varied responses were as follows. Of the 387 respondents, 287 (74.2%) said they had access to e-books while 100 (25.8%) indicated that they did not have access to e-books. This may signify a need for information librarians to maximize on their resource awareness and training. Even without the library subscribed e-books, there are free e-books that are widely available on the web.

6.34.3 Print Journals

Print journals as sources of information were very popular before the advent of e-journals. Although they are slowly disappearing on the shelves, they are still very useful and popular with a certain section of library users. Respondents were asked if they had access to any print journals at their library. A total 196 (50.6%) indicated that they had access to print journals while 191 (49.4%) indicated that they did not have access to print journals. This almost balanced situation may indicate the growing popularity of e-journals which hit the market long after print journals.

6.34.4 Online newspapers

In the past, print newspapers were predominant but due to advances in technology, more and more media houses are publishing online and in some cases with print copies available as well. Respondents were asked to indicate whether they had access to online newspapers to which the majority, 270 (69.8%) indicated that they indeed

accessed online newspapers. However, 119 (30.2%) revealed that they did not have access to online newspapers which may suggest that they still prefer print newspapers. It may also indicate a need for training of those represented by the 119 (30.2%) who indicated that they did not have access to online newspapers. With the introduction of online databases of newspapers, they may prove to be very relevant for research.

6.34.5 Other information sources

Other information sources could include among others, print books and CD-ROM. The majority, 358 (92.5%) indicated that they had no access to other sources of information while only 29 (7.5%) indicated that they had access to other information sources. The higher number of respondents who said they did not have access to other information sources may suggest that they did not give enough thought about the question as print books are still very popular with students.

6.35 Section D: Assessment

Section D of the questionnaire focused on assessment relating to information literacy programme. It is widely acknowledged in the literature that information literacy is important and this can best be revealed after an assessment of the programme to gauge its value to users. Respondents to the questionnaire were requested to answer seven questions related to the aspect of assessment and their responses are presented below.

6.35.1 Examinable information literacy programme

Respondents were solicited for their opinions on whether it would be a good idea to run an examinable information literacy programme. This may have implications on a credit bearing information literacy course which is assessed formally at the end of the semester just like any other conventional university course.

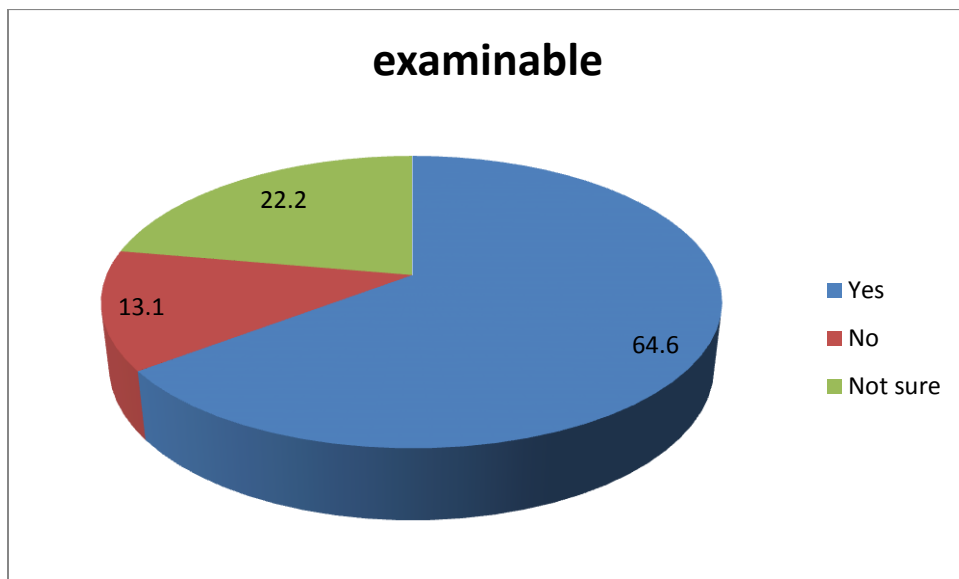


Figure 27: Examinable information literacy

Figure 27 reveals that 250 (64.6%) who are the majority, indicated that it would indeed be a good idea to run an examinable information literacy programme. However, 43 (11.1%) indicated that it was not a good idea to have an examinable information literacy course while 86 (22.2%) were not sure if it was a good thing to run an examinable information literacy course. A further 8 (2.1%) were undecided as they did not provide an answer to the question. The big number (250) of the respondents who indicated that

it is a good idea may suggest that running an examinable information literacy course could be a welcome idea among students.

6.35.2 Assessment methods

The role of assessment in any learning endeavor cannot be overemphasized. It is an integral part of the learning process and it influences how students approach their learning (Leung, Mok & Wong, 2008). In an attempt to demonstrate the value of assessment, this section sought to find out if students were subjected to any assessment methods in their information literacy programme. Below is a distribution of their responses across seven possible answers.

Method	Percentage		Frequencies	
	No	Yes	No	Yes
tests	87.6	12.4	339	48
quizzes	78.3	21.7	303	84
examination	80.4	19.6	311	76
individual assignments	67.7	32.3	262	125

group assignments	66.9	33.1	259	128
none	66.1	33.9	256	131

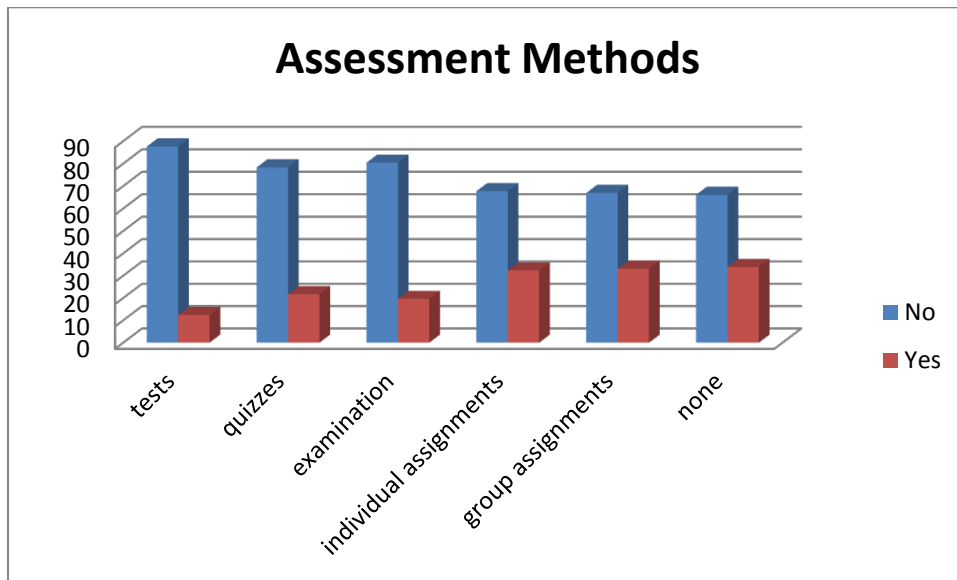


Figure 28: Assessment methods

6.35.3 Tests

Respondents were asked to indicate if tests were part of the assessment methods used in their information literacy programme.

As shown in table 13 and on figure 28, 339 (87.6%) indicated that tests were no part of the assessment methods used in their information literacy programme. However, 48 (12.4%) indicated that tests were part of the employed assessment methods.

6.35.4 Quizzes

Quizzes are usually conducted during or at the end of a training programme. Respondents were asked to indicate if quizzes were used in their information literacy programme for assessment purpose.

As shown on Figure 28, 84 (21.7%) indicated that quizzes were used for assessment purpose. However, 303 (78.3%) who constitute the majority of the respondents indicated that quizzes were not part of the assessment methods employed in their information literacy programmes.

6.35.5 Examination

In formal courses of a programme, examination is normally taken at the end of the semester to assess students' competencies on a number of items from the module. Respondents were asked to indicate if their information literacy programmes had an examination component. As shown in table 13 and on figure 28, 311 (80.4%), indicated that examination was not one of the assessment methods used while 76 (19.6%) indicated that indeed examination was part of the assessment methods used in their information literacy programmes. The high number of respondents who indicated that examination was not part of the assessment methods used may suggest that their

information literacy programmes are not credit bearing, and as such, may just be used to support existing academic programmes.

6.35.6 Individual assignment

Individual assignments entail tasks that individual students are required to address on their own. This is usually done to test the student's knowledge and understanding on a given topic. Respondents were asked if individual assignments were part of their information literacy programme. Of the total 387 respondents, 125 (32.3%) responded in the positive while the majority, 262 (67.7%) said individual assignments were not part of assessment methods used. This suggests that information literacy was largely regarded as add on to the major course that students were registered for, despite its importance.

6.35.7 Group assignment

Group assessment is one of the most prevalent assessment method employed in student assessment. It entails groups of students getting tasks to perform in groups. It has the advantage that members are able to contribute and share ideas. However, some students sometimes take advantage of their serious and committed counterparts who normally would do all the work assigned to a group. Respondents were requested to indicate if group assignment was one of the assessment tools used. The majority,

259 (66.9%) indicated that group assignment was not one of the assessment methods used while 128 (33.1%) indicated that it was indeed one of the assessment tools used in their information literacy programmes. The high number of respondents who indicated that group assignment was not one of the assessment method used in their information literacy programmes could imply a possible indication of lack of teaching skills on the part of instruction librarians.

Respondents were also asked to indicate none if all the above presented methods were not part of the assessment methods in their information literacy programmes. As shown on figure 28, 131 (33.9%) marked none of the above. This implies that 259 (66.9%) believed some assessment methods were used in their information literacy programmes.

6.36 Perceptions about information literacy

Respondents were asked about how they perceive information literacy and its contribution to academic work.

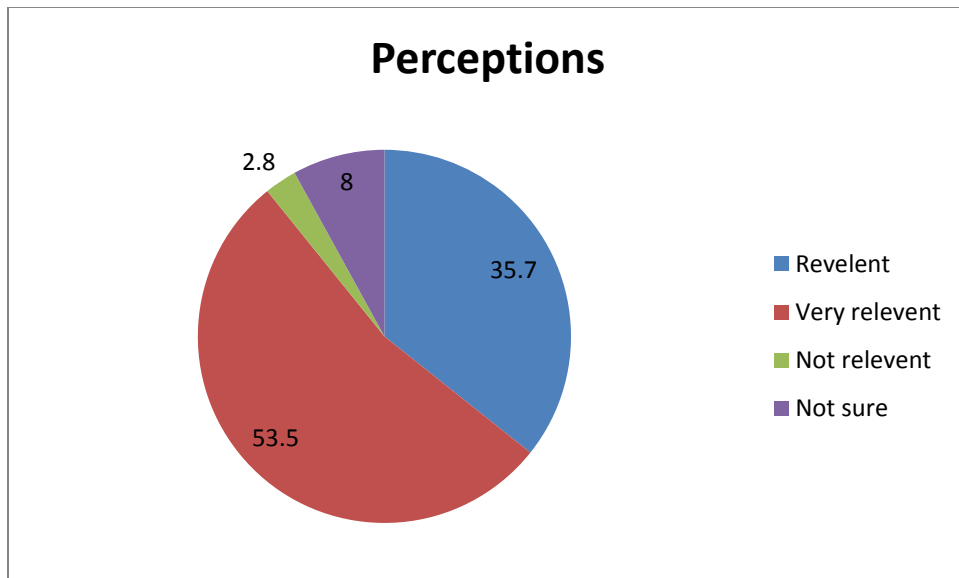


Figure 29: Students perceptions

A total of 207 (53.3%) revealed that it was very relevant with an additional 138 (35.7%) also indicating that it was relevant. On the contrary, 11 (2.8%) indicated that it was not relevant while 31 (8.0%) were not sure about the contributions of information literacy to their academic work. In as much as it may be a big relief to information librarians noticing a high number of respondents acknowledging the importance of information literacy, it may still be worrying to observe that there are some sections of the university who still do not believe or are not sure about the importance of information literacy.

6.37 Challenges of information literacy

Respondents were requested to indicate if they faced any challenges during the conduct of information literacy. These assisted in informing the recommendations to the study.

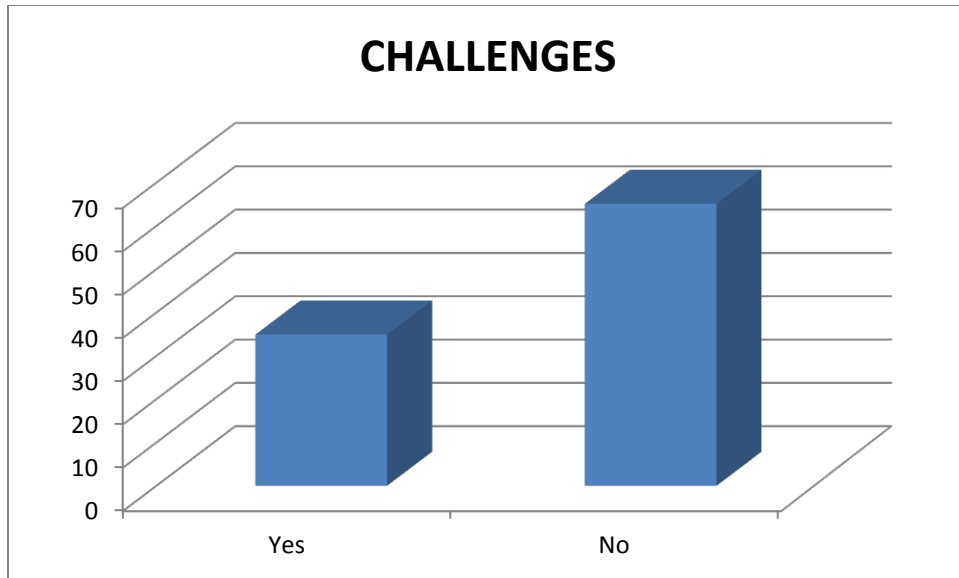


Figure 30: Challenges of information literacy

Of the total 387 respondents, 135 (34.9%) indicated that there were challenges while 252 (65.1%) indicated that there were no challenges. There were follow up questions once a respondent indicated that there were challenges and probably that prompted most respondents to say there were no challenges.

6.37.1 Follow up questions on challenges

Lwehabura and Stilwell (2008: 183) contend that there are a number of information literacy challenges that needed to be tackled and they ranged from lack of institutional policy to perceptions of students. With this in mind, two follow up questions were raised for those who indicated that there were challenges encountered when undertaking information literacy skills training. In the first follow up question D5, respondents were requested to list up to four key challenges while in the second question D6, respondents

were asked to suggest ways of overcoming the identified challenges and four lines were provided for the answers. The last question, D7 invited for any other information that respondents wished to bring to the attention of the researcher with regards to information literacy content and its relevance to their needs. Although the majority of the respondents did not respond to these pertinent questions, below are the responses received from those that chose to answer.

6.37.2 Information literacy challenges

It was worrisome to note that respondents cited a number of challenges which they felt impacted negatively on the conduct of information literacy. The indicated challenges included the following:

- Not enough computers in the library
- Limited time for consultation/ training
- Unreliable Internet connectivity
- Computer literacy
- No manuals given to encourage practice after training.
- Lack of interest / negative attitude of participants
- Social background of students / language problems / Use of Xhosa language
- Lack of follow up

- Difficult to identify a librarian to help
- Academics not information literate
- Clashes on the master time table
- Lack of awareness on the part of students
- Choosing the appropriate free time like weekends.
- Cheeky librarians
- Large groups
- Unclear illustrations and examples
- Differences in skills set

These challenges suggest a very good home work for faculty / information librarians and policy makers at universities.

6.37.3 Ways of overcoming identified information literacy challenges

The second follow up question related to suggestions of ways of dealing with the identified challenges. Below are some of the suggested solutions:

- Library should buy additional computers.
- Information literacy training should start at primary level

- More flexible training timetable and frequency
- Make wireless connectivity widely available / Increase Internet bandwidth
- Training should be compulsory / making information literacy compulsory to all students
- More computer spaces / laboratories
- Manuals to be given to students for reference purpose
- Instruction librarians should be more visible
- Educate academics on library resources
- Create awareness
- More capable hands to assist with information literacy
- Use of universal language

6.38 Any suggestions about information literacy content

Respondents were also asked to suggest any comments about the content of their information literacy programme and below, are a presentation of what was suggested.

- Techniques to find relevant information quickly.
- In-depth workshops for all students at all levels every week
- How to avoid plagiarism
- Benchmarking information literacy content with other institutions of higher learning.
- Use of examinations / test to assess understanding.
- Increase number of facilitators

- The classes are helping us much
- Some of the subscription databases are blocked
- It should be offered as a course on its own
- Introduce an online tutorial
- Information literacy should be at levels of introduction and advanced
- Information literacy is a welcomed development in the globalized village and it must be pursued with vigor so that all students benefit from it.

6.39 Chapter Summary

The major focus of this chapter was on data presentation and analysis. The data was gathered through three key instruments namely: web content analysis of both Rhodes University Library and the University of Fort Hare Library, interviews with instruction librarians and questionnaires with students from the two universities. The mixed approaches complimented each other in providing rich data for the study and also covering up for the weaknesses of the other. The data assisted the researcher to establish the content of information literacy used by the studied institutions. Indications were that the content was largely developed following the American Research and College Libraries standards although there was an attempt to adjust the content to suit local environment. Major themes that emerged from the data about information literacy content include, how to find information, how to evaluate information, how to use information and how to communicate information. The data which was analysed both quantitatively and qualitatively was represented on tables and graphs. The following

chapter which is closely related to this one discusses the findings emanating from this chapter.

Chapter 7

Discussion of the findings

7.1 Introduction

This chapter discusses the findings of the study, keeping in mind the aim and objectives of the study. The major aim of the study was to analyse content of the information literacy programmes at both Rhodes University and the University of Fort Hare and their contribution to students' academic success. The specific objectives emanating from this main aim of the study were:

- To find out aspects of and instruction methods which were covered in the information literacy programmes at Rhodes University and the University of Fort Hare, and their relevance to students' academic success.
- To find out information literacy standards which were used by both Rhodes University and the University of Fort Hare.
- To determine perceptions of students on the contribution of information literacy instruction to superior academic performance.
- To establish the impact of ICTs on the provision of information literacy at Rhodes University and the University of Fort Hare.
- To identify constraints that impinged on information literacy instruction best practices and suggest content that may inform policy-formulation on information literacy programmes in South African institutions of higher learning.

In this regard, findings of the study were discussed following themes emanating from the above objectives.

7.2 Respondents profiles

Section A of both the interview and the questionnaire focused on the respondents' biographical data. Although biographical information had very little impact on the content of information literacy, it assisted the researcher to have a general knowledge about the participants to the study.

On the one hand, findings from the questionnaires revealed that first and second year students were more receptive to answering questionnaires as they constituted a combined percentage of 39.3% of the respondents. Doctoral students contributed the least percentage (4%) probably because of the low enrolment numbers associated with studies at that level. The study further revealed that universities had more students in the -24 to 25 age-groups and more staff (40%) in the 42+ category. This implied that universities had more students born in an environment where information to solve day to day problems is widely available and readily accessible. On the staff category, the possible implication is that universities had mature instruction librarians who were expected to handle information literacy content with that sense of maturity.

The questionnaire results further revealed that most respondents (53%) were Xhosa speaking, followed by Shona with 24%. The study was carried out at two universities both in the Eastern Cape Province of South Africa where Xhosa was the predominant local language hence that justified the high number of respondents in that category. Additionally, the government of Zimbabwe had a long standing history of sending students on scholarship to mostly the University of Fort Hare and to a lesser extent, to Rhodes University. Those students mostly spoke Shona and that justifies why the Shona language came second with 24% of the student respondents.

On the other hand, interview results showed that there were more female (60%) instruction librarians than their male (40%) counterparts. Generally, the researcher has observed that the library profession has more female librarians than males. This may be attributed to some cultural beliefs that males should be in more technical professions such as engineering and allied fields while females were more in soft areas such as teaching and nursing. It was also interesting to note that more students (61.5%) were females. A 2011 census of the South African population revealed that 51.7% of the total population (51 770 560) were females thereby justifying the higher percentage of female students at universities (Statistics South Africa, 2012).

Questionnaire results further revealed that more participants to the study came from the University of Fort Hare (59.2%). In terms of staff, it was 50% Rhodes University and 50% University of Fort Hare. The Interviews further revealed that 90% of the

interviewees were full Faculty / Information Librarians while 1(10%) was at the Assistant Librarian grade, with 80% of them holding Honours degrees and an average of five years of work experience. At the level of Honours degree, the researcher was convinced that they would be able to develop information literacy content which addressed students' needs. Still on educational qualifications, one of the surveyed institutions (the University of Fort Hare) had a library school which trained students in library and information science from Bachelor's degree to Doctoral level, among eight more South African Universities, and this justified the high number of qualified librarians.

The questionnaire results also showed that the faculties of humanities and management had more respondents with 34.6% and 33.6% respectively. Generally, the researcher has observed that students in social sciences and humanities tended to use library resources more than students from the sciences. This is probably because students in the sciences mostly rely on observing experiments either in laboratories or on the field. The least response rate of 2.3% was recorded from Rhodes University's faculty of law due to the fact that the law faculty at the University of Fort Hare was excluded from the study along other faculty departments on the East London campus which participated in the pilot study.

The questionnaire results also confirmed that the two institutions offered information literacy with a frequency of once per semester being the most (42.6%) chosen by the respondents. This boosted the researcher's confidence as it was easier to gather

information from students who had undergone information literacy training. All (100%) the librarians who participated in the interviews revealed that they were involved with information literacy thereby further allowing the researcher to proceed with the interviews. This also implied that they had knowledge about the aspects of information literacy that were covered in their programmes which was very strategic for this study.

The interviews also revealed that librarians (90%) were the only ones responsible for developing information literacy content with only 1 (10%) saying it was developed by librarians and lecturers. The literature surveyed for this study seems to confirm that the content of information literacy was solely developed by librarians. Studies done by Patter and Kanamadi (2010); Hart and Davids (2010) and Edzan (2008) support this view well as the content centers mostly on practical aspects of information literacy such as how to use OPAC and the general library orientation. However, Jiyane and Onyancha (2010), while agreeing on most aspects of the information literacy with the scholars named immediately above, argue that some library schools at the University of Pretoria and the University of the Western Cape were also teaching information literacy. What remains a big challenge though is the assertion by Pinto (2010); and Griessel and Parker (2009) that university students continue to be information illiterate despite all the training efforts by librarians.

7.3 Aspects / content of information literacy

Both the interview and questionnaire results confirmed the aspects cited in the literature particularly by such authors as Patter and Kanamadi (2010), Hart and Davids (2010) Edzan (2008), and Jiyane and Onyancha (2010). The aspects covered orientation to the library, use of OPAC, evaluation of information, how to organize information and searching techniques among other aspects. Content analysis results also revealed that the programme developed for the SEALS libraries which included the institutions studied, covered five broad aspects of recognition of information need, finding information, evaluating information, legal use of information and communicating information. The analyzed content revealed that the content is structured in a step by step process starting with recognition of information need until step five, where the information is communicated. From the literature studied for the purpose of this study, the researcher discovered that students may have difficulties in realizing that they need information and that they do not know where to find it and how to use it. Furthermore, the questionnaires revealed that students wanted to be taught how to use a computer first before undertaking other aspects of information literacy. This need is corroborated by Idiodi (2005: 228) who believes that very few students possess computer skills and “so very few make use of them to try out their search skills.” Idiodi further cites reasons for non-computer usage in libraries as “students’ lack of database search skills, being unaware of what to expect and thus not knowing what assistance to get from support services.”

One of the questionnaire respondents suggested that information literacy content could be structured into basic and advanced categories to cater for all levels of study. An analysis of the step by step information literacy programme available at the University of Fort Hare, casts a shadow on the categorization into the level structures because of the steps' interrelatedness. The categorization of the content into stages, could follow the Bloom's taxonomy which is structured in six stages of remembering, understanding, applying, analyzing, evaluating and creating (Forehand, 2005); and the SCONUL seven pillars of information literacy (Webber and Johnston, 2000). The argument behind this is that thinking takes place in levels hence the content of information literacy could be structured at the level of basic, intermediate and advanced with a view to enhance learning. Unfortunately, all the five steps of the information literacy module analyzed for this research have to be appreciated at the same time in order for a student to complete a task.

Concerning integration, the interviewees revealed that to some extent, the information literacy programme was integrated into the curriculum. At Rhodes University, for example, the programme was part of a six week extended course programme designed for first year students while at the University of Fort Hare, there was some arrangements with a few academics up until the second half of 2013, when the module was integrated into the Life, Knowledge and Action (LKA) course programme which is designed for all first years. Integration of information literacy is well supported in the literature as key to successful student learning (Idiodi, 2005; Arp and Woodard, n.d; Mutula & Mutula, 2007).

7.3.1 Ranking of aspects

Ranking of information literacy aspects was done as a follow up question to the question on the scope of information literacy. The findings of the study revealed that students rated 'the use of the OPAC' highly with 87%. Three more aspects followed and these were; 'methods of accessing information'; 'information searching techniques;' and 'general library orientation'. Among the least ranked aspects were: evaluation of information, how to organize information and how to use information. This supports the findings of Morrison (1997) and Lebbin (2006) where similar aspects were ranked by students. However, Morrison's study revealed that students were of the views that aspects such as evaluating information and using information could be developed outside the library. This may imply an interesting collaboration between the library and faculty, where each of the two will have a role to play in information literacy in particular.

7.4 Methods of instruction

Instruction of users on information literacy helps in the acquisition of relevant skills which are necessary for independent and lifelong learning. There are various methods of instruction which can be adopted for information literacy teaching. The findings of this study revealed that the librarians employed a number of methods of instruction which respondents to the questionnaire were asked to indicate. Among those that were rated highly by the respondents include library orientation, library workshops, small group

instruction, demonstrations, classroom instruction, online instruction and printed guides. These methods were well supported in the literature survey for this study by scholars such as Edzan (2010); Patter and Kanamadi (2010) and Doherty (2005), although these authors reveal different numbers of the methods used. However, Julien (2000: 512) posits that “there appears to be an increase in the use of hands on instruction in computer labs and in computer assisted instruction.” Again, in a later study, Julien and Boon (2002: 145) found out that the instructor-focused lecture was the most commonly used approach. Julien and Boon were however quick to point out that the approach was less engaging, as it lacked useful feedback from the students. This study revealed that classroom lectures formed part of the instruction methods employed by the Faculty / Information Librarians at both Rhodes University and the University of Fort Hare. This was true given some attempts at collaboration with the extended programme in the case of Rhodes University and the LKA in the case of the University of Fort Hare. The two programmes were conducted in formal classes.

7.4.1 Ranking of the instruction methods

Ranking was done on instruction methods to gauge the students’ views on which methods contributed more effectively to their academic success. The findings revealed eight popular methods out of a selection of 13. These eight were: library orientation, Library workshops, demonstrations, small group interaction, classroom lectures, one-on-one instruction, computer assisted training and library manuals. The least marked methods of instruction were: CD ROM instruction, and audio/ video lectures. However,

Julien and Boon (2002: 145) bemoaned the lack of pedagogical training and lack of resources as limitations on the part of the Instruction Librarians in order for them to make the approaches much more effective.

7.5 Information literacy standards

Information literacy standards provide good basis and inspiration for the development and offerings of information literacy. The most widely referred to standards in the information literacy literature were the ones developed by the ACRL (2000), the ANZIIL (2004), and the SCONUL, (1999). Both Rhodes University and the University of Fort Hare used standards mostly borrowed from the ACRL, ANZIIL, SCONUL and to some extent, the locally developed CHELSA draft guidelines. The difference in these standards is mostly a matter of diction. While the ACRL ones comprised five standards, the ANZIIL ones went up to six with the “application of prior and new information to construct new concepts or create new understandings” marking the line that differentiates the two. The SCONUL had seven standards with communication of the information being the additional one to the ANZIIL ones.

The findings of the study also revealed that the locally developed CHELSA guidelines also borrowed from the ACRL standards (Esterhuizen & Kuhn, 2010). Competence standards of the above discussed standards point to similar outcomes. According to Rader (2002: 141) the competencies include:

- The ability to determine the nature and extent of the information needed;
- The ability to assess needed information effectively and efficiently;
- The ability to evaluate information and its sources critically and to incorporate selected information into one's knowledge base;
- The ability to use information effectively to accomplish a specific purpose;
- The ability to understand many of the economic, legal and social issues surrounding the issue of information;
- The ability to access and use information ethically and legally.

These competencies articulate the information literacy developed by mostly the ACRL and also adopted by CHELSA on behalf of the 23 South African public universities, which include Rhodes University and the University of Fort Hare. The objectives of the information literacy programme analyzed for this study and available on the University of Fort Hare library website (www.ufh.ac.za/library) attest to the above competencies. The study findings also revealed that the ACRL, the ANZIIL, SCONUL and the CHELSA draft guidelines were all agreeing on the first standard of 'information need recognition' inasmuch as the other standards would differ mostly in terms of terminology and the total number. However, the CHELSA draft guidelines were developed in the context of South Africa, where the majority of the students entering university for the first time, had not had any meaningful library experience due to scarcity of libraries accessible to the majority of the people. Where they existed, the researcher observed that they were poorly resourced.

7.6 Assessment of information literacy skills

Assessment provides Instruction Librarians with information on the extent to which information literacy programmes impacted on students' academic performance (Trimmers & Veldkamp, 2010; Leung, Mok & Wong, 2008). The findings of the study showed that both Rhodes University and the University of Fort Hare library instructors employed various methods of assessment. An analysis of the information literacy module used revealed that there was a quiz after each step, to test the skills of the students after undertaking that particular step. Furthermore, results from both the interviews and the questionnaires confirmed the use of online quizzes, tests, examinations, individual assignments, and group assignments. The majority (64.6%) of the questionnaire respondents fully supported the idea of running an examinable information literacy programme. This could be because of the realization that if it remained an unexamined course, then the intended beneficiaries would take it lightly despite its relevance to their academic success.

The assessment methods revealed by the study were well supported by Belanger and Bliquez (2011); Webber & Johnston (2000); Andretta (2005) and Harlen (2007), who all believe that assessment of information literacy should be at both the formative and summative levels in order to give meaningful feedback to instructors and students as well as ensuring quality. However, portfolio, a more expansionist form of assessment (Klenowski, 2002) was never mentioned as one of the assessment methods used at

Rhodes University and the University of Fort Hare, despite its importance in allowing multiple sources of evidence.

7.7 Technology for assessment

Assessment of information literacy skills using technology as indicated in the study findings, appear to have gathered momentum in the subject just like it has with other academic courses. Balajthy (2007: 240) concurs that “there are many new tools for assessment that take advantage of advances in technology.” The findings of the study revealed that Instruction Librarians used special software programmes such as Ruconnected, Moodle, Doodle (in the case of Rhodes University) and Blackboard (in the case of the University Fort Hare), to assess information literacy competencies. In any case, information literacy uses information technology for information retrieval and communication (Dadzie, 2007).

7.8 Perceptions of students on information literacy

The majority of the students (89%) felt that information literacy was either relevant or very relevant to the improvement of their academic welfare. Global discourses on students’ perceptions of information literacy are mostly centered on whether content addresses students’ needs. This augurs very well with the current study whose focus was on content of information literacy and its contribution to students’ academic success. The findings of this study to a larger extent confirmed that information literacy

had a positive impact on students' academic success although literature also portrayed negative attitudes by some students on the subject (Orr & Cribb, 2003). However, Morrison (1997: 7) concurs with the findings of this study when he discovered in a study that students positively perceived at least four main aspects of information literacy.

These were:

- Recognizing a need for information;
- Locating information;
- Evaluating information and,
- Effectively using information (Morrison, 1997).

In that particular study, the students found evaluating and using information as skills that could be developed outside the library. Lebbin (2006: 212) also portrays a positive image of information literacy by students who appreciated the skills they got in areas such as citation, searching databases, and navigating the Internet.

An analysis of the information literacy programme available at the university of Fort Hare library website, including interviews with Faculty / Information librarians revealed a wide coverage of areas that were also noted by Morrison (1997). There was a noticeable gap though on the use of computers as indicated by some respondents to the questionnaires who felt that they needed to be taught some computer skills for them to be able to appreciate information literacy better. The lack of computer skills was also corroborated by some interviewees who revealed that it was difficult to impart information literacy skills to students who were not computer literate. The researcher,

had, during interaction with students for the purpose of information literacy, discovered that students who were not computer literate always lagged behind particularly when undertaking practical lessons. This hampered smooth progress of such sessions, resulting in very little work covered during the allocated session time.

7.9 Impact of Information Communication Technologies

Generally, the findings of the study revealed that ICT had great impact on information literacy content and delivery methods. In particular, respondents to the questionnaires indicated that ICT had a high impact (44.4%) and a very high impact (27.1%) which constituted 71.5% of the total respondents. The study further revealed that the majority (69%) of the student respondents owned personal computers, which was in the words of Feather (2013: 202), “part of life in the 21st century.” The high impact of ICTs on information literacy is further corroborated by Orr and Cribb (2003: 49) who argue that “technologies such as hardware and software, databases and web browsers” were enablers of information literacy in the academic environment and they either needed to be updated or “replaced with such frequency that a one-off first year course cannot guarantee an information literate graduate.” This goes a long way to demonstrate the value of information literacy.

The findings of the study also revealed that 31% of the student respondents from both Rhodes University and the University of Fort Hare did not own computers but had access to such resources in the library computer laboratories or in their departments or faculties' laboratories. The library computer laboratories were however available on

limited hours for each student. The researcher also observed that students had access to wireless Internet connection on campus which enabled unlimited access to information products and services. Advances in technologies implied a continuous need to adjust information literacy content, even delivery methods (Orr & Cribb, 2003).

To further demonstrate the impact of ICTs, the findings of the study revealed that students and librarians had adopted the use of social media to enhance communication and sharing of information products and services. The findings indicated that 92% of the questionnaire respondents had Facebook accounts. This corresponds well with a United States study by Acquisti and Gross (2006) which revealed that over 8% of the undergraduate students across college campuses had Facebook accounts, the same with Twitter which accounted for 58.9% of the respondents. Blogs had 20.9% while wikis had 77.8% respondents indicating ownership of these social media. These tools enabled access to and sharing of useful information content (Murthy, 2013; Joinson, 2008). More than 78% of libraries in the United States were also using social networks to communicate with patrons (Sternier, 2012: xi; Knight & Cook, 2013). Both Rhodes University and the University of Fort Hare libraries had Facebook and Twitter accounts.

The findings also indicate that the use of e-journals (70.5%) and e-Books (74.2%) and other online information products was in addition to the use of print sources, on the increase. This implied that librarians and other information intermediaries packaged information content and delivered it through social media, thereby further demonstrating

the relevance of ICTs in content development and the provision of information literacy skills.

7.10 Information literacy competencies

The findings of the study revealed that competencies expected of students who had undergone information literacy skills training at both Rhodes University and the University of Fort Hare were in consistence with the competencies established by the ACRL(200), CAUL (2001), ANZIIL and SCONUL(1999). For instance, one interviewee revealed that the expected competencies included the following:

- Recognize the need for information when undertaking academic studies;
- To be able to identify the extent of information needed for their projects / studies;
- To be able to access the needed information for successful presentation of projects;
- To be able to evaluate information and its sources to make sure that academic information is retrieved and applied;
- To incorporate information to his / her knowledge base, and communicate it effectively and economically;
- To understand legal, social and cultural issues of information;
- To classify, store and manipulate information, and recognize information literacy as a prerequisite for lifelong learning.

These concur well with the objectives of the information literacy module which both Rhodes University and the University of Fort used to ensure their students became

information literate. Upon completion of the five steps of the module, students were expected to: define their need for information, find the correct information, evaluate the information found and understand the legal and ethical implications when using information, and communicate the needed information effectively. Writing on behalf of CHELSA, Esterhuizen and Kuhn (2010) adopted the ACRL (2000) definition of information literacy which referred to “an understanding of and set of abilities empowering students to recognize when information is needed, and the skills of how to locate, evaluate and use it effectively”. Esterhuizen and Kuhn above, went on to describe an information literacy person as one who:

- recognizes the need for information;
- recognizes that accurate and complete information is the basis for intelligent decision making;
- identifies potential sources of information;
- develops search strategies;
- accesses sources of information, including computer based and other technologies;
- evaluates information;
- organizes information for practical application;
- integrates new information into an existing body of knowledge; and
- uses information in the process of critical thinking and problem solving.

A closer look at the competencies by the various bodies as alluded to above, reveals similarities and in some cases additions in terms of focus. For instance; Idiodi (2005: 224) noted that the ALA propounded competencies were focused on “the student” while

the Australian standards referred to “an information literate person” at large. The information literacy competencies assist instruction librarians to focus their information literacy content on what students should be able to do in terms of finding and using information. Esterhuizen and Kuhn (2010), describe, in the appendix of their paper, exit level competencies for each unit of the information literacy module which allows instruction librarians to remain focused on each unit’s outcomes.

7.11 Challenges of information literacy

The conduct of information literacy as revealed in the surveyed and presented literature comes with some challenges for the library and faculty fraternity to deal with. The findings of this study indicate that all the interviewees (100%) concurred that there were challenges of various types. They ranged from lack of cooperation by students and faculties since the programme was not credit-bearing and also not on the university time table, to challenges associated with bandwidth and Internet connectivity issues that impacted negatively on the information literacy programmes at both Rhodes University and the University of Fort Hare. With a total student population of plus or minus 21 489 for the two institutions according to statistics obtained from the registries, and a dedicated instruction librarian component of 12 for both institutions, it was difficult to reach all the students with the programme. This view is supported by Wiggins (1992) who found out that it was difficult to coordinate a student’s work from one class to another and from year to year as that would easily result in exhaustion and failure.

Discussions with instruction librarians during interviews revealed that the main focus of the information literacy programme at both Rhodes University and the University of Fort Hare was on first year students but still they could not reach everyone in first year. Reaching other levels was haphazard, usually at the concern and arrangement of supportive academics. Chances were therefore high that some students would complete their programmes without receiving any information literacy training thereby compromising their independence and lifelong capabilities.

The findings of this study further revealed that only librarians were responsible for the development of information literacy content which in itself caused challenges for its promotion to academics and students. This is supported by Hepworth (2000); Cunningham and Lanning (2000) who argue that it would be difficult to get faculty staff to give weight to information literacy and incorporate it into the curriculum because of lack of understanding of the programme. If they were indeed involved in the development of the content, they would appreciate the concept fully. With regard to attitudes, Hepworth (2000) argues that both faculty and librarians needed to change their mindsets and start working together.

Another view which supports the findings of this study is that if there is no course which cuts across faculties, then it would be difficult to have a unified approach to information literacy (Hepworth, 2000). With respect to integration of information literacy into courses across disciplines, Cunningham and Lanning (2000) noted that it required the buy-in of all stakeholders comprising faculties, librarians and administrators.

The study further revealed that some students were not computer literate which made it difficult for instruction librarians to conduct information literacy training to them without having to first teach them computer literacy. The problem of computer illiteracy emanates from lack of support at the primary and high school levels of the education system where the learner's information literacy needs are not adequately addressed. In most cases, students will have no prior library experience (Jiyane & Onyancha, 2010; Hart & Davids, 2010; Woods & Marsh, 2007; Lwehabura & Stilwell, 2008). It was further observed that lack of computer skills affects information literacy class attendance as those that lack confidence in themselves will shy away (Stoffberg & Blignaut, 2008; Jiyane & Onyancha, 2010).

Yet another challenge emanating from the study findings was the lack of clear cut information literacy policies. Interviewees to the study revealed that they were not aware of any policy to guide or inform their practice over and above the available information literacy module. This compares well with the findings of Lwehabura and Stilwell (2008) who underlined the lack of information literacy policy at some universities in Tanzania, as the stumbling block for the effective development and provision of information literacy.

7.11.1 Suggested solutions to challenges

Information literacy instruction has a unique role to play in increasing academic motivation among students (Mortimore & Wall, 2009). With this in mind, it is imperative to clear any impediments which might hamper the proper conduct of information literacy. In light of this, the study findings unveiled a need to find amicable solutions to the challenges of information literacy at both Rhodes University and the University of Fort Hare. Collaboration for the development and delivery of information literacy content was cited as key to solving some of the challenges. Collaboration with faculty assist instruction librarians to become aware of the students' research needs (Mounce, 2010: 300). Related to this was the finding that information literacy should be embedded within the curriculum as a way to make the programme compulsory (Mounce, 2010; Brasley, 2008; ACRL, 2003).

From the students' perspective, the study findings revealed a need for more computer resources with which to access information for good academic progress. Interestingly, one student respondent pointed out that information literacy should start at the primary school level, a point also confirmed by Lwehabura and Stilwell (2008); Jiyane and Onyancha (2010). In addition, the findings also revealed a need for flexibility in terms of delivery times and making wireless connectivity widely available on campus residences to ensure consistent access to information resources.

On the whole, the findings of the study revealed that an institutional information literacy policy would help solve a myriad of challenges as it would set clear guidelines starting from content development right through to delivery and assessment. This aspect was well emphasized by scholars such as Lwehabura and Stilwell, 2008; Jiyane and Onyanacha, 2010; Hart and Davids, 2010).

7.12 Chapter summary

This chapter discussed the findings of the data that was presented, analyzed and interpreted in chapter 6 of the study. The discussion was based on the research questions / objectives of the study which were developed into themes. The themes can be restated as:

- Content of information literacy at Rhodes University and the University of Fort Hare;
- Instruction methods;
- Standards of information literacy;
- Students perceptions of information literacy;
- Information literacy competencies;
- Challenges of information literacy and,
- Suggested solutions to information literacy challenges.

Generally, there was to a large extent, no collaboration among key stakeholders on the development of information literacy content and its delivery. The study established that there were a myriad of challenges which could be possibly addressed by a clear cut

institution-wide information literacy policy. The chapter that follows provides a summary of the whole study, conclusions drawn from the study findings and ends with recommendations made for the library management and other key university policy makers alongside suggestions for further studies.

Chapter 8

Summary, conclusions and recommendations

8.1 Introduction

The major purpose of this study was to investigate and analyze the content of information literacy programmes at both Rhodes University and the University of Fort Hare. This concluding chapter presents a summary of the major findings of the study. The chapter begins with a reflection of chapters 1 to 7, followed by a summary of the findings. The summary of findings will be informed by the research questions of the study with a view to maintain focus on the topical question of the study. In the end, the researcher makes a comprehensive presentation of recommendations and suggestions for further research.

8.2 Recap of Summary of chapters

In an effort to analyze the content of information literacy programmes at Rhodes University and the University of Fort Hare, the study began with chapter one, which looked at the conceptual setting and background of the study. The chapter, revealed through pertinent issues concerning the aspect of information literacy such as the HEQC policy provisions, with a view to bring to focus, the statement of the problem. In the same vein, the background to both Rhodes University and the University of Fort

Hare was also given. Other related concepts such as the information society, academic literacy and ICT literacy were also discussed.

Chapter two focused on the theoretical framework over which the study was anchored. The study went through five models of information literacy including the new liberal art, developed by Shapiro and Hughes (1996) which acted as an anchor to this study, given the model's focus on information literacy content and was supported by the ACRL standards of information literacy. The other key models discussed are the big six model, propounded by Eisenberg and Berkowitz (1987), Kuhlthau's model of the information search process (Kuhlthau, 1991), Loertscher's information literacy model and the ACRL standards of information literacy, which acted as the overall anchor for the study.

Chapter three revealed through related literature mostly based on the objectives of the study which covered aspects / content of information literacy, delivery methods, and challenges at the global higher education level.

Chapter four of the study covered literature review focusing on South Africa. The chapter shed some light on the background to the concept of information literacy in South African higher education in general and Rhodes University and the University of Fort Hare in particular. Challenges faced in terms of information literacy content development and delivery were also explored.

Chapter five covered the research design and methodology of the study. Both qualitative and quantitative data was gathered using content analysis, interviews and questionnaires.

Chapter six focused on data presentation, analysis and interpretation. In this chapter, the information literacy module content which was adopted by SEALS, and is available on the University of Fort Hare library web page, was analyzed and presented alongside data gathered through interviews and questionnaires.

In chapter seven, findings of the study were discussed based on the research objectives. The study upheld lack of collaboration and absence of institutional policies on information literacy as some of the impediments to successful information literacy.

Chapter eight, which is the current chapter, focuses on conclusions drawn from the study and provides some recommendations to stakeholders and suggestions for further research.

8.3 Summary of the findings

This part of the study provides a summary of findings with respect to the objectives/ research questions of the study. The study was mostly informed by the Shapiro and Hughes' new liberal art theory and the ACRL standards of information literacy model. The findings, in the form of answers to the main questions, are presented below.

8.3.1 What aspects were covered in the information literacy programmes at both Rhodes University and the University of Fort Hare and to what extent did they address students' needs?

The study found out that the information literacy programmes covered mostly conventional aspects of information literacy developed by such associations as the ACRL. In particular, the study discovered that the module comprised five interrelated steps as follows:

- Recognition of need
- Finding information
- Evaluating the information
- Legal use of the information
- Communicating the information

However, the study established that the module was not implemented wholesome, neither was it credit-bearing nor fully integrated into the curriculum. There was some measure of integration of aspects with the extended programme at Rhodes University and the LKA programme at the University of Fort Hare though the time-frames for these programmes were also limited, two to six weeks to be precise. The study further established that the programme was targeted at first year students with some *ad hoc* arrangements made for other levels of study. In line with the five steps of the module, the study found out that its objectives were to enable students to: define their need for information, find the correct information, evaluate the information found, understand the legal and ethical implications when using information, and to communicate the information.

With regards to delivery methods, the study established that the content was delivered through multiple methods such as classroom lectures, library orientation and workshops, one-on-one instruction, and small group interaction. The study also established that although handled at certain limited aspects of the module, it was very helpful in finding and using information. It was also established that the librarians were solely responsible for the development of the information literacy content at both Rhodes University and the University of Fort Hare.

8.3.2 What standards were used in the development and provision of information literacy at Rhodes and the University of Fort Hare?

It was established that both Rhodes University and the University of Fort Hare used the ACRL standards of information literacy. It was further established that efforts were underway to incorporate the CHELSA draft guidelines although there was no evidence by way of proper documents in place. In any case, the study discovered that the CHELSA draft guidelines were developed based on the ACRL standards but with some adaptations to suit the local environment. The study also found out that standard five of the available SEALS information literacy module, that is, 'communicate the information' might have been borrowed from SCONUL's standard number six. There was consensus though on the other five standards established by the ACRL, ANZIIL and SCONUL, with of course differences in wording.

8.3.3 How did university students perceive information literacy and the contributions it made to their academic success?

It emerged that the majority (89.20%) of the respondents perceived information literacy as relevant and very relevant respectively, to their academic success as they were instructed on how to find and use information of all formats. The study also established that students at Rhodes and the University of Fort Hare frequently accessed databases of e-Books and e-journal packages which mostly formed the basis of the information literacy programmes. However, access was reportedly hampered at times by poor

Internet connectivity and lack of computer skills. It is in this light that some student respondents to the study wished if information literacy could be introduced at the primary level of schooling to facilitate easier graduation into university education.

8.3.4 What was the impact of ICTs on information literacy programmes?

It emerged that ICTs had a high to a very high impact on information literacy. The study found out that technology was the major vehicle for information literacy hence it was found to have a high impact. The study further revealed that the majority (59%) of the students owned personal computers and even high power end devices such as tablets and smart phones with which to use for finding and manipulating personal and academic information. The study further found out that students participated on social media platforms such as Facebook and Twitter among others, for the purpose of sharing information. Librarians, as the study revealed, were also on the same platforms in order to share information content with their user communities. This was found to have a positive impact on students' academic success as information was easily and widely shared between the library and the students.

The study further established that instruction librarians were also using technology such as Ruconnected, Moodle and Doodle, in the case of Rhodes University and Blackboard, in the case of the University of Fort Hare.

8.3.5 What were the challenges of information literacy at both Rhodes University and the University of Fort Hare and how may such challenges be solved?

The study found out that there were challenges affecting the development and delivery of information literacy at both institutions. To start with, the study revealed lack of collaboration among librarians, faculty staff and administrators, in the development and delivery of information literacy content. Secondly, some students were found to lack computer skills, which were considered as drivers of information literacy skills. The study further found out that that the programme was not properly time-tabled and there came a lot of other challenges such as lack of interest by students and clashes on the time-table.

Furthermore, all the interviewees (100%) revealed that there were challenges such as understaffing, students attending information literacy classes only if accompanied by lecturers, and poor internet connectivity. In the end, the study discovered that there was no clear cut information literacy policy at both institutions, to guide the conduct of information literacy.

8.3.5.1 Suggested solutions

The study showed that if information literacy was to be successfully conducted, there was a need to involve faculty at the levels of content development, integration and

delivery, with administrators involved for the provision of resources such as more bandwidth and staffing levels.

The study also found that making flexible training slots and frequency for information literacy would encourage more students to partake in the programme. Students also suggested making wireless connectivity widely available and making information literacy compulsory to all students, as possible solutions. The study further found out that there was a need to create more computer spaces on campuses and the use of universal language during training, also, as some of the solutions to the challenges.

8.3.5.2 Any other suggestions

The study revealed that the information literacy programme offered to the extended studies in the case of Rhodes University was worthwhile and the interviewees wished if it could also be offered to the mainstream students. The instruction librarians also wanted to be involved in the assessment of examination scripts for them to better understand students' strengths and weaknesses in terms of research skills. The government through the department of education was also implored to introduce libraries in all schools (the concept of one school, one library) as a way to prepare students for the rigorous higher education landscape.

8.4 Conclusions

The study aimed at analyzing content of information literacy programmes in higher education, with a special focus on Rhodes University and the University of Fort Hare. The purpose was to establish aspects of information literacy content, delivery methods, perceptions of students and impact of ICTs on information literacy alongside challenges.

In full view of the findings, the study concludes that there was a general weakness in the development of information literacy content since it was the sole responsibility of instruction librarians. Lack of collaboration kept away other key stakeholders such as academics and administrators, thereby rendering the programme almost ineffective in terms of stakeholder support. The only consolation was that the programme was developed along the lines of the ACRL standards, which have stood the test of time.

The study further concludes that the programme's module was not implemented in its entirety due to factors such as time constraints, understaffing, and lack of a clear-cut policy. If there was an institution-wide supported policy covering all levels of study, information literacy would be time-tabled just like any other conventional programme. The study also concludes that the content of the information programmes did not cover computer technology skills which are necessary in finding information and use.

The study further concludes that the locally developed CHELSA draft guidelines were not yet implemented although they were never meant to be prescriptive to the public

universities in South Africa. However, the fact of the matter is that the CHELSA draft guidelines were developed with the unique needs of the South African student in mind. Their adoption and use should go a long way in assisting students with capacities to use library resources of all formats.

The study also concludes that the efforts of instruction librarians at both Rhodes University and the University of Fort Hare were appreciated by some section of the student body even though they did not reach everyone. There were testimonies in the study findings that students frequently accessed database packages of e-Books and e-journals and confessions that the information literacy programme helped them a lot in their studies. In spite of all the confessions, the study still concludes that the assessment mechanisms that were in place did not help the instruction librarians much as they did not have access to the final results. The results would assist the instruction librarians to address any weaknesses in the system, with a view to improve service delivery to students.

With regards to ICTs, the study concludes that they had a high impact on information literacy development and delivery as the libraries were found to be actively involved in the use of social media platforms and other IT resources to share information content with students. A large number of students owned computers, tablets and smart phones and also participated on social media platforms. Both Rhodes University and the University of Fort Hare Libraries had also established (at varying levels) knowledge and research commons to allow students free interaction with information.

With reference to challenges, the study concludes that there are indeed challenges which could however be addressed by information literacy policies developed by all key stakeholders and approved at the highest level of the university. Without such policies, the information literacy programmes would continue to play second fiddle despite their perceived value to students' success.

8.5 Recommendations

With the objectives in mind and the subsequent findings of the study as well as the conclusions, the researcher makes the following recommendations:

- The library authorities at both Rhodes University and the University of Fort Hare should engage with faculty, the teaching and learning development units and senior university administrators for the purpose of crafting a sustainable policy that will pave way for course design and its delivery mechanisms. Content of a programme of instruction needs to be developed with key stakeholders' participation, if it is to be sustainable and acceptable. It is further recommended that a sub-committee of the senate which will also include students' representatives and the quality assurance unit should be established to champion the development and delivery of information literacy programmes. It is also recommended that the information literacy programmes be integrated into university courses which cut across all disciplines as applicable. Instruction librarians are further implored to undergo teaching skills training so as to

complement the efforts of the teaching staff in information development and delivery.

- It is further recommended that content of information literacy should differ according to level of study to cater for basic through to advanced needs of students. In line with this recommendation, it is also recommended that delivery methods of information literacy should also be adjusted accordingly and should be transferred to academics (Sajdak, 2012) while the library is left to focus more on the practical component of the course content.

- It is also recommended that content of information literacy programmes should cover the seven dimensions of information literacy (Shapiro and Hughes, 1996) which include tool literacy, resource literacy, social structural literacy, research literacy, publishing literacy, emerging technology literacy and critical literacy. These content aspects, if adopted, should go a long way in addressing the challenges of information use presented by the dynamic technological environment.

- As the top association of higher education libraries in South Africa, CHELSA tasked a sub-committee to develop guidelines for the conduct of information literacy in the sector. However, the study revealed that the results were published as draft and that may justify why they have not been fully embraced at both Rhodes University and the University of Fort Hare. To this end, it is

recommended that CHELSA should finalize and adopt the draft guidelines and put mechanisms in place for their implementation but of course taking into account, unique institutional requirements.

- With the rising student population at most universities to cater for government demands, instruction librarians are normally overwhelmed with training requests and usually with limited resources. To this effect, it is recommended that university administrators should provide support for information literacy in the form of adequate manpower and IT resources with a view to ease burnout of staff which has a great potential of resulting in failure. University planners should also lobby and make available grants for students to buy their own information enabling gadgets such as tablets and smart phones with a view to improving access to and sharing of information. Related to this, it is also recommended that universities should improve on bandwidth and wireless connectivity around campus and residences to allow students to download required information for their assignments at their convenience.

- Information literacy skills, alongside computer skills, are difficult to embrace at the same time. It is important to inculcate these skills at an early age of learners from primary through to high school and university level. Surviving in an era where information is easy to find due to advances in technology requires users to learn critical information handling skills. To this end, it is recommended that the Department of Higher and Tertiary Education, together with its sister Department

of Basic Education, should champion the development of comprehensive policy frameworks for the development and delivery of quality information literacy programmes at all levels of education and ensure their implementation. This will go a long way in curbing instances of plagiarism and violation of copyright laws which are bound to be high due to easy access to information by students. Schools should be equipped with computers and libraries and lessons conducted for their use as a way to prepare students for higher education and for both independent and lifelong learning.

The researcher recommends further research in the following areas:

- A comprehensive investigation of the perceptions of academics at higher education institutions towards information literacy with a view to overcome some of the weaknesses established in this study, including lack of corporation by faculty.
- A comprehensive assessment of information literacy practices of each of the universities considered for this study with a view to address individual content and institutional needs.
- A study of information literacy provision and policy framework, at the primary and secondary levels for the purpose of informing policy at the higher level of education.

8.6 Summary/ Final conclusion

This chapter revealed through the summary of the findings in relation to the objectives of the study whose main focus was on analysis of information literacy content at Rhodes University and the University of Fort Hare. Generally, the summary findings indicated lack of collaboration among librarians and faculty staff and administrators on the development and delivery of information literacy content. Although it was found out that the programme in use was developed along the lines of the much established standards such as the ACRL ones, the programme lacked local flavor to effectively deal with a student population mostly coming from a historically disadvantaged school system. The study also concluded that some students appreciated information literacy and ICTs as they had great impact on their academic success. However, there were challenges that were identified which the study concluded and recommended that they should be dealt with by way of establishing comprehensive policy frameworks at the levels of the two departments of education and the university. Further areas of study identified and recommended include the area of assessment and a comprehensive study of academics' perceptions about the contribution of information literacy to throughput.

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Appendices

Appendix A: Letter of introduction

Department of Library & Information Science

Faculty of Social Sciences & Humanities

2nd Floor, Psychology Building, Alice Campus

Tel: 040 602 2211/2122/2737 | Fax: (086) 628 2533/2449
OR 086 622 1359 |



21/08/2012

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: INTRODUCING MR.MATHEW MOYO (REGISTRATION NUMBER 201006795)

This serves to formally introduce the above named as a part-time Doctor of Philosophy (PhD) student in the Department of Library and Information Science, University of Fort Hare, Alice, South Africa. Mr. Moyo has proposed to conduct research on a research project titled “**An analysis of information literacy programmes in South African institutions of higher learning: a study of selected universities in the Eastern Cape Province.**”

Mr. Moyo’s research proposal has been approved by the Higher Degrees and Research Committee of the Faculty of Social Sciences and Humanities and duly registered by the University of Fort Hare as a research project. As the student’s supervisor, I am very satisfied that the topic is researchable. It is being increasingly realized that information literacy has an important role to play in the academic success of students at institutions of higher learning.

Mr. Moyo would like to collect data for the research project by way of interviewing those deemed to be credible sources of information on information literacy. As a Department, we request that you assist Mr. Moyo to distribute questionnaires and/or conduct face-to-face interviews. Any other assistance given to Mr. Moyo would be highly appreciated. For any further information about Mr. Moyo, please do not hesitate to contact the undersigned.

Thank you for your anticipated assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'EM Ondari-Okemwa', written over a horizontal line.

**Prof EM Ondari-Okemwa,
Supervisor and Head, Department of Library and Information Science.**

Appendix B: Rhodes University library request email

From: Ms Ujala Satgoor [mailto:u.satgoor@ru.ac.za]
Sent: 22 August 2012 05:34 PM
To: Moyo, Mathew
Subject: RE: REQUEST TO CONDUCT RESEARCH AT YOUR UNIVERSITY LIBRARY

Dear Mathew

This is an extremely relevant topic that you have embraced. Rhodes University Library has made a new appointment for the position of Librarian: Undergraduate Services of which Information Literacy is the focus. The librarians are engaged in IL programmes but I believe there is wide ranging understanding of IL as a concept itself.

You are welcome to include RUL as part of your research.

Regards
Ujala
046-603 8079

From: Moyo, Mathew [mailto:MMoyo@ufh.ac.za]
Sent: Wednesday, August 22, 2012 5:13 PM
To: u.satgoor@ru.ac.za
Subject: REQUEST TO CONDUCT RESEARCH AT YOUR UNIVERSITY LIBRARY
Importance: High

Dear Ms Satgoor

I am writing to request for your permission to conduct research at your university library as detailed in the attached letter. I am requesting to interview your staff members involved with information literacy training and some students who will be selected randomly from the faculties. It is hoped that the results will shed some light on what constitute an ideal information literacy programme for students in a South African environment.

Your assistance in this regard will be greatly appreciated.

Sincerely yours
Mathew Moyo

The University of Fort Hare subscribes to an e-mail disclaimer. Please click on the following URL to read further: <http://www.ufh.ac.za/?q=legal-notice>

Appendix C: University Fort Hare Library request email

From: Soul, Yoli
Sent: 03 September 2012 02:21 PM
To: Moyo, Mathew
Subject: RE: REQUEST TO INTERVIEW INFORMATION LIBRARIANS AND YOURSELF FOR MY STUDIES.

Dear Mathew,

Your study is very much supported and you can go ahead and collect information.

Yoli

Yoli Soul
University Librarian
University of Fort Hare Library
P/B X 1322
Alice, 5700

Phone: 040 602 2042
Fax : 040-653 1423
Mobile: 082 200 9252

While revolutionaries as individuals can be murdered, you cannot kill ideas - Thomas Sankara

From: Moyo, Mathew
Sent: 29 August 2012 05:16 PM
To: Soul, Yoli
Subject: REQUEST TO INTERVIEW INFORMATION LIBRARIANS AND YOURSELF FOR MY STUDIES.

Hi Sis Yoli!

Attached is my formal request to interview staff members in pursuit of my studies in the Department of Library and Information Science. Although I am still gradually developing my chapters, I think it's important for me to gather data at this point also.

Will hear from you then.

Regards
Mathew

Appendix D: Ethical clearance certificate

**OFFICE OF THE DEPUTY VICE-CHANCELLOR:
ACADEMIC AFFAIRS**
Private Bag X1314, Alice 5700
Tel: +27 (0) 40602 2403
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tsnyders@ufh.ac.za



ETHICAL CLEARANCE CERTIFICATE

Certificate Reference Number: OND03 1SMOY01

Project title: Content of Information Literacy Programmes in Institutions of Higher Learning: A Study of Selected Universities in the Eastern Cape Province

Nature of Project: Doctor of Social Sciences

Principal Researcher: Mathew Moyo

Supervisor: Professor EM Ondari-Okemwa

Co-supervisor:

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Research must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principal or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented

Appendix E: Consent form

CONSENT

I hereby agree to participate in research regarding content of information literacy programmes in institutions of higher learning and their relevance to students' work. I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop this interview at any point should I not want to continue and that this decision will not in any way affect me negatively.

I understand that this is a research project whose purpose is not necessarily to benefit me personally.

I have received the telephone number of a person to contact should I need to speak about any issues which may arise in this interview.

I understand that this consent form will not be linked to the questionnaire, and that my answers will remain confidential.

I understand that if at all possible, feedback will be given to my university community on the results of the completed research.

.....
Signature of participant

Date:.....

I hereby agree to the tape recording of my participation in the study

.....
Signature of participant

Date:.....

Appendix F: Questionnaire for Students

CONTENT OF INFORMATION LITERACY (IL) PROGRAMMES IN SOUTH AFRICAN INSTITUTIONS OF HIGHER LEARNING

A STUDY OF SELECTED UNIVERSITIES IN THE EASTEN CAPE PROVINCE.

Dear participant

My name is Mathew Moyo, a postgraduate student in the Department of Library and Information Science at the University of Fort Hare. I am conducting a study on Information literacy as detailed above in fulfilment of a Doctoral thesis. The research results could assist in formulating policy for crafting sustainable IL content for institutions of higher learning both at institutional and national levels. I am therefore kindly asking you to spare some 20 to 30 minutes to please respond to all the questions in this questionnaire to the best of your knowledge. Below is a definition of the key research concept;

Information Literacy (IL) - is the set of skills needed to find, retrieve, evaluate critically and use information ethically and legally. This programme is usually provided by the library.

The information provided in this study will remain confidential and nobody will be forced to complete the questionnaire. Should you have any questions concerning the questionnaire, please contact me on telephone number; 040-6022541, E-mail; mmoyo@ufh.ac.za or my project promoter, Prof Ezra M Ondari-Okemwa on telephone number; 040-60222437 or E-mail; eondari@ufh.ac.za

Please hand in your completed questionnaire to the librarian at the service desk in your library or email it to me on the above email address.

Your cooperation will be greatly appreciated.

Yours faithfully

Mathew Moyo

(Researcher)

SECTION A: BACKGROUND INFORMATION

A1. What is your level of study at university? Please tick (✓) the appropriate box

One	Two	Three	Four	Postgraduate Diploma	Honours	Masters	PhD / Doctoral

A2. Please indicate your home language

A3. Please indicate your age group by ticking (✓) the appropriate box below.

-18 – 23	24 – 29	30 – 35	36 – 41	42+

A4. Please indicate your gender by ticking (✓) the appropriate box below

Male	Female

A5. Please indicate the university where you are based by ticking (✓) the appropriate box below

Rhodes University	University of Fort Hare

A6. Please indicate your faculty at your respective University

Faculty	Tick (✓)
Science / Agriculture/ Pharmacy	
Management / Commerce	
Social Sciences / Humanities	
Law	
Education	
Other (Please specify)	

SECTION B: INFORMATION LITERACY CONTENT

B1. Does your library provide training in information literacy i.e. how to find and use information?

Yes	No

B2. How often is the programme conducted?

Frequency	Tick (✓)
Daily	
Weekly	
Once per semester	
Other (Please specify)	

B3. Which of the following aspects of information literacy are covered by your university library?
Please tick (✓) the appropriate box

Aspect	Tick
General library orientation	
Use of Online Public Access Catalogue (OPAC)	
Methods of accessing information	
Information searching techniques / strategies	
Sources of information	
Evaluation of information sources	
How to organize information	
How to use information	
Other (please specify)	

B4. Please list below, up to five aspects you have ticked above, 1 being the most important while 5 is the least important.

1	
2	
3	
4	
5	

- B5. Which of the following methods of instruction are used in the IL programme by your library?
Please tick (✓) all that apply.

Method of instruction	Tick (✓)
Classroom lectures	
One-on-one instruction	
Library manuals	
Small group interaction	
Demonstration	
Printed guides	
Library orientation	
CD-ROM instruction	
Audio / Video lectures	
Computer assisted training / Online instruction	
Library workshops	
Internet based instruction	
Seminars	

- B6. Please list below, up to 5 instruction methods you have ticked above according to importance or suitability to your information literacy needs. One (1) represents the most important while 5 is the least important

1	
2	
3	
4	
5	

SECTION C: Information Communication Technologies (ICTs)

- C1. Do you own a computer / laptop? Please tick (✓) appropriately.

Yes	No

C2. If your answer to C1 is no, please indicate where you have access to computers connected to the Internet

Place of access	Tick (√)
Library computer laboratory	
Departmental computer laboratory	
Faculty computer laboratory	
Home	
Commercial internet café	
Other (please specify)	

C3. If your answer is any of the computer laboratories above, how long are you allowed to use a computer?

Duration	Tick (√)
1 hour	
2 hours	
3 hours	
4+hours	

C4. What do you consider to be the impact of ICTs on the IL content of your university library?

Aspect	Tick (√)
No impact	
Little impact	
High impact	
Very high impact	
Not sure	

C5. Which of the following social media tools do you have access to? Please tick (√) all that apply

Tool	Tick
Facebook	
Twitter	
Blogs	
Wikis	

C6. Which of the following information resources do you have access to? Please tick (√) all that apply.

Resource	Tick
e-Books	
e-Journals	
Print journals	
Print newspapers	
Online newspapers	
Other (please specify)	

SECTION D: ASSESSMENT

D1. Do you consider it a good idea for your university library to run an examinable IL programme?
Please tick (✓).

Yes	No	Not sure

D2. Please indicate the assessment methods used in your IL programme. Please tick all that apply.

Assessment method	Tick(✓)
Tests	
Quizzes	
Examination	
Individual assignment	
Group assignment	
None of the above	

D3. How do you perceive IL and the contributions it makes to your academic progress?

Perception	Tick(✓)
Relevant	
Very relevant	
Not relevant	
Not sure	

D4. Are there any challenges encountered when undertaking IL skills training?

Yes	No

D5. If your answer above is Yes, please list up to four key challenges below;

- a.....
- b.....
- c.....
- d.....

D6. Please suggest any ways of overcoming those challenges;

a.....

b.....

c.....

d.....

D7. Is there anything else that you would like to bring to the attention of the researcher with regards to IL content and its relevance to your needs?

a.....

b.....

c.....

d.....

The End!

Thanking you again for your cooperation in completing this questionnaire.

Appendix G: Interview schedule for Staff

CONTENT OF INFORMATION LITERACY (IL) PROGRAMMES IN SOUTH AFRICAN INSTITUTIONS OF HIGHER LEARNING

A STUDY OF SELECTED UNIVERSITIES IN THE EASTERN CAPE PROVINCE

Dear participant

My name is Mathew Moyo, a postgraduate student in the Department of Library and Information Science at the University of Fort Hare. I am conducting a study on Information literacy as detailed above in fulfilment of a Doctoral thesis. The research results could assist in formulating policy for crafting sustainable IL content for institutions of higher learning both at institutional and national levels. I am therefore kindly asking you to spare about 20 minutes to please respond to all the questions on this interview schedule to the best of your knowledge. Below is a definition of the key research concept:

Information Literacy (IL) is the ability to recognize when information is needed and know how to locate, evaluate and use ethically and legally, the needed information (ALA, 1989). This programme is usually provided by the library.

The information provided in this study will remain confidential and nobody will be forced to complete the questionnaire. Should you have any questions concerning the interview schedule, please contact me on telephone number; 040-6022541, E-mail; mmoyo@ufh.ac.za or my project promoter, Prof Ezra M Ondari-Okemwa on telephone number; 040-6022437 or E-mail; eondari@ufh.ac.za

Please email me your completed interview schedule or call me to arrange for collection.

Your cooperation will be greatly appreciated.

Yours faithfully

Mathew Moyo

(Researcher)

SECTION A: BIOGRAPHICAL INFORMATION

1. Your gender? Please tick (√) the appropriate box.

Male	Female
<input type="checkbox"/>	<input type="checkbox"/>

2. Please indicate your age group by ticking (√) the appropriate box below.

-18 – 23	24 – 29	30 – 35	36 – 41	42+
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Please indicate your employer below by ticking (√) the appropriate box.

Rhodes University	University of Fort Hare
<input type="checkbox"/>	<input type="checkbox"/>

4. In what capacity are you employed by the university?

5. Please indicate your highest qualification

Master's Degree	<input type="checkbox"/>
Honours Degree	<input type="checkbox"/>
Postgraduate Diploma	<input type="checkbox"/>
Bachelor's Degree	<input type="checkbox"/>
Any other (please specify)	<input type="checkbox"/>

6. How many years of work experience do you have in this university?

Less than 6 months	<input type="checkbox"/>
6 months to 2 years	<input type="checkbox"/>
2 years to 5 years	<input type="checkbox"/>
5 years to 10 years	<input type="checkbox"/>
More than 10 years	<input type="checkbox"/>

SECTION B: INFORMATION LITERACY CONTENT

7. Are you involved in IL instruction at your library?

Yes	No

8. Who is responsible for the development of IL content?

Responsibility	Tick (✓)
Librarians	
Lecturers	
Librarians & lecturers	
Librarians, lecturers & students	
Any other (please specify)	

9. Which aspects of IL are covered by your IL programme?

- a.....
- b.....
- c.....
- d.....
- e.....
- f.....
- g.....

10. Is the programme integrated or embedded within the curriculum?

Yes	No

SECTION C: BENCHMARKING OF IL

11. Do you benchmark your IL programmes against others?

Yes	No

12. Which IL standards do you use?

- a.....

- b.....
- c.....
- d.....

SECTION D: ASSESSMENT OF IL

13. Which assessment methods do you use in your IL programmes?

- a.....
- b.....
- c.....
- d.....
- e.....
- f.....

14. Do you use any technology for assessment of the IL programme?

Yes	No

15. If your answer above is Yes, which technologies do you use for the assessment?

- a.....
- b.....
- c.....
- d.....

16. Do you receive any feedback on the impact of IL on students' work?

Yes	No

17. What competencies are expected of students who have undergone IL skills training?

- a.....

- b.....
- c.....
- d.....

SECTION E: CHALLENGES AND SOLUTIONS

18. Are there any challenges encountered in the provision of IL?

Yes	No

19. If your answer to question 14 is yes, what are the challenges?

- a.....
- b.....
- c.....
- d.....

20. How can the challenges be overcome?

- a.....
- b.....
- c.....
- d.....

21. Is there anything else that you would like to bring to the attention of the researcher with regards to IL programme content and its relevance to student needs?

- a.....b.....
-c.....
-d.....
-

Thank you again for making yourself available for the interview.

Appendix H:

Core content of the Information Literacy Training guidelines curriculum

UNIT 1:

BECOME FAMILIAR WITH THE LIBRARY AND INFORMATION SERVICES (LIS) TO EMPOWER USERS TO RECOGNIZE THEIR NEED FOR INFORMATION, AND TO MAKE INDEPENDENT USE OF SERVICES, DEPARTMENTS AND SOURCES TO FIND INFORMATION FOR ACADEMIC PURPOSES

OVERVIEW

Unit 1 deals with the introduction of users to the Library and Information Services. It serves as orientation to guide users at the particular learning sites to find their way around their library, but also provide generic guidance on the usage of other libraries. It also explains the exposition of the libraries at the various learning sites, as well as the place of the institution within its consortium.

PURPOSE

The purpose of this Unit is to enable users to retrieve, find and make use of information made available through [Library and Information Services] LIS. It aims to highlight the individual services, departments and information sources to be used for academic studies.

EXIT LEVEL OUTCOMES

After completing this Unit the student will be able to:

- Recognize and describe the various LIS departments
- Consider various information formats for your assignment
- Recognize that you need information from the [Online Public Access Catalogue] OPAC or electronic catalogue to find books, journals, encyclopaedias, etc. on the shelves
- Borrow information sources whether from the open book, study, reference or multimedia collections
- Find your way in the library to the individual departments

- Use the Periodical and Multimedia sections
- Locate and access the Electronic Resources Centre (ERC)
- Find on the LIS homepage and adhere to library hours and rules

LEARNING OUTCOMES

- Understand library hours, rules and privileges
- Differentiate between library sections such as Continuous publications (periodicals), ERC, Multimedia, Study collection, Reference works, New books
- Differentiate between library services such as Information services, lending services
- Acknowledge the various information formats to be used for assignments, e.g. videos, books, journals, etc.
- Know where the OPACs are and to use it
- Locate information sources, using shelf numbers as displayed in the OPAC, referring to the
- Dewey Decimal Classification [DDC] system
- Borrow library material at Circulation desk
- Register on and use the photocopying system
- Use student card to make use of library facilities
- Become involved in the Information Literacy Training Programme (ILTP)
- Acknowledge the library's emergency procedures

UNIT 2: LOCATE INFORMATION IN THE LIBRARY USING THE LIBRARY HOMEPAGE AND INHOUSE CATALOGUES TO RETRIEVE AND FIND INFORMATION SOURCES NECESSARY FOR THE ASSIGNMENT AT HAND

OVERVIEW

Unit 2 deals with the introduction to the homepage of the Library and Information Services. It deals with the in-house databases such the OPAC (Online Public Access Catalogue). The OPAC provides electronic access to the collections of all the institutional libraries, enabling users to track and take out the information sources they need.

PURPOSE

The purpose of this Unit is to enable users to retrieve, find and make use of information made available through the in-house catalogues presented on the LIS homepage. It aims to empower users to access all collections independently.

EXIT LEVEL OUTCOMES

After completing this Unit the student will be able to:

- Access and use the LIS Homepage and OPAC
- Recognize that you need information from the OPAC or electronic catalogue to find books, journals, encyclopaedias, etc. on the shelves
- Borrow information sources whether from the open book, study, and reference or multimedia collections
- Locate information sources from the shelves using the DDC number from the OPAC

LEARNING OUTCOMES

- Access the LIS homepage, its links and its aids
- Access and search the OPAC
- Use the Dewey Decimal Classification system to locate information sources

UNIT 3: SELECT AND USE VARIOUS INFORMATION RESOURCES, WHETHER PRINTED, ELECTRONIC AND/OR IN MULTIMEDIA FORMAT TO ENSURE OPTIMISATION OF INFORMATION NECESSARY FOR SPECIFIC ACADEMIC PURPOSE

OVERVIEW

Unit 3 deals with different information formats, their organization and application, whether printed, electronic and/or in one of the numerous multimedia formats. Emphasis is placed upon the use of each format for application in academic terms. A proper overview of and hands-on experience with the relevant technologies accompanying each multimedia format is provided.

PURPOSE

The purpose of this Unit is to familiarize users with the numerous information formats which they could encounter during their academic career, pointing out the advantages and disadvantages of each, which will enable the user to make the appropriate selection of suitable materials to use for their specific academic needs. It will also familiarize students with the use of applicable technologies that accompany each media format.

EXIT LEVEL OUTCOMES

After completing this Unit you will be able to:

- Recognize different information sources such as handbooks, manuals, textbooks, electronic books, theses and dissertations, conference papers, diaries, etc.
- Recognize and consult various types of reference works
- Distinguish between and retrieval of scholarly journals and magazines
- Find and use newspapers, the Study collection, etc.
- Recognize the important elements of a document to compile a bibliographical reference
- Distinguish between the individual audio and video information formats
- Demonstrate ability to use the accompanying technologies of each format

LEARNING OUTCOMES

- Find and access suitable information sources, e.g. books, reference works, atlases, newspapers, journals, etc. to satisfy the current information needs
- Use different information collections in the library such as the Study Collection, Multimedia department, etc.
- Recognize and record the bibliographical elements of an information source
- Use individual multimedia formats and their applicable technologies

UNIT 4: ACCESS, RETRIEVE, EVALUATE, AND APPLY INTERNET AND OTHER ELECTRONIC INFORMATION FOR ACADEMIC USE

OVERVIEW

This Unit is aimed at making clear the nature and terminologies of electronic information, especially found on the Internet. It distinguishes between the various Web search tools, emphasizing search procedures, as well as quality check of information with special reference to the social network tools (Web 2.0 applications) relevant to academic implementation. The ability to use electronic communication is also developed and provided.

PURPOSE

The purpose of Unit 4 is to enable users to communicate electronically, and to not only find and use electronic information from the Internet in a responsible manner for academic purposes, but also to contribute to the body of knowledge by providing own information by making use of interactive and applicable Web 2.0 technologies.

EXIT LEVEL OUTCOMES

After completing this Unit, you will be able to:

- Create an e-mail address
- Use electronic communication responsibly according to e-mail etiquette
- Distinguish between the multitude of social networking tools belonging to Web 2.0

- Select and participate in the most applicable Web 2.0 tools that fits the information need of the moment
- Understand the nature of and distinguish between different web search tools
- Apply correct search principles to find relevant Internet information efficiently for academic purposes
- Evaluate internet documents according to standard criteria

LEARNING OUTCOMES

- Create an e-mail address
- Select and participate in a number of Web 2.0 (social networking) tools
- Select appropriate web search tools
- Conduct effective searches on Internet search engines
- Distinguish between and evaluate results from various search tools
- Evaluate Internet information to establish its relevancy for academic use

UNIT 5: IDENTIFY AND USE VARIOUS ELECTRONIC DATABASES FROM THE ELECTRONIC RESOURCES PORTAL (ERP)* RETRIEVING SCHOLARLY INFORMATION FOR ACADEMIC AND RESEARCH PURPOSES

* Applicable for accessing electronic information sources at TUT only

OVERVIEW

Welcome to Unit 5, the Unit on Electronic Databases. This is one of the most crucial Units for you to master. In this Unit we will discuss what the databases are, where and how to find it, and eventually how to use it in order to retrieve information for your academic needs.

PURPOSE

The purpose of the Unit on Electronic Databases is to assist you in finding accredited and scholarly information. It is to empower you to conduct literature searches on your own on individual databases, to retrieve online the latest information in full text or in bibliographical format and to apply it in your own work, creating and adding new knowledge to the existing body of knowledge.

EXIT LEVEL OUTCOMES

After completing this Unit you will be able to:

- Recognize your information need
- Demonstrate knowledge of the various databases to be used for a variety of purposes
- Select the applicable databases for your purpose in hand
- Use the institutional authentication procedure to retrieve and access the databases
- Analyze your topic into keywords
- Follow search strategies and compile effective search statements
- Search the databases
- Refine, mark, display, and
- Export the articles and/or references
- Evaluate the information you obtained
- Use and cite the information in a responsible manner

LEARNING OUTCOMES

- Become familiar with the nature and terminologies related to electronic databases
- Recognize the different types or categories of databases
- Make a selection of databases to suit the purpose of the academic request
- Login on the ERP in order to access the selected databases
- Analyze own research topics into core issues, using keywords

- Apply Boolean operators, truncation and field limiting to structure a search statement
- Conduct a search on the selected database(s)
- Refine the search
- Select and mark articles to be used
- Display the selection
- Export the articles by using e-mail, saving and/or printing of articles
- If necessary, export articles to EndNote bibliographic programme
- Recognize important bibliographic detail to be used later on in the bibliography

UNIT 6: COMPREHEND THE ETHICAL ISSUES OF COPYRIGHT AND PLAGIARISM AND APPLY THE HARVARD REFERENCING METHOD* THAT COMPLY WITH INTERNATIONAL STANDARDS FOR ACADEMIC PURPOSES TO SUPPORT RESEARCH

* Applicable for accessing electronic information sources at TUT only

OVERVIEW

This Unit is meant to assist you to synthesize the information you have gathered using the tools and strategies you have acquired in the previous five Units.

PURPOSE

To help you to effectively report back on the research you have done by compiling an academic assignment applying the appropriate ethical and legal issues like plagiarism and copyright. It further teaches you how to apply the Harvard Referencing method in your assignment. It also introduces you to apply tools that could make the academic venture easier, e.g. Turnitin™ (e-plagiarism detection software) and Endnote™ (e-referencing software).

EXIT LEVEL OUTCOMES

After completing this unit you will be able to:

- Determine the extent of information needed for projects
- Incorporate information in your knowledge base
- Communicate the information effectively and economically
- Understand the legal, social and cultural issues in the use of information
- Classify, store, manipulate and redraft information
- Apply the principles of referencing using the Harvard Referencing method

LEARNING OUTCOMES

After completing this Unit, you will be able to:

- Effectively write an academic assignment, or be able to report back on research being done
- Apply the legal and ethical issues related to research and assignment writing
- Apply the Harvard Referencing method.

Appendix I:

Rhodes University Information Literacy Programme for the Extended Studies

The screenshot displays a Moodle course interface for 'Extended Studies Science 2012'. The page is titled 'Topic outline' and lists six topics. The left sidebar contains navigation menus for 'People', 'Activities', 'Search Forums', 'Administration', and 'My courses'. The right sidebar includes 'Latest News', 'Upcoming Events', and 'Recent Activity'. The main content area shows the following topics:

- 1 Introduction to Rhodes University Library**: Topic 1 will introduce you with the layout and organization of the library facilities, collections and services. You will be introduced to the OPAC which is the principal tool for finding information both in print or online.
 - Session 01 Handout
 - Welcome to the Rhodes University Library (RUL)
 - Dewey Decimal Classification System
 - Virtual Library Tour
 - Online Public Access Catalogue (OPAC)
 - Dewey Decimal Quiz
 - "Do We" Really Know Dewey?
- 2 Sources of Information and Interpreting your Reading List**: Topic 2 will explain the purpose of different sources of information. The difference between popular magazines and scholarly journals will be explained. You will also be introduced to examples of references that are commonly included in your reading list.
 - Session 02 Handout
 - Sources of Information
 - Interpreting your Reading List
 - Sources of Information Quiz
 - Citing Reference Quiz
 - Homework
- 3 Searching Research Databases**: Topic 3 will introduce you to 'Search Techniques' as well as searching through 'Research Databases'. Selecting an appropriate research database for your topic is an important step.
 - Session 03 Handout
 - Search Techniques
 - Exercise
- 4 Evaluation of Information Sources**: Topic 4 will introduce you to pointers or criteria for evaluating information sources. This will be useful as it will address the qualities that could be used in evaluating. Preparation and presentation by Ms Anelisa Mente.
 - Evaluation of Information Sources
- 5 Test**: Assessment
- 6 RefWorks**: Topic 6 will introduce you to RefWorks. RefWorks is an online (electronic) bibliographic manager. RefWorks is therefore an online (electronic) tool that may be used to store and manage one's list of information sources (references).
 - Session 06 Handout
 - Write-n-Cite
 - RefWorks Guide