The development of information literacy at the University of Cape Town.

by

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Plagiarism Declaration

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

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Abstract

The origins and development of information literacy education at the University of Cape Town are explored. The focal research question is based on investigations into the extent in which the academic staff, librarians and students of the University of Cape Town (UCT) are prepared for or engaged in recognizing information literacy. Are the academic staff, librarians and students of UCT really aware of the information literacy agenda?

Quantitative research methods are used to supplement qualitative research methods in this study.

Samples were drawn from 621 academics, 64 librarians, and 19978 students - the total numbers of subjects of the study in 2003 when the fieldwork was conducted.

The significant changes in the South African education system in the post-apartheid era are discussed. International information literacy programs are discussed and the Griffith University information literacy blueprint is adopted as a standard for comparison.

Further studies are suggested on the investigation of information literacy policies.

The research results suggest that a high standard of information literacy exists at the University of Cape Town.

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ANC	African National Congress
APA	American Psychological Association
CALICO	Cape Library Co-operative
CAPUT	Cape Peninsula University of Technology
CCFOs	Critical Cross-Field Outcomes
CIL	Centre for Information Literacy
CSD	Centre for Science Development
DILS	Department of Information and Library Studies
EPU	Education Policy Unit
ESAL	Eastern Seaboard Association of Libraries

FRELICO	FREe State Libraries and Information Consortium
GAELIC	Gauteng and Environs Library Consortium
ICTs	Information and Communication Technologies
IHC	Introduction to Humanities Curriculum
INFOLIT	Information Literacy (Project)
MEG	Multimedia Education Group
NCHE	National Commission on Higher Education
NCLIS	National Commission of Libraries and Information Science
NECC	National Education Co-ordinating Committee
NEPI	National Education Policy Investigation
NQF	National Qualifications Framework
NRF	National Research Foundation
NRF	National Research Foundation
OBE	Outcomes Based Education
SAQA	South African Qualifications Authority
SEALS	South Eastern Academic Libraries' System
SSA	Semester Study Abroad
TRANSLIS	TRANSforming our Libraries and Information Services
UCT	University of Cape Town
UNISA	University of South Africa
UWC	University of the Western Cape
WCTIT	Western Cape Tertiary Institutions Trust
WEbCT	Web Course Tools
WGLIT	Working Group on Libraries and Information Technology

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"Predictions and forecasts have noted the shift of focus from technologies as the end product back to the basic of how individuals want to use the content" (Oman 2001:33). That is why the basis of this research is on information use by the members of the University of Cape Town community rather than to probe the degree of advancement in information technology, for example.

1.2 Engagement with information users

"There needs to be an engagement with users of information that goes beyond that of merely provision. However well organised and extensive our resources may be, however carefully configured our communication technology may be, our services can fail because engagement with the user and the user's needs is lacking" confirms Underwood (2002:11). Psychologically the appreciation of information use and utilization of information skills may be fostered. Lecturers may motivate consultation of different information sources when giving students tasks and assignments. Librarians may create a friendly atmosphere that facilitates enquiry in learning the use of library and information technologies. Also, both the lecturers and the librarians have to update their knowledge on information literacy through in-service training.

The need to groom information users to be information literate is not entirely due to availability of information technology. There are basic information skills that can be transferred without technology. For example, an interest in reading can be encouraged through reading stories to pre-school children. Further, at primary and secondary schooling frequent referral of pupils by teachers to well equipped libraries, diverting from the use of prescribed text books, can encourage exploration of different information sources and eagerness to learn. Even if the opportunity of being hands-on on information technology does not prevail until the tertiary level of education, the task to transfer existing 'manual' skills of information navigation to the electronic environment may be easier. Other information literacy skills such as the analytical, problem solving, decision making and factual presentation need not necessarily imply an electronic environment. They can be fostered by other means.

Machet & Behrens (2000:8) state that "information literacy requires that a student has a positive attitude towards information and its use". The success of information

founded during the apartheid years. They have traditionally been less well resourced than the other three white institutions" (Darch, Rapp and Underwood 1999:28).

Somi & de Jager (2005) confirm the low levels of information illiteracy in the previously disadvantaged institutions by presenting a case of the University of Fort Hare. In a similar study, Machet & Behrens (2000) identify the lack of information literacy at the University of South Africa (UNISA). Also, King (2007) indicates lack of adequate information skills from the students of the University of the Western Cape (UWC).

Further blamed in the legacy, is the notion that even within the "White" tertiary institutions White students tend to outperform Black students. Support for this notion is advanced by writers such as Machet & Behrens (2000:8) who assert that "students in South Africa who move from an impoverished school environment to university are under prepared for tertiary studies", the point being that Black students are more likely to have encountered poor schooling than their White counterparts.

In this study information literacy is investigated as it is identified to be the driving force toward the reputation of excellence in teaching and learning at the University of Cape Town.

The differentiation in competency between the White and the Black students of the same institution, a perception that was previously mentioned, draws attention to the need for further investigations, but falls outside of the limits of this study. No data for this study will be collected based on such racial and gender demographical analysis.

Levy (1999:1) states that government is the principal source of subsidies and grants to universities and technikons. There has been a notion that certain universities in South Africa enjoy greater prestige than others, these being the University of Cape Town, University of Stellenbosch, University of Witwatersrand, University of Natal, University of Pretoria, University of Johannesburg, University of the Free State, Rhodes University, Potchefstroom University and the University of Port Elizabeth. A plausible reason for these universities being in a better financial situation than others is that they were designated as "White" institutions under the former Apartheid

regime and received lager subsidies from Government, as a result. Also, each achieved better throughput rates and greater research outputs, further enhancing the level of their government subsidies. Of course, the financial status plays a major role in success of any organisation. Tertiary education is, broadly speaking, funded by a combination of students' fees and a government subsidy that is based upon recruitment, level of programmes taken by each student and throughput. Location (urban or rural) does not affect this, though it may be true that students are attracted to centres such as Cape Town, Johannesburg and Durban.

Taking a closer look at UCT for instance, the researcher tried to discern what makes it seem so distinct from other tertiary academic institutions. The realization was that there are many institutions in South Africa with similar circumstances that are the equal, or surpass, UCT in aspects such as: the beautiful buildings, the highly qualified lecturers, brilliant students, with the curriculum almost the same.

Levy (1999:1) asserts that "the largest single problem in South African higher education is the lack of money. Higher education has inherited an unpleasant legacy after decades of racial and economic inequality, the inadequate resources of historically disadvantaged institutions. Historically black universities cannot match the rich infrastructure of formerly white universities and they remain impoverished. The government funding increment over the recent years helps to sustain the higher education institutions, but does not iron out the unevenness of their infrastructures and overall resources". Do financial conditions determine the level of information literacy in academic institutions? The question would constitute a separate study to be clarified.

Imenda and Kongolo (2002) mention additional problems such as the possible lack of good academic programmes at most historically black universities and technikons to attract candidates and the culture of non-payment of fees by students. The two authors also mention that the growth in student enrolments in most historically disadvantaged tertiary institutions is declining. According to Imenda and Kongolo (2002:220) of great concern is that student numbers heavily influence the funding and survival of these institutions.

1.4 Outcomes based education (OBE)

The shift from rote-memorisation towards life long learning has forced the issue of information literacy onto the educational agenda (Sayed 1998: xi). The approach of outcomes-based education is one example that supports the argument for information literacy. Responding to international trends in education development, the Ministry of Education, following policy development by the African National Congress (ANC) introduced Outcomes Based Education (OBE) in 1997 as the most likely educational model to address the issue of quality (and inequality) in South African education (Botha 2002:5). The purpose was to empower the youth with democratic values that emphasize independent learning. "The adoption of outcomes based education in a number of countries such as Australia, New Zealand, the United States, Canada, the United Kingdom and South Africa has been a steering mechanism in the higher education sector for curriculum reform to reflect student competency in disciplinary content, thinking and critical skills" (de Jager & Nassimbeni 2005:32). Embedded in outcomes based education approach is the grasp of information literacy skills.

According to Hell (2005:21) the South Africa Yearbook 2004/2005 states that "OBE regards learning as an interactive process between and among educators and learners. The focus is on what learners should know and be able to do (knowledge, skills, attitudes and values)." OBE is leaner-centred education that is coordinated by teachers. Learner centeredness implies that concentration is on developing the learner to seek for knowledge independently through interacting with a variety of learning resources. OBE is a move away from the tradition of expecting teachers to be the source of knowledge. The OBE is applicable in assessing the inclusion of information literacy values in the teaching and learning processes. That is: are the lessons planned to encourage the development of information literacy? Will the learners apply the information literacy skills in tackling assignments?

OBE lists some outcomes to be achieved by learners at the end of a learning process. Zinn (2000: 46) argues that "many of the attributes of an OBE learner compares well with that of an information literate person." The following table compares the similarities between the OBE and information literacy:

Table 1: Comparison between information literates' attributes and critical outcomes

Information Literates' Attributes	**Critical Outcomes**
Evaluate and reflect on her/his own learning	Reflect on a variety of strategies to learn more effectively
Recognise that accurate and complete information is the basis for intelligent decision making	Solve problems and show that responses display responsible decision-making
Access a variety of information sources including computer-based and other technologies	Collect information; use technology
Be flexible in ideas and attitudes: be able to function independently and in groups	Work in groups
Make informed decisions by judging information and always questioning assumptions	Analyses and critically evaluates information
Apply problem-solving skills and use creative and critical thinking skills regularly in the information process	Solve problems using critical and creative thinking

The table is reproduced from: (Zinn 2000:47).

Information literacy is integrated in Outcomes Based Education. The principles of information literacy dominate it. Rockman (2002:195) comments that in general the education reform movement has provided academic institutions with an opportunity to value information literacy. Education institutions have a responsibility for providing the foundation and development of information literacy throughout students' careers. "Incorporating information literacy across curricula and in all programs and services requires the collaborative efforts of academics, staff developers, learning advisers, librarians and administrators" (Council of Australian University Librarians 2001:3).

1.5 Critical cross-field outcomes (CCFOs)

In an attempt to transform education and establish coherent education policies for learning programmes, the Critical Cross-Field Outcomes (CCFOs) were established by South African Qualifications Authority (SAQA). CCFOs are generic competencies that should be embedded in all national qualifications registered on the National Qualifications Framework (NQF). The purpose of designing the generic competencies was to develop specific outcomes of learning that provide a basis for lifelong learning, personal growth, honest business expertise, critical creative thinking and aesthetic appreciation. The CCFOs echo he principles of information literacy and they are intended to be incorporated in all the core learning and assessment of all qualifications and unit standards (Carmichael & Stacey 2006:1&3).

The OBE and the CCFOs are the significant measures undertaken by the South African education sector that responded relevantly to the call for information literacy. The CCFOs are a checklist of the contents of a qualification curriculum that should mould an information literate graduate. The CCFOs confirm the purpose of the OBE. Through an appropriate curriculum design, the CCFOs ensure that the education product (the person / graduate) is groomed to be information literate.

Information literacy aims at creating learners with the same attributes as those that are the foundation of CCFOs. The following are the seven CCFOs that were established by SAQA. They are extracted from a table presented by Carmichael & Stacey (2006:4). The purpose of stating them is to clarify their relevance in the agenda of information literacy. They are the ability to:

- Solve problems and making decisions using critical and creative thinking.
- Use information by collecting, analyzing, organizing and critically evaluating it.
- Think systematically by relating specifically and wholly in problem solving.
- Communicate effectively using visual, mathematical and language skills in the modes of oral and written arguments.

- Use science and technology effectively and critically with consciousness to healthy and safety environment.
- Embrace team work through networking, viable interpersonal and intercultural skills.
- Demonstrate self management and leadership skills.

Zuber-Skerrit maintains that "more than the transmission of technical skills and knowledge from expects to novice, we need management development strategies that foster innovative and creative thinking, problem-solving ability, life-long learning, action learning and collaborative inquiry" (2005:49); this serves to emphasize the importance of CCFOs.

Critical Cross-Field Outcomes are based on developing human characteristics and behavioural outcomes of leadership and management. They are formulated to direct the thinking of curriculum designers, learning facilitators and of the learners towards the appreciation and attainment of the competences advocated by the CCFOs.

The principles of information literacy and that of the CCFOs are parallel in promoting information exploration, critical thinking and teamwork as back-ups for information presentation and communication. Their intentions are similar in aiming to produce citizens capable of independent thought.

1.6 Research Motivation

The idea that information literacy could be a distinguishing factor is the research question of this study and has been prompted by the researcher's observation of information literacy practices at the University of Cape Town. In this research the aim is to test whether this contention is true.

Being impressed by the standard and the support system of information literacy at UCT, the researcher decided to trace the origins and the development of the information literacy movement of the institution. The belief was that reporting the history and how information literacy percolated through to the teaching and research practices of UCT and how it is developed will not only help with the understanding of

information literacy but will also help other institutions to know where to start and what to do in implementing the information literacy strategies.

The purpose of this study is not to exalt UCT as the best model for adoption of information literacy but, rather, to document its process of adoption and consider its effects. Information literacy is already quite widely recognised at other tertiary institutions in South Africa.

It is worth mentioning that an article by Karelse and Underwood (1996) triggered an interest in undertaking this study. The authors define information literacy and assess its importance in learning in South Africa in a vivid manner.

Every discussion about the developments in library and information studies has to acknowledge the injustices of the former apartheid South African government. The manner in which history is defined helps to shape and understand our present conditions and is central to any nation-building project. It is with this kind of understanding that people can redress historical imbalances and solve the problems at hand.

At present it is a perceived notion that black students from historically disadvantaged institutions are generally less information literate than white students from the historically advantaged institutions. This is due to the apartheid system of education that officially enforced a schooling system segregated by race. Education in South Africa was officially divided along racial and ethnic lines. Funding and facilities were grossly inequitable between historically white academic institutions and historically black academic institutions (De Jager and Sayed 1998:197). The inequitable system of education favoured white pupils. The perception of lower ability in information literacy and other academic skills was thus created among the black pupils. The Bantu Education Act of 1953 reinforced the dominance of white rule by excluding blacks from quality academic education and technical training. The Extension of University Education Act formally restricted entry to universities according to race. For instance, the University Colleges of the North and of Zululand were established for Sotho, Venda, Tsonga speaking African people respectively, and the Universities of Western Cape and Durban Westville for coloureds and Indians respectively. The

University of Fort Hare was restricted to Xhosa speaking Africans. Black people were admitted to white universities only in cases where equivalent programmes were not offered at black universities and only after ministerial permission was obtained (South African National Commission on Higher Education: 1996:10).

As a matter of fact in the year 2001 the headcount enrolments of full-time registered students in universities was as follows: in historically black universities 85% Africans, 7% Coloureds, 6% Indians and 2% Whites were enrolled. On the other hand in historically white universities 30% Africans, 5% Coloureds, 9% Indians and 55% Whites were enrolled. A detailed tabular demonstration of headcount enrolments of contact mode students in public higher education institutions in 2001 is presented below: (South Africa, Department of Education 2003:39).

Table 2: Head count enrolments of contact mode students in 2001 (UCT)

Institution	Contact						
	African	Coloured	Indian	White	Total	Female	Male
			Universities				
HBUs							
Durban Westville	4 080	104	3 021	187	8 272	4 643	3 629
Fort Hare	4 116	20	1	23	4 160	2 226	1 033
Medunsa	3 450	33	403	155	4 041	2 047	1 994
North	8 406	3	14	32	8 455	4 542	3 913
North West	6 377	13	22	18	6 430	3 752	2 678
Transkei	4 521	8	129	18	4 676	2 856	1 820
Venda	5 949	1	1	4	5 955	2 951	3 004
Vista	12 054	344	25	95	12 518	7 004	5 514
Western Cape	5 165	4 438	661	235	10 499	5 997	4 502
Zululand	5 872	41	86	321	6 320	3 806	2 514
Totals for HBUs	60 869	5 005	4 363	1 068	71 325	39 824	31 501
	85%	7%	6%	2%	100%	56%	44%
HWUs							
Cape Town	4 980	2 608	1 328	9 686	18 602	8 849	9 753
Free State	5 819	556	204	6 130	12 509	6 839	5 670
NMMI	7 543	504	5 550	4 555	19 452	10 136	9 316
Port Elizabeth	3 634	813	231	2 904	7 582	4 491	3 091
Potchefstroom	4 210	455	191	8 522	13 478	8 123	5 295
Pretoria	8 418	442	1 312	21 933	32 106	16 653	15 453
Rand Afrikaans	2 816	506	1 025	10 372	14 721	7 893	6 828
Rhodes	2 032	242	616	3 087	6 877	3 356	2 521
Stellenbosch	1 333	2 016	362	14 641	18 342	9 005	9 247
Witwatersrand	8 821	462	2 800	8 186	20 320	9 850	10 470
Totals for HWUs	49 409	8 634	14 899	90 038	162 980	85 298	77 684
	30%	5%	9%	55%	100%	52%	48%
UNISA	8	132	1	128	269	209	60
	3%	49%	0%	48%	100%	78%	22%
Totals for Universities	110 286	13 771	19 263	91 254	234 574	125 329	109 245
	47%	6%	8%	39%	100%	53%	47%

Several researchers support the finding that students from historically disadvantaged institutions are weaker with respect to information literacy. De Jager and Nassimbeni (1998:131) assert that "the majority of students from historically disadvantaged

educational systems have not been exposed to many information technologies and information sources".

Underwood and Nassimbeni (1996:222-223) trace the deprivation from the grass root level and argue that many South African school children had little opportunity to read a sufficient variety of information sources. The two authors further suggest that the cultural appreciation of information use should be developed in pupils from their primary years of education, at about five to fourteen years of age.

An information literate citizenry will be a key to addressing many of the social and economic skills that plague South Africa today. The disparities mentioned above have scarred the future of many young South Africans. School dropouts, teenage pregnancy, low self-esteem, poverty, unemployment and bleak economic development can in some way or another be tracked back to a lack of adequate information needed to make an important decision in one's personal or student life and consequently in one's professional life. Inadequate or missing information may in part be blamed because it limited an individual's capacity to make an important decision. A discriminatory education system largely lacked the element of information literacy.

Information literacy seems to be a powerful factor in distinguishing under-prepared students from prepared students; an aspect that goes further to distinguish disadvantaged from advantaged academic institutions.

The aim of this study is to promote or enhance information literacy programs specifically in the historically disadvantaged institution. Information literacy is perceived as a powerful factor that can bridge the gap between the privileged and the underprivileged institutions.

The study also aims at sharing UCT's best practices of information literacy with other institutions.

1.7 The research question

Are the academic staff, librarians and students of the University of Cape Town (UCT) really aware of the information literacy agenda?

Bitso (2000:29) contends that "many universities, particularly the University of Cape Town, have long realized the value of the effective use of information and its paramount role in society". He goes further to note that such is evident in UCT's mission statement which advocates life long learning. To what extent is there evidence to support this contention?

There are a number of studies that have been conducted at UCT in order to examine some aspects relating to information literacy. Staff members of the Centre for Information Literacy have been involved in a project of benchmarking information literacy. This study in particular is distinct from the rest. The focus is to probe the degree of information literacy at UCT. That is: to report and analyze the use of information literacy techniques. Further more, the strategies and processes towards information literacy are investigated. Research findings are also based on scrutinizing ways in which librarians and academics work towards the recognition and teaching of information literacy. The focal research question is based on the investigations into the extent to which the University of Cape Town is prepared for or engaged in recognizing information literacy.

1.8 Outline of thesis

Chapter one highlights the motives behind information literacy, advocates for recognition of information users' needs and states the motivation for this study. Chapter two explores the definition of information literacy and discusses trends of information literacy especially in South African Higher education. Chapter three is a discourse on the research methodology applied in this study. Chapter four presents the case study that discusses the infiltration and development of information literacy at the University of Cape Town. Chapter five reports the fieldwork research and the responses of the informants that were interviewed. Chapter six interprets the research results and gives recommendations.

CHAPTER 2

INFORMATION LITERACY

2.1 Information literacy defined

The word "literacy" is tagged on to numerous words, some of which do not necessarily infer that the person who is "literate" in that particular terrain is able to read and write. Concepts like library literacy, numeric literacy, pictorial literacy, music literacy, television literacy, environmental literacy, writing literacy, computer literacy, cultural literacy, AIDS literacy, and emotional literacy abound.

The term "information literacy" is composed of two common words, which most people claim to understand. Information to most people means something associated with news, useful facts or interpreted data. Literacy is generally associated with the ability to read and write. In combination, however, the two words have a very special meaning to the advocates of information literacy.

Beyond the basic skills of reading and writing, the citizen or worker of the twenty first century needs complex analytical skills. In this regard, information literacy is a potential tool of the empowerment of all and an important characteristic of lifelong learners.

Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, access, evaluate and effectively use information from a variety of sources (Doyle 1995: Introduction).

"Information literacy consists, in part, of a set of transferable skills that allow users to identify their information problems and needs, access-required information irrespective of sources or channel, use and critically evaluate the information. It consists of an understanding of a domain of knowledge that enables one to evaluate the significance of an item of information in relation to a problem. These abilities will improve quality of life and lead to greater participation in knowledge production and economic development" (Darch and Underwood 1999:290).

Information literacy aims to sensitise users of any kind of information about the need to evaluate and assess information sources before using the information they contain. It is an approach to teaching and learning that enables students to master techniques of problem solving (Karelse and Underwood, 1996). "Thus, information literacy is best considered to be a continuum of skills, concepts, attitudes, and experiences related to information access, understanding, evaluation, communication, application, creation, and value" (Marchionini 1999:18).

Paul Zurkowski is regarded as the first person to use the phrase "information literates". In 1974, in a report for the National Commission on Libraries and Information Science of the United States, he wrote, "people trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in moulding information solutions to their problems" (Zurkowski 1974:27).

2.2 Plagiarism

The South African Copyright Act (No.98 of 1978) governs the copyright law, which guards against illegal reproduction of a creator's intellectual property. Although plagiarism is not, of itself, an illegal act, it can result in legal complications. Plagiarism is commonly defined as (1) using another person's ideas under the pretence that they are originally one's own and (2) ignoring to acknowledge the authorship or the source of the information (Horner 2004:6-7).

Park (2003) as cited by Devlin (2006:45), states that plagiarism by students is evident in the United States of America, South Africa and Finland. Barry (2006:378) contends that "a lack of knowledge about plagiarism and how to avoid it lead many students to plagiarize." Plagiarism is regarded as dishonesty and stealing whether it is committed out of ignorance or is intentional. In higher education, plagiarism presents a challenge to learners to be proactively aware of what plagiarism entails.

Bombaro (2007:296) asserts that any truly comprehensive information literacy program that is carried out at higher education should address plagiarism. That

suggests that discussions of information literacy in higher education should include plagiarism. Bombaro (2007) states that an existence of an academic code of conduct on copyright law does not ensure that students will read it and abide by good research practices. He contends that many students do not understand the finer details of plagiarism. Some students intend to be dishonest and commit plagiarism. Others fall in the trap of committing plagiarism because of their lack of knowledge of how to paraphrase or cite correctly.

Students should be trained in quoting, paraphrasing and summarisations techniques, rather than merely being taught definitions of plagiarism. The University of Cape Town Website cautions students about plagiarism. The students are instructed to reference their work whenever they are:

- "Quoting – using the exact words of another author.
- Paraphrasing – rephrasing ideas of another author.
- Summarising – using the main points of another author, opinions theories or data to present one's own contention" (University of Cape Town, 2008a).

A major principle in academic writing is the use of background information to support an argument. Defining where influences ends and where plagiarism begins can be complicated, asserts McLemmee (2004). Although writers should present their own ideas, these are often formed by reading the work of others. It then becomes important to document the chain of reasoning so that the originality of the author can be distinguished from the foundations laid by other writers.

Horner (2004:6) contends that there are creative factual statements, which are part of common knowledge, that do not attribute to the ideas or creative language of any person. Such statements can be made without the fear of copyright infringement. Horner provides an example of stating that "the sky is blue" as a factual expression that bears no creative language or intellectual ownership.

The practice of copying, pasting and replacing few words with synonyms especially from Internet is common and that contributes to plagiarism (McDonell 2005:35). Even if one copies and pastes a sentence or a paragraph the practice is illegitimate and

society. Therefore literacy has to be considered in its cultural, social, economic and political contexts, its definitions should take into consideration the expanding information needs of society".

Hitoshi and others (1997:404) state that literacy requires a cultural context for its definition and measurement. Behrens (1994) and Hitoshi and others (1997) both refer to McGarry (1993:93) who contends that literacy and education have been political issues since Plato's time. McGarry further defines five stages of information storage and transmission in society, which are: (i) oral stage; (ii) alphabet stage; (iii) manuscripts stage; (iv) print stage; (v) electronic stage. It is apparent that the concept of information literacy existed in all these phases although the term might have been first used in the 1970's (McGarry 1993:93). For instance, the necessity of evaluating information has always been with the people from the oral stage. The information overload and high use of information technology has highlighted the need for information literacy skills. Information literacy is not a new concept (Angeley and Purdue 2000:3).

Professor Ndebele, celebrating the South African National Library Week on the 9th of May 2001, states that the library as a repository of recorded information is a foreign institution to most of traditional Africa. "This is so because, in the modern understanding of reading and writing, most of Africa was illiterate. The African 'Library' as it were, was not a physical entity but the human memory. The human mind was a repository of information and wisdom passed from one generation to the next through oral forms" (Ndebele 2001:5). This would include the beliefs, skills, arts, morals, customs and any other physical and intellectual capability acquired by human beings as members of society. "Human beings, wise persons and elders, were the living repositories of the past. They were responsible for feeding back to contemporary generations the 'oral record' of past achievements" (Ndebele 2001:5). This storage system appears under many names. Some scholars call it the "cultural memory", others the "social transcript", some use the term "cultural book", which suggests comparison with the storage function of the library. In South African tradition, for instance, key figures in the communities were highly regarded and consulted as advisers in performing certain rituals or in solving societal problems. Such individuals were considered wise and knowledgeable. Their words were

considered of high value to rely on for decision making. According to Ndebele (2001:5) "they were 'human libraries' whose wealth of memory and resourcefulness served to earn them an enhanced status in the community, not too dissimilar to that of physical libraries in the West". Ndebele (2001:5) confirms that even then, information literacy was a vital tool in the process of information transmission. Information was analysed and shared constructively for instance, through cultural practices like "ukuyalwa" (a ritual of being told of the expected conduct as one enters different stages of life). Ndebele further said that it is sometimes said that when an African dies, a library burns. That is how wise people were culturally perceived to be custodians of information, akin to libraries.

2.5 Information literacy in higher education

Information literacy has become an important prerequisite for the successful functioning of an individual in the information age, resulting in increasing emphasis, worldwide, on the design of effective methods for its acquisition. Graduates of the new system should have skills that are attributes of the new information age. These include the skills to gain access to appropriate information, the ability to evaluate and discriminate between sources, lifelong learning skills, and social skills that promote co-operative work.

The information age confronts information workers with the consequences of using enhanced and new technologies for handling information. The development of electronic forms of information has not simply automated access but raised crucial issues about the ability of communities to deploy the information accessed. Thus the notion of information literacy, which is closely linked with the desire to build skills for lifelong learning, impresses upon information users not only the need to be able to access information but the requirement for citizens to operate fluently in the information environment (Karelse and Underwood 1996).

Information and Communication Technologies increase the demand for programmes that address information literacy. ICT's are recognized as an important feature of information literacy. "Information literacy is a gap that divides the information sophisticate who knows how and when to use the technology and does so easily and

efficiently from the information naive who cannot use the technologies and hence has limited access to knowledge resources" (Demo 1986:6).

In the past the South African higher education sector was shaped largely by the political motivated differentiation policies of apartheid. In an attempt to redress, the Government of National Unity, in office from 1994 to 1999, decided to embark on a process leading to national policy on the Information Society. Among other policy issues there was a motivation to facilitate the more intensive and widespread use of information by all those participating in the governmental development processes, and policy making in the communities. This motive brought the information literacy agenda in the foreground (South Africa, Department of Arts, Culture, Science and Technology 1996a:35).

Information literacy has featured prominently on the agendas of those concerned with educational transformation. The development of the democratic system in South Africa depends mostly on the ability of its population to discover and use information. There is a need to enskill people through the promotion of information handling skills. Information literacy is central to all successful learning and by extension to all successful living (Doyle 1994:3).

According to Darch, Rapp & Underwood (1999:25-26) "a library, with adequate levels of information technology and connectivity, is ideally placed through information literacy programs to participate in preparing graduates to meet the challenges of the knowledge economy". Such a well-resourced library could give the users an opportunity to navigate the information superhighway. In the process information literacy skills might be developed especially if a professional assistance is available. In South Africa, such a situation is apparent in the previously advantaged institutions. Due to financial constraints disadvantaged institutions are battling to provide sufficient information technologies, connectivity is another challenge and chances of developing information literacy are very slim.

Schools have a vital role to play in inculcating knowledge of information resources and the ability to use them. Underwood and Nassimbeni (1996:222-223) assert that the major effort should start with pupils in the primary years of their education.

Advocates for information literacy argue that it can yield a transformation similar to that formerly attributed to user education programmes run by librarians. Information literacy does not happen as a result of one episode of bibliographic instruction. It happens over time, with diverse problems to be solved, with the accumulation of knowledge, and with repeated information seeking practices (Behrens 1992:81-83).

Information literacy is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Information literacy, while showing significant overlap with information technology skills, is a distinct and broader area of competence. Information technology skills are interwoven with, and support, information literacy. Fluency with information technology requires more intellectual abilities than the rote learning of software and hardware associated with computer literacy. Its focus is on deep understanding of technology and gradually, increasingly skilled use of it. "Computer literacy is an important part of information literacy but the student who knows every database, every computer program and every keystroke may not be information literate at all. Thinking and reasoning are at the centre of information literacy" (Maidique: 2000:1).

Information literacy challenges one's intellect in exploring information in processes of investigation, analysis and communication. The abilities to reason and to exercise critical faculties are characteristics of the information literate person. That may be complemented by fluency in information technology (which is computer literacy). Information literacy initiates, sustains, and extends lifelong learning through abilities, which may use technologies. Information literacy is ultimately independent of computer literacy or the ability to master the use of information technology (American Library Association 2000:3).

"Information literacy does not necessarily denote knowledge of the subject of information. Information literacy denotes a person's ability to find and effectively

utilize information of any kind, in any format, the subject that the information deals with notwithstanding" (Behrens 1992:82). Sayed notes a remark by Professor Wieland Gevers that information literacy is a 'key skill' similar to other foundation skills such as mathematics, statistics, language and communication. Gevers further asserts that the electronic world-brain of the twenty-first century will make information discrimination and handling skills more valuable (Sayed 1998:x).

The emergence of resource-based learning provides rich resources for teaching information literacy.

Hancock comments:

> Information literacy can be reached through a 'resource-based' approach. In a resource-based learning environment students and teachers make decisions about appropriate sources of information and how to access them. Aside from more traditional print resources, they use technological resources such as videotapes and videodisc, CD-ROM, software tools, and simulation/modelling tools. They use computer networking and telecommunications for both data access and participation in learning communities. They use multimedia technologies as materials for gathering data and as production tools. They use their school library media centres to locate and use many of these resources. In addition to using technology resources, learners also reach beyond classroom walls into their local communities for the rich supply of materials and authoritative information provided by businesses, social services agencies, citizens' groups, and public and university libraries. The mass media—cable and network television, radio broadcasts, and other national and international print and electronic services—provide another rich source for information (Hancock 1993:4).

Information literacy promotes the usage of both primary and secondary sources of information. It calls for the knowledge and exhaustive use of the information resource centres.

Some educational theorists believe that courses structured in such a way create student-centred learning environments where inquiry is the norm, problem solving becomes the focus, and thinking critically is part of the process. These educational theorists further assert that guided by faculty and others in problem-based approaches,

students ask informed questions and reason about the course content at a deeper level than is possible through the exclusive use of lectures and textbooks.

Information literates understand that information is not only obtainable from the traditional sources such as books or from databases accessed though information retrieval systems available on the Internet. They opt for other information investigative methods such as direct observation or field work (American Library Association 2000:5).

Information literacy is most effectively imparted in an environment that is centred on the learner rather than the educator in a collaborative relationship that also includes other facilitators such as librarians, and specialists in computer applications and academic development. According to Darch and Karelse (1997:2) "special note is taken of the fact that in the context of South African higher education, information literacy develops when situational and effective factors that impinge upon the teaching and learning process are recognised by learners and teachers alike." The generation of critical cognitive skills, which is central to definitions of literacy, implies a change in the way the teaching/learning dynamic is conceived. Traditional notions of teaching and learning have been lecture-led and textbook-centred. The impact of new information technologies requires that learning be conceived not as transmission of information but rather as the generation of critical skills in learners to search for, evaluate and use information. This implies that learning should be learner centred, with the focus on guiding and directing learners to ways of solving problems or acquiring understanding rather than prescribing or limiting students to single sources of information. Information literacy should be directed towards showing people how and why rather than what.

Information literacy is a key component of, and contributor to, lifelong learning. A group of informants interviewed by Sayed and de Jager (1997:9) agreed that information literacy is not an attribute that only pertains to an academic elite, but a life-enhancing skill that all students should be empowered to obtain. Information literacy is a life long learning process that develops through a student's career and beyond to the working environment and in life in general.

The informants also noted that affective factors play a significant role in the acquisition of information literacy. Affective factors are those that are acquired previously, through experience and prior learning, and which form the foundation on which information literacy skills can be developed. They are difficult to teach and are better gained through experience. The informants argued that recognising the information need is the first step towards information literacy. Further, a natural interest, coupled with confidence and determination to fulfil the information need, indicates advancement in information literacy. Students who wish to learn only what they need to know to pass exams, and students who see the teacher's role as transmitting sufficient information to ensure that outcome, are not likely to respond to the teaching/learning strategies that foster information literacy and result in life long learning.

Behrens (1995:257-258) characterises lifelong learners as information consumers who:

- "are capable of finding and utilising information for any need;
- are self-directed, independent learners;
- are able to adjust to changes;
- take responsibility for their own learning;
- are capable of operating dynamically in their own education;
- have an instilled tendency to learn in the future; and
- can continue with the learning process once out of the formal education and training system" (Behrens 1995:257-258).

Sayed and de Jager note that nation building in South Africa is the motive behind advocacy for information literacy. A better nation depends on responsible citizens, who are information seekers, analytic learners, and factual analysts and well informed decision makers. Such skills are maintained by life long learning (Sayed and de Jager 1997:6-7). Information literates are assets to the nation and can also contribute to international development and understanding.

2.6 Information literacy highlights

Information literacy is a dynamic concept that is defined differently by various scholars. Among others, the concept has been shaped by academics, business and government (Langford 1998). A recent inclusive definition of information literacy is that "information literacy is to know when and why one needs information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (Chartered Institute of Library and Information Professionals: 2008:2). The inclusion of morality in information use is worth noting from the above definition. The use of the term "ethical" further emphasizes a point that is not clearly presented by other common definitions of information literacy.

Langford (1998) and Chartered Institute of Library and Information Professionals (2008) mention several important aspects of information literacy; these aspects have tended largely to be overlooked in many countries, including South Africa.

- The self interest to the notion of life long learning.
  Some students study for the sake of obtaining a qualification. Once they are done with formal education they ignore professionally developing their careers. They stop studying. They do not attend conferences and they become indifferent to the need to write papers. Information literacy encourages a lifetime interest in learning. Information literates should be self-motivated to study and learn continuously.

- The ability to recognize numbers and basic mathematical signs and symbols.
  Depending on statistics in interpreting data is encouraged in decision making and factual presentations. Statistical ignorance indicates information illiteracy. Innumeracy in general implies a lack of analytical thinking. Information literates base their arguments on calculation and measurement.

The above discussed aspects are selected from a range of other attributes of information literacy. They are preferred for this study because they are identified as vital in the information literacy movement. These are the aspects that need in-depth discussions in information literacy literature as their absence tends to hinder information literacy development.

Information literacy is a skill to be learnt at the earliest levels of education and right through life. Ensuring that information literacy is applied in teaching and learning can be considered to be an important function of governance, in line with the encouragement of social and economic development.

2.7 The University of Cape Town

The inception and progress of information literacy at the University of Cape Town (UCT) as an example of historically advantaged institution is the focus of this study.

UCT is one of the South African tertiary institutions that acclaim academic excellence. UCT's teaching and learning practices have proven academic excellence and therefore the information literacy activities are worth noting. The historical account of UCT on the University website notes that "the University is home to 23 A-rated researchers - academics that are assessed by their peers as being world leaders in their fields. UCT also has six P-rated researchers, three men and three women. P-ratings are awarded by the National Research Foundation to promising young scholars, usually under the age of 35, who have demonstrated exceptional potential to become future leaders in their fields" (University of Cape Town 2008c).

De Jager & Nassimbeni (2003:113) in their endeavours to establish and benchmark information literacy standards in South Africa advise that "it is necessary to develop and enhance the sharing of best practices through more careful documentation and publication of successful interventions". The report of this research study is to serve the purpose of sharing UCT's best practices on information literacy. Also, the trends on the establishment, development and success of information literacy movement are studied and presented to showcase not just the end results of information but inclusively the means to attain such results.

Another interesting factor about studying information literacy at UCT is the institution's richness in writers who pioneered the information literacy movement. The scholarship of Professors Peter Underwood, Mary Nassimbeni and Karen de Jager, who are lecturers at UCT, contributed vastly to advocating information literacy not only in South Africa but internationally. The writers' commitment in the information literacy movement includes serious endeavours in their home institution, the University of Cape Town. Inside investigations of information literacy at UCT are therefore worth noting with the idea that UCT is one of the institutions where information literacy best practices are brewed.

"Over the years UCT has successfully maintained a 50:50 balance between black and white students" (University of Cape Town: 2008c). Although UCT was tagged as a formerly white institution, it has a long history of advocating demographically-representative admissions policies. Today, the demographics of UCT student intake are more reflective of a multi-racial environment and this study aims to reflect that.

The student population at UCT includes about twenty per cent who are classified as international students, not of South African origin (University of Cape Town: 2008c). It many be thought that such students are largely from the First World and thus more likely to be highly information literacy; however, the greater proportion are from other countries in Africa. It is unlikely that the proportion of First World students is sufficiently large as to have a significant influence on the study.

2.8 Research framework

In this research study, students as information users were interviewed as an effort to measure their level of information literacy. Lecturers were interviewed to examine whether their teaching methods support the principles of information literacy. Librarians were interviewed to check if they introduce library users to proper use of information resources.

Through course materials, lecturers establish the context for learning. They have an ability to inspire and guide students towards the fulfilment of information needs and

could monitor students' progress (Council of Australian University Librarians 2001:3). Lecturers also have an opportunity to teach students means and ways of exploring the information and could encourage students to apply the information literacy techniques as they try to find answers to their given tasks. Strategies towards boosting an attitude and awareness of information literacy need to be implemented among all academics.

The role of the librarians is to coordinate the evaluation and selection of intellectual resources, to maintain collections, to direct users to information access points and to advise and train students and academic staff on information research (Council of Australian University Librarians 2001:3). To foster the process of information literacy, staff development and training is vital.

Students are expected to acquire information skills. That involves being able to use the library and learning sources efficiently. Also, students need to be able to undertake literature searches, provide relevant references to material used and demonstrate effective use of information found. That does not only help students to pass their studies but enables students to take a full responsibility in their careers upon leaving higher education (Godwin 2002:1).

2.9 Conclusion

The purpose of this chapter has been to explore and identify the concept of information literacy. Information literacy is preferable acquired at the early schooling ages and developed through learning, experiences and exposure in the different stages of human development. The origins of the term "information literacy" can be traced from the 1970's. In principle, information literacy existed since the beginning of time and was possible through oral tradition.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 The research question

Are the academic staff, librarians and students of the University of Cape (UCT) really aware of the information literacy agenda? The question constitutes the "research question" of this study.

The following questions based on the "research question" stated above guided the investigations of this study. That is: is the UCT community recognising and practising information literacy? Is teaching challenging information skills? Are the library instructions encouraging the development of information handling skills? Do student recognise the copyright law? Are the students proficient information navigators? Responses and interpretation of these questions will explain the real state of information literacy at UCT.

3.2 The research population

All over the world, and strongly in Australia and the United States, higher education institutions are emphasising the need for information literacy skills and the culture of life long learning in graduates. Information literacy is a world wide movement that needs enhancement as it is still in its initial stages in the developing countries (King 2007:2; De Jager & Nassimbeni 2005:31).

South African Qualifications Authority (SAQA) formulated critical cross-field outcomes (CCFOs), which stipulate the information literacy attributes such as: "life long learning , personal growth, honest business acumen, critical, creative thinking and aesthetic appreciation" as the generic competencies that should underpin all South African qualifications that are registered on the National Qualifications Framework (NQF) (Carmichael & Stacey 2006:1). The critical cross-field outcomes aim at ensuring that graduates not only master the subject content but become competent professionals that possess leadership qualities and information skills. Academic

institutions are the relevant organisation to carry out the purpose. In higher education for instance, the lecturers, librarians and students need to work together in order to facilitate the principles of information literacy. Students need to be ready to grasp the information literacy teachings. Academics and librarians need to be committed in inculcating the culture of information literacy.

Angeley and Purdue (2000:5) contend that a successful "across the curriculum" information literacy model needs the collaboration of academics, librarians and administrators. Further, they state that the lecturers can inspire and monitor students' progress in information literacy. Academic librarians can collect material that encourages information literacy and coordinate information literacy instructions for students and academic staff. Administrators' responsibility is budgeting and coordinating the processes and programmes of information literacy. A tendency is that the lecturers and the librarians not only perform their responsibilities but go beyond being administrators of information literacy programmes in academic institutions. Information literacy is a core skill for academic success and a key component of independent, life long learning confirms Rockman (2002:185).

In this study academics, librarians and students are interviewed to determine their understanding and involvement in information literacy activities. Also, the infiltration and the development of information literacy tradition at the University of Cape Town is documented. The findings will give answers as to whether the academic staff, librarians and students of UCT are really aware of the information literacy strategy.

3.3 Research type

Research is prompted by an information gap to be closed or a question to be answered. An interest to understand a situation or an enquiry to a problem may be a reason to carry a research. Research refers to the enquiring processes of investigating solutions or clarity to a problem or finding answers to certain questions.

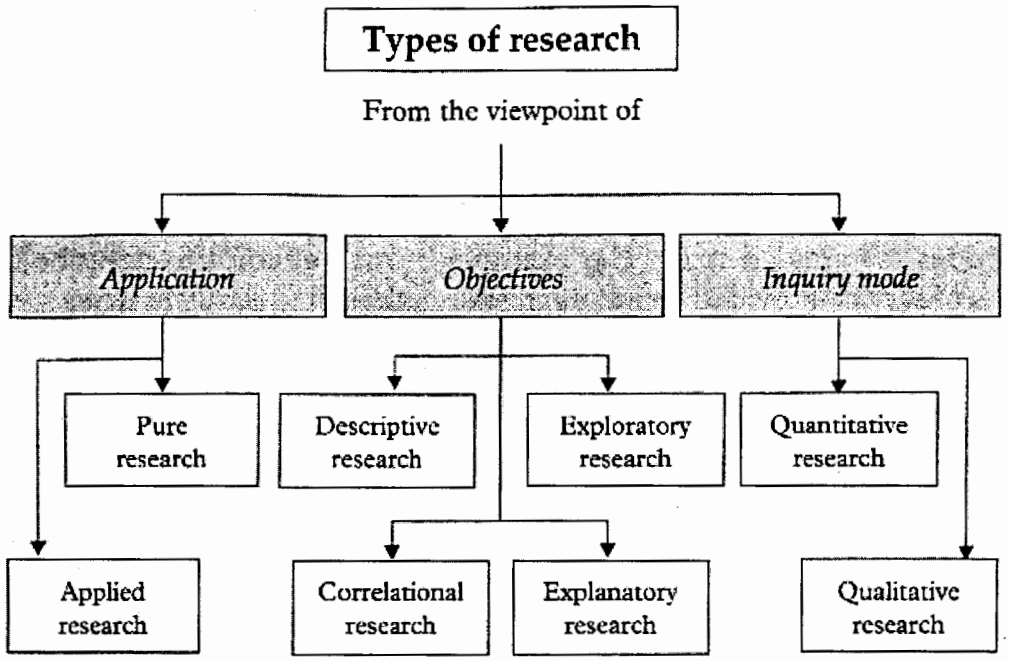
Information gathering may be based on a description of an observed situation or an account of opinions (qualitative research). On the other hand information may be obtained through the reading of predetermined numerical variables (quantitative).

According to Kumar (2005:8) research can be classified from three perspectives that can overlap each other. That is from the viewpoint of:

- Application – based on pure or applied research.
- Objectives – characterised by being descriptive, correlational, explanatory or exploratory.
- Enquiry mode – when a research adopts a qualitative or quantitative investigation.

The following diagram illustrates the above types of research as mentioned by Kumar (2005:9).

Figure 1: Types of research



This research study mainly matches up with the "inquiry mode". Both qualitative and quantitative research methods are used. Probes into the existence of information literacy are qualitatively conducted. The population of UCT that relates to information literacy (academics, librarians and students) is sampled. Responses drawn from the research are qualitatively interpreted and confirmed by quantitative presentations.

The "objectives" research type is also applicable. There are patches of descriptive research whereby the trends of the development of information literacy at the University of Cape Town are reported, with the objective of showcasing best practices. Kumar (2005:8) agrees that the three research classifications may overlap in one study.

3.4 Research design

According to Babbie and Mouton (2002:279-283) there are three main design types of qualitative research. These are: ethnographic studies, case studies and life histories. The authors' descriptions are as follows:

> Ethnography is an anthropological data collection obtainable through observation of behaviours in a particular society. The case study is an intensive investigation of a single unit, which may involve an examination of multiple variables. The interaction of the unit of study with its context is a significant part of the investigation. The defining characteristic of a case study is its emphasis on an individual unit. Life history is a full account of one person's life in his or her own words transcribed by a researcher. The point being that what is captured is the "point of view" of the respondent (Babbie & Mouton 2002:279).

Babbie and Mouton (2002:282-283) mention four general design principles of a case study namely: conceptualisation, contextual detail, multiple sources of data and conceptual categorisation.

For this research a "case study of institutions" was used to investigate information literacy, which is a single unit of a multi-dimensional academic institution, the University of Cape Town. In assessing the impact of information literacy, respondents in a set of three groups (within the University of Cape Town) in which information literacy culture would be apparent for generalizing were interviewed. The academics, librarians and the students were identified as the target audience because they are the major population members that information literacy impacts on.

Conceptualisation is done through a careful description of the term "information literacy" and a formulation of the research question. Contextual detail is given through the report of the historical background of the development of information literacy at UCT. Multiple sources of data such as literature reviews, interviews, individual communication and referral are explored.

As mentioned before, case studies are recommended in the exploratory research of single units. Case studies are also best for depicting institutional and organizational best practices (Babbie and Mouton 2002:281).

3.5 Quantitative and qualitative research

"The emphasis in qualitative description is on thick description" (Babbie and Mouton 2002:272). In qualitative research the variables tend not to be counted and the investigations tend not to be presented numerically. Observation is the key means of obtaining data. The environment or features are then monitored and the conclusions are drawn from reflection on the results. On the other hand, in quantitative research investigations and results are based on counting numbers and quantifying patterns of behaviour.

According to Weingand (1993:18) "the process of counting and measuring is most effective when quite a bit is already known about the object(s) of analysis. However, if a certain phenomenon is observed and the information is not available concerning why or how it happens, then meaningful lists of pre-coded answer alternatives cannot be compiled. In such a situation qualitative methods can flesh out what is really happening". Quantitative research is favourable for studying categorized populations. Qualitative research is preferred for undefined population studies.

Weingand (1993:17) further asserts that research is not tied to a process of quantification or numerical analysis. She defines research as "careful study and investigation especially in order to discover new facts or information". She interprets the phrase "careful study and investigation" as the thoroughness of the process rather that the type of methodology used. She contends that the verb "discovers" means to obtain sight or knowledge" (Weingand 1993:17).

The researcher concurred with Weingand, Babbie and Mouton: as a result qualitative research methods are mainly employed in this discourse. For this study, qualitative research strategies are mainly used to investigate the practical existence of information literacy at the University of Cape Town.

Cooper (1990:105) contends that using quantitative research techniques independently not only is feasible, but also is a requisite first step for determining and understanding the factors to be qualitatively analysed later.

Supporting this argument, Reneker (1993:501-502) states that unless the field worker can quantify some of the findings, readers may question the extent to which the reports are coloured by the researcher's personality and values.

As a point of departure in this research, non-qualitative techniques are utilized as a baseline for proportionally selecting informants that can represent the members of the university population with regards to information literacy. The criteria employed to select the groups of study are based on conceptual requirements of the study of information literacy and special characteristics of the UCT academic community as explained below.

Quota sampling strategy is used in this study. Babbie (2004:184) describes quota sampling as a type of non-probability sampling in which units are on the basis of pre-specified characteristics assumed to exist in the population being studied. Using quota sampling means that the results may not necessarily be representative of the full spread of characteristics in the population.

Quota sampling begins with a matrix or table describing the characteristics of the target population (Babbie 2004:184). When the fieldwork research was conducted at UCT in 2003, there were 621 academics and 64 librarians employed permanently. The total number of students enrolled was 19978. The figures of the academics and students were obtained from the Institutional Information Unit of the UCT Department of Institutional Planning. The number of staff members in UCT Libraries was obtained from the appropriate UCT Libraries officer.

A ratio measure is used to decide on the number of informants in each sample group, a technique that Babbie (2004:136) recommends. Babbie states that in ratio measures the attributes composing a variable are based on a true zero point and the fact that a single group shares some basic similar characteristics relevant for the purpose of the study satisfies the research requirement.

About five academics from each faculty giving a total of twenty-five, two librarians from each section or branch of UCT libraries totalling to thirty-one and one hundred and sixty-five UCT students were each presented with a questionnaire. Their responses were to be used to predict the general notion of the research population.

Librarians and academics were randomly visited individually in their offices. Only those who had time were interviewed immediately. Half of the students that were interviewed were found in the different sections of the Main Library. The other half was interviewed from both men's and women's university residences (Clarendon House and Carinus). Interviewing students in their residences was done to avoid a biased concentration of studying frequent users of the library, a case that might overemphasise the results of information literacy activities.

In both the residences and the library only five questionnaires at a time were handed out to students. Once these were completed and submitted, the next five were given until the targeted number was reached.

Quantitative techniques helped in recording the number of responses pertaining to common themes of the study. Quantification of data also supported the general conclusions arising out of the qualitative analysis.

For data collection, analysis and validation, some qualitative approaches were included in this study.

For a holistic examination of information seeking activities in support of information literacy, members of the UCT community sharing a common campus information environment were studied. In particular, students were asked to record their

information seeking behaviours, lecturers to record their teaching methods and librarians to record their library training practices.

For fact finding in data analysis, a focus was made to discover patterns of common experiences at a particular point of the research. Particular core categories were identified to formulate relevant concepts. The concepts were derived from frequently-occurring themes arising in the collected data. Concepts chosen from the Griffith University blueprint were also used.

The Griffith University information literacy blueprint is a recommended reference in this study, in designing quality initiatives and advancement in information literacy education. The blueprint is designed through consultation with the stakeholders (that include information services staff, faculty staff, staff developers and learning counselors) and a Reference Group that comprises the academics and Divisional staff members. For this study, the researcher identifies with the aims of the Griffith University information literacy blueprint as it "aims to provide a framework that facilitates the development of innovative partnerships between academic and Divisional staff in order to deliver challenging and well coordinated information literacy opportunities for the University community" (Bruce, C.S. 1994: Introduction).

The strategic method of categorising data is adopted from Ellis's grounded theory approach of studying the information-seeking patterns of academic researchers. Ellis (1993:482) maintains that categorising data in a research analysis highlights the key features and provides a framework in which the perceptions and activities that make up patterns can be related in a coherent form.

Apart from the conducted fieldwork, the summary presented in Chapter 3 about the historical development of information literacy at UCT was qualitatively gathered through an in-depth literature review of peer-reviewed journal articles and information science Internet publications. The literature review was strengthened by referral guidance of the staff members of the UCT Department of Library and Information Studies. The purpose of this was to investigate the records and trends of information literacy at UCT.

3.6 Research method

Self-administered questionnaires are used as an interview guide to research the characteristics of information use and to examine the frequency of library use at the University of Cape Town. Self-administered questionnaires provide a framework within which a range of responses can be elicited and there is some control over the volume of data collected.

To commence the inquiry, questionnaires were prepared for data collection. Each questionnaire has four closed-ended questions and a final open-ended question. The closed-ended questions were administered to maintain content focus to the information research needs. Options for answers were given to promote possible relevant answers and to save time.

Respectively, each open-ended question was asked around a key concept of information literacy of each group, namely, information literacy strategies in teaching for the academics, library improvement of information literacy techniques for the librarians and understanding of plagiarism for the students. The open-ended question was asked in order to test the informants' understanding of information literacy and to receive constructive suggestions from knowledgeable informants.

As recommended by Babbie and Mouton (2002:239) the questionnaires were uncluttered and they each began with basic instructions for completion.

A pilot study was undertaken to fully pre-test the questionnaires. Questionnaire interviews were conducted as an orientation to the fieldwork project and to establish effective communication patterns. Ten students, five librarians and three academic staff members were each presented with a questionnaire. From their request for a need of clarity, corrections were made and the final questionnaires were prepared.

The final questionnaires were distributed to the interviewees and they were completed in the presence of the researcher in case clarification was needed. Though the context and purpose of investigation is the same, the questionnaires for academics, librarians

and students were all different in content. Each group was asked questions relating to their information use behaviours or depicting their information literacy activities.

As mentioned above, twenty-five academics, thirty-one librarians and one hundred and sixty-five students were successfully interviewed.

No identification was required for the answers. Confidentiality was maintained in fairness to the informants and to encourage frank and open participation. Reneker (1993:505) maintains that when researchers collect data and write the report they must exercise care to maintain confidentiality of informants' data, which is personalized, subjective and very descriptive.

The researcher checked the completeness of each returned questionnaire. Where the informants skipped a question or gave unclear or too brief answers, the researcher gathered additional information through oral communication. In such cases the researcher used full transcription and maintained direct original questioning techniques.

Advice from Babbie and Mouton (2002:253-254) is that probes are more frequently required in eliciting responses to open-ended questions and it is imperative that such probes be completely neutral. When using the probes, researchers who know the object of the research need to caution against unwittingly contaminating the replies. The researcher maintained a neutral stance by avoiding supporting any idea when posing questions to avoid directing the interviewees to subjective answers.

For a general measurement and possible generalisation of the research results, informants from each group were asked similar questions. They were cooperative and willing to participate. Responses of each group revealed common experiences. There were few differentiations and that suggests that within the ambit of the group studied, there is a strong similarity of experience and, thus a paradigm to be explored. All members supplied answers to the questions.

The examples of the questionnaires that were used for the research are provided in Appendix 1.

The research methodology of this study was successful in obtaining a rich data set in which information use patterns are revealed in the real context of the daily activities in the University of Cape Town. Evidence for the investigation was gathered regarding the academics, students and librarians' progression in information literacy.

CHAPTER 4

UNIVERSITY OF CAPE TOWN: A CASE STUDY

4.1 The infiltration of information literacy at the University of Cape Town

The first South African democratic election of 1994 could be identified as the point of creation of a real nation. The apartheid-state government ignored its responsibility to establish school and community libraries especially for the black communities. The library and information services that existed at the time were uncoordinated. There was inadequate recognition of the need for the skills of professionally-qualified librarians and many libraries had poorly-managed and inadequate collections. Very few libraries were automated. "Progressive information workers then adopted vigorous protest and lobby actions against an approach to library and information work informed by rigidity, conservatism, and undeclared alignment with government policies of the period. When it became evident that liberation was imminent, these efforts coalesced in the early 1990s, into concerted initiatives to start a process of restructuring and transformation of library and information services" (Darch, Rapp & Underwood 1999:25).

A start was made with the National Education Policy Investigation (NEPI), which was a project of the National Education Co-ordinating Committee (NECC) conducted between December 1990 and August 1992. The objective of the investigation was to interrogate policy options in all areas of education within a value framework derived from the ideas of the broad democratic movement (Darch and Underwood 1999:287).

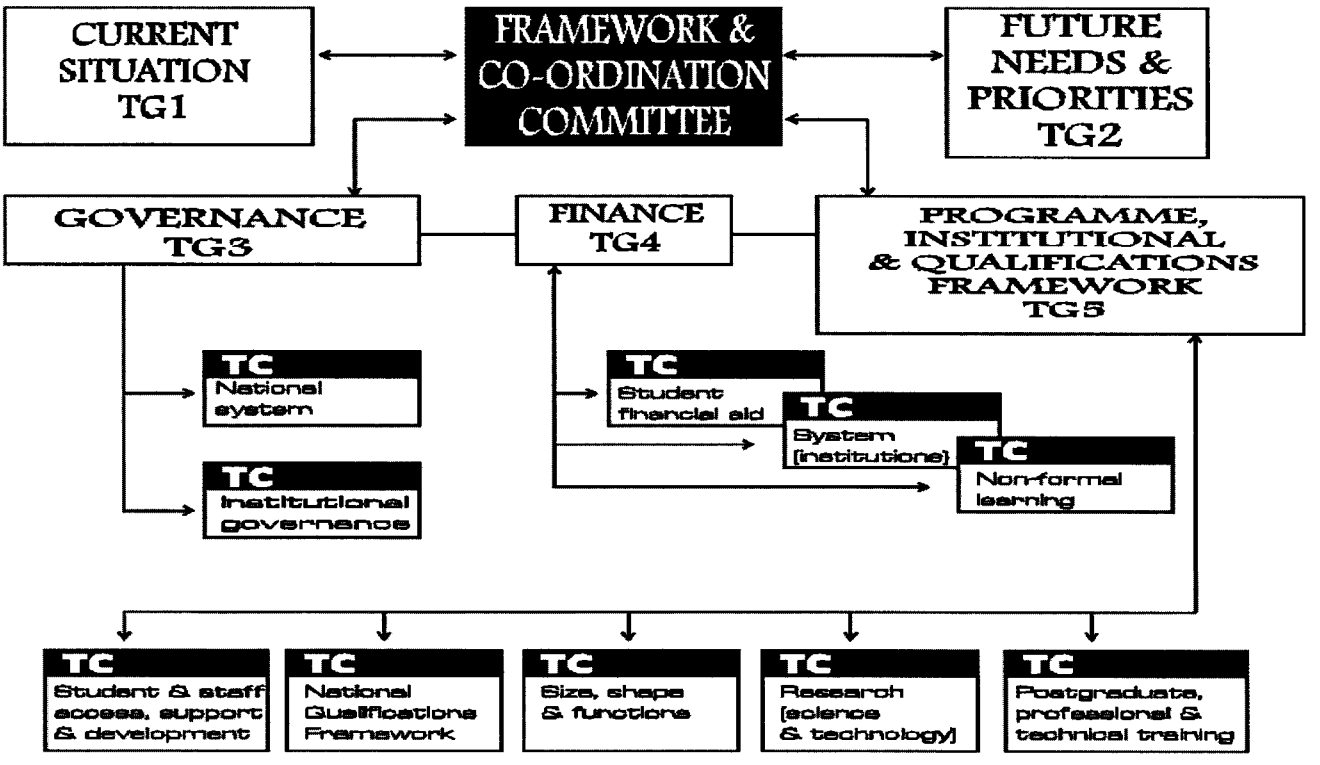
Exploration of collaboration started in the Western Cape somewhat earlier, in 1991. The Western Cape Library Cooperative Project grew out of the context of the profound changes that took place in South Africa. The region's apartheid structure was dismantled and attempts to establish an open, democratic society were underway. The cooperation effort among the Western Cape libraries reflected a new spirit of change in South African higher education. The Western Cape Library Cooperative Project was designed to enhance educational opportunities not only for postsecondary

students, but also for the region's population as a whole (Breivik, Pitkin and Tyson 1992:5).

In addition to thinking about regional collaboration, the library profession was engaged in creating a vision for a post-1994 nation. "Prior to the 1994 election information professionals become engaged in a process called 'TRANSforming our Libraries and Information Services' (TRANSLIS), which had the objective of bringing information workers together in order to suggest appropriate regional and national policy initiatives. The aim was to acknowledge inequities of the past but to focus primarily on reparation through building a better future. The meetings in the Western Cape and in many other areas, started well before the declaration of the date of the national elections. That gives the notion that the statements about the need for national policy initiatives should have been on the desk of the ministers of the newly appointed government immediately following the elections" (Underwood 1997:118).

The need for a commission on higher education was identified during the country's transitional period. The National Commission on Higher Education was then established by presidential proclamation. The commission was to advise government on issues concerning the restructuring of higher education by undertaking a situation analysis, formulating a vision for higher education and putting forward policy proposals to ensure the development of a well planned, integrated, high quality system of higher education. A research network organised into five task groups, numerous technical committees, working groups and individuals commissioned to write papers, supported the commission's work (see Figure 2). Each task group was coordinated by an appointed researcher and chaired by a commissioner. The administrative centres for the task groups were at the University of Cape Town, University of the Western Cape, University of Orange Free State, at the Development Bank of Southern Africa and at the Human Sciences Research Council (South African National Commission on Higher Education, 1996:24-25).

Figure 2: Task groups and technical committee structure of the NCHE



(South African National Commission on Higher Education 1996:26)

In February 1996, following a meeting of the National Commission on Higher Education (NCHE) that considered the final reports of the Commission's five Task Groups, a working group was established by the NCHE to produce a report on two key areas in higher education that had not been adequately dealt with by the Commission's Task Group, namely: Libraries and Information Technology.

The group, referred to as the Working Group on Libraries and Information Technology (WGLIT), began its work at the beginning of March and was asked to complete its report within three months. The themes of the information society and the need to enhance the skills of the populace of South Africa resonate in the National Commission of Higher Education Working Group on Libraries and Information Technology (WGLIT). The members of the WGLIT were selected by the NCHE so as to reflect a balance between race, gender and sectoral and geographical interests. The WGLIT consisted of eight members, with Derrick Young as the Convenor. The other seven members were Colin Darch (of the Cape Library Co-operative -

CALICO), Hans de Roos, June Matlala, Tselane Moroho, Mary Nassimbeni (of UCT), Lindiwe Ndaki and John Tsebe.

For the report, NCHE requested the WGLIT to undertake a study and analysis of the strengths, shortcomings and the role of Libraries and Information Technology in the development of the Tertiary Education Sector in order to provide the Minister of Education with a policy direction. In particular the WGLIT was asked to focus on the following areas:

- The lack of Library and Information Technology resources at the historically disadvantaged institutions;
- The upgrading required to enable tertiary institutions to function optimally in the world of knowledge and information technology explosion and competitive global economy;
- The development of human resources needs in relation to information technology;
- The funding required for the backlogs, for training, for hardware and software with future projections;
- The working group was also asked to attend to any other issues relevant in the field of library and information technology. (Young & others 1996:9 & 67).

The NCHE's instructions that tasked the WGLIT to investigate background information to policy making on libraries and information technology, signalled recognition of the strategic importance of information policy in higher education. Also, the initiative marked the reversal of a history of neglect of the library and information technology sectors (Young & others 1996:2). Also the late setting-up indicates and confirms that information workers had to struggle for space to consider library, and library and information studies related policies. Such is still a distinct problem in the field of library and information studies and the struggle has to continue.

Given the time constraints placed on the work of the Group, the WGLIT was advised to focus on the universities and technikon components of the higher education system.

A working group report was completed in July 1996. Amongst other policy proposals, the report takes cognisance of the importance of information literacy in higher education.

Another collaborative venture was the Western Cape Tertiary Institutions Trust (WCTIT), which aimed to promote co-operation among higher-education institutions in the Western Cape region. One of its co-operative projects, CALICO (the Cape Library Co-operative), a consortium of the five higher education institutional libraries, was established to provide a single seamless library and information system to the students and staff at these institutions. With the amalgamation from January 2005 of Cape and Peninsula Technikons to form the Cape Peninsula University of Technology (CAPUT), four institutional libraries now form CALICO. WCTIT was later renamed the "Adamastor Trust" and latterly, "Cape Higher Education Consortium".

The notion of a consortium of academic libraries is not limited to the Western Cape. There is Gauteng and Environs Library Consortium (GAELIC) in Gauteng, Free State Libraries and Information Consortium (FRELICO) in the what was formerly known as the Orange Free State, Eastern Seaboard Association of Libraries (ESAL) at KwaZulu Natal and South Eastern Academic Libraries' System (SEALS) in the Eastern Cape.

Consortia library activity came late in South Africa, delayed by the decades of apartheid in higher education. Due to apartheid, institutions duplicated and divided by race and languages were not designed to work together. In South Africa academic institutions were divided into two. There were institutions that were intended in the period of apartheid to serve the white population, and were thus well financed and well resourced, and there were those that were for the use of the black population, which were located in remote areas and starved of funds. In the Western Province for instance, the University of Cape Town (a predominantly English institution), the University of Stellenbosch (with a very strong Afrikaans tradition) and the former Cape Technikon are the historically advantaged institutions. On the other hand, the University of the Western Cape (often referred to as a Bush University or the University of the Left) and the former Peninsula Technikon are previously disadvantaged institutions (Darch, Rapp and Underwood 1999:26).

South Africa's academic institutions were therefore divided into two. They have different histories and were set up with quite different objectives, and that is why cooperation is still an effort.

Due to the socio-political context and the extraordinary changes that have occurred in South Africa in the 1990s, the motivation to cooperate, the nature, intensity, and success of cooperation vary widely among the five major academic library consortia in South Africa. Certainly, differences among consortia exist even in the first world countries. In South Africa the difference is more influenced by unequal scale of financial support. This is noticeable even in the best resourced universities with significant research agendas. For example, the University of Cape Town (UCT) has an annual acquisitions budget of about 12.5 million SA Rands. The University of Witwatersrand has about 9.5 million SA Rands. On the scale of financial income UCT is the largest member of CALICO; Wits is one of the largest members of GAELIC. The acquisitions budgets of these two libraries combined are very much less than that of any single institution in the USA with a comparable research agenda (Darch, Rapp & Underwood 1999:27). The difference explains that South African higher education libraries still have to seek for more financial resources or opt for institutional merging strategies in order to advance their services and technology to a standard that matches that of the libraries of the developed countries. The sharing of resources has the potential to alleviate the inheritance of poor collection management.

Another crisis that cuts across all library consortia is the continuing fluctuation in the value of the Rand against other currencies. That impacts strongly on collection development budgets as most academic publishing is done in first world countries and library stock had to be imported and licences for electronic resources negotiated with international vendors (Darch, Rapp & Underwood 1999:28).

CALICO is a key player in national terms. CALICO has been the standard-bearer for South African institutions in exerting political and moral pressure on the country's telecommunications monopoly, Telkom, to permit differential tariffs for network connectivity – a critical issue in a country faced with South Africa's economic problems and differential access to information resources.

In 1995 the Adamastor Trust and CALICO established an information literacy project called INFOLIT, which worked within the higher education institutions in the Western Cape. INFOLIT project was an ambitious attempt to ensure that the, then five, tertiary institutions in the Western Cape are equipped maximally to develop the key skill of information literacy in every student and member of staff. INFOLIT was initially made possible by generous donation from the Reader's Digest Foundation to CALICO. The purpose of the donation was to enhance teaching and learning through promoting information literacy. The project reached a conclusion at the end of 2002.

Coincidentally with the goals of the National Plan for Higher Education which are reflective of the need for inculcation of key transferable skills such as information literacy, the evaluation conducted by the Education Policy Unit (EPU) of the University of the Western Cape indicates acceptance that information literacy activities must continue within the Cape Higher Education Consortium institutions (Underwood 2003:1, unpublished).

The evaluation report of the EPU appreciated the services offered by INFOLIT. The INFOLIT contribution towards economic development and the potential of promoting regional institutional collaboration in the Western Cape was noted (Ravjee, Reagon and Koen 2002: xliii).

At its inception, INFOLIT agreed that a key step in the research process would be to arrive at a mutually agreed and understood definition of information literacy, which would be recognized and owned by both staff and students at the different institutions. For this reason focus group discussions with key constituents in higher education were held, to achieve a definition that would fit in the South African context.

INFOLIT then defines information literacy as:

> The ability of learners to access, use and evaluate information from different sources, in order to enhance learning, solves problems and generates new knowledge (Sayed 1998:14).

In undertaking the mission to advance information literacy for purposes of promoting *quality education, INFOLIT identified the need to comprehend levels of information*

literacy among its primary constituents. A basic requirement was a major research investigation into both the state of information literacy at the five tertiary institutions and into the need for appropriate interventions, which would enhance levels of information literacy in all the students on the CALICO campuses. As a result, a book about information literacy in the Western Cape institutions was produced (Sayed, 1998). The findings of the investigation were that students seem to be expressing a greater need for information literacy than they are actually getting from all the five institutions. At the same time, UCT students in general seem somewhat less needy than those at the other institutions (De Jager and Sayed 1998:202).

In 1999, INFOLIT became a project of the Adamastor Trust in its own right. It was managed by the Centre for Information Literacy of the University of Cape Town. The Project Manager was Professor Peter G. Underwood, of the Department of Library and Information Studies at UCT.

INFOLIT adopted the CALICO *vision*, which is:

- To promote information literacy and economic development in the Western Cape by providing information to users in a form they want, when and where they need it.

INFOLIT's intended lifespan was five years and the plans were as follows:

- To sponsor a series of pilot projects to model different approaches to information literacy education.
- To concentrate its efforts in higher education within the first three years, extending to schools and the broader community in the last two years. The plan to work in schools in the fourth and fifth years of the project's life is intended to ensure that students entering the tertiary system would already have some information competencies.

INFOLIT worked mainly with academic staff, librarians and information technology staff and sometimes directly with students. Their work was broadly organised into three categories namely:

- Projects
- Capacity development
- Contextual development

Projects were usually defined pieces of work developed with a partner(s) in an institution and occasionally, with a number of staff across institutions. Projects were either funded by INFOLIT or were mounted in partnership with another external organisation.

In selecting pilot projects to promote information literacy among the five tertiary institutions, the INFOLIT Steering Committee identified the following criteria for the ranking and prioritisation of submissions:

Replication

This relates to the ability of the models developed to be used or repeated not only within similar faculties or schools across the region, but also across different departments.

Sustainability

This criterion relates to the concern that projects should be integrated into departments and programmes and become mainstreamed and institutionally sustainable.

Evaluability

The impact of projects on the learning experiences of students is assessed. It is envisaged that projects must report on the effectiveness of the programme.

Merit

A prime concern is the defensibility and viability of projects to succeed in meeting their objectives.

The completion of INFOLIT projects involved conceptualisation, fundraising, collaboration, evaluation and reporting.

4.2 INFOLIT initiatives at the University of Cape Town

The following are the initiatives that have been conducted at the University of Cape Town. They are presented as examples of information literacy trends that may be practiced by other institutions.

INFOLIT's method of promoting information literacy in the CALICO institutions is mainly undertaken through *projects*. Projects undertaken at the University of Cape Town are:

Information society: tools and skills

The Department of Information and Library Studies at UCT offers a first year single-semester course in the Faculty of Humanities to undergraduate students equipping them with transferable learning and information skills. The course content includes an introduction to information age and its impact on society.

The course is designed to enable students to:

- Understand the functioning of the information society;
- Navigate the vast amount of information with which they are frequently confronted;
- Understand the organisation and compilation of information
- Understand the presentation of knowledge in both printed and electronic databases and networks; and
- Search for and evaluate information.

Africa 1300

This is a multi-media programme, which aims to introduce first year students to fundamental archaeological concepts within the context of southern Africa, providing a broad, general history of the region. The programme takes students on a tour of key archaeological sites to familiarise students with a range of conceptual issues and skills around the formulation and nature of knowledge, the collection and assessment of data and evidence and the ways in which such information is used. The project team has worked on translating the content in ways that utilise the full capabilities of the multimedia medium. The aim is to develop interactivity not just on a technical level, but in making the content itself interactive, requiring the students to engage critically with the content. These issues and skills are applicable not only to archaeology, but across a range of academic disciplines, and other non-academic contexts.

Capacity development is training of academic staff and librarians in order to promote the integration of information literacy in the curriculum. This could be in the form of workshops and courses or through working with staff members on a part of their work in which there is an information literacy component.

To promote the integration of information literacy in the curriculum, INFOLIT works largely with librarians and academic staff. Working with librarians is the priority since INFOLIT originated from CALICO, a library project of the Adamastor Trust. The following courses were hosted by the Cape Higher Education Consortium to develop librarians' interest and capacities in information literacy-related issues and activities at the University of Cape Town.

INFOLIT in action

The course introduces librarians to the concept of information literacy. It examined ways in which information literacy is part of librarians' roles. Also, it discusses librarians' relationship with both students and academic staff in promoting information literacy within higher education.

Powerful presentation skills

This course aim to develop librarians' abilities to speak in confidence in public, as they are suppose to teach or present sessions that promote information literacy – either to students, academic staff or within themselves.

Gateways and search engines

This course introduces librarians to searching the Internet strategically and effectively.

Web design

This teaches librarians to design websites so as to start developing their subject specific sites.

INFOLIT also responded to requests to work with staff or departments to assist with integrating information literacy into undergraduate curricula. For instance, two courses on the use of the Web in teaching and research have been presented for UCT academic staff in the Faculty of Humanities. These are:

The academic web

The course is largely a demonstration of what is possible and of some of the things that could be considered to maximise the effectiveness of the Web in academic work.

Unravelling the web

This is a hands-on introduction to searching the Web for academic material. It is an ancillary course, developed as a practical introduction to the Academic web course, previously mentioned. It emphasises hands-on training.

Yenza website

Yenza! is a word meaning "do it" in the Xhosa and Zulu languages. The web site bearing this name may be found at http://www.nrf.ac.za/yenza/. It is a guide to the use of the Internet for research and teaching purposes. It is intended to be of use to those conducting research and teaching in the humanities and social sciences. The request and funding to undertake its development came from the Centre for Science Development (CSD), since absorbed into the South African National Research Development (NRF). The group consisted of three members of the staff from the

Department of Information and Library Studies of the University of Cape Town, an academic from the Faculty of Engineering of the Peninsula Technikon, the Director of the INFOLIT Project of the Adamastor Trust and a co-ordinator from the Centre for Science Development. The aim of launching the Yenza site was to foster the development of a more supportive research culture (Underwood 2001:203).

The project's understanding of "using the Internet for research" includes using Internet tools for finding information, for conducting research, as well as for disseminating research related information. The information on the site is intended to help both the novice researcher and the more experienced researcher to find and develop online resources (INFOLIT, 1998; Yenza, 1998).

The site has three main sections or sub-sites, which are:

- Learn to use the Internet – how to use e-mail, how to find information on the Internet, how to evaluate information sources found through the search process, using the Internet in teaching.
- Starting the research journey – approaches to the generation of research ideas, conducting the literature search, developing a research proposal, selecting a suitable research method, analysing and processing of research data, presentation and publishing of research findings.

- Skills enhancement and training – links to resources where those already having some experience of using Internet resources could enhance their skills.

- Some subject specific links in a South African context are included especially for topics with difficult information to find from the Internet. Since teaching and the logical sequencing of ideas often had to interact with reality and experience before the real understanding is gained, it was envisaged that new researchers would use the site to view the range of processes and resources and then make choices of what was appropriate to their research project (Underwood 2001: 208-209).

Contextual development deals with monitoring the changes in educational policy and its implementation in all aspects of educational practice. The aim is to sustain the principles of information literacy in South African educational policy developments.

INFOLIT is concerned about the impact of educational policies on information literacy. For instance, INFOLIT has reviewed the implications of South Africa's new Outcomes Based Education (OBE) policy for the promotion of information literacy. INFOLIT also focuses on the academic professional development through mentoring and in-service training of academic staff towards excellence in the world of information age (INFOLIT, 1998).

4.3 INFOLIT collaboration at the University of Cape Town

INFOLIT established relationships with a range of individuals, units and departments in the CALICO institutions as well as with various organisations. At the University of Cape Town, INFOLIT worked in co-operation with the following departments:

- MEG (Multimedia Education Group), now called the Centre for Education Technology
- Centre for Information Literacy
- Department of Information and Library Studies
- Libraries
- Faculties

The following discourse presents mission and goals of each of the sectors mentioned above in fostering the information literacy movement. The combined efforts of these sectors are the building blocks of the culture of information literacy at UCT.

Iannuzzi (1998) contends that the mission statements and planning documents are key factors in assessing the extent to which information literacy is embedded in the institutional culture. Atkinson and Coffey (1997:45-48) affirm that textual communicative practices are a vital way in which organisations constitute "reality" and the forms of knowledge appropriate to it. They are "social facts" in that they are

produced, shared and used in socially organised ways. We have to approach them for what they are and what they are used to accomplish. We should examine their place in organisational settings and the cultural values attached to them. They often enshrine a distinctively documentary version of social reality.

Policy documents determine institutions' practices and activities, which then impact on maintenance or withdrawal of information literacy thereof. The following information is extracted from UCT policy documents.

Multimedia Education Group (MEG)

The Multimedia Education Group has now re-formed as the Centre for Educational Technology. The MEG aims to research and harness the potential of interactive computer based technologies and approaches to support effective learning and teaching, with information literacy as the requisite.

Centre for Information Literacy (CIL)

The purpose of CIL is to promote information literacy throughout the University of Cape Town by assisting all faculties and UCT libraries to inculcate aspects of information literacy within their programmes. Through the Centre for Information Literacy, UCT pursues its own information literacy themes.

Department of Information and Library Studies (DILS)

The purpose of the department is to provide research, consultancy and programmes leading to academic and professional qualifications in Librarianship and Information Science. The study of information use and needs, with a particular focus on Information Literacy, is the main area of research work of the department.

Libraries

The goal of UCT Libraries is to use the power of information in all its facets to provide dynamic and responsive support for UCT's mission of

being an outstanding teaching and research university, educating for life and addressing the challenges faced by the society.

De Jager and Nassimbeni (1998:133) analysed the UCT mission statement and define "educating for life as an educational process that, among other things, provides a foundation of skills, knowledge and versatility that will last a lifetime despite a changing environment; as well as research based teaching and learning; together with critical inquiry in the form of the search for new knowledge and better understanding. The statement incorporates the notion of information literacy as it promotes the love of learning, the skill of solving problems, and the spirit of critical enquiry and research".

Faculties

All UCT faculties are committed to honour the university mission statement that upholds information literacy in learning and research strategies. For example, the Faculty of Humanities offers a course called the *Introduction to Humanities Curriculum* (IHC). This is a package of core, introductory courses that aim to provide first-year students with analytical, reading, and writing skills. The course also seeks to teach the students other skills such as: finding and evaluating information from libraries and other sources, interpreting statistical data, communication skills and basic computer skills.

The UCT mission statement clearly supports the culture of information literacy. The goals and objectives of the MEG, CIL, DILS, Libraries and the faculties reflect the information literacy agenda and show determination of these sectors to promote information literacy at the University of Cape Town.

The UCT staff members of the Department of Information and Library Studies have been actively involved in co-ordinating and conducting information literacy activities. They have not only been involved in making information literacy possible at UCT but have participated in response to national education policies and structures that advocate information literacy.

CHAPTER 5

FIELDWORK RESEARCH

This chapter reports on the responses of the informants that were interviewed. The informants comprise of three groups, which are the lecturers, the librarians and the students. The discourse presents the results and recommendations of the research. The original results are tabulated in Appendix 3.

5.1 Research procedure

The research fieldwork was carried out in June 2003. Mid-year was chosen deliberately as it was assumed that even the newly registered students would be engaged in the UCT learning culture at that period. In this research the gender and the age demographics are less important as they do not have a significant influence on the study.

The questionnaires were planned with the notion of trying to understand the teaching styles of the academic, the library instruction strategies of the librarians and the learning activities of the students. The investigations were to be conducted without guiding or influencing the informants to certain responses. Such a stance would reduce the subjectivity of the research results. The multiple choice questions were chosen to limit the answers to be within a reasonable scope. The final question on each questionnaire is an open-ended question. The purpose is to facilitate an open debate so as to capture the overall thinking of the informants on information literacy.

The questionnaires were constructed with constant consultation of two lecturers from the Department of Information and Library Studies. Their suggestions were incorporated in the outline of the questionnaires. A pilot study tested the validity of the three questionnaires that were prepared for the academics, librarians and the students. After the pilot study the questionnaires were amended according to the advice of the interviewees. Final plans of the questionnaires were submitted to the research supervisor for approval and a go ahead to carry on the research.

All the interviewees were briefed about the purpose of the research. All the questionnaires were handed in to the student interviewees in person and the researcher waited for the responses. The academics and the librarians were interviewed and their responses were written in the structured questionnaire during the interviews.

Twenty-five academic staff members, five from each faculty of commerce, health sciences, humanities, law and science were interviewed. The academics were approached for their permission to be interviewed. Interviewed academics were found randomly as they were available in their offices. All of the approached academics agreed to be interviewed as they were informed that the interviews would take only fifteen minutes. They were questioned verbally based on the structured questionnaire. The researchers filled the answers as the responses were given during the interview. When there was a need for further clarity, the academics were asked to expand on such issues until a precise understanding was obtained. All the interviews were finished within the stipulated fifteen minutes for each academic staff member. Others showed interest by extending the interview to casual discussions on information literacy. Relevant comments were considered as add-ons to the study.

Thirty-one librarians were interviewed. Up to thirty minutes was scheduled with each librarian. Their responses were expected to take longer as they were mainly based on open ended questions. UCT Library has many departments. The interviews were conducted across departments of: science and engineering, built environment, knowledge commons, commerce, health sciences, humanities, law library, African studies, Hiddingh Hall library, government publications, music library, manuscripts and archives, rare books and special collections and Jewish studies. The first thirty-one encountered and prepared for the interviews were interviewed. For convenience, it was decided that the interviews should be conducted in the library departments rather than seeking another location. Some libraries were excluded because they were regarded as specialised: the Institute of Child Health Library and Bolus Herbarium are examples. Other departments that were excluded were Circulation, Inter-Lending and Short Loans. They were not interviewed as their operating procedures have less to do with information literacy. Those librarians chosen for interviews were very keen to participate.

One hundred and sixty five students were interviewed for this study. Fifty students were interviewed from female residences (Carinus) and fifty from male residences (Clarendon). They were approached during the lunch time in the dinning hall. The researcher distributed the questionnaires and waited for their return. The researcher was available in the dining hall waiting for questions on clarity from the students and their submissions. At the residences a reward was a chocolate for completed and returned questionnaires. All questionnaires were returned.

The heads of different sections of the library were asked for permission to distribute the other sixty five questionnaires to students studying onsite. Such students were given the questionnaires with the instruction to ask clarity from the researcher who was at the reference desk for the time the students were filling in the questionnaires.
A few students did not fully complete the questionnaire. On return they were asked the questions and their responses were noted down.

5.2 Responses of the Academic Staff

Twenty-five academics were interviewed.

Twenty-two academic staff members out of that twenty-five contend that information literacy is very important. One lecturer from the Science Faculty went further to emphasise that information illiterate people are prone to making mistakes over the selection of relevant and reliable information sources. The other three academics that did not see information literacy as critical to success argued that information literacy is important for students to a certain extent but not compared to mastering the content of the subject matter.

Responding to a question on whether they have ever requested assistance from the Centre for Information Literacy (CIL), ten academics from different faculties (Science, Engineering, Humanities and Commerce) agreed that they have asked for help from the Centre. Three staff members from the Faculty of Health Sciences mentioned that the Centre for Education Development which works together with CIL gave them support in aspects relating to information literacy. Some academics said they have referred students to the CIL.

Half of the academics assert that when they assess students' work they attribute value to a variety of performance issues such as contextual understanding, grammar, spelling and avoidance of plagiarism.

Investigating particularly about plagiarism, the avoidance of which is a principal component of information literacy, the results showed that all the academics are very careful with copyright issues. Only three academics said they do not bother that much about plagiarism. They contend that their interest is on content understanding. They contend that as long as students can convey that they have captured the information contained in lectures, learning has taken place. In fact they further support their opinion by saying their students only write tests that are more mathematical and statistical in content and therefore normally do not need to include references. This comment arose principally from academics teaching the Sciences, it is doubtful whether academics in other disciplines would express a similar view.

Whilst discussing plagiarism, it is worth noting that many academics require the plagiarism declaration as a preliminary of any submitted assignment and that is a requirement of UCT that it must be included. Taken from the University of Cape Town website, the plagiarism declaration statement is illustrated in Appendix 2. The declaration requires an affirmation by the candidate that plagiarism has been avoided and that the work submitted has not been used by other students, thus drawing attention to a two-fold obligation.

Asked about practices of evaluating learning, all the academics use the traditional methods such as tests and essays. The majority also involve students in presentations and group discussions. Only two academics maintained that they strictly use tests only. Other academics said they frequently use presentations and group discussions at second-and third-year levels but large class sizes make this approach difficult for first year students.

Questioned about the strategies academics use to develop skills of information literacy in students, it became apparent that even academics of the same faculty have different individual styles. The aim of producing not just informed graduates but information

literate citizens was a prevailing notion of every member of academic staff questioned.

The following are the strategies that the academics indicated were useful in the development of information literacy skills of students:

Referencing: Students are given an essay topic that requires research and they are not provided with references. In other cases where a course has prescribed textbooks, students are given a reading list with more or less relevant texts. This not only teaches students to find reading materials and provide adequate references but also teaches them to sift and select relevant information. Other academics prefer to leave students to make their own literature searches.

Another lecturer mentioned that students have a tendency of copying from the Internet and she monitors that very carefully. Once she senses that the standard of language is not that of a student, she extracts a few keywords from that discourse and searches the Internet using, for instance, the search engine Google, which she regards as a very good search engine in coverage.

Evaluation methods: To probe problem solving and critical analytic skills, some lecturers structure tests, essays or exams that do not have a specific correct answer. A given example is: Should the government play a bigger role in the development and control of the economy or not?

At a higher level, students do project work and lecturers do not identify the research topic; instead students are required to identify the research problem or an issue they want to research on for their essays.

Another strategy mentioned with approval is to make students ask questions in a test or exam. An example is: List at least six questions in point form you would ask the information technology manager.

Library role: Many lecturers insisted that in any academic institution the library is the focal point for engaging students in activities that would develop information

literacy skills. Lecturers rely more on the library induction programs that provide library tours and instruction. To make sure that students continue to be active members of the library, other lecturers organize library instruction session relevant to tasks currently given to students during the year. In cases where they have classes with small numbers of students, lecturers make an appointment with each student and *accompany the student to the library. They start a search together and once the student* is on track, the lecturer leaves the student in hands of a librarian for further help. To encourage the use of the library in large classes, lecturers refer students to use particular databases and to ask for assistance from their subject librarians. A comment is that this plan works well when the librarian is pre-informed about the incoming students so as to prepare the availability of relevant workstations and to schedule and devote enough time for the task.

Electronic resources: The majority of the lecturers associated information literacy more with mastering information technology. They then assert that they encourage students to use library electronic resources. Other lecturers refer students to web sites potentially relevant to their needs like those of International Scientific Unions (for science), Medical Research Council (for health sciences), Centre for Research into Economics and Finance in Southern Africa (for economics and finance) and many more.

Many lecturers mentioned WebCT as a reliable training resource. WebCT assists lecturers with the design, delivery and management of web-based learning environments. Lecturers said the students enjoy the instant feedback from the computer that WebCT provides. WebCT has since been replaced by an in-house system called 'Vula' that includes similar features.

Other lecturers said computer literacy skills are part of information literacy and so they encourage the students sometimes to use specialist information technology packages for the learning processes. Students have access to NetG, a means of teaching use of Microsoft Office suite of programs, including PowerPoint.

Curriculum: Lecturers argued that information literacy is embedded in the recent curriculum. The pedagogy directs them towards achieving information literacy. Student evaluation methods test if information literacy goals are reached. Instead of

adopting specific approaches to the inculcation of information literacy, many lecturers preferred to illustrate and emphasise it through adaptations of the existing curriculum for the discipline.

Awareness: Communicating awareness through workshops and seminars were mentioned as an information literacy enhancing tools. Many lecturers mentioned that they hold workshops where they discuss issues relating to the development of information literacy. In the process they sometimes pin-point some obstacles to the process and try to find solutions. A few examples of discussed topics are: How to teach classes with large numbers effectively and ways to close the gaps of cultural diversity in the classroom.

To communicate the information literacy message to students, some lecturers prepare instructions or booklets with guidance on literature searches, essay writing and referencing. The Humanities Faculty, for example, issues each first-year student with a guide to referencing and the avoidance of plagiarism. The guide is the Centre for Information Literacy handbook prepared by de Jager (2007) a guide first issued in 2003 and subsequently revised each year.

Individual attention: Being aware of diverse cultural backgrounds, many lecturers mention that where the situation allows or when they have identified a student needing assistance to develop information literacy they try a one-to-one discussion with the student. The lecturers state that such individual consideration caters more for students' cultural differences and academic background. When the lecturers have confirmed the problem they give the student exercises that will help to improve the situation. They then supervise the progress.

The other options that they mentioned were structured tutorials where small groups of students are given information literacy tasks relating to previous lectures. Another plan was the arrangement of "hot seats", whereby a tutor is scheduled to be available at specific times for consultation regarding queries and problems that students might have. In such cases problems relating to information literacy are also attended to.

All these are means that require a student not only to obtain information and memories but also to critically assess obtained information, be argumentative and use information effectively. To enhance the process, academics have to find the right strategies of inculcating information literacy skills to students. To be able to direct students towards acquiring the skills, academics themselves first need to have acquired higher levels of information literacy. That also helps the academics to provide a better coaching instruction to students who are encountering problems.

5.3 Responses of Librarians

Thirty-one librarians were interviewed.

Seventeen librarians out of the total number that was interviewed agreed that they had attended a seminar on information literacy.

Six librarians out of that thirty-one said they participate in curriculum development. That means they serve on institutional curriculum planning committees. Eleven subject librarians mention that though they are not involved in curriculum development they do discuss such matters with academics that are in such forums during their departmental visits. As a result they said they are involved in planning students' assignments. That is, they advise of resources available in the Library to which lecturers could refer students to assist with particular tasks. They also confirm supplementary resource materials that need to be ordered to complement the learning process.

When librarians were asked if they participate in designing the library web site, twenty librarians responded positively saying they do. A few librarians said even though they do not design the library web site they do contribute information or give suggestions on information to include on the web sites for their libraries.

All the librarians except for three indicated that they do incorporate information literacy skills when giving library instruction.

The following are the techniques the librarians mentioned as useful in transferring information literacy skills:

Reference interviews: Every librarian starts with a discussion of relevance: the object of the reference interview is to understand the question of the user so as to refer or direct the users to relevant right answers. The Librarians believe that the reference interviews also help in identifying the users training needs.

Teach search strategies: Librarians contend that the foundation of information literacy is to show the students how to solve a problem rather than solving it for them or spoon-feeding them. The majority maintained that they teach search strategies rather than finding the answers for the users. They do that through showing and explaining to the users the steps one has to go through to find the relevant information. If in that process there is use of a computer library catalogue or a database then they give a reason for clicking at a particular icon or for choosing an option. The librarians reported that it makes sense to explain why in the first place a particular database is chosen over others. Other examples that they view as needing some explanation are the differences between a "browse" and a "search" option. Another one is a difference between opening a PDF and an HTML file.

Many librarians assert that they also encourage the use of advanced search strategies. Librarians mentioned that formulating good search strategies, including the use of truncation; wildcard, proximity and Boolean operators help the users to retrieve the information most relevant to their needs.

Training examples: Some librarians argued that they use the questions that the students already have as the training examples. They see that as the best strategy for demonstration purposes as compared to using the librarians' own examples that might be abstract and meaningless to the students. The librarians believe that consideration of students' interests places them within their own comfort zones and fosters the learning process.

Information variety: The majority of the librarians mentioned that they always try to refer and expose users to a variety of information sources. These librarians contend

that users have a tendency of relying too much on textbooks and so they exposed them to different sources of information such as: journals, government documents, conference proceedings and the electronic resources. With that kind of wide range of knowledge and diverse exposure, students should become more active users of information.

Internet guidance: Other librarians said students also like to search the Internet for their academic studies and so they discourage that and recommend the use of library databases as the first option. They alert the users to characteristics of evaluating good scholarly web sites in case they need to use the information from the Internet as the only option. Librarians believe being selective is the "rule of the information literacy game" as it tends to reinforce the need for quality in information use.

Copyright law: Some librarians reported that during library instructions they emphasize the issues of the copyright laws, and the related concept of the avoidance of plagiarism and they mention the referencing styles such as Harvard, APA (American Psychological Association), Vancouver, the Chicago Manual of Style and which style has been adopted by faculty or department in which the student is registered.

Coaching: One librarian contends that information literacy is a contested concept and transfer of its skills needs to be treated with delicacy through consideration of aspects such as cultural context, political components and sometimes just individual differences. The librarian pointed out that his great concern is the level of approach that must correspond with the users understanding. He mentioned that some users when they come for help already have an idea or knowledge to some extent. On the other hand, other users might come "blank" in which case they need help from scratch. The former users might have already done a search from the catalogue and databases but might only be in need of the awareness of the availability of electronic journals. The latter users, apart from not having an idea of how to search the library catalogue, might not even know what a journal is. He also mentioned that sometimes the use of library terminology complicates the matter. He asserts that he always tries to find the level of the users' information literacy. In his reference techniques he then tries to coach the user to a more advanced level of information literacy. He does that

through first finding out the sources the users had already searched and thereafter suggests others that might not be known by the user. The librarian argued that it is his concern to bridge the gap between the information literate and the information illiterate students.

The following are suggestions that were given by librarians as to how information literacy can be better taught, developed and be supported by the UCT library staff:

Language: Many librarians viewed language and information literacy as intertwined. They believe library instruction can be better taught in people's home languages. Some librarians argue that all students at tertiary level understand English but some struggle to hear what is said due to the pace or accent the English first-language instructor uses. These librarians assert that taking people's language needs seriously would not only show respect or serve the interests of the students from disadvantaged academic backgrounds but can also help students who have a weak understanding to at least grasp the information literacy skills.

Staff training: The majority of librarians advocated the provision of "train the trainer" sessions in information literacy. They argued that each librarian assumes that his/her instruction is effective. In order to be sure that they transfer information literacy skills, they need to be fully information literate first. They said they need training that would demystify and unbundle the theory that surrounds information literacy as it seem to mean different things to different librarians. They believe that the confusion might mislead the users. Some believe that training in presentation skills and teaching methods suitable for conveying information literacy would at least give assurance that their instructions are fruitful. Other librarians ask for more collaboration between the training librarian and the reference librarians. Talks, seminars and presentations on the theme and principles of information literacy were also suggested.

Co-operation with academics: Also, librarians suggested co-operation with the academics. They thought that subject librarians should work more closely with lecturers of their subjects so as to make sure that the effort of developing information literacy in students is continued and accomplished. These librarians fear that if the

information literacy mission is not well communicated by the academics and the librarians, the students might be misdirected. They gave an example of students who are referred by a lecturer to find information from a database and the librarian refers the students to an equivalent printed material that has the same kind of information. Other librarians might just tell the answers to the students or make several copies of that relevant information. In the librarians' mind this will be providing a good service as it will have the effect of eliminating long reference queues. If the aim is not communicated the students will come with the right answers to the lecturer without a hands-on experience of going through the stages of acquiring the information. In that manner the lecturers' intention of developing the students' information literacy skills will be disrupted.

Student training: In-depth training sessions for the students were also preferred so as to give a librarian a chance to present the information in layman's terms for a better understanding. Also, an intense training on the use of electronic resources through the hands-on approach was suggested, as that would coach the computer illiterate users and give computer first-time users a practical experience.

Ergonomics: Librarians felt that a healthy working environment could also be inviting to users. They argue that training must be conducted in appealing training labs, with compact workstations, good air conditioning and friendly librarians. They prescribed well-prepared teaching materials such as posters, pamphlets and specialized training web sites.

Ancillary course: Other librarians were of the opinion that information literacy should be a credit-bearing, secondary course taught to all first year students. This implies that a core group of librarians must be trained to deliver or teach the information literacy techniques. These librarians contend that it is too much work to become teachers or tutors while fulfilling other librarians' roles. They think information literacy is a matter that needs ample time and special attention rather than divided attention.

Positive attitude: Some librarians argued that students must be acculturated to recognise the library not just as a quiet study place but also as an information

repository. That idea will encourage them to see librarians not just as peacekeepers but also as information specialists or information consultants. That mode of mind will equip and enable students to explore the information super highway with greater skills of information literacy.

Marketing the library: Some librarians placed a responsibility on the library marketing task team, which they expect to attract students into the library. Examples given were rewards based on competitions for assignments with best information utilization. These librarians thought lecturers may help to identify work of sufficient merit and the library can offer the prizes.

Librarians suggested other tools that can advertise the library services. For example, bookmarks or fliers written "Ask a librarian: you will get maximum benefit from your library if you do". They believe bags, squeeze-bottles, and stationery bearing details of the Library web site would achieve the objective of publicizing the library electronic resources. Furthermore, informative and appealing library web sites were seen as the best instrument to attract the library end users.

Evaluation methods: In order to meet user's information training needs at an equivalent level evaluation processes were suggested. Other librarians advised that an evaluation form with questions that examine the level of computer and information literacy of the users must be presented before any instruction takes place. They feel that would help the instructor to decide on what to emphasize in his or her instruction. They also suggested presentation of another form at the end of a training session that is designed to test the effectiveness of the instruction. That they believe would help to improve other lesson plans.

5.4 Responses of Students

One hundred and sixty-five students were interviewed for this study.

Questioned about where they best like to study, seventy-nine preferred studying in the library. Seventy-five preferred studying at home or at the residences. Six students

indicated that they like to study both in the library and at home. Five students nominated the Knowledge Commons as their best place for studying.

The Knowledge Commons is mainly a library computer laboratory. "The knowledge commons provides undergraduates with a 'one-stop-shop' for access to print and electronic learning and research resources, plus office software to process their work" (Gherasim 2000:3). The Knowledge Commons was inspired by an innovative facility in the Leavey Library at the University of Southern California in Los Angeles. The place offers a platform for collaboration and group effort between the undergraduate teaching and the library. A referral service to specialised librarians and peer assistance from "student navigators" is provided (Gherasim 2000:2-3).

Asked how often they use information from the computers for studying purposes, ninety-three students indicated that they frequently use the computers. Sixty students said they rarely use the computer: some of these students indicated that they use it twice or thrice a year. Twelve students stated that they have never used a computer for studying.

Checking the use of the library databases, thirty-two out of one hundred and sixty-five students confirm that they use the databases. Thirty students said they use journals. Seventy-five said they use the Internet. Almost all the students indicated that they use textbooks.

When asked how they get to know about the referencing techniques, one hundred and fourteen students said their lecturers taught them. Fourteen students said librarians showed them and thirty-three learnt referencing through help by other students. Three said they were not taught, they just knew on their own. One student said he never wrote an essay or had to use referencing as they are only evaluated through tests and exams.

Investigating about plagiarism, seventy-three students stated that they always use proper referencing when writing assignments. Sixty indicated that they reference their work most of the time. Twenty-seven contend that they hardly reference their work. Five students assert that they do not reference their work at all.

When students were asked what they understand by the concept "plagiarism", almost all of them presented a vivid understanding of the concept, its meaning and application. Only eight students were uncertain about plagiarism. One of the students went further to say he had been penalized several times for plagiarism but he does not know what it is or what he is doing wrong.

Students who understand plagiarism described it as follows:

Plagiarism is using someone's published work as ones own without explicitly acknowledging the original source through the use of prescribed reference techniques. No students mentioned quotation, paraphrasing and summarisation as related principles to plagiarism. Students further condemn plagiarism as illegal, cheating and stealing of ideas and opinions. They said plagiarism is a practice that denies the full credit that the author deserves for his thoughts and work. Other students refer to plagiarism as the "intellectual theft." They argued that failure to disclose the information source and pretence that an extract is one's original work is basically theft of intellectual property.

Some students further mentioned some disciplinary measures that UCT takes once plagiarism is noticed. They said students who plagiarize have their matter discussed at the UCT court and might be expelled or suspended.

Other students mentioned that plagiarism is not only the word by word use of the material of an author by another person but also includes copying ideas and reproducing images, illustrations and figures without mentioning the original authorship. Few students mention that copying work from the Internet is plagiarism too. One student complained and argued that the principles of plagiarism are unfair to the students because they are expected to give references for their own ideas that they have just thought about without hearing them from previous authors. The student blames the copyright laws as being a strategy that suppresses thoughts and innovation of the modern students. The student said, "Academics over-emphasize plagiarism and that forces the students to reference even the obvious so that they (the academics who are authors) can claim ownership and attain professorships." Other students believe that copying from a classmate is plagiarism.

All the informants were co-operative and they showed honesty in their responses.

CHAPTER 6

RESEARCH RESULTS

6.1 An answer to the research question

Are the academic staff, librarians and students of the University of Cape Town (UCT) really aware of the information literacy agenda?

A number of responses of the informants interviewed for this study attest to the recognition of information literacy at the University of Cape Town. The research findings provided a positive answer to the research question. The discourse portrays that information literacy principles are incorporated in research, teaching and learning. A tabular summary of the questionnaire results, which support the contention that information literacy is recognised at UCT, is in Appendix 3.

The suggestions expressed by the librarians and the academics, together with the understanding of plagiarism by the students, depict information literacy awareness by the University of Cape Town community. The suggestions also prove that the librarians and academics are proactive educators who are rising to the challenge of improving the standard of information literacy at UCT.

The literature review on the historical development of information literacy presented in this study portrays staff members of the Department of Information and Library Studies as playing a major role in information literacy advocacy. The presence of such onsite information literacy consultants at the University of Cape Town strongly affirms the information literacy agenda in the institution.

The responsiveness of these staff members to developments in education policies has led to initiatives such as the INFOLIT project and the establishment of the Centre for Information Literacy at UCT set a record in respect of their commitment in the information literacy movement as well as the prominence of information literacy at the University of Cape Town.

6.2 Research results concerns

The investigations in this study also established some setbacks to the achievement of a programme of comprehensive information literacy education at the University of Cape Town. The findings are highlighted below as suggestions for improvement to information literacy at UCT. The solutions to some of the problems are stated in the discussion of "how relevant is the Griffith University information literacy blueprint to the South African situation," a sub heading of 6.3 below.

- There are academics that do not bother much about plagiarism and referencing as their interest is on students' learning of the content. These academics may be missing the benefits of information literacy. The practice of prioritising the subject matter over information literacy by the academics in their teaching lessons needs to be clarified, that the two are not mutually-exclusive. Information literacy is mastered in the course of learning the subject matter. There is a need to establish the understanding that information literacy teaching need not necessarily be considered as a separate entity to learning. Instead, information literacy is mainly concerned with the information gathering techniques as a process towards problem solving and acquisition of the subject matter. The two need not be separated because they enhance each other. The learning of mathematics and statistics, for example, is not just about getting the answers right through calculations. It is important therefore to understand the logic of relating the calculations to real life problem-solving situations. In that manner analytical abilities are challenged and information literacy skills are developed.

- Most lecturers associate information literacy with mastering information technology. Information literacy does not compromise quality and relevance in exploring the use of different electronic information sources. The mentioning of the use of Internet by students at UCT suggests that students may be neglecting the use of databases, of which UCT has access to a large cluster, many of which are peer-reviewed. Some academics said they encourage the use of Microsoft PowerPoint presentations. PowerPoint may

be deceptive in evaluating information literacy. The attractive electronic format for presentations may mask inadequate verbal presentation skills and a failure to organise the flow of ideas systematically. In that manner, the impact of information literacy would be lessened.

- The issue of big numbers in the undergraduate classes, especially of first year students, as stated by other academics may reduce the possibility of spotting individual students' basic needs of information literacy. In such situations the information illiterate students' lack of participation in learning may be covered by the information literate students. Measures such as the tutorials may help. "Hot seats" may have a contribution as well. Information illiterate students may be shy to even take advantage of the arrangements. They may lack the initiative to address their problem as they may have an acceptance of being left behind. If the class numbers may be reduced, information illiterate students may be noted by the lecturer who would be able to ensure that they learn as well.

- Cultural diversity and academic background may manifest in the language differences. Some librarians suggested the use of home languages for library instruction. They stated that language may be a barrier to hearing and understanding. Students whose first language is not English need to be accommodated by recognising that their pace of understanding may be slower than the English first-language speakers. To embrace information literacy the academics and librarians should set a conducive communication pace that is reasonable enough to activate thinking without pressure. Translation of library brochures to some of the African languages is another alternative.

- The low level of information literacy training among the librarians surveyed means UCT librarians need to be engaged in information literacy courses. Only seventeen librarians out of the thirty interviewed agreed that they have attended a seminar on information literacy. On-the-job training would help them to have a common understanding of information literacy. They would also deal with students in a more professional manner when imparting

information literacy skills. Through proper training librarians may also develop strategies of working together with academics to pursue the mission of information literacy. Possibly, the librarians would also improve on strategies of marketing the library, conducting user education and equipping the library with the best collections that encourage recognition of information literacy.

- This study revealed that a high number of students admit to not using proper referencing techniques. Many students understanding of the avoidance of plagiarism is confined to acknowledging the author. The attitude they have is that the plagiarism concept is meant to control and may diminish their opportunities of making an independent and original contribution for fear of inadvertently using the work of others. They do not conceive referencing as a positive academic tool that prepares them to participate in scholarship. Students need to know more about the advantages of referencing so as to appreciate the practice.

The inconsistent recognition of the need for information literacy by academics, and the differing understanding expressed by librarians suggest that, although UCT has a good programme in place, there is still a considerable need for it to be marketed to the academic community and for the upgrading of library staff skills.

6.3 Information literacy: an international movement

This research study led to a realization that information literacy is an international movement. It is being interpreted and applied in various locations around the world. A table that lists different international initiatives taken by tertiary academic institutions to introduce information literacy programs was compiled by the School of Library and Information Science of the University of South Florida, in 1999. The table is available in appendix 4.

6.4 Griffith University information literacy blueprint recommended

An idea that came out of the critical analysis of this study is the need to design information literacy blueprints appropriate for South African higher education institutions. In that regard the Griffith University information literacy blueprint that was developed by Christine Susan Bruce is highly recommended as a starting point.

The Griffith University information literacy blueprint consists of two parts namely: (1) a theoretical framework, and (2) a strategic plan.

"The theoretical framework provides a vision of:

- the outcomes of information literacy education, through outlining the characteristics of an information literate people,
- the nature of information literacy education, and
- the potential of stakeholders in helping staff and students to be information literate" (Bruce 1994: Information Literacy Theoretical Framework)

The adoption of Outcomes-Based education in South Africa and, in particular, the concept of Critical Cross-Field Outcomes, has highlighted the opportunity to develop information literacy in the curriculum. However, for this to become widely recognized as a necessity requires the commitment of the majority, if not all, higher education institutions. The design of a suitable blueprint for South African institutions should encourage such commitment.

"The strategic plan comprises four elements that aim to enhance information literacy namely:

- a staff development strategy,
- a curriculum development strategy,
- an extra curricular education strategy, and
- an information literacy enhancement strategy" (Bruce 1994: Elements of the Information Literacy Strategic Plan).

Information literacy is integral in the teaching and learning practices of some of the South African higher education institutions. Of immediate concern is the need to inform educators and librarians about current developments in information literacy.

There is an urgent need to equip the educators and the librarians with skills to make use of the modern trends of information provision. Curriculum may be redesigned to include information literacy but if the educators and the librarians are not prepared the information literacy mission will not be accomplished.

Edling and Loring (1997:26) argue that "curriculum integration can be a lot like building a house. Even the best materials and skills cannot produce a sturdy structure without a sound blueprint to follow". Thorough planning is needed when incorporating information literacy in the curriculum. There are a number of institutions who have been involved in information literacy curriculum integration worldwide. Consulting their already existing information literacy designs is an effective start to planning and introducing information literacy in a curriculum. In that manner best practices can be adopted. The writer of this dissertation agrees that integrating information literacy in the curriculum needs a blueprint. In particular, as far as this study is concerned, a blueprint is a requisite to implement and build on the recorded suggestions of librarians and academics.

Dimmock and Walker (2004:39-40) tackled the need and the importance of a blueprint from a strategic leadership point of view. They assert that a blueprint is a key feature that is set around a coherent set of values that reflects responsiveness to socio-cultural context. They further state that it is difficult, if not impossible to act strategically in the absence of an intentional blueprint design and they contend that a vision is not enough. The researcher considers that even a mission statement might not be enough.

Dimmock and Walker (2004:40) state that a blueprint design involves a planned schedule of what the school and its constituent parts should look like in future, how it should function, and the type of graduates that it wants to produce. They warn that "an over-reliance on short-term and spontaneous approaches is symptomatic of the absence of a design and a product of failure to make the connections between the elements that comprise a school".

The information literacy blueprint of Griffith University in Australia is the recommended model program for South Africa to follow. The blueprint can be found in appendix 5 of this report.

Why choose the information literacy blueprint of Griffith University?

Australia has an international reputation of leadership in information literacy. Griffith University has garnered a reputation as one of Australia's leading tertiary institutions with research that continues to figure prominently on the international stage. Griffith University web site publicises Griffith University as an institution marked by innovation and growth. The University advocates that the modern world is changing rapidly and it develops strategies that reflect that change. As a result, Griffith is competitive in a global information age and the concept of information literacy is well recognised and incorporated into the curriculum (Griffith University, 2001).

How does the model match the South African information literacy needs?

Every initiative towards creating an information literacy program should begin with a definition of information literacy. The global approach to the definition of information literacy in the Griffith University blueprint provides a broad perspective on the nature of information literacy, allowing educators and information providers to interpret it according to their specific contexts and disciplines. To some extent the Griffith definition of information literacy caters for the South African context.

For instance, a South African definition of information literacy that was developed by INFOLIT through holding focus groups discussions with academics, librarians, information technology people and students states that:
Information literacy refers to the ability of learners to access, use and evaluate information from different sources, in order to enhance learning, solve problems and generate new knowledge (Sayed, 1998:1-3).

The Griffith University definition of information literacy is stated as:
A set of abilities requiring individuals to recognize when information is needed and have the ability to locate, access, evaluate and effectively use information from a variety of sources (Doyle 1992:5).

Comparatively, both definitions echo a spirit of learners' independence, life long learning and productivity that empowers a nation.

The Griffith University information literacy blueprint provides a framework that facilitates the development of innovative partnerships between academic and divisional staff in order to deliver challenging and well-coordinated information literacy opportunities for the university community. It states that the initiators of information literacy programs require the collaboration of lecturers (discipline experts), librarians, computer scientists, media specialists, and possibly, community stakeholders. Librarians should be involved in the development, implementation and evaluation of the curriculum. Leaders of tertiary institutions are expected to foster an appropriate climate, adopt and promote a vision of collaboration. Many South African academic institutions lack a climate of collaboration in this regard. The faculties of the social sciences or the departments of library and information studies and the libraries usually undertake information literacy education.

An investment in human resources may be thought of as a key factor in raising the quality of library and information services. Griffith University information literacy blueprint emphasises the importance of staff development through information literacy education. This is an issue that is often overlooked by many South African institutions. Information literacy needs regular updating. Staff members educated prior to the emergence of information technology may not be familiar with the new information sources and systems. Other staff members who are familiar with information systems and sources need opportunities for the updating of their knowledge and skills.

The human resources constitute the country's most basic assets. Without human resources development in South Africa will not achieve economic success or social development. Also, as technology plays an increasingly important part in people's daily lives, the training and development assumes greater importance in ensuring the future well being of South Africa (South Africa, Department of Arts, Culture, Science and Technology, 1996b:77).

The framework of the Griffith University blueprint promotes the use of both formal and informal information networks. Many information users adhere to formal information networks and are ignorant about the informal information networks. Formal information networks are information sources available through libraries and

information agencies. Informal information networks are information sources that have not yet entered the formal channels.

Communication skills are mentioned as an attribute of information literacy. That is, the ability to communicate with colleagues and information professionals. Sayed (1998:10) contends that information literate people are able to share, to produce new knowledge and to communicate to others the products of their active learning. Information literacy promotes a culture of open enquiry, an issue that is avoided by the majority of South African students. Darch & Underwood (1999:293) argue that in the former apartheid education system learners had little chance to develop open enquiry and the need to question authorities was not encouraged.

Both printed and electronic information sources are recommended as valuable information tools. These two mediums of information tend to supplement each other depending on the information user's purpose. For instance, the problem with an online version is reading it because of poor display technology compared with paper sources; however, if the wish is to quote a significant amount, it is easier to move text and graphics in the online version to create a new document. Some South Africans are conservative when it comes to electronic information resources. Other users have a tendency to prefer the printed version to the online version, yet their value is the same. Darch, Rapp and Underwood (1999:29-30) suggest that less developed countries like South Africa need to preserve and sustain what is valuable in the traditional print-based library while integrating it with a rapidly changing technology. Information literate people should be able to move easily and confidently between different information sources. Oral cultures and traditions of communicating information also need consideration.

The spirit of solidarity in learning styles is promoted. The blueprint accepts and celebrates the individual, cultural and ethnic differences of a multicultural, multi-ethnic student population. This action can fit well in the "rainbow" or multiracial South African institutions. In South Africa it is important to take cognisance of the effect of apartheid education on learners, particularly in designing programmes geared towards enhancing information literacy. Furthermore, Darch, Rapp and Underwood (1999:30) comment that "little is known about the cultural specificity of the group of

skills that constitute information literacy, and particularly the difficulties that face learners whose first language is not English and who are not particularly comfortable with the technological commonplaces of the world".

The informal assistance provided by student learning counsellors or tutors is very helpful because it provides an open and free interaction with the learners. Learners are more comfortable in voicing their difficulties to tutors who they regard as peers than to their instructors. If in South Africa tutors can be involved in information literacy programs, they can then alert librarians, course co-ordinators and lecturers to difficulties that learners may be encountering.

The other good point is inclusion of information literacy as an extracurricular course. This strategy ensures that students with special needs in the use of information systems and resources have access to the necessary support, without being singled out as being needier than other fellow students.

The academic institutions of developing countries should be aware and copy the best practice of education exemplified in the institutions of developed countries. A great consideration should be to contextualize the practices to suit a country's cultural and socio-economic spheres.

6.5 Conclusion

This study investigated and established evidence of an acceptable standard of the information literacy practices and activities at the University of Cape Town. UCT still needs to strengthen its information literacy endeavours. That will be possible through collaborative efforts of the academics, librarians and the administrators. The results of such efforts will be considered excellent when information literacy is fully apparent in UCT students and staff.

Further study of information literacy policy-making in higher education might be of research interest. Of concern and curiosity are the strategic plans, laws and regulations that steer the information literacy movement and programs. Aspects such as the mission, policy partnerships, training strategies, graduate attributes, teaching

plans and structured programmes would be of great advantage in illustrating fluency in information literacy.

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Appendix One

Information literacy questionnaire for academic staff

Background

This questionnaire forms part of a research study on the use of information literacy techniques at the University of Cape Town. "Information literacy" is an approach to teaching and learning that enables one to master techniques of problem solving through the identification, location and critical assessment of information, including electronic sources. Your assistance in answering the questionnaire will be greatly appreciated.

Instructions

For questions 1-4 please indicate the answer that best describes your response with a tick (√). For question 5, please write in your response on the lines provided and continue on the other side of the page, if you need.

1. What is your view of the inclusion of information literacy in the curriculum?

   Not important ☐ Important but not vital ☐ Very important ☐

2. Have you ever requested assistance from the Centre for Information literacy in preparing your lecture?

   Yes ☐ No ☐

3. Which areas are you particular with when assessing students' essays?

   Contextual understanding ☐ Grammar Spelling ☐ Plagiarism ☐

4. Which student learning activities do you require?

   Essays ☐ Tests ☐ Presentations ☐ Group discussions ☐

5. If you aim to develop students' information literacy, briefly describe the strategies you use:

   .....

   .....

Thank you > Nqabisa Nkangana Email: Nqabisa@uctlib.uct.ac.za Tel: 650-4473

Information literacy questionnaire for librarians

Background

This questionnaire forms part of a research study on the use of information literacy techniques at the University of Cape Town. "Information literacy" is an approach to teaching and learning that enables one to master techniques of problem solving through the identification, location and critical assessment of information, including electronic sources. Your assistance in answering the questionnaire will be greatly appreciated.

Instructions

For questions 1-4(a) please indicate the answer that best describes your response with a tick (√). For answers 4(b) and 5, please write in your response on the lines provided and continue on the other side of the page, if you need.

1. Have you attended a seminar on Information Literacy?

No ☐ Yes ☐

2. Do you participate in curriculum development (i.e. serve on institutional planning committees)?

No ☐ Yes ☐

3. Do you participate in designing the library web site?

No ☐ Yes ☐

4(a) Do you incorporate information literacy skills when giving library instructions?

No ☐ Yes ☐

4(b) If yes, how?

.....

5. Please give suggestions on how information literacy techniques can better be taught and supported by UCT Library staff

.....

Thank you > Nqabisa Nkangana Email: Nqabisa@uctlib.uct.ac.za Tel: 650-4473

Information literacy questionnaire for students

Background

This questionnaire forms part of a research study on the use of information literacy techniques at the University of Cape Town. "Information literacy" is an approach to teaching and learning that enables one to master techniques of problem solving through the identification, location and critical assessment of information, including electronic sources. Your assistance in answering the questionnaire will be greatly appreciated.

Instructions

For questions 1-5 please indicate the answer that best describes your response with a tick (√). For question 6, please write in your response on the lines provided and continue on the other side of the page, if you need.

1. Where do you best like to study?

Home/School resident ☐ Library ☐ Knowledge commons ☐

2. How often do you use information from the computers for the purpose of study?

Never ☐ Rarely ☐ Frequently ☐

3. Which information sources do you use for your studies?

Textbooks ☐ Journals ☐ Internet ☐ Library databases ☐

4. Who taught you how to provide a list of references at the end of an essay?

Lecturer ☐ Librarian ☐ Other students ☐

5. How often do you provide proper referencing when writing an assignment?

6. Always ☐ Most of the time ☐ Hardly ☐ Never ☐

What do you understand by the word "plagiarism"?

.....

.....

Thank you > Nqabisa Nkangana Email: Nqabisa@uctlib.uct.ac.za Tel: 650-4473

Appendix Two

Plagiarism Declaration

1. I know that plagiarism is wrong. Plagiarism is to use another's work and to pretend that it is one's own.

2. I have used an accepted convention for citation and referencing. In this essay/report/project/problem set, each significant contribution or quotation from the work or works of other people has been attributed, and cited or referenced.

3. This essay/report/project/problem set is my own work.

4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

Work:

Date:

Name:

Signature

Appendix Three

Tabular summary of the research answers

Question 1: Support for information literacy.

Academics		Librarians		Students	
High	Aware	High	Aware	High	Aware
22	3	17	14	90	75

Question 2: Collaboration between academics and librarians - and information technology for students.

Academics		Librarians		Students	
High	Aware	High	Aware	High	Aware
13	12	17	14	93	72

Question 3: Practical involvement.

Academics		Librarians		Students	
High	Aware	High	Aware	High	Aware
22	3	28	3	137	28

Question 4: Information literacy skills.

Academics		Librarians		Students	
High	Aware	High	Aware	High	Aware
23	2	31	0	164	1

Question 5: Students' copyright law awareness.

Students	
High	Aware
160	5

Key
High: indicates fluency in information use.
Aware: indicates an impasive response or absence of information literacy.
Some high numbers are obtained by adding equivalent responses.

Notes
Question 5 for academics and librarians is open-ended.
Question 6 for students is also open-ended.
Therefore no numerical account is established out of the open-ended answers.
Only the students' questionnaire has six questions.
The questionnaires for academics and librarians have five questions.

Appendix Four

International Programs, Projects, and Initiatives concerning Information Literacy in Higher Education

State/Province	Organization	Title
Australia		
New South Wales	University of Wollongong	Library Information Literacy
Queensland	Griffith University (Brisbane)	Information Literacy Services
South Australia	Institutes of Training and Further Education (TAFE)	LEARN Information Literacy Policy
Victoria	Deakin University (Melbourne)	Research Skills
Western Australia	Curtin University (Perth)	Information Literacy Training
Canada		
Alberta	University of Alberta	Learn to Use the University of Alberta Library
Alberta	University of Calgary	Information Literacy Group
New Brunswick	University of New Brunswick	Instruction Services
Europe		
	EDUCATE Consortium	Into Info

Malaysia		
Selangor	Universiti Putra Malaysia	Information Literacy Programme
Mexico		
Chihuahua	Universidad Autonoma de Ciudad Juarez (UACJ)	Desarrollo de Habilidades Informativas (Developing Information Competencies)
South Africa		
Orange Free State	University of the Orange Free State	FindOut! An Introductory Course in Information Literacy
Western Cape	Cape Library Cooperative (CALICO)	INFOLIT
United Arab Emirates		
	United Arab Emirates University (UAEU)	What is Information Literacy?
United States		
Arizona	Arizona State University West	Information Literacy: The Key to Lifelong Learning
Arizona	Maricopa County Community College District	Ocotillo Report 94-- Information Literacy
Arizona	University of Arizona	The Information Literacy Project

California	California State University (CSU) system	CSU Information Competence Project
California	California State University, Chico	Meriam Library Instruction
California	California State University, San Marcos (CSUSM)	Information Literacy Program
California	Chapman University	Thurmond Clarke Memorial Library: InfoMagic Library Tutorials
California	San Diego State University (SDSU)	Big Six Information Problem Solving
California	University of California, Berkeley (UCB)	The MELVYL Online Catalog
California	University of California, Riverside (UCR)	UCR Library Melvyl Tutorial
California	University of California, Santa Cruz (UCSC)	Library Starter Kit
Colorado	University of Northern Colorado	UNC Libraries Library Tutor
Connecticut	Quinebaug Valley Community-Technical College	Information Literacy
Florida	Florida International University (FIU)	Information Literacy Home Page
Florida	University of Florida (UF)	Library Instruction Staff Homepage Information Skills Mini-Course

Florida	University of South Florida (USF)	The USF Libraries Virtual Library Project: A Blueprint for Development
Indiana	Indiana University East	I103 Information Literacy Course Syllabus
Indiana	Purdue University	Instructional Resources
Iowa	University of Iowa	Library Explorer
Kentucky	University of Louisville	Lifelong Learning Through the Libraries
Maryland	University of Maryland University College (UMUC)	Library Tutorials and Aids
Massachusetts	Tufts University	Bio14 Library Research
Minnesota	University of Minnesota	Information Literacy
Nevada	University of Nevada Reno (UNR)	Course-related and Reference Guides from the Business and Government Information Center
New York	Cornell University	Library Research at Cornell: A Hypertext Guide
New York	D'Youville College	Information Literacy Policy
New York	Empire State College	LIB111: A Course in Information Literacy
New York	Rensselaer University	RensSearch: Instruction Services
New York	State University of New York (SUNY)	Information Literacy Initiative
New York	Ulster County Community College	Library: Information Literacy Program

North Carolina	Duke University	Library Classes and Bibliographic Instruction
North Carolina	North Carolina State University (NCSU)	LOBO COM 110
North Carolina	University of North Carolina - Chapel Hill	Library Basics
Ohio	Bowling Green State University (BGSU)	FALCON - Interactive Web Tutorial
Ohio	Oberlin College	Information Literacy and the Oberlin Education
Ohio	Ohio State University	The Gateway to Information
Oregon	University of Oregon	Get Ready: The Basics of Information Technology for Incoming Students
Pennsylvania	Duquesne University	Information Literacy Basics
Pennsylvania	Messiah College	Library Instruction
Pennsylvania	Millersville University	EDTE 590 Information Literacy: Creating Independent Learners
Pennsylvania	Temple University	Library Skills Workbook
Tennessee	University of Tennessee, Chattanooga	Guide to Information Literacy
Texas	Houston Community College System (HCCS)	The Research Center: A Guide to Using Libraries and Other Information Facilities
Texas	University of Texas	Undergraduate Library: Research It

Utah	Southern Utah University	IM1010: Introduction to Library Research
Utah	University of Utah	Internet Navigator
Virginia	James Madison University	Go for the Gold
Washington	University of Washington	UWired Program
Wisconsin	University of Wisconsin - Parkside	Information Literacy Program
Wyoming	Western Wyoming Community College	Hay Library's Information Warrior Training Course

The directory of online resources for the information literacy web site is obtainable at http://www.cas.usf.edu/lis/il/academic.html. Drew Smith, who is the instructor at the University of South Florida in the School of Library and Information Science, maintains it (Smith 1999).

In relation to South Africa it should be noted that there are other library consortiums like GAELIC in Gauteng, ESAL at KwaZulu Natal and SEALS in the Eastern Cape which do not necessarily include information literacy as a specific programme or objective. Also, the consortium in the Orange Free State is FRELICO, not the University of the Orange Free State as it is stated in the above table.

Information Literacy Blueprint

Division of Information Services
1994

Prepared by:
Christine Susan Bruce
Division of Information Services
Griffith University
September 1994

Contents

Introduction

This Information Literacy Blueprint has been created as an initiative of the Division of Information Services. It has been developed in consultation with a range of stakeholders on all campuses of the university and in conjunction with a Reference Group comprising academic and Divisional staff members. It comprises two parts:

- a theoretical framework
- a strategic plan

The Blueprint is designed to support a range of educational and quality advancement initiatives at the University, Faculty and Divisional level. These include:

- complementing the University's teaching and research programmes
- contributing to the development of core competency training for students
- impacting positively on the University's quality advancement programmes
- providing a cohesive, conceptual framework for development of information literacy initiatives
- serving as a guide to stakeholders concerned with information literacy

Whilst recognizing that Faculty have final responsibility for the information literacy of their graduates, the Division is committed to providing leadership in the area of information literacy education. The Division of Information Services has an important role in assisting academic staff to develop and implement information literacy education in their own areas of curriculum responsibility, as well as designing its own programmes for educating students and staff in the principles and practice of information retrieval, management and use.

This document aims to provide a framework that facilitates the development of innovative partnerships between academic and Divisional staff in order to deliver challenging and well coordinated information literacy opportunities for the University community.

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1. Information Literacy Theoretical Framework

The concept of information literacy has been interpreted in various ways since the early 1970s when it was first considered. In response to the need to gain consensus on this issue, the following definition was developed using the Delphi Technique:

Information literacy is the ability to access, evaluate and use information from a variety of sources (Doyle 1992, p.5).

This theoretical framework forms the first section of the Information Literacy Blueprint. It provides a vision of:

A. the possible outcomes of information literacy education, through outlining the characteristics of information literate people,

B. the nature of information literacy education, and

C. the potential roles of stakeholders, (including information services staff, faculty staff, staff developers and learning counselors) in helping staff and students to be information literate.

A. Characteristics of an Information Literate Person

Definitions of information literacy provide a useful entry point to understanding the concept. Many scholars, however, prefer to describe information literate people. This section uses the latter approach to provide a broad perspective of the nature of information literacy. The emphasis on description at a generalized level allows educators and information providers to interpret these characteristics in relation to specific contexts and disciplines.

The following is a much quoted, and generally considered authoritative description of an information literate person:

To be information literate an individual must recognize when information is needed and have the ability to locate, evaluate and use effectively the information needed... Ultimately information literate people are those who have learned how to learn. They know how to learn because they know how information is organized, how to find information and how to use information in such a way that others can learn from them (ALA Presidential Committee on Information Literacy 1989, p.1).

In addition to the description we have the following list of attributes which is the outcome of the deliberations of an expert panel:

An information literate person is 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 successful 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 critical thinking and problem solving (Doyle 1992, p. 2).*

From these descriptions we can identify seven key characteristics of the information literate person (see Figure 1 below):

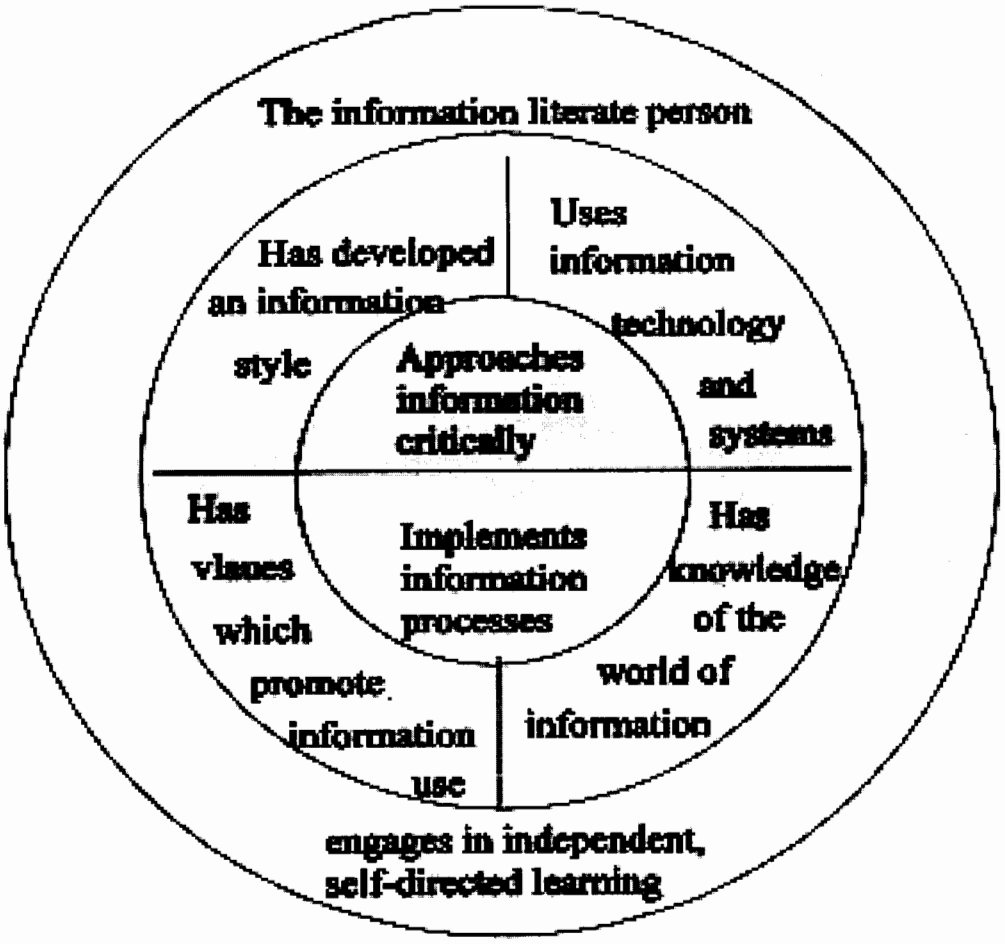

Figure 1: Characteristics of an Information Literate Person

1. The information literate person engages in independent, self-directed learning

Information literacy is an integral part of the profile of a lifelong learner (Candy, Crebert and O'Leary 1994). Information literate people take responsibility for their own learning, and are equipped to learn from the information resources around them. They seek information for problem-solving and decision making, maintain informal networks of personal contacts and use a range of strategies for staying up-to-date with developments in their fields of interest.

2. The information literate person implements information processes

Information literate people have mastered general information processes, and specific processes that allow them to successfully use information resources. General processes include recognizing and accepting an information gap, responding positively to the need for information, constructing alternative strategies to reduce the information gap, evaluating and selecting a strategy, acting on a strategy, assessing the effectiveness of a strategy (that is,

evaluating the information found), using information (that is, synthesizing and communicating information) and storing the information for future use (Bjorner 1991, p.157).

More specific processes include, for example, the ability to design and implement strategies for the location of on-line and print information sources; the ability to design and implement strategies for the retrieval of information from community-based resources which are not part of the formal, organized information networks; and the ability to use applications software for the management and communication of information. These processes involve a synthesis of information location, critical thinking and communication skills. They are transferable across disciplines or fields of interest.

3. The information literate person uses a variety of information technologies and systems

Information technologies make information resources available to us. They range from print materials, to video, laser disc and multimedia. They include telecommunications networks that provide on-line access to electronic sources and communication devices. As new technologies are developed in parallel with increasing amounts of information becoming available, people need to be comfortable with using them. People who are comfortable with information technology take advantage of new information resources and more efficient ways of using them. Information systems organize information resources to make them readily accessible. Such systems operate at a range of levels. They include on-line database hosts, libraries, and records management systems in hospitals, patents offices, cable television and a range of community organizations. People who understand the principles along which information systems are organized can access those systems or learn how to do so.

4. The information literate person has internalized values which promote information use

Information literate people are motivated to use information technologies, systems and resources. They value obtaining relevant information from both formal and informal sources, are open to new information and the implications for personal or corporate change that it might bring. They also understand the value of using the means which systems provide, such as thesauri and keyword access, and system command languages, to facilitate information retrieval. In addition, information literate people have attitudes such as `persistence, attention to detail and skepticism' (Kuhlthau 1990, p.17). They possess `an attitude that appreciates the value and power of information' (Mc Henry, Stewart and Wu 1992, p.55). Values promoting information use come from regularly engaging with the world of information in learning contexts.

5. The information literate person has a sound knowledge of the world of information

Information literate people are familiar with the many sources available in the world of information, including journals, people, newspapers, archival sources, statistics, electronic newsgroups and bulletin boards, conference proceedings and the sources which give access to them. They are familiar with how the world of information is structured, how to gain access to formal information networks and how to access information which has not yet entered that arena. Familiarity with the world of information also involves understanding the system of scholarly communication, indexing theory and issues such as intellectual property and other political, social and economic agendas associated with information creation and provision.

6. The information literate person approaches information critically

A critical approach at all stages of information gathering and use is an essential quality of information literate people. They evaluate their search strategies, the sources they use, the results they achieve and the content of the resources they locate. They `challenge the validity of information (and)... seek corroboration before adopting information' (Lenox and Walker 1992, p. 4). Some important elements of critical thinking include: determining the factual accuracy of a statement; distinguishing relevant from irrelevant information; detecting bias, unstated assumptions or ambiguous claims or arguments; recognizing logical inconsistencies or fallacies in a line of reasoning; distinguishing between warranted or unwarranted claims; and determining the strength of an argument (Beyer 1985).

7. The information literate person has a personal information style which facilitates his or her interaction with the world of information

Although many descriptions of information literacy reduce the concept to lists of behaviors and skills, individuals, once they have become aware of the world of information and strategies for accessing and using that information, develop their own heuristics, ways of proceeding, or `styles' in interacting with information. The information literate person sees the world of information in particular ways, and considers research, decision-making and other learning needs in terms of information problems. In doing so he or she develops preferred ways of approaching the world of information, its systems, technologies and resources. As a result individuals choose, for example, different entry points to tackling an information problem; one may begin with the design of a search strategy, another may begin with phone calls to personal contacts, another may prefer to browse known resources. Individuals also develop their own styles in other aspects of information literacy such as the use of technology, the communication and evaluation of information. Importantly, however, these styles are based on an educated appreciation of the world of information and its organization.

B. Information Literacy Education

Information literacy education in the higher education community is necessary for both staff and students. The goal of information literacy education is to ensure that people are equipped and encouraged to learn from the range of information resources surrounding them. In other words they should acquire, over a course of study or through staff development opportunities, the characteristics of information literate people outlined above. Attention to the information literacy agenda when designing higher education courses ensures that information literacy is both the object of learning and the medium through which learning takes place.

Information literacy education involves learning to use the formal and informal information networks available to individuals in their professional lives and as private citizens. Formal information networks are those available through libraries and information agencies. This involves, for example, access to scholarly and professional information, government information and information disseminated through the media. Informal information networks are those which provide access to information which has not yet entered the formal channels, or which does not properly belong to those channels.

Thus information literacy education involves the following aspects:

- understanding the nature of the information society,
- acquiring values which promote information access and use,
- being able to implement the processes of identifying an information need, locating, retrieving, evaluating and synthesizing the information required,
- developing a high level of communication skills, including the ability to communicate with colleagues and information professionals,
- developing a sound knowledge of information sources, including network sources, and strategies for using them,
- developing the ability to manage the information retrieved through the appropriate use of, for example, word processors, spreadsheets, bibliographic management software,
- developing a familiarity with the hardware of information technology, books, newspapers, videos, compact discs, computers and all their accompanying apparatus.

Responsibility for information literacy education

For students to graduate having acquired characteristics of the information literate individual, each member of faculty must accept responsibility for information literacy education. Information literacy education, however, is also the shared responsibility of all educators and information providers. Initiators of information literacy programs require the collaboration of lecturers (discipline experts), librarians, computer scientists, media specialists, and possibly community stakeholders. It is imperative, therefore, that the responsibility for information literacy is shared and implemented in a climate of collaboration. Program initiators, irrespective of whether these are lecturers or

librarians, subject or course coordinators must structure courses to ensure that students have access to required resources and the opportunity to gain the knowledge and skills needed to use them.

Strategies for information literacy education

How can we foster information literacy?

What is called for is not a new information studies curriculum but, rather, a restructuring of the learning process. Textbooks, workbooks and lectures must give way to a learning process based on information resources available for learning and problem solving throughout people's lifetimes... (ALA 1989, p.7).

Taking such a position as a starting point, many strategies can be devised for information literacy education. Courses and subjects should be designed to ensure that students work regularly with relevant information systems and resources. Teachers should remember, however, that information literacy cannot be the outcome of any one subject. It is the cumulative experience from a range of subjects and learning experiences which creates the information literate person.

Teaching strategies which do not foster information literacy include:

- heavy dependence upon lectures for the transmission of information,
- providing all resources required by students; that is, students are not encouraged to explore the knowledge base of the subject independently,
- heavy reliance upon reading lists and/or reserve collections,
- failure to explicitly assess information literacy (in subject units).

It should be noted that extracurricular instruction is unlikely to be seen as relevant, or used by undergraduate students, unless their courses require them to learn, locate, manage and use information independently.

Lenox and Walker (1992) put forward the following suggestions to educators who wish to design curricula which meet the challenge of the information literacy agenda:

1. We must accept the fluidity of instruction and shift our instructional emphasis from acquisition of a product to execution of a dynamic process.
2. We must accept and celebrate the individual, cultural and ethnic differences, (particularly as those differences are reflected in learning styles) of a multi-cultural, multi-ethnic student population.
3. We must integrate the dynamic information-seeking process in a learner-based or information-seeker based, curriculum and

broaden our concept of available and appropriate information products.

4. We must realize for ourselves and communicate to our students and understanding that in today's society information is viewed as a commodity, and, as such, it is bought and sold like the product of any other business.

Strategies for information literacy education across the university include:

- integrating an information literacy component into curriculum, articulated through a course or groups of courses,
- integrating an information literacy component into one or more selected subjects only,
- introducing special subjects at one or more levels of a course dedicated to aspects of information literacy,
- special cross- or intra-faculty workshops for research and teaching staff providing updates on information literacy, tools, systems and technologies and information through literacy education,
- extracurricular opportunities for students provided by faculties, learning support counselors or the division of information services,
- continuing education subjects or workshops for graduates and/or members of the wider community.

On information literacy education in academic curriculum

Academic curriculum at all levels must encourage students to use information processes in order to learn, as well as providing special opportunities to learn complex information skills. To achieve this strategy such as contract, resource-based, and problem-based learning are usually more suitable than traditional lecture and tutorial based courses. Courses falling into the latter category need to focus on using assignments, or other elements which encourage independent learning, to foster information literacy.

In some disciplines, information literacy education is seen as relevant, indeed necessary at postgraduate levels. It is essential, however, that undergraduates also are properly prepared to independently seek and use information relevant to workplace and academic contexts. Ideas for incorporating information literacy into curriculum need to be developed and shared by all faculties; for useful literature on the subject see Bruce (1992) and Farmer and Mech (1992).

Curriculum integration of information literacy requires teaching staff that are familiar with information processes, resources and technologies. Information literacy, like any other form of knowledge and skills, needs regular updating. Some staff members, educated prior to the emergence of information technology may not be familiar with today's information sources and systems. Other staffs that are familiar with information systems and sources need to be able to avail themselves of opportunities for updating their knowledge and skills.

Successful integration of information literacy education also requires students to see their learning environment in particular ways. Students, for example, who wish to learn only what they need to know to pass exams, and students who see the teacher's role as transmitting sufficient information to ensure that outcome, are not likely to respond to the teaching-learning strategies which foster information literacy. Where students see education as a commodity, they expect to be told what they need to know to graduate, rather than be assisted to become independent lifelong learners. These students are likely to see education based on independent learning from sources other than the textbook or lecturer as irrelevant. They may resist contexts which favor the incorporation of information education, such as inquiry learning, problem-based or resource-based learning. These problems can sometimes be avoided by ensuring that approaches to teaching and learning and approaches to assessment are compatible in the subjects concerned.

Conversely, where teachers' approaches to teaching and learning are student-centred, and where they are committed to students' need for information competence, such programs are usually well received and valued. Adherence to the AVCC (1993) guidelines for effective university teaching, and documents such as HERDSA's (1992) Challenging conceptions of teaching: some prompts for good practice is likely to lead to the development of teaching contexts which enhance information literacy. Finally, student learning outcomes in this area need to be assessed in the same way as, for example, subject knowledge, communication, thinking and problem-solving skills.

Evaluating information literacy education

Information literacy education, where integrated into the curriculum will normally be evaluated along with other aspects of the subject or course concerned. This can be achieved in student evaluations of subjects and during course re-accreditations. Special subjects devoted entirely to information literacy, should be subject to normal subject and teaching evaluations.

All information literacy programs could be usefully evaluated in terms of students' learning outcomes, appropriateness of content and teaching-learning strategies, according to guidelines suggested by authors such as Ramsden and Dodds (1989).

Academic courses can be evaluated for their contribution to information literacy education according to some of the following criteria (adapted from Bruce and Candy 1994):

- Is the development of information skills identified in subject aims?
- Does the curriculum ensure progressive development of increasingly sophisticated information skills?
- Is information competence widely encouraged in the early years of undergraduate study as well as later?

- Do teaching and learning strategies encourage regular use of information skills?
- To what extent are students required to identify their own learning resources?
- Are the information competencies required for the successful completion of assignments/subjects specified?
- Are strategies in place to ensure that students learn about relevant formal and informal information sources?
- Are opportunities provided for students to `learn to learn' about the world of information?

C. The Roles of Stakeholders in Fostering Information Literacy

The goal of information literacy for all members of a university community is achievable through:

1. the integration of information literacy education in curriculum, and
2. the provision of information resources and opportunities to learn to access the world of information, critically approach and use its resources.

Various groups in the university community have potential roles in achieving these goals. A range of these are outlined below. These role statements (adapted from Bruce and Candy 1994) are not intended to be prescriptive or comprehensive. They provide suggestions and guidelines which groups or individuals may draw on when considering their own role in fostering information literacy.

The need for cooperation between stakeholders and a client-centred approach to education and information provision

Effective information literacy education depends upon cooperation between information specialists and discipline experts to achieve curriculum innovations which foster information literacy. Breivik (1991, p.13) describes such cooperation as a partnership between stakeholders with pedagogical expertise, subject expertise and expertise in information organization and technology. Such cooperation is likely to occur, and the objectives of information literacy education achieved, in contexts where innovative, student-centred, approaches to teaching and learning and innovative user-centred approaches to information provision are valued (see Appendix One).

The role of university leadership and its administrative arms

Leaders of the university must foster an appropriate climate, adopt and promote a vision of collaboration (Lenox and Walker 1992, p.10). Such leadership may come from influential individuals as well as holders of high office. Such a vision needs to be supported by the commitment of information services, especially university libraries, and academic boards. Academic boards, for example, may require nominations for new courses to address the question "How does this course deal with information and information literacy

in the field?" (Rader 1990, p.880). It is a significant role of leadership to influence attitudes, policies and methods which foster information literacy education. Administrators should also commit themselves to providing the necessary infrastructure for resource-based teaching and learning.

The role of course-coordinators and lecturers

Course-coordinators and lecturers have a critical role to play in ensuring the information literacy of a university's graduates. At a subject level, introducing information literacy objectives, accompanied by appropriate teaching-learning and assessment strategies, ensures that students are exposed to, and begin to value, information processes and sources. Introducing information literacy aims at a course level, although rare, is an even more powerful strategy for information literacy education. This allows for accountability, coordination, efficiency and stability in relation to the information literacy program. The goal of information literacy can be integrated into a university's academic programs through subject development and redesign, course accreditation and reaccreditations as well as through the informal experiments of individuals with a concern for information literacy education.

The role of staff developers

Where information literacy programs are emerging in the culture of the university staff developers can act as consciousness raisers, establish the need for information literacy education for staff and students and provide forums for learning about initiating such programs. Teaching staff may need to become aware of information processes, systems and resources themselves in order to develop effective teaching-learning strategies, and information professionals may need to become aware of the potential application of these processes and resources to learning contexts. Both groups may need encouragement to adopt student-centred approaches to teaching and learning. Recent research into conceptions of teaching and teaching practice (Dall'Alba 1990, Martin and Balla 1990, Pratt 1992, Samuelovicz and Bain 1992), suggests that not all ways of thinking about teaching are conducive to the design and implementation of information literacy curriculum. The view of teaching as a process of transmitting information has been explicitly identified as a barrier for faculty in accepting such programs (Farmer 1992, p.104). Such staff development may occur in a range of ways; indeed strategies for enhancing the quality of teaching and learning are already in place in many Australian universities. The specific role of information literacy, however, is not commonly considered. Professional development opportunities may also be required for the developers, to motivate and assist them in mobilizing colleagues towards an interest in information literacy education.

The role of student learning counselors

Student learning counselors need to be aware of the information literacy requirements of academic curriculum and the skills which students need to

meet these requirements. Learning counselors could consider including elements which develop students' information literacy within their own programs; develop extracurricular programs in collaboration with information services staff; and alert students to appropriate extracurricular opportunities. Learning support counselors can intervene at all levels, in relation to information literacy education including when working with bridging and postgraduate students. They are able to alert librarians, course co-coordinators and lecturers to difficulties which students may be encountering.

The role of information services

Information services, especially university libraries, have a number of roles to play in facilitating information literacy programs. The two main roles are in terms of resourcing and providing leadership for appropriate innovation.

In terms of resourcing, libraries, as the access point to the `universe of information' must be adequately staffed and funded to provide the kind of access necessary (Breivik 1991). Moving away from teaching strategies focusing on the transmission of information and towards resource-based learning, has broad implications for university support services, particularly libraries, computing services and audiovisual departments. The nature and range of resources and media which need to be available and/or accessible must match the resources and media with which staff and students could potentially work outside the institution. Ideally, the university environment would model potential best practice outside that environment. Furthermore the effectiveness of the library should be promoted and evaluated in new ways, for example in terms of impact on educational and research outcomes.

Information services exercise leadership through demonstrated commitment to the initiation of information literacy programs, the promotion of information literacy through newsletters and annual reports, developing a program of principles, goals and objectives, and developing strategies for the effective evaluation of learning outcomes (Rader 1990, p.880). Librarians in particular are well placed to foster a climate of collaboration between lecturers, learning counselors and staff developers. In order to exercise such leadership the incorporation of educational philosophies related to information literacy should be reflected in library or divisional mission statements and goals.

Priority should be given to the teaching and staff development role of information services. Librarians and others should be available to advise faculty who are implementing information literacy education, as well as designing their own programs for educating staff and students in the principles and practice of information retrieval, management and use. Librarians should also be closely involved in the development, implementation and evaluation of curriculum. Such involvement may or may not involve direct teaching responsibility, what is essentially required is for librarians to recognize and take more seriously their staff development role.

Teaching for information literacy requires continual updating of skills and knowledge about the world of information; it requires particular views, and

particular kinds of teaching-learning strategies. It also requires an informed understanding of what students need to learn, how they can best learn it, and how their learning should be evaluated. Librarians and other information services staff could advise lecturers and course coordinators on all these matters. This may be achieved through a range of strategies, for example workshops on the integration of information literacy in curriculum; close liaison with, or `mentoring' of interested faculty staff; the establishment of networks of teachers interested in information literacy education; collaborative application for funds to support innovative teaching programs; and publication both in the literature of information science and higher education.

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Griffith University - Information Literacy Strategic Plan

Introduction

Griffith University is committed to enhancing the information literacy of all university staff and students.

This plan establishes the strategic directions to which the university is committed. It should be read in the context of the Information Literacy Theoretical Framework which accompanies it.

Discussion with faculty staff, INS staff, and GIHE set the directions contained in this plan. The plan will be reviewed and modified on the basis of feedback from these groups on a regular basis.

The Aim of the Strategic Plan

The aim of the information literacy strategic plan is to enhance the information literacy of Griffith University staff and students through integration with academic curriculum and research programs.

Elements of the Information Literacy Strategic Plan

There are four elements to the plan supporting this aim (see Figure overleaf). The first three of these elements are:-

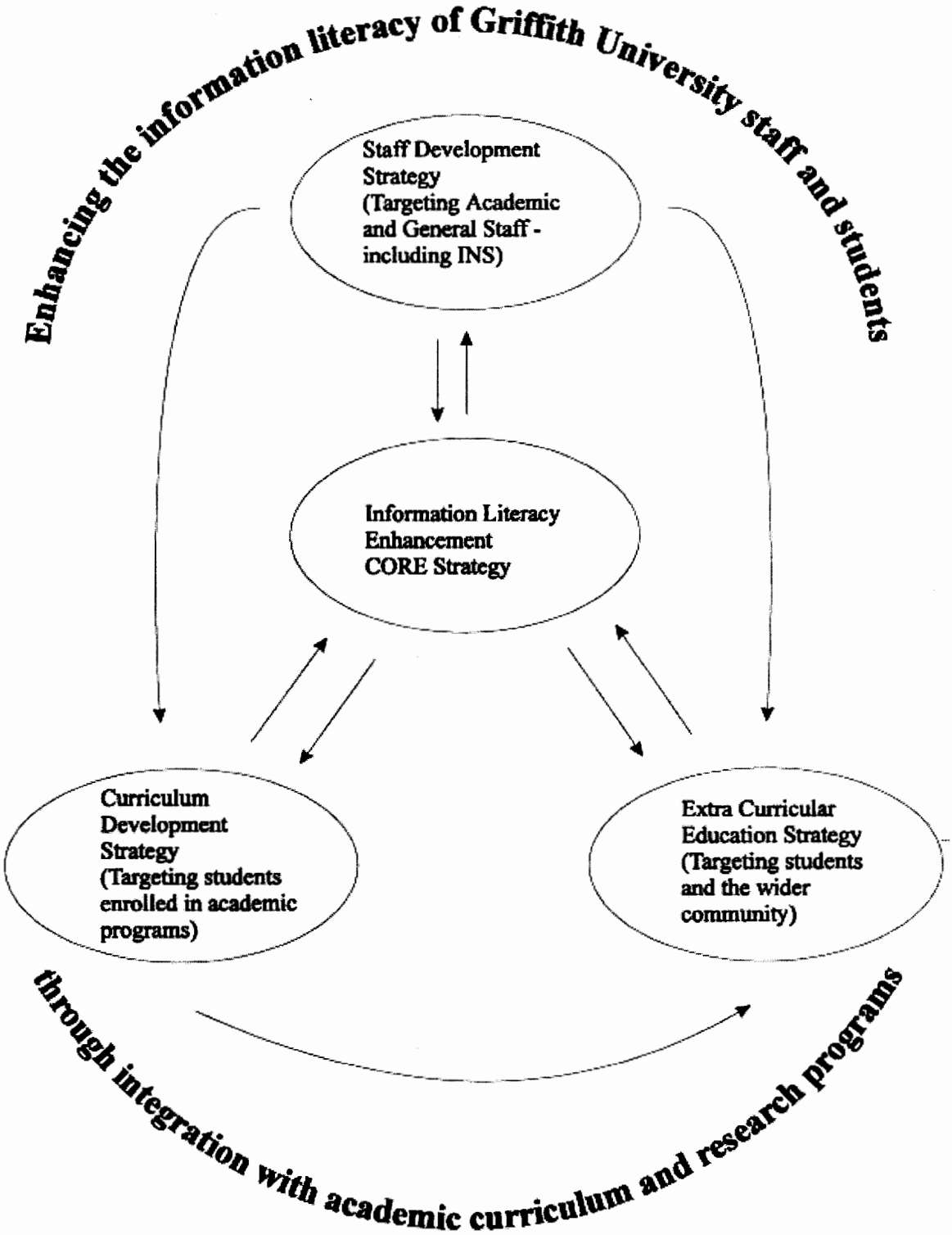
1. a staff development strategy,
2. a curriculum development strategy,
3. an extra curricular education strategy,

   These three are supported by a central strategy or co-ordinating focus on information literacy and information literacy education:-

4. an information literacy enhancement core strategy.

Note: 'Staff' refers to faculty and other staff members of the university supporting the information literacy agenda.

Information Literacy Enhancement Stragetic Plan



Information Literacy Education Core Strategy

Aim: To facilitate information literacy education through promotion, policy development, liaison with and support for relevant personnel and organizational units and research.

Rationale: The Information Literacy Enhancement Core strategy provides a framework for, and supports, the staff development, curriculum integration and extracurricular education strategies.

Strategic directions:

1. To raise awareness of the need of various clients groups for information literacy and strategies through which this goal can be achieved.
2. To develop and/or recommend Griffith University policy related to the information literacy agenda.
3. To facilitate communication between key groups about the information literacy agenda, including Deputy Deans Teaching and Learning, GIHE, Flexible Learning Unit, Learning Assistance Programme and the Division of Information Services.
4. To monitor and address problems/barriers encountered by university staff in pursuing information literacy education.
5. To provide access to information literacy specialists within the university.
6. To identify and access funding opportunities for enhancing information literacy education.
7. To provide a focal point for critical reflection and research into information literacy and its implications for teaching, research and community service.
8. To monitor and provide access to national and international developments relevant to information literacy, including political developments, opinion papers, research outcomes, etc.
9. To evaluate the implementation of the strategic directions outlined in this plan.

Staff Development Strategy

Aim: To provide opportunities for all staff to improve their own information literacy, their understanding of the information literacy education agenda, and their ability to account for that agenda in their own contexts.

Rationale: The staff development strategy draws together university emphases on providing development opportunities for all staff in relation to information literacy. The staff development strategy targets all staff interested in the information literacy agenda.

Strategic Directions:

1. To provide opportunities for all staff to regularly update their own knowledge and skills.
2. To raise awareness of the nature of information literacy and the need to include information literacy education in academic curriculum.
3. To encourage and enable all staff to design and use teaching/learning strategies which target information literacy.
4. To implement programs which foster sustained interest in information literacy education.
5. To encourage staff to apply for funding (teaching or research grants) and publish in relation to information literacy education.
6. To enable INS staff to meet teaching responsibilities in terms of developing both discipline based and teaching expertise.

Curriculum Development Strategy

Aim: To provide instructional design and associated support for the incorporation of information literacy education into academic curriculum at all levels.

Rationale: Students graduating from the university should have information literacy related knowledge, skills and values to enable them to continue to learn and to operate effectively in professional and private contexts.

Strategic directions

1. To offer curriculum advisory services to academic staff wishing to introduce or enhance the presence of information literacy in subjects or courses.
2. To offer team teaching support to facilitate the implementation of innovative teaching/learning strategies.
3. To make available information literacy modules which may be incorporated into existing subjects?
4. To offer specialized academic units (whole subjects dedicated to information literacy), e.g. Literature of Science.
5. To help staff identify and use the necessary resources for incorporating information literacy objectives into curriculum.
6. To investigate and identify special support mechanisms required for open learning, flexible learning and distance learning.
7. To explore use of relevant information technologies to assist in the design and delivery of information literacy programs in alternative delivery modes.
8. To support examination of course contributions to information literacy during reviews or reaccreditations.

Extracurricular Education Strategy

Aim: To provide extracurricular learning opportunities for students and other clients which enhance information literacy.

Rationale: Many students learning at Griffith University are not enrolled in the university's undergraduate and postgraduate courses e.g. open learning students, bridging students etc. Other students have special needs which must be addressed to enable them to take full advantage of information systems and resources. This strategy also ensures that students needing point of use assistance with use of information and resources have access to the necessary support.

Strategic Directions:

1. To ensure that all staff and students have appropriate support in the use of university systems and resources.
2. To provide information literacy training and education programs which supplement curriculum initiatives.
3. To broaden existing extracurricular training programs to address a range of elements in the information literacy agenda.
4. To incorporate elements of the information literacy agenda into program designed for bridging students and students requesting learning assistance.
5. To identify and implement appropriate strategies for enhancing the information literacy of open learning students.
6. To identify and implement appropriate strategies for enhancing the information literacy of specific student groups such as, international students and equity target groups.
7. To identify and implement strategies for enhancing the information literacy of the wider community served by the university.

Appendix One

Emerging views of learning and information provision which support information literacy and information literacy education.

(Taken from J. Kirk and R. Todd (1993) Information literacy -challenging roles for information professionals. In *Information Literacy : the Australian Agenda* Proceedings of a conference conducted by the University of South Australia Library pp.126-135).

LONG STANDING VIEW OF LEARNING	EMERGING VIEW OF LEARNING
emphasis learning content, acquiring a body of 'right information' once and for all	emphasis on learning how to learn, how to ask questions, to be open and to evaluate new concepts, how to access information; what is

	'known' may change
learning is a product, a destination	learning is a process; learners make decisions about their learning and are encouraged to be autonomous and independent learners
authoritarian learning structure where conformity is rewarded and difference is discouraged	approaches to learning are flexible and responsive to characteristics and behaviours of groups of learners
relatively rigid structures with prescribed curriculum that emphasises 'appropriate ages' or 'levels' for learning activities	flexibility and integration of age groupings - individual not automatically limited to certain subject matter by age or educational level
learning relies primarily on theoretical 'abstract' book knowledge	theoretical and abstract knowledge complemented by experiment and experience, both in and out of the classroom
classroom designed for teaching efficiency and convenience	learning context, and establishing an environment that encourages confidence, self reliance and responsibility are important
often learning needs are bureaucratically determined; resistant to community input	concern for the environment of learning that is responsive to the needs of learners; community input is encouraged
teacher imparts content - a one way street; teaching is talking , learning is listening	teacher is a facilitator of learning, a learner too; learning is a shared environment where candour is permitted; students and teachers see each other as people, not roles
information is viewed as objective, 'bricks' of information with constant meaning	information creates meaning and understanding, enables to make sense of their situations; meaning varies from person to person
agency functions as a channel between information source and user; emphasis on delivery/transfer of information - getting information into the hands of the users	information user is actively involved in information transfer and does something with the information to satisfy needs; emphasis on user doing something with the information

decisions are top down - institutionally derived; emphasis on self reliance and self development of the organisation	organisational decision strategies are based on knowledge of users
users of information are passive recipients of information - the 'destination' of information users are portrayed as not having much control over the agency's role of storing and channelling of information	users are information processors and decision makers; they initiate information need; information needs exist within users as gaps in knowing
individuality is seen as chaotic; the same level of service is provided to all; information fits each person in exactly the same way, thus an individual's response to information conforms to expected group response	information seeking behaviours of people vary from individuals to individual; individuals are copiers with their environments rather than merely reactors to whatever is initiated for them
emphasis on provision of 'neutral' information	people need to have access to information appropriate to their abilities, interests and needs
libraries designed as storerooms for books; convenience of storage rather than convenience of users	libraries are part of a vast information infrastructure to meet users' information needs
communication tends to be of a persuasive and promotional nature attempting to convince the user to adopt an innovation	a marketing approach to information provision is a key mechanism of communication
passive approach to the development of services tailored to specific information needs; little feedback from users on appropriateness of resources	collaborative approaches between all sectors of the information infrastructure to develop services to meet needs; feedback is essential

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