INFORMATION LITERACY AMONG FORM FIVE STUDENTS AT THE
FOUR GOVERNMENT SENIOR SECONDARY SCHOOLS IN GABORONE,
BOTSWANA

by

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DECLARATION

The researcher hereby declares that the contents of this dissertation, unless specifically indicated to the contrary, are her own work, and that this dissertation has not been submitted simultaneously, or at any other time, for another degree.

Goitsemang G. Isaac   Sign ....   Date ....

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Thanks to Richard Bell for editing the thesis.

Last but not least, my appreciation goes to my sponsor, the University of Botswana and UB Library, for releasing me to carry out this study.

To all my friends, who contributed positively to this achievement, I cannot name all of you but you know who you are. You are a wonderful circle of friends.

DEDICATION

This dissertation is dedicated to my parents, Keikanetswe and Keohenye Wadikonyana, for the hard work they went through in planting a sense of responsibility and accountability in me. You have performed your duties well. To my sisters and brothers, thank you for your contributions. Queen, you are exceptional.

ABSTRACT

The study investigated the information literacy skills among Form Five students at government senior secondary schools in Gaborone, Botswana. The results of the study will be used in the improvement of the Information Literacy Course offered at the University of Botswana Library (UBL).

Background information was given on education in Botswana and also a brief history of the evolution of the University of Botswana, an overview of the University of Botswana Library and highlights of the schools in the study.

The researcher designed a questionnaire in order to achieve the objectives of this study. A sample of 240 Form Five students was drawn from four senior secondary schools situated in Gaborone, Botswana. Purposive sampling was used to draw the sample.

The Statistical Package for Social Sciences (SPSS) was employed in the analysis of data. The results were presented in frequency tables, analyzed and discussed.

The findings of the study revealed that the students at senior secondary schools did not have sufficient competence in translating information problems into information needs. Their ability to use a variety of sources was not well developed. The study further revealed that the students were not motivated to look for information sources by their teacher by, for example, giving them assignments that required them to use the library resources. Students' skills in the evaluation of the accuracy, currency and authority of information sources were found to be under-developed. The study showed that the students were not given any form of user education at any of the schools. The study also found that staffing problems in senior secondary school libraries contributed to the lack of information literacy of the students.

The situation was more obvious in cases where there was no full-time librarian to run the library.

Conclusions were drawn and recommendations and suggestions for further studies were made.

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LIST OF ACRONYMS AND ABBREVIATIONS

ALA: American Library Association

BDSC: Botswana Document and Special Collections

CAUL: Council of Australian University Librarians

CCE: Centre for Continuing Education

CD ROM: Compact Disk Read Only Memory

CES: Customer and Extension Services

CJSS: Community Junior Secondary School

CSSU: Communication and Study Skills Unit

EBSCOHost: Elton B Stephen Company

FET: Faculty of Engineering and Technology

HOORC: Harry Oppenheimer Okavango Research Centre

ICTs: Information Communication Technologies

ILL: Inter-Library Loans

ILS: Information Literacy Skills

INFOLIT: Information Literacy Project

IRS: Information and Research Service

NUL: National University of Lesotho

OPAC: Online Public Access Catalogue

PSLE: Primary School Leaving Education

RMS: Resource Management Services

SABINET: South African Bibliographic Information Network

SPSS: Statistical Package for the Social Sciences

UB: University of Botswana

UBBS: University of Basutoland, Bechuanaland and Swaziland

UBL: University of Botswana Library

UBLS: University of Botswana, Lesotho and Swaziland

UCB: University College of Botswana

UCS: University College of Swaziland

UK: United Kingdom

USA: United States of America

CHAPTER 1: BACKGROUND TO THE STUDY

1.1 Introduction

The world of information is rapidly changing and with the emergence of information and communication technologies (ICTs) information is being produced in large quantities. As a result there is a need for people, including students, to develop essential information handling skills in their academic, professional and private lives. Bruce (1995: 158) is of the view that effective learning, researching, communication, decision-making and problem-solving require individuals to have the ability to locate, manage, evaluate and use information from various sources.

Information literacy forms the basis for life-long learning. It is common to all disciplines, to all learning environments and to all levels of education. It enables learners to master content and extend their investigations, become self-directed and assume greater control over their own learning (American College and Research Libraries Task Force, 2000: 207). Librarians at schools, therefore, need to work together with the teachers to incorporate information literacy in the curriculum to form the basis for life-long learning. Through teaching and by leading discussions, the teachers should establish the context for learning. The teachers should also inspire students to explore the unknown, offer guidance on how best to fulfil information needs and monitor students' progress. According to the American Association for School Librarians (1998), school librarians play the role of organizing and maintaining collections and many points of access to information. The school administrators should create opportunities for collaboration among the teachers, librarians and other professionals, to initiate information literacy programmes. The same administrators are to lead in planning and budgeting for information literacy programmes and provide ongoing resources to sustain them.

Information literacy is required because of proliferating information access and resources. Individuals are faced with diverse, abundant information choices - in their studies, in the workplace and in their lives. Information is available from community sources, special interest organizations, manufacturers and service providers, media, libraries and the Internet. Increasingly, information comes unfiltered. This raises questions about authenticity, validity and reliability. In addition, information is available through multiple media, including graphical, aural and textual. These pose special challenges in evaluating, understanding and using information in an ethical and legal manner. The uncertain quality and expanding quantity of information also poses great challenges for society. The sheer abundance of information and technology will not, in itself, create more informed citizens without a complementary understanding and capacity to use information effectively (Council of Australian University Librarians (CAUL), 2001).

The delivery of information over networks has necessitated quite refined skills for successful searching and the development of critical approaches to information selection and use (Underwood, 2000). As a result of this, there is a need to have more structured approaches to facilitate the acquisition of information literacy within the curriculum. Information literacy provides a basis for life-long learning which, if learnt at an early stage of learning, can also be useful, even in the workplace. The students develop good writing and problem-solving skills that are incorporated into information literacy.

1.2 Research problem
In Botswana, students from senior secondary schools arrive at the University of Botswana unprepared to make intelligent use of the information resources in the library in order to conduct the basic research required by their studies. Through personal experience, working at the University of Botswana Library, it is evident that most first-year students lack the preparedness to use information resources in the library. An information literacy programme is in

place at the University of Botswana Library. It was developed in 1994 in response to the recognition that first-year students did not possess adequate information literacy skills. The programme was, however, developed without research being done into what precisely the information literacy skills of Form Five students were.

1.3 Purpose of study

The study is aimed at establishing the level of information literacy among Form Five students at the four senior secondary schools in Gaborone, in order to improve the Information Literacy course offered by the University of Botswana Library. In addition, the study will identify the barriers to information literacy among the students in these senior secondary schools.

1.4 Research objectives

1. To establish the level of competence of the Form Five students in translating problems into information needs.
2. To determine the level of knowledge and the ability to use different sources of information among the students.
3. To establish the ability of students to evaluate information.
4. To identify barriers to information literacy in senior secondary schools

1.5 Research questions

The above objectives lead to the following research questions:

1. What is the level of competence of the Form Five students in translating problems into information needs?
2. What is the level of knowledge and ability to use different sources of information among the students?
3. To what extent are the students able to evaluate information?
4. What are the barriers to information literacy in senior secondary schools?

1.6 Justification for the study

From the observations of the researcher having worked for twenty years at the University of Botswana Library, the majority of students who come to do their first year of study at the University of Botswana do not have adequate information literacy skills. As a result, there is an information literacy programme in place at the University Library. This programme was developed without any systematic research being done into what exactly the information literacy skills are which Form Five students bring with them into their university studies. The intention of this study is to determine what these skills are and thus to provide the programme with a much more informed foundation. Underwood (2000) asserts that the aim of information literacy is to produce students with transferable skills. It is assumed that if the students are given instruction in information literacy, they will be equipped with life-long learning skills to enable them to use information in throughout their lives, be it at school or at work. Although this study is to assist the grounding of the course offered at the University of Botswana, the senior secondary schools should also find the results of the study useful in helping to improve information literacy skills among their own students.

1.7 The scope and limitation of the study

The study covers the Form Five students at all the four government senior secondary schools in Gaborone. The study is limited to the Form Five students because they are doing their final year at high school and preparing to go to university the following year. The focus on the Gaborone senior secondary schools (and not others in Botswana) is due to time, manageability and financial constraints. The researcher was relying entirely on the students' own perceptions of their skills, as opposed to the researcher being able to test them. It could be argued that information literacy is a socially desirable skill and therefore the students would not like to admit to not being information

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literate. This does need to be borne in mind when the findings of the study are presented and discussed.

1.8 Definition of key concepts

1.8.1 Information literacy

Information literacy is the ability of learners to access and evaluate information from different sources in order to enhance learning, solve problems and generate new knowledge (INFOLIT 1998). This definition includes the ability to use any source of information, including oral, print on paper and electronic media. The selection of information is based on suitability for the purpose in mind. Sources of information include those of a general nature, as well as discipline-specific sources (Underwood, 2000: 15).

1.8.2 Form Five students

These are students who are doing their final year at senior secondary school in the Botswana Education system. This level is equivalent to Grade 12 or Matric in the South African system.

1.8.3 Life-long learning

Life-long learning is the process of "continuing on a path of education throughout life" (Behrens, Olen and Machet, 1999: 19).

1.8.4 School librarian

A school librarian is a professionally qualified librarian employed to organize and operate a library within the school (Prytherch, 2000: 648).

1.8.5 Search

A search is a systematic examination of information in a database (Keenan, 1996: 48).

1.8.6 Transferable skills

Transferable skills are skills that can be "learnt in one situation and then applied in various other situations" (Behrens, Olen and Machet, 1999: 51).

1.8.7 User education

Prytherch (1987) views user education as a programme of instruction provided by librarians to users, to enable them to make more efficient, independent use of the library's stock and other services. According to him, it includes a tour of the library, lectures, exercises and the provision of support materials.

1.9 Background to education in Botswana

According to the Revised National Policy on Education (Botswana Government. Ministry of Education. 2002. http://www.gov.bw.moe Accessed 14/05/2002), the objectives of the Ministry of Education are:

- ❖ To raise educational standards at all levels
- ❖ To emphasize science and technology in the education system
- ❖ To make further education and training more relevant and available to larger numbers of people
- ❖ To improve the partnership between school and community development of education
- ❖ To provide life-long education to all sections of the population
- ❖ To assume more effective control of the examination mechanism in order to ensure that broad objectives of the curriculum are realized
- ❖ To achieve efficiency in educational development.

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1.9.1 Education system in Botswana

The Ministry of Education in Botswana follows a 7+3+2 education structure. There are seven years of primary education, at the end of which pupils write the Primary School Leaving Examinations (PSLE). Almost all of these pupils proceed to Form One, which is the first year of the three years of the junior secondary school course. The attainment of both primary and junior secondary education forms the basic education level in Botswana. At the end of the Junior Certificate (JC) programme the students write examinations which determine entry into the senior secondary school curriculum. Those who do not meet the JC examination requirements find themselves out of the education system, although some enroll in vocational and technical institutions. Education is made accessible in the first ten years of schooling to all the pupils to create opportunities for life-long learning, to enable individuals to attain their full potential and to contribute to the national socio-economic development of the country.

The aim of the Department of Secondary Education is to provide a broad-based education at secondary level in order to meet the country's human resource development needs. There are currently 27 senior Government secondary schools spread around the country. This number does not include privately owned senior secondary schools, which also have a share of the student intake. Both senior and junior secondary schools have libraries. The school libraries are manned by librarians in cases where there are no full-time, qualified librarians, by teacher-librarians.

1.10 Brief history of the University of Botswana

The opening of the University of Basutoland, Bechuanaland and Swaziland (UBBS), on 1 January 1964, was the outcome of an agreement reached in mid-1962 between the High Commission Territories and the Oblate of Mary Immaculate of Pius XII Catholic University, Roma, Lesotho (University of Botswana calendar, 2002/2003: 25).

UBBS became UBLS (the University of Botswana, Lesotho and Swaziland) in 1966, on the Independence of Botswana and Lesotho. UBLS was equally funded by the Governments of Botswana, Lesotho and Swaziland, but had comparatively little presence in Botswana and Swaziland in the first phase of its existence during 1964-1970 (University of Botswana calendar, 2002/2003: 25).

Following student unrest at Roma and strained relations between the central UBLS administration and the Lesotho government over implementation of the 'Luyengo Package', the Roma campus was precipitately withdrawn from UBLS and constituted as the National University of Lesotho (NUL) on Monday, 20 October 1975. This occurred at a time when a working group on further devolution of UBLS into three University Colleges was preparing its report for the Council of the University. Following the acceptance of the report and further negotiations between the University and the governments of Botswana and Swaziland, UBLS became the University of Botswana and Swaziland (UBS), with two constituent University Colleges of Botswana and Swaziland (UCB and UCS, respectively) (University of Botswana calendar, 2002/2003: 26).

The years 1976 and 1982 saw both constituent Colleges of the University develop their physical resources and their academic programmes in close co-operation with each other, with a view to the eventual establishment of separate national universities. The University of Botswana was established on 1 July 1982 by an Act of Parliament. Following this, the formal inauguration of the University of Botswana was performed on 23 October 1982 by His Excellency Sir Ketumile Masire, President of the Republic of Botswana (University of Botswana calendar, 2002/2003: 26).

The University of Botswana consists of six faculties, viz. Education, Engineering and Technology, Humanities, Medicine, Science and Social

Sciences. The academic year is divided into two semesters, each extending over fifteen weeks. The first semester is from August to December and the second semester is from January to May. At first the courses were year-long, but steadily and gradually semester courses are being introduced. For departments requiring their students to have previously attained a diploma in that field of study, the degree is three years in duration, because students start their degrees at year two, considering the fact that they had been previously introduced to the course (University of Botswana calendar, 2002/2003).

Academic study is structured, with a few exceptions, in such a way that students proceed from the very beginning with a specific major to be studied throughout their three or four years at the University. Students do not, therefore, spend the first year at the University exploring different faculties to determine a major course. Due to this more structured arrangement, core classes are taught to the same groups of students during the same year of study. It is a requirement at this University that all year one students from all the faculties take a communication skills course which is taught by the Department of English (University of Botswana calendar, 2002/2003).

1.10.1 University of Botswana Library (UBL): a brief overview

The University of Botswana Library (UBL) is the largest academic library in the country and a major information resource for the university and the nation at large. It is therefore at the heart of the learning experience. The University Library comprises the main library in Gaborone and the three branch libraries, namely the Faculty of Engineering and Technology (FET) Library in Gaborone, Centre for Continuing Education (CCE) Library in Francistown and the Harry Oppenheimer Okavango Research Centre (HOORC) Library in Maun (University of Botswana Calendar, 2002-2003: 52). The mission of the University of Botswana Library is to contribute to the University of Botswana's vision of being a leading centre of excellence in Africa and the world. The primary mission of the UBL is to support the

teaching, learning and research of the University. Commitment to service and customer care is enshrined in the mission statement.

The UBL (its collections, services and staff) was in the year 2001, with the help of Don Gresswell, relocated to the newly constructed library extension -being the second and the third phases. The first phase was opened in 1986. The move was done with minimal disruption of services to library customers. Thereafter, the first phase was handed over to the contractors for refurbishment (University of Botswana Library Annual Report, 2001/2002: 1).

All 400 000 volumes were moved into the new facility. The new library has 250 workstations and 15 OPAC stations for use in public areas and 87 workstations to support administrative and technical services. Technological advancement of the library was emphasized so as to ensure a multi-pronged approach to information searching and retrieval. Additional computer programmes were acquired and, in some instances, improved upon to better serve the library clientele. The collection includes books, periodicals, microforms, electronic and multi-media resources. All these materials are listed in the library's electronic catalogue (University of Botswana Library Annual Report, 2001/2002).

The library uses an integrated system called INNOPAC (Online Public Access Catalogue). The library catalogue is called Medupe and is accessible on the Internet. One of the attractive features of the library system, INNOPAC, is that books can be renewed or placed on hold by customers over the network. Materials can be renewed from anywhere, as long as there is an Internet connection (University of Botswana Calendar, 2002/2003: 52).

In order to develop, deliver and manage customer-focused services, the library was recently restructured into the following three inter-related divisions:

- Customer and Extension Services (CES)
- Information and Research Services (IRS)
- Resource Management Services (RMS)

Customer and Extension Services

This division is charged with circulation, reference and inter-lending, public relations, distance learners, disability support services and affiliated institutions'-libraries.

Information and Research Services

This division is directly responsible for the information for teaching, learning and research to all faculties. This is facilitated through teams of subject librarians, who are responsible for liaison, the collection, development and evaluation of materials and teaching information literacy skills.

Resource Management Services

This division provides the necessary backbone for the other two divisions; it is responsible for information technology services and all other technical services (University of Botswana Calendar, 2002/2003: 52).

Library services to users

Information Desk

All inquiries are made at the information desk, which is manned during the time the library is open, except during lunch break, at which time inquiries are made at the Circulation Desk. Subject librarians offer specialist assistance in particular subjects at their respective offices.

Subject Teams

In the library there are five subject teams, which provide subject specific services. These subject teams work closely with faculties to provide the best possible learning, teaching and research environment.

Membership

Faculty members, students, other members of the university community and external users may use their valid identity cards to borrow library books. External users must pay prescribed fees on an annual basis. Membership is extended to the staff of affiliated institutions, after receiving official guarantees from their heads of institutions.

Table 1: Customer borrowing entitlements

Customer status	Loan entitlement
Faculty	30
Graduate students	15
Undergraduate students	10
Support staff	4
Affiliated institutions members	4
External members	2

Electronic Library Services

There is a wide range of Compact Disk Read Only Memory (CD-ROMs) and other electronic resource databases available via the campus network in the main library. Each floor is equipped with computers connected to the campus network, providing access to the Internet and a wide range of computer software. The library collection is enriched by online access to information resources for teaching, learning and research accessible through the following databases to which the library subscribes (these are searchable from all UB campuses): Web of Science, EBSCOHost and SABINET. The library subscribes to 1250 journal titles and 455 of these titles are available online, thereby making these accessible to Internet-connected library users in full text through the library Web page (University of Botswana Library Annual Report, 2001/2002: 2).

Registered users

The total number of registered library customers is 19 963. Of these 4 451 are first-year undergraduate students and 1 835 are external borrowers. Loan transactions for the period 2001/2002 totaled 297 155.

Learning support services include the provision of the Reserve Collection, which is provided as supplements to lecture notes for select courses. A total of 1 069 volumes were put on the Reserve Collection, serving 20 academic departments. The library continues to make past examination papers available online (University of Botswana Library Annual Report, 2001/2002: 3).

Inter-library loans (ILL)

The library boasts of one of the best book and electronic database collections in the region. It is a member of SABINET and any materials that are not available in Gaborone may be obtained from other members of SABINET, or other document delivery services through Inter-Library Loans (ILL) service. All photocopies obtained for academic staff and students remain the property of the library. External members pay for the service (University of Botswana Calendar, 2002/2003: 53).

Special Collections

The Botswana Documentation and Special Collections (BDSC) is the indigenous information resource concerning Botswana. The UBL is a legal deposit institution and therefore receives copies of all material published in Botswana, and about Botswana. BDSC material is available on a closed access basis and is open to all researchers. It also houses government publications and theses and dissertations of the University of Botswana (University of Botswana Calendar, 2002/2003: 53).

Information Literacy Skills (ILS)

Information Literacy Skills (ILS)

The library is partnered with the Communication and Study Skills Unit (CSSU) to teach Information Literacy Skills (ILS). This programme gives all first-year students and those whose programmes commence at year two, life-long information literacy skills. ILS extended its service from being a library skills programme to an information literacy skills programme that is critical to students' academic enquiry. In partnership with faculties, the programme is also offered to students conducting research projects at both undergraduate and graduate levels (University of Botswana Annual Report, 2000/2001: 35).

1.10.2 User education programme

Over the years, the formal user education programme has been run by the librarians at the University of Botswana Library. It involved only two steps - an initial tour of the library at registration, followed by a single bibliographic instruction session for first-year students in the required English Communication Skills course. Qobose (1991), when evaluating the programme, discovered that participating librarians all strongly criticized the user education programme. They felt that the instruction was shallow, badly timed and ineffective for providing students with life-long skills. On the other hand, the students expressed dissatisfaction with the time spent on orientation. They felt that it was not helping them much since they were not settled properly in the new learning environment.

According to Qobose (1991), to compensate for these shortcomings, the librarians gradually worked with faculty to arrange for more bibliographic instructions slots. The fact that the library was introducing new information technologies like CD-ROMs and the Online Public Access Catalogue (OPAC) precipitated an immediate need to instruct users on information technology. While the library continued negotiating for more bibliographic instruction slots, the Biology Department was organizing a communication skills course that included an information skills component. With the recommendation of

librarian would teach the information skills component. Thus, in the academic year 1994-95, the first library course was taught in the Biology Department by the Science Librarians (Yeboah, 1999).

The librarians seized the opportunity to market their willingness and availability to conduct similar instruction across the curriculum. The library took the Biology course plan, with some adjustments, to the School of Accounting and Management, which was in the process of changing its teaching orientation from textbook-based to resource-based, and to the Department of Nursing Education, which was utilizing bibliographic instruction sessions frequently. After much negotiation, the librarians and the departments mentioned above agreed to introduce the Information Literacy Skills Programme into the curricula.

1.11 Features of schools in the study

The following information is taken from discussions held between the researcher and the librarians at the four senior secondary schools in Gaborone. Apart from providing an overview of the schools and their libraries, the following section provides a background against which the information literacy skills of the Form Five students needs to be seen.

1.11.1 Gaborone Secondary School

This school was established in 1965. When it first started it had classes from Form One to Form Five. There was a combination of day students and boarders. In 1994 it was converted into a senior secondary school, with Form Four and Form Five, thus eliminating Form One up to Form Three. Since the conversion the school is only for day students and boarding was done away with. Aspects of the school library are briefly discussed:

Tour of the library

The librarian, Mrs E. Chienda (2002), mentioned that there is a library tour for Form Four students when they arrive at the school. The tour lasts for forty minutes and is done only once. No user education is given to the students.

Usage

The students are given one library period per week, in conjunction with their English lessons. They may read quietly and borrow books. The library is opened during lunch break for students' leisure reading. It is also opened after afternoon studies at 1600hrs to 1630hrs. According to the librarian, the students use the library for research purposes very minimally, except when they enter inter-school competitions.

Book loans

The students are allowed to borrow two books for a period of two weeks. The librarian said that the students mostly borrow novels. Non-fiction books are not borrowed much.

Teachers and students

The librarian reported that teachers do not make use of the collection much except for a few who make their students use the library books for assignments.

Library budget

The librarian pointed out that the school administration does not involve them in the library budget, but they are allocated an amount of money to spend annually.

Book selection

The publishers' catalogues are sent to the library and the librarian circulates them to the teachers to select. A few students are given the chance to make a few selections.

The library catalogue

The school library uses a manual catalogue which is arranged by author, title and subject. The library has computers, but they are only used for word processing. The library is still in the process of computerizing the collection. The librarian mentioned that the students make little use of the library catalogue, but browse the shelves when looking for books.

Security of the collection

There is no library security system in place, but the teachers and the library attendant help with searching the students' bags for books which have not been borrowed properly when they leave the library. The librarian lamented that the library loses many books due to theft.

Staffing

The library has two staff members. The librarian is a University of Botswana diploma holder and she is assisted by a Library Attendant, who does not have any library qualifications. The librarian is a member of the Botswana Library Association (BLA), which is a professional association.

School administration

The school administration is very supportive of the school library because they always include it in the school budget, although they do not involve library staff in discussion of the budget.

1.11.2 Ledumang Senior Secondary School

This school was established in 1994 as a senior secondary school, to admit students from community junior secondary schools. As with other senior secondary schools, the classes are from Form Four to Form Five. The name of the teacher librarian is Ms G. Kebadumetse (2002).

Tour of the library

When the students arrive at the school they are given a tour of the library. During this time the students are given the rules and regulations of the library. According to the librarian, there is no user education given to the students after the tour.

Usage

Each and every class has a time-tabled library period. The library is small and can accommodate only 30 students. The students are allowed to use the library during their lunch break before the afternoon study period. The librarian stated that there are a few students who use the library books for research purposes and these students are mainly in the Department of Development Studies.

Book loans

Students are allowed to borrow two books for seven days. If they wish to retain the books they are given an extension for another seven days. The librarian pointed out that students do not all register with the library and, as a result, they do not all make full use of the service.

Teachers and students

According to the librarian, teachers do not send students to the library to do research. Most of the time the students use the library for quiet studying bringing their own notebooks from classes. Teachers at the school only use

the library as a place for marking. Although the teachers are given a loan period of two weeks, they do not use the library materials.

Library budget

Strangely, the library budget is not known to the librarian. It is thus not surprising that she is not involved in the budget discussion at the school.

Book selection

The teachers make a large contribution in the selection of books and the teacher librarian also does some selection, especially of reference materials.

Computerization

The library is in the process of computerization. The computers have been bought but the software still needs to be purchased.

The library catalogue

The library does not have a catalogue. The students use the labels on the shelves as guides. Browsing is relatively easy since the collection is very small. It includes a small reference collection.

Security of the collection

There is no library security system in place.

Staffing

The staff consists of the teacher librarian and a library attendant, who is in charge of the library when the teacher librarian is teaching.

School administration

Since 1994, when the school was established, there has been a full-time librarian for three months only. The new teacher librarian started at the school in September 2002. The school administration has reduced her teaching load

so that she can devote more time to the library. Support by the school administration seems to be increasing.

Professional association

Neither the teacher librarian nor the library attendant is a member of the Botswana Library Association (BLA).

1.11.3 Naledi Senior Secondary School

This secondary school was established in 1978 as a junior secondary school, with classes from Form One to Form Three. It was upgraded in 1994 to become a senior secondary school, with Form Four and Form Five classes doing away with Form One to Form Three. Mrs K. Mosegi (2002) is the teacher librarian at the school.

Tour of the library

The students are given an orientation to the library which, according to the librarian, is not very thorough. Each class has a weekly library lesson, under the auspices of the English Department.

Usage

Most library usage by the students takes place during their library lessons. Teachers mainly use the library to borrow magazines and newspapers. Students are allowed to use the library during lunch break, before their afternoon classes. The seating capacity of the library is limited.

Book loans

The librarian is of the opinion that only about 5% of the students in the school use the library materials. While the students are allowed two books for a period of fourteen days, most of the students use the library to read novels, magazines and newspapers.

Teachers and students

Teachers do not send the students to use library materials for their assignments, except for the Departments of Arts and Agriculture, where the students are required to do research for school projects and this necessitates using the library.

Library budget

The teacher librarian at this school is involved in establishing the budget for the library, in that she is asked to submit estimates for the next financial year.

Book selection

The librarian receives publishers' catalogues and circulates them among the teachers for them to make selections. Books on librarianship, and reference materials, are selected by the teacher librarian.

Library catalogue

The library catalogue is not functional because it is not maintained. There is an accessions register that is being up-dated for administrative purposes only. Students find materials by browsing the shelves.

Computerization

The computerization of the collection is being implemented. The tender has been submitted for the purchase of computers.

Security of the collection

A tender for a book protection system has been submitted to the dealers. Many books go missing from the shelves due to theft.

Staffing

Staffing comprises the teacher librarian and a library attendant. At one stage the library did have a full time librarian whose stay was short-lived.

Thereafter, a long period followed during which there was no-one in charge of the library.

Professional association

The teacher librarian is not a member of the Botswana Library Association (BLA).

School Administration

Administration is supportive of the library and its mission. They are advocating for the teacher librarian's teaching load to be reduced, to give her more time to devote to library-related matters.

1.11.4 St Joseph's College

This is one of the oldest mission schools in the country. It was established in 1928. All the students used to be boarders and the classes began with Form One to Form Five. In 1994 this school was converted into a senior secondary school, eliminating Form One to Form Three like the other three above, with classes from Form Four to Form Five. The two librarians at the school are Mrs T. Sealetsa and Mr M. Hulela (2002).

Tour of the library

The Form Four students are given an orientation for 20 minutes when they first arrive at the school. This includes an introduction to the library, during which the library rules and regulations are read to the students.

Usage

Students use the school library mostly during their library lesson, which is once a week. The library is open to students for 20 minutes during tea break and during lunch break for one hour. Most of the students use the library for reading novels and for quiet studying, rather than for research.

Book loans

The students are allowed to borrow one book for two weeks. There is a reserve section for books in demand, from which the students may borrow books over-night.

Teachers and students

Teachers, especially those in the English Department, do encourage students to use the library materials. However, teachers do not use the school library for their own research purposes. The library has an Audio-Visual Room, with a television set, and a video cassette recorder. The facilities are used by the whole school community during particular lessons and sometimes during afternoon study.

Library budget

The librarians are not involved in the formulation of the school library budget by the school administration, but they do get a share of the budget for the library.

Book selection

The librarians get publishers' catalogues and distribute them to the teachers, who make selections according to their subjects. The selection of librarianship books, and of reference materials, is done by the librarians.

The library catalogue

There is no library catalogue and the students use subject guides instead. Again, as with students in the other three schools, looking for books takes the form of browsing the shelves.

Computerization

The library will be computerized in the near future. The library has one computer, which is currently used for data processing.

Security of the collection

The library is still waiting for the school to install some form of library security for the collection. The librarians reported that the library has lost many books through theft.

Staffing

The library has two full-time librarians. One holds a Diploma in Information Studies and the other one holds a Certificate in Information Studies. The qualifications were both attained from the University of Botswana.

Professional association

Both the librarians are not registered members of the professional association.

School administration

The school administration relates very well with the staff at the library and supports them in increasing the size of the collection and expanding the library.

1.12 Conclusion

In two of the school libraries there were three qualified librarians and in the other two there were two teacher librarians, with unqualified library attendants. There was generally little library usage among students at the three of the schools. At St Joseph's College teachers encouraged the students to use the library for school purposes. Communication with the librarians showed that the students relied too much on the teachers' notes and this resulted in students not using library books. There was no promotion of school library usage, no library catalogues and all these contribute towards poor information literacy skills among the students. At all the schools, librarians emphasized that there was no rudimentary user education. According to the librarians in all schools, the administrators are very

supportive of their mission and they always allocated funds from the budgets to improve the libraries. Overall, the schools in the study receive 5% of the money from the budget allocated to the school to use for the library.

1.13 Summary

In this chapter, the present researcher introduced the study by briefly outlining the concept of information literacy in general. The research problem, purpose of the study, research objectives, research questions, justification for the study, scope and limitation of the study, and definitions of concepts were described. A brief background to education in Botswana was given, followed by a short historical background of the University of Botswana and an overview of the University of Botswana Library. Finally, each of the schools was concisely described and various aspects relating to each of their libraries was discussed.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Busha and Harter (1980: 19) point out that as part of the process of understanding the general problem and its context, relevant professional and scholarly literature should be carefully reviewed and synthesized. This chapter discusses the literature relating to information literacy. Much has been written on the subject and much more will be written in the future. According to Behrens (1990: 353) information literacy is regarded as a prerequisite for the successful functioning of an individual in the information age and, as such, has become a dominant issue in recent years. Breivik and Gee (1989:12) maintain that librarians have always been involved in the teaching of information literacy in the sense that they provide user education programmes which teach library skills. These same authors feel that user education is not synonymous with information literacy, as the latter concept covers a broader base and encompasses a wider range of skills.

Behrens (1992: 81) is of the view that the word "literacy" is loosely tagged on to numerous other words to denote an ever-increasing array of concepts, some of which do not necessarily infer that a person who is "literate" in that particular terrain is able to read and write. She says that concepts like library literacy, numeric literacy, pictorial literacy, computer literacy, cultural literacy, mathematics literacy and science literacy are being used today and this is an indication of how "literacy" has become a catchword over the years.

2.2 Concepts associated with information literacy

2.2.1 Computer literacy

Kuhlthau (1990: 16) defines computer literacy as an understanding of what computer hardware and software can do as well as a certain competence in

using computers. The concept of computer literacy is often associated with personal computers, but may be interpreted as having a broader meaning. Over the years there has been a shift in orientation from describing computer literacy in terms of operating computers to a focus on their application and use.

Johnson and Eisenberg (1996: 13) state that in order for students to be termed computer literate, they need to be able to use computers flexibly, creatively and purposefully. They hold that computer literacy encompasses being able to recognize what task one needs to accomplish, as well as determining whether a computer will help in accomplishing that particular task. They argue that true computer literacy is achieved when students integrate their individual computer skills within an information problem-solving process. They also mention that computer literacy is associated with information literacy only when it is used in the process of information problem-solving.

McClure (1994: 117) is of the opinion that computer literacy is an extension of traditional literacy, requiring that individuals can complete basic tasks on a computer, such as word processing, creating and manipulating data on a spreadsheet, or using other types of software.

It is acknowledged by many scholars, such as Behrens (1990: 355), that information literacy goes beyond computer literacy and information literacy is distinct from, but relevant to, literacy and computer literacy. She also points out that it should be noted that being computer literate does not make a person information literate; and not even artificial intelligence can replace all the (human) cognitive skills which are required in order to effectively utilize information. Some authors, such as Breivik (1993: 13), view computer literacy as a subset of information literacy. In some descriptions of information literacy, computer literacy plays an important role while, on the other hand, in some it is not that significant.

Maideque (2002), at the University of Florida, argues that computer literacy is an important part of information literacy, but students who know every database, every computer program and every keystroke may not be information literate. As the author points out, thinking and reasoning are at the centre of information literacy. However, given the important role that computers play, for example in information storage and retrieval, it can be reasoned that one cannot be information literate until one is computer literate.

2.2.2 Information skills

Bruce (1997) is of the view that information skills cover areas such as library-user education, reading development, experimental and research training, study skills and media literacy. Generally, information skills are viewed as all the skills necessary for students to cope successfully within the information environment in which they find themselves. According to Bruce (1997: 24), information skills tend to focus on the intellectual processes of information use. Downard (1992: 31) views information skills as including note taking, scan reading, current awareness, literature searching, essay writing and bibliographic citation.

Other writers, such as Eisenberg and Small (1993: 263-270), describe information skills as comprising "information acquisition methods, information seeking process and information problem solving skills." On that note they have highlighted specific aspects of information skills as involving "topic analysis, information seeking, storage, evaluation and presentation."

Behrens (1997: 13) divides a typology of information skills into three distinct stages:

✓ Planning stage: this is where the task at hand is sorted out and the decision is made on the appropriate strategy to start the search.

- ✓ Retrieval stage: at this stage the information sources are located and the information is selected. One needs to have information gathering skills in order to retrieve the needed information.
- ✓ Organizing stage: at this stage one needs to evaluate and synthesize information, then present and evaluate the task.

Information is power and user education and information skills are tools which can foster the achievement of this power. User education and information skills are both important to information literacy and life-long learning. It is important to note the fact that the world is becoming more and more information conscious and information skills and user education should not be neglected by any academic institution seriously aiming at helping its students to achieve both academic competence and information literacy (Lwehabura, 1999: 138).

From the views put forward by the above writers, information skills are essentially the process of information gathering and use. Once one has clearly defined the task and made the decision on what strategy to use one proceeds to locate the needed information. The information is then retrieved and critically evaluated, to be used to solve the identified task. For students, information skills are very necessary, since they are incorporated with other skills such as reading, writing, searching, retrieval, organization, processing, thinking, analysis and presentation of information. Information skills form part of information literacy such that the former is narrower, while the latter is very broad.

2.2.3 Library literacy/skills

Library skills form a component of information skills. One has to note that information skills are exercised in any information environment, while library skills are only used within a library situation. One also needs to take into account that a library situation is an information environment, too.

Information skills are needed when dealing with any information source, but library skills are used only when one is in the library.

Bruce (1997: 23) states that the concept of library literacy can be defined as "the ability to use libraries." She mentions that there are two approaches used to interpreting the concept of library literacy or library skills and they are as follows:

> The individual's ability to retrieve information from library resources. That is being able to use the range of tools for accessing information available in libraries. The emphasis is on the effective use of library tools and the location of the information required, rather than on problem solving, evaluation and information use.

> The second approach adds to the value of location skills the notion of interpretation skills. Here the location skills and the information interpretation skills of an individual are inseparable (Bruce, 1997: 23).

Osei-Bonsu (1990: 102), in his study on secondary school students in Ghana, indicates that a secondary school library should be viewed as an integral part of the educational programme and it must be concerned with providing a full range of book stock and information services to both students and teachers, in order to broaden their intellectual horizons, improve the quality of instruction students receive, and facilitate learning.

It is noted that there is a clear distinction between library skills and information skills and therefore the two concepts should not be used interchangeably. Library skills are included in information skills because the latter are broad. Library skills are limited to the library environment, while information skills allow one to move on to a higher level of analyzing, evaluating and synthesizing the information one has gathered.

2.2.4 Learning how to learn and life-long learning

Developing life-long learners is central to the mission of higher and other educational institutions and is increasingly reflected in descriptions of graduate qualities. Information literacy extends learning beyond formal classroom settings and supports individuals in self-directed learning in all areas of life. By ensuring that individuals can think critically, and by helping them construct a framework for learning how to learn, educational institutions provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities (Council of Australian University Librarians, 2001: 2).

According to The Final Report of the American Library Association's Presidential Committee on Information Literacy:

> ➢ a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information ….Ultimately, information literate people are those who have learned how to learn. They know information, and how to use information in such a way that others can learn from them. They are the people prepared for life long learning, because they can find the information needed for any task or decision at hand. (American Library Association, 1995: 01).

It is assumed that if the students are given instruction on information literacy they will be equipped with life-long learning skills to get information in every aspect of their lives, whether at work or at school. From the above statements on the concept of learning how to learn it can be deduced that the people who are said to know how to learn are those who are conversant with how information is organized. They also know how to locate information and how to use information so that other people can learn from them. These are the people who are able to use information to generate new knowledge which

benefits others. Therefore, knowing how to learn is essential to life-long learning.

Concepts that are related to information literacy have been discussed above. The discussion shows how they relate to each other and generally how they fit into the broader concept of information literacy. What follows now is the discussion of the concept of information literacy.

2.2.5 Information literacy

The concept of information literacy emerged in the 1970s and has since been interpreted and described in many different ways by different scholars. Rader (1990: 20) defined information literacy as "understanding the processes and systems for acquiring current and retrospective information, such as systems and services for information identification and delivery", as well as "the ability to evaluate the effectiveness and reliability of various kinds of information channels and sources, including libraries, for various kinds of information needs" and also "mastering certain basic skills in acquiring and storing one's own information in such areas as databases, spreadsheets, as well as word and information processing".

In summing up the above, Bjorner (1991: 151-2) believes that simply adding to, or substituting, the content of existing user education programmes will not be enough to accomplish information literacy. What is required is a totally new statement of goals and objectives – based on the broad concept of what information literacy entails – which would then form the foundation of relevant new curricula.

According to the Council of Australian University Librarians (2001:1) information literacy is defined as an understanding and set of abilities

enabling individuals to "recognize when information is needed and have the capacity to locate, evaluate, and use effectively the needed information".

Information literacy aims to help students to locate materials for particular assignments. It also enables them to develop the ability to make use of the library resources for their information needs. It includes a variety of programmes of instruction, education and exploration, to develop in students the skills to make effective, efficient and independent use of the information sources, library resources and services available to them.

Behrens (1992: 85) notes that the definitions of information literacy indicate four main areas of extension, in comparison with user education:

(a) Information literacy begins in a realm prior to location: it begins during the need awareness stage.

(b) High-level cognitive skills such as understanding or comprehending, interpreting, evaluating, organizing, synthesizing, applying, using and communicating information are particularly relevant in information literacy.

(c) Possible information sources and resources are wide-ranging and not confined to those provided by libraries.

(d) Information literacy extends into the realm of what is done with the located information, that is, what the information empowers one to do.

Information literacy is important because there has been a shift from teacher centred learning to student centred learning (Lwehabura, 1999). The students are, therefore, supposed to make effective use of the library for the assignments given to them by their teachers. It is now clear that the time when students relied entirely on the teachers' notes, without supplementing them with other sources, has come to an end. Atton (1994: 310) says that "education at all levels is now striving to develop the independent learner through a student-centred style of learning". Developing an independent

learner needs to be encouraged at all levels of education and in this regard the present researcher concurs with Atton. The idea of independent learning must be encouraged from the early stages of learning.

Libraries become useless if the users do not make effective and efficient use of them. Lwehabura (1999) emphasizes the fact that lack of meaningful information literacy programmes in many university libraries contributes to incompetence in the effective use of library resources.

Bundy (1998) is of the view that what is clearly needed to accelerate interest in information literacy by teachers at all levels of education is tangibility and proof that it makes a difference to short- and long-term learning outcomes. Adding to that, Todd (1996: 3) points out that students become constructive thinkers, ask appropriate questions and see information from a range of sources. Information literate students restructure and repackage the information they find, to create and communicate ideas that reflect their own deep understanding.

Gaining skills in information multiplies the opportunities for students' self-directed learning, as they engage in using a wide range of information sources in their search for information. When these skills are gained, students start expanding their knowledge and start asking informed questions and this sharpens their critical thinking (American College and Research Libraries Task Force, 2000).

The Council for Australian University Librarians (2001: 3) reports that incorporating information literacy across curricula, and in all programmes and services, requires the collaborative efforts of academics, staff developers, learning advisers, librarians and administrators. The outline for the incorporation of information literacy into the curricula is as follows:

- Through course materials, lectures and by leading face to face or online discussions, academics establish the context for learning. They also inspire students to explore the unknown, offer guidance on how best to fulfil information needs and monitor student progress.

- Librarians co-ordinate the evaluation and selection of intellectual resources for programmes and services; organize, and maintain collections and points of access to information; and provide advice and coaching to students and academic staff who seek information.

- Learning advisers develop generic and course-specific materials to support student learning and provide a range of services related to the transition to university, and academic, literacy-reading, writing, listening and speaking in a university setting, time and task management and learning in an online environment.

- Administrators and staff developers facilitate opportunities for collaboration and staff development among academics, learning advisers, librarians and other professionals, who provide students with opportunities to develop their information literacy according to their developmental level, mode of study and information needs.

According to Loertscher and Woolls (1998), to be information literate, students need both a basic understanding of the research process itself and the ability to develop their own internalized strategies for finding, evaluating and using information. Bucher (2000: 2) is of the view that an information literacy skills curriculum is especially important in middle schools. This should then form the basis for having information literacy programmes at a lower level than that of university.

A strong information literacy component in the curriculum helps young adolescents begin to develop complex analytical skills at a developmentally appropriate time in their lives. This helps students to pose meaningful

questions about a topic, develop a multi-resource research plan, work independently, and with other students, to gather and integrate information and achieve a product that describes the research process and conveys appropriate information about the topic (Zorfass, Remz and Persky, 1991).

These information literacy skills cannot be taught in a vacuum. They become very important only when used to solve an actual problem. As Todd (1995) reported in his study of low-achieving fourteen-year-old students, integrated information skills instruction helped students learn both content and research skills. Bucher (2000) concurs with Todd that information literacy is a process that young adolescents can use as they mature and as their future jobs and careers require them to use information to solve increasingly complex problems. The information literacy skills that the students acquire also help them to develop cognitive skills, improve life-long learning skills and, as a result, they demonstrate that they have learned how to learn. Howe (1998) pointed out that the goal of the information literacy skills curriculum is not to bring the fish (information) to the students, but rather it is to help students learn how to fish.

According to Behrens (1992), little attention has been paid in South Africa to the relationship between information literacy and user education. Many librarians regard information literacy simply as new or alternate terminology to user education. Behrens says that the adoption of the new terminology needs to be accompanied by the necessary changes in the focus of existing user education programmes. Without this necessary paradigm shift, there is a danger of librarians presenting a partial perspective on information literacy – to the detriment of their users.

The American Association of School Librarians (1998) has identified nine information standards for student learning. It has categorized the standards into three main groups. Information literacy is comprised of standard 1, 2 and

3. In terms of these standards an information literate student is able to access information efficiently and effectively, evaluates information critically and competently and uses information accurately and creatively.

For the independent learner the standards are from 4 – 6. An independent learner is information literate and pursues information related to personal interest, appreciates literature and other creative expressions of information and strives for excellence in information seeking and knowledge generation.

For social responsibilities the standards are from 7 - 9. Here the student contributes positively to the learning community and to society, is information literate and recognizes the importance of information to a democratic society, practices ethical behaviour with regard to information and information technology and participates effectively in groups to pursue and generate information (American Association of School Librarians, 1998).

The use of these standards provides a framework for embedding information literacy in the design and teaching of educational programmes and for assessing the information literate individual. They extend the information literacy progress of educators, teacher librarians and librarians in the school and technological and further education sectors. This provides higher education with an opportunity to articulate the standards with those of other education sectors, so that a continuum of expectation can be developed for students at all levels. The standards outline the process by which academics, librarians and others pinpoint specific indicators which identify a student as information literate (Council of Australian University Librarians, 2001: 4).

Having discussed the concepts related to information literacy, and the concept of information literacy itself, what follows is a description of the user education programmes that have been carried out in the University of Botswana Library. These programmes were used prior to the transition into the concept of the information literacy skills course, which was introduced for the first time in 1994, as part of the curriculum.

2.3 User Education Programmes : University of Botswana Library

According to Asafu-Adjaye (1993), all new students who enter the University of Botswana were given orientation at the beginning of the academic year, either in August or September. Qobose (1991) explained that the purpose of the orientation programme was to introduce students to the library, to provide them with survival skills for the execution of their assignments and to give them an overview of resources of the library. Asafu-Adjaye (1993) reported that the library staff, as well as library users, had been dissatisfied with the pattern of orientation and it has been a constant source of displeasure to both students and the librarians conducting it. It had often been felt that the method of conducting orientation had failed to yield appropriate results.

Fidzani (1998) conducted a study of the impact of user education at the University of Botswana Library. She reports the results of a questionnaire survey to determine the use of library resources by graduate students at the University of Botswana. Empirical data was collected from 144 of the 223 graduate students registered for the 1996/97 academic year. Results indicated that guidance is necessary to help students meet some of their information requirements. The study concluded that user training is needed to enable students to make maximum use of the library.

Yeboah (1999: 144) reported on the Information Literacy Skills Programme for Science undergraduates at the University of Botswana. The programme was one of the first to be time-tabled with other courses offered by the faculty. He reported that from the point of view of the librarians, the justification for information literacy skills instruction, especially for undergraduates, derives from a commitment to expand professional service, in accordance with

modern trends in library and information work. He elaborates, by saying that many librarians also concede that the content of information literacy skills as a subject could be intellectually conceptualized into a cohesive body of knowledge, which could qualify as an independent programme of instruction.

According to Yeboah (1999: 145), any user education programme only *assists* the learning process and cannot on its own qualify a student to obtain employment after school. It therefore made sense to speculate that undergraduates might not take it seriously. Indeed, at that time, many science students had complained of overloaded courses and too many assignments. An auxiliary course for them was thus likely to meet opposition. The other reason for integrating user education with the curriculum was the difficulty of fitting the library's programme into the timetable of the faculty, in such a manner that there would be no interference with the established scheme of work. At faculty and departmental meetings, the thinking was that the integration of the course into the curriculum and teaching timetable was the best arrangement to achieve the desired results. The objectives of the integration were achieved even though it took some time to obtain the desired results.

The focus of the literature review is to look at some studies that have been carried out by other scholars on students and library usage, user education, information skills and information literacy. There is a lack of studies that are similar to the present study. Therefore the studies below have been used because they have some links with the present study, although not direct.

2.4 Studies of information literacy and information skills
2.4.1 Southern Africa
Atagana (2001: 93), in the study she conducted at Russell High School in Pietermaritzburg revealed that the students made good use of the library at

the school. From the study results, 134 out of the 138 who responded to the questionnaire reported to have used the library for study purposes. The students in this particular project perceived the library as being an intrinsic part of the school system.

Zondi (1991) conducted a study of the library skills and information seeking patterns of first-year students at the University of Zululand. In her study she sought to relate the library skills of the students and the types of information sources they consulted when undertaking assigned tasks. She mentioned that some of the students who demonstrated competent library skills were no different in their use of various sources than less competent students.

In a study at the University of Cape Town, by De Jager (1997), an investigation was launched to establish objectively whether or not any statistically significant association could be shown to exist between students' academic performance and library use. The open shelf collection was used as a measurement, unlike the study which she conducted in 1992, in which she used the short loan collection. The findings of 1997 revealed that there was a positive relationship between academic achievement and the use of the open shelf library books. The best students in all subjects, except economics, had taken out notably more open shelf books than those who were average and the poorly performing students. This study compared well with the one conducted by Self (1987), in which the relationship between students' grades and the use of "reserve readings" was investigated. The findings were, to an extent, similar, in that he found that users of the reserve collection tended to have higher grades than non-users.

A study conducted by Bitso (2000) of the levels of information literacy among undergraduate students at the University of Cape Town revealed that some relationship exists between information literacy skills and information use of students and their academic performance. It showed a positive correlation

between good academic writing and academic performance. Students who indicated that they were able to express themselves and prepare reference lists performed better in their examinations. Students who reported to work more by supplementing their text books and course packs with extra materials also performed better in the examinations and therefore it could be suggested that there was a positive correlation between students' academic performance and their information literacy.

Ruth (1997) carried out a study in which first-year students at the University of the Western Cape reported on their perception of what they thought the library was. Students in the survey came up with many different responses. Fifty percent of the student viewed the library as a bookstore. Twenty-five percent reported that it was for quiet studying. Some twenty percent viewed it as a social place and only five percent mentioned that it was for research purposes. This study revealed that first-years have different and varied perceptions of what the library is. From the findings it was deduced that students at first year level depended largely on the prescribed textbooks rather than on using the library to find information from a variety of sources. It is clear that there is a need for information literacy skills to be taught to students to make it easier for them to cope with tertiary education. It was apparent that students in Ruth's study did not have the slightest idea of the notion of an organized collection of knowledge, or system of information.

Along similar lines, De Jager (1997: 277), also writing about students' use of University of Cape Town library, observed that "students came into the library not in the first place to use the knowledge of the resources of the library. They came primarily to study and in so doing also made use of recommended works and other library services...they came to the library not for information services but for a quiet refuge enabling them to study."

As part of the INFOLIT project in the Western Cape, a needs assessment was conducted in five tertiary institutions to establish the state of information

literacy among the students (Sayed 1998: 164). In this particular study, the students' learning backgrounds were linked to their race in order to determine their information literacy skills. The findings revealed that black students had less access to computers before entering university education, and as a result, they were not computer literate. A very positive aspect of the survey was that, despite the fact that most students were at disadvantaged universities at that time, they were using the library to search for materials that had not been prescribed to them (Sayed 1998: 166).

Many writers like Mayfield (1985), Zaki (1991) and Lwehabura (1999) have pointed out that lack of proper user education, which includes guided library tours, constitute barriers to information literacy skills that students need to be equipped with. Fidzani (1998) conducted a study on the impact of user education in the University of Botswana Library (UBL). The results indicated that guidance is necessary to help students meet some of their information requirements. The study concludes that user training is needed to enable the students to make maximum use of the library. The study concluded that user training is needed to enable the students to make maximum use of the library and that user guidance is needed not only for undergraduate but also for post-graduate students.

2.4.2 Information literacy and library use in Australia

Hartmann (2001) reports on the findings of focus groups conducted with first year undergraduate students at Ballarat University, Victoria, Australia. The questions developed for the focus groups were designed to gain an insight into how first year undergraduate students perceived information resources they require and the skills necessary to access those resources. In summary, the focus groups revealed that continuing education may lead to influences that will lead them to change their perceptions.

2.4.3 Information seeking skills in the United States of America

A survey of 300 freshmen at East Carolina University (USA) was carried out by Kester (1994) on information seeking skills which they had learned in high school. East Carolina University services a large rural area in eastern North Carolina and 86% of the respondents had graduated from high school within the state. The study found that 85% of the freshmen had received library instruction in high school. Of the students in the study, 16% indicated that they needed further co-ordination and planning between these educators. Fewer than 20% of the respondents could remember what an online catalogue was and fewer than 1% could remember Boolean searching. With a few exceptions, high school library skills instruction appears to have little carry-over or effect on students going to college. Kester (1994) concluded that much needed to be done to improve the effectiveness of library and information skills instructions in secondary schools in North Carolina.

A study of the information literacy of physical science graduate students was conducted by Brown (1999). The objective of the study was to explore the information literacy levels of graduate students in the physical sciences at the University of Oklahoma. The study was designed to question the students about their perceptions of physical and psychological components that contribute to, or detract from, the ability to find, evaluate and utilize needed information. The goal of the study was to provide suggestions for programmes and services that would maximize the information seeking ability of graduate students in the physical sciences. Ultimately, the suggestions might be used to help a range of students become information literate and thus be able to find, evaluate and use information for life-long learning and problem solving.

Brown (1999: 435) explained that students were asked about their library instruction experiences. They were asked if they received any library instruction while at the University. At least 50% had received some kind of

library instruction, but few were able to comment on the usefulness or nature of the sessions. Eighty-three percent of the students reported that they consulted the librarian and/or the library staff when searching for information. As a result they described their encounters as "positive", "helpful", "friendly" and "wonderful".

The results revealed that the students demonstrated information literacy ability by first realizing that they needed information to support their research and course-related activities. The abilities of the students surprised the investigator for a number of reasons. For example, previously published information on the information literacy of undergraduates suggested that this population was not reaching its potential and thus it seemed unlikely that such a great leap could be made between undergraduates and graduates. In fact the undergraduate students were showing the same abilities in information literacy skills as the graduate students.

2.4.4 Information literacy in the United Kingdom

A study was undertaken by Merchant and Hepworth (2002) to examine the information literacy of secondary school pupils in two UK single-sex selective grammar schools, one providing education for girls and the other for boys. The survey explored the attitudes associated with information literacy among the teachers and the students. The findings were that the majority of the teachers were found to be information literate, although this was more a result of personal interest in information and the role it can play in their teaching than because of any attempts made by the schools or their training to encourage information literacy. On the other hand, the students were found to be able to use a variety of sources to locate information, but their cognitive skills required to achieve this tended to be under-developed and received little attention within the schools studied. The most significant finding was that, although the teachers interviewed were found to be information literate,

their skills with and attitudes towards information were not being transferred to their pupils.

2.5 Concluding remarks

After examining the literature one can conclude that information literacy is vital and should be encouraged at all levels of education. Most of the researchers concurred with the definition formulated by the ALA Presidential Report of 1989 which states that "a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information…". It is interesting to note that information literacy comprises a variety of skills, that is, it is very broad. The studies of information literacy and information skills carried out suggest that students coming from secondary schools or high schools do not have adequate skills to use the resources of the library. In one particular study, students had different perceptions of what a library is all about. Taking that into consideration, academic life at tertiary level is particularly different from secondary school education in the sense that students work on their own more than they do in the school situation. This is why it is important that students acquire skills that make them independent learners.

It could be argued that information literacy programmes are essential in universities and that these must be known to both students and staff. The literature indicates that it not possible to teach these skills in isolation from the curriculum, because the student does not take them seriously and thinks that they are just a waste of time. The students need to be made aware that it is imperative for them to learn these skills because they are life-long skills. They do not end with formal school learning environments. Once acquired, they can be used throughout their working and personal life, especially in this information age, where there is an abundance of information.

It is also evident that students at secondary school are aware of their information surroundings, but their information literacy skills are not fully developed. This calls for information literacy programmes to be developed, taking into consideration what is already available and what needs to be done in order to rectify the situation.

2.6 Summary

The literature review was discussed in general. This was followed by the concepts associated with information literacy and then information literacy itself was discussed. User education programmes at the University of Botswana and the subsequent information literacy skills programme were described. Information literacy and information skills in Southern Africa, Australia, the United States of America and the United Kingdom were outlined. The concluding remarks were followed by a summary.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Chapter 3 deals with the research methodology used in this study. The population, sampling, data collection and data analysis procedures are discussed.

3.2 Research Design

Given the nature of the research problem and the purpose of the study, the most appropriate methodological approach to the problem was to conduct survey research. Gay (1976: 123) defines survey research as " the collection of data in order to test the hypothesis or to answer questions concerning the current status of the subject of the study". In other words, it enables the researcher to collect the data necessary for answering the research questions and for dealing with the objectives of the study. Busha and Harter (1980: 62) state that survey research is capable of collecting background information. Bless and Higson-Smith (1995: 43) view the survey method as a collection of information on a wide range of cases, each case being investigated, as opposed to the detailed and thorough investigation of the limited range of a case study. According to Babbie (1995: 257), the survey method is the best method to collect original data for describing a population too large to observe.

3.3 Population

This study was conducted at all four government senior secondary schools in Gaborone. The schools were Gaborone Senior Secondary School, with a Form Five student population of 678 in 21 classes, Ledumang Senior Secondary School, with a population of 658 in 21 classes, Naledi Senior Secondary School with a population of 705 in 21 classes, and St Joseph's College, with a population of 630 in 18 classes. Thus the total population for the Form Five students in all the government senior secondary schools in Gaborone was 2

771. However, the population was further limited to comprise only those students who, on the basis of their mid-year examination results, were deemed eligible to enter university studies. It was from this " narrower" population that the sample was drawn.

3.4 Sampling

In judgmental sampling (also known as purposive sampling), the principle employed to select a sample is to use expert judges to select cases with a specific purpose in mind (Terre Blanche and Durrheim, 1999:281). The present researcher, in order to select the population sample, requested a list of those students who on the basis of their mid-year examination results, were deemed eligible to enter university. This type of sampling assisted in narrowing down the population size to manageable proportions. According to Terre Blanche and Durrheim (1999: 281), this sampling procedure is normally used to select samples of exceptional or atypical populations.

This sampling method is based on the judgment of a researcher regarding the characteristics of a representative sample. A sample is chosen on the basis of what the researcher thinks to be an average person (Bless and Higson-Smith, 1995: 95). For the purpose of this study, the lists of students were prepared by the teachers assigned by the Head Teachers of the schools. Teachers were asked to identify the top 120 academically able students in Form Five in each school. These students then formed the study population of 480. Thereafter from each school 60 students were drawn by randomly choosing every second student on each of the lists.

Not all the students selected at school one were able to fill in the questionnaire, since they were busy with tests that were being taken at that time. This was the school where the response rate was the lowest. Here 60 students were anticipated to complete the questionnaire, but 14 were unable to do so. From school one, 46 questionnaires were responded to. At school

two, there were 52 respondents. From school three the respondents numbered 57 and the fourth school responded to all 60 questionnaires. As mentioned earlier, 240 students were to form the study sample, but only 214 students completed the questionnaire and this constituted a response rate of 89.1%. The figure of 214 students corresponds with Leedy's calculation that for a population of 480, one needs a sample size of 214 (Leedy, 1997).

3.5 Data Collection

The necessary formalities were made prior to conducting the research. Letters to all Heads of Schools were posted to introduce the researcher and seek permission to conduct the research in the schools. Furthermore, other letters were faxed to the heads of schools to prepare lists of those students who, on the basis of their mid-year examination results were deemed eligible to enter university . Another letter was written to the Secondary Schools Department, Ministry of Education, Botswana, seeking permission to carry out research in the senior secondary schools in Gaborone. The researcher was referred to the Ministry of Presidential Affairs and Administration, since it is a prerequisite for students studying in institutions outside Botswana to apply for such a permit from the aforementioned Ministry and not from the Ministry of Education.

Permission to do the research was granted after six weeks. The researcher then visited the schools to formally introduce herself to the heads of schools (further to the letters that were previously posted). Phone calls were made to fix appointments with the head teachers at all the schools in the study. All the head teachers acknowledged receipt of the letters that were posted and also admitted that they were not able to respond. After the formal introduction they assured the researcher of their co-operation. At two schools, the head teacher assigned senior teachers to work with the researcher until the research was complete. At the other two schools the school librarians were assigned to assist the researcher. The intention was to distribute the questionnaires in July

but because of the delay in obtaining Government clearance, they were only distributed during the third week of September 2002.

3.6 Data Collection Instrument

The survey method uses three basic techniques to elicit information from respondents, namely personal interviews, telephone interviews and questionnaires. Of the three, the self-administered questionnaire was employed as the most appropriate data collection technique for this study. This technique was used in similar studies in secondary schools conducted by Atagana (2001), Kimotho (1999), Serema (1999), Nametsegang (1997) and Osei-Bonsu (1990). The population that was surveyed was able to read and write and they had the ability to answer the questions and were able to complete the questionnaires individually.

There are two ways in which the self-administered questionnaires can be distributed, namely given directly to the respondents or sent by mail. In the present study, the mailing of questionnaires was not undertaken because the respondents were in another country and this was going to be very expensive. Also, the target population was too large for the questionnaire to be sent by mail. One of the disadvantages of mailed questionnaires is that the response rate is generally low. This can be attributed to various reasons, such as the mail getting lost and not being received by the intended person (Bless and Higson-Smith, 1995: 112). Therefore, in this study the first option, of distributing the questionnaires directly to the respondents, was adopted.

The self-administered questionnaire was chosen as the data-gathering instrument because of its advantages. It facilitates accessibility to the respondents. It also facilitates the collection of data and information in a relatively short period of time. It does give the respondents a greater feeling of anonymity, which in turn encourages openness to questions and avoids interviewer bias.

The questionnaire included both closed and open-ended questions. According to Bless and Higson-Smith (1995: 122) closed questions are where a list of categories are supplied for respondents to choose from. Newell (1993: 102) describes open-ended questions as "those that allow individuals to respond in any way they wish". Open-ended questions were included in the instrument in order to give the respondents freedom to answer questions in their own words, which closed questions did not provide.

3.7 The structure of the questionnaire

The questionnaire was divided into five categories, from A to E. Section A: Biographical data. Section B: Competence in translating information problems. Section C: Use of different sources. Section D: Information evaluation. Section E: Barriers to information literacy. Section A: simply determined the background information of the respondents. Sections B to E were addressing the research questions as they are linked to the objectives of the study.

3.8 Pre-testing the instrument

Pre-testing of the questionnaire was done prior to the actual survey. Pre-testing is important in the data collection process because it ensures that there is a clear understanding of the questions. Pre-testing provides the researcher with an opportunity to make corrections and amend the instrument. There are two important reasons for doing a pre-test of the instrument. It ensures reliability and validity. According to Bless and Higson-Smith (1995: 130), reliability is concerned with consistency measures. An instrument that gives the same score when used to measure an unchanging value can be trusted to give an accurate measurement and is said to have high reliability. On the issue of validity, Powell (1985: 41) maintains that face validity probably represents the most commonly used method for determining the validity of the data collection instrument. He mentions that it indicates the extent to which an instrument measures what it intended to measure.

Gay (1981) felt that complex questions led to ambiguity, vagueness and misinterpretation and therefore should be avoided. Fraenkel and Wallen (1993) view pre-testing as an important process in data collection. They are of the opinion that it is not a waste of time. The questionnaire should be kept short and straight to the point and this is what was adopted.

The pre-test was done on one class of Form Five students at Gaborone Secondary School during their library period. Twenty questionnaires were distributed and collected, with the assistance of the librarian. The researcher went through all of them and found that very few corrections needed to be made on the instrument. The corrections were made and the instrument was administered successfully.

3.9 Administering the questionnaire

The first step was to take a list of those students who were selected to the libraries of the four schools, with the time and the date stipulated that the research was to be conducted. Each school was given one afternoon so that the schools' timetables were not disrupted. At each school, students met in the examination hall, which allowed them all to answer the questionnaire at once. The researcher distributed the questionnaires on the spot, with the assistance of the librarian in each school. They were collected immediately after they were completed. Not all the students that were selected at school one were able to fill in the questionnaire, since they were busy with tests that were being written at that time. As mentioned, this was the school where the response was the lowest. Sixty students were anticipated to complete the questionnaire, but 14 were unable to do so. As mentioned earlier, the overall number of students to form the sample was 240, but only 214 students completed the questionnaires and this constituted an 89.1% response rate.

The distribution of the questionnaire was done directly by the researcher, with the assistance of the librarians at all the schools. The students were

spoken to by the researcher about completing the questionnaires and were told that they were not required to put their names on the questionnaires. This encouraged completion of the task and honest responses.

3.10 Data analysis

The Statistical Package for the Social Sciences (SPSS) was used for the analysis of the data. It was used to generate tables of frequencies and descriptive statistics. The SPSS was chosen for the analysis of data because it is comprehensive and it is a relatively easy-to-use computer program for statistical analysis, report writing, tabulation and general-purpose data management (Powell, 1993: 164). For open-ended questions the use of content analysis was employed. Responses to open-ended questions were categorized and coded and subsequently quantified for analysis.

3.11 Summary

In this chapter, the researcher introduced the research design. The population of the study was described and the sampling method was discussed. Data collection was explained and the data collection instrument was discussed. Pre-testing of the instrument was done prior to the survey. A description of the administration of the questionnaire and the analysis of the data was given.

CHAPTER 4: DATA PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter presents the research results and the discussion of the research findings. Prior to this, the purpose and the objectives of the study are revisited. The names of the schools in the study were Naledi Secondary School, Ledumang Senior Secondary School, St Joseph's College and Gaborone Secondary School.

4.2 Purpose of study

The study was aimed at establishing the level of information literacy among Form Five students in order to improve the Information Literacy course offered at the UB Library.

4.3 Research Objectives

- To establish the level of competence of students in translating information problems into information needs
- To determine the level of knowledge and the ability to use different sources of information among the students
- To establish the ability of students to evaluate information
- To identify barriers to information literacy in senior secondary school.

4.4 Findings and discussion

Demographic data of students in the study

Table 2: Age and gender of the students

N=214

Age	Gender Male	Gender Female	Percentages	Totals
16	1	1	0.9	2
17	17	23	19.2	40
18	71	69	65.4	140
19	9	16	11.2	25
20	1	3	1.9	4
22	2	0	0.9	2
23	0	1	0.5	1
Totals	101	113	100	214

Table 2 above shows the combination age and gender of the students in the study. Of the students in the survey the majority, 140 or 65.4%, were 18 years old. This is mainly due to the official school-going age being seven years. The next largest age group was 17 years old, which made up 40 or 19.2% of the sample. Only two students were at the age of 16. This occurs when students are exceptionally intelligent and are made to skip a class or two. Having students between the ages of 20 and 23 could be explained by illness or, in the case of female students, by pregnancy. Generally, in senior secondary schools in Botswana there are more females than males. This is illustrated in Table 2.

Previous schools attended

The vast majority of students, 195 or 91.1%, in the sample attended community junior secondary schools in Gaborone. Thirty-five community junior secondary schools were represented in the study. Nineteen (8.9%) of

the students came from schools outside of Gaborone, due to transfers rather than to selection. This forms the basis of admission to senior secondary schools. The students from community junior secondary schools are selected on the basis of their Junior Certificate (JC) results. As noted in the previous chapter, purposive sampling was used to select students on the basis of their mid-year examination results. Only students who were deemed eligible by the school authorities to enter university were selected.

Library at the previously attended school
All the schools previously attended by the students had libraries. In Botswana, all government secondary schools, that is both community junior secondary schools (CJSS) (Form One to Form Three) and senior secondary schools (Form Four to Form Five), have libraries. The quality of the services offered by these libraries is not known. As with all libraries, however, the extent to which they are used to their maximum for the benefit of the population for whom they are intended, lies with the librarians and the users.

Library usage in the current school
As mentioned in Chapter 1 (1.11) at all the senior secondary schools there are library periods, facilitated by the English departments, for the students. The English teachers always accompanied the students to the library at least once a week in all four of the schools investigated in the study.

Atagana (2001: 93), in the study she conducted at Russell High School in Pietermaritzburg revealed that the students made good use of the library at the school. From the study results, 134 out of the 138 who responded to the questionnaire reported to have used the library for study purposes. The students in this particular project perceived the library as being an intrinsic part of the school system. Although the students in the present work use the library, it is apparent from the discussions with the librarians that they do not make maximum use of it. Osei-Bonsu (1990: 102), in his study on secondary

school students in Ghana, indicates that a secondary school library should be viewed as an integral part of the educational programme and it must be concerned with providing a full range of book stock and information services to both students and teachers, in order to broaden their intellectual horizons, improve the quality of instruction students receive, and facilitate learning. It is evident that this is not always the case in the schools in the present study.

Competence in translating information problems

Students were then asked various questions relating to their information literacy skills. Table 3 reflects the competence of students in translating information problems into information needs.

Table 3: Students' approach to information related problems

Activity	Always	Sometimes	Never	Total
Work on your own	117 (54.6%)	96 (44.9%)	1 (0.5%)	214
Work in groups	8 (3.7%)	171 (79.9%)	35 (16.4%)	214
Consult other students	37 (17.3%)	168 (78.5%)	9 (4.2%)	214
Consult the teacher	58 (27.1%)	121 (56.5%)	35 (16.4%)	214
Consult other people	31 (14.5%)	113 (52.8%)	70 (32.7%)	214

Table 3 shows the students' approach to information related problems mainly through working on their own or through approaching and consulting with other students, both at school and outside the school. Quite a high number of students though 70 (32.7%) never consult "other people" (parents, siblings). Half that number never consult the teacher or work in groups. Only one student never worked on his own.

Table 4:Frequency of activities undertaken by students

Activity	Often	Sometimes	Never
Used the library to find the relevant materials for study	76 (35.5%)	99 (46.3%)	39 (18.2%)
Found useful/relevant material not specifically prescribed	60 (28.0%)	112 (52.3%)	42 (19.6%)
Needed information sources outside the school library to materials related to school work	86 (40.2%)	83 (38.8%)	45 (21.0%)
Asked the librarian for help	11 (5.1%)	62 (29.0%)	141 (65.9%)
Borrowed library materials from any other library other than the school library	44 (20.6%)	53 (24.8%)	117 (54.6%)

Table 4 shows the information on the frequency of activities undertaken by students arising from question 3 in the questionnaire. The vast majority of students (175 or 81.8%) either often or sometimes used the library to find relevant materials for study although quite a less significant number (39 or 18.2%) never used the library at all. Bruce (2000) feels that the most widely accepted description of information literacy is based on the view that it is an amalgam of skills, attitude and knowledge, a view which is compatible with the prevailing interpretation of learning the in present day education system. Doyle (1992: 2), however, has the view that information literacy is the ability to access, evaluate and use information from a variety of sources

The results of discussions with the librarians show that the number of students who often asked the librarians for help was 11 (5.1%), while 141 (65.9%) students never asked the librarian for help. The fact that the students never asked the librarian for help does not mean that they are not information literate. This could mean that they do not need to ask for help. As part of their requirement for attainment of information literacy skills, students need to demonstrate a set of skills, as pointed out by Kulthau (1993) and Bruce (1997) below.

Kulthau (1993) concluded that information literacy is not a discrete set of skills, but rather a way of learning. The opinion of Bruce (1997), on the other hand, was that information literacy is an appreciation of the complexity of interacting with information. She stated that information literacy is a way of thinking and reasoning about aspects of subject matter. If learning is about being able to demonstrate particular skills, then being information literate is being able to demonstrate a particular skill set. It is in this scenario that the researcher sought to measure the relationships in the levels of competence of the students and their ability to search for information.

Table 5:Abilities in various information skills

Activity	Very able	Able	Not able	Total
Express your own ideas in writing	101 (47.2%)	109 (50.9%)	4 (1.9%)	214
Express other writers' ideas in your own words	22 (10.3%)	158 (73.8%)	34 (15.9%)	214
Prepare a list of references to attach to your written work	41(19.2%)	117 (54.6%)	56 (26.2%)	214
Read and interpret information from charts/diagrams or graphs	103 (48.1%)	98 (45.8%)	13 (6.1%)	214

The information reflected in Table 5 emanates from question 4 in the questionnaire. The vast majority of the students (210 or 98.1%) reported that they were either able or very able to express their own ideas in writing, while four (1.9%) responded that they were not able. However, when it came to expressing other writers' ideas in their own words, only 22 (10.3%) students reported that they were very able to express other writers' ideas in their own words and 158 (73.8%) reported that they were able to do the same task. This means that there is a need to train students in this area when they enter university, because this is exactly what is required of them to carry out their

assignments. The same applies to their ability to prepare a list of references for their essays or assignments – a substantial number, (56 or 26.2%) reported that they were not able to do so.

Reading skills are regarded as an essential component of information literacy. Students should be able to decode a text meaningfully. Although 158 students reported that they were able to express other writers' ideas in their own words, they are not given assignments to write essays using books written by other authors. The students at this level rely on what the teachers give them in the form of notes. They usually write essays about their past experiences, especially in English classes in which they write compositions. For the students to attain this particular level of information literacy they need to practise more. Sayed and de Jager (1997) emphasize that information literacy is not a skill that can be taught but a practice, which can only be acquired by much practising. Merchant and Hepworth (2002: 82) agree with what Sayed and de Jager have emphasized, saying that this kind of learning tends to necessitate interaction with information which will eventually lead to information literacy.

Use of extra materials to supplement textbooks
Of the students in the survey 135 (63.1%) reported that they found extra materials to supplement their school textbooks, while a significant 79 (36.9%) said that they do not find any extra materials to supplement their reading materials. It is noted by many advocates of information literacy that students who are information literate do not depend solely on their prescribed textbooks. They read very widely and most of the authors like Makotoko (1999) and de Jager (1997) have correlated their findings with the academic performance of the students. They found that the students who supplemented their textbooks with extra materials performed much better than those who do not. In the present study it was anticipated that all the students supplemented their prescribed textbooks because the sample was made up of

high performers who have the potential of going on to tertiary level education, but the figures show that this was not the case.

The common types of material used for supplementing textbooks

Of the students who responded that they supplemented their textbooks, 94 (43.9%) did not give an answer as to what they use for supplementary reading. The vast majority of students said they used encyclopaedias, magazines, television, newspapers, the Internet, the dictionary and library books to supplement their prescribed textbooks.

Table 6: Use of different sources of information

Sources	Often	Sometimes	Never	Total
Dictionary	135 (63.1%)	67 (31.3%)	12 (5.6%)	214
Encyclopaedia	30 (14.0%)	87 (40.7%)	97 (45.3%)	214
Books other than prescribed textbooks	93 (43.5%)	96 (44.9%)	25 (11.6%)	214
Journals	27 (12.6%)	63 (29.4%)	123 (58.0%)	214
Newspapers	58 (27.1%)	107 (50.0%)	49 (22.9%)	214
Magazines	76 (35.5%)	99 (46.3%)	39 (18.2%)	214
Television	77 (36.0%)	96 (44.9%)	41 (19.1%)	214
Radio	56 (26.6%)	99 (46.3%)	58 (27.1%)	214
Videos	30 (14.0%)	98 (45.8%)	86 (40.2%)	214
Internet	34 (15.9%)	56 (26.2%)	124 (57.9%)	214

Table 6 presents the frequency the students used different information sources. The students in the current study used the dictionary more often than any other source. Out of the four senior secondary schools in Gaborone only two had audio/visual rooms, where students could use non-book materials. This is the reason why only 128 (59.7%) of the students reported that they often used the video as a source of information. Many of the

students indicated that they used the radio and television because they were available at home rather than at school. The results show that most of the sources were used sometimes rather than often. Of interest is the high number of students 97, or 45.3 % who never used an encyclopaedia – arguably one of the most common and basic sources of information in a school.

The school librarians stated that the students in the present study relied entirely on the notes provided by their subject teachers, compared with using the library resources, as their university studies would require. In her study, Zondi (1991) indicated that the reason the students did not make use of a variety of sources available to them was that they were not required to do so by the lecturers.

According to Loertscher and Woolls (1998), to be information literate, students need a basic understanding of the research process itself and the ability to develop their own internalized strategies for finding, evaluating and using information. The school librarians reported that the students in the present study did not have the required skills to make use of the resources available to them for finding and using information for their school work, since what they read most frequently was novels for leisure. Although in all the schools in the study the students were given a library period during their English lessons, they only read books for pleasure, as opposed to reading for study purposes.

Bundy (1998) quotes Ernest Roe, a professor of Education at the University of Queensland in Australia, as saying "in general, promoting the efficient use of library resources has been nobody's business. Even where there has been active concern, significant gaps persist. A teacher may urge his students to use the library resources, provide book lists, set work which effectively directs them to the library, but takes no interest in how they use the resources he is so keen for them to use, or they have skills to do so... The same applies when a

librarian may be actively involved in helping, in actually training users to be skilful in search strategies, be most eager to students, but regard what students do with the 'right' book when they have located it as none of the their business..."

Everything that the professor had commented about, decades ago, is still happening in secondary school situations. Teachers simply send the students to the library and, while most of the time they do accompany them, what the students do in the library is absolutely up to them. Much needs to be done in terms of weaning the students away from the tradition of relying entirely on the teachers to do everything for them.

Information evaluation

Merchant and Hepworth (2002: 81) point out that many aspects of the "information society" require certain skills and values in order to deal with the information available. They further argue that existing knowledge and evaluation skills must be employed – whether consciously or subconsciously – to determine the most useful sources to approach and extract the most useful information and apply it in the most appropriate way.

Table 7: Students' ability to evaluate information

Activity	Very able	Able	Not able	Total
Select information sources to meet your needs	48 (22.4%)	124 (58.0%)	42 (19.6%)	214
Evaluate the accuracy (i.e. truth, reasonableness of information)	30 (14.0%)	106 (50.0%)	78 (36.0%)	214
Evaluate currency (i.e. up to dateness) of information	18 (8.4%)	57 (26.6%)	139 (65.0%)	214
Evaluate authority (i.e. author's credentials) of information	11 (5.0%)	30 (14.0%)	173 (81.0%)	214

Table 7 depicts the results of the present study in which students were asked if they had the ability to evaluate information that they find. It is evident that students who claim to be "very able "are in the minority in all the categories of information evaluation.

Information selection

Only 48 or 22.4% of the students in the study considered themselves very able to select information sources suitable to meet their information needs in their school work, while 124 (57.9%) reported that they were able to do the same task. A considerable number of students, 42, or 19.6%, reported that they were not able to select the information sources to meet their needs.

Accuracy

When asked about their ability to evaluate the accuracy of the information they use, 30 (14.0%) of the respondents said that they were very able, while 106 (49.8%) said that they were just able and 78 (36.0%) said they could not evaluate the currency of information.

Currency

When evaluating the currency of information only 18 (8.4%) students reported to be very able, while 57 (26.6 %) were able and a high of 139 (65%) reported that they were not able to evaluate the currency of the information that they use.

Authority

The students in the study who reported that they were very able to evaluate the authority of the information that they use were 11 (5.1%). Thirty or (14%) said that they were able. The vast majority of students, 173, or 80.8%, were not able to evaluate the authority of the information.

Information evaluation is one of the most important elements in information literacy. Eaton and Treadgold (1999) quote the Association for Teacher Librarians of Canada, who define information literacy as "the ability to recognize the need for information to solve problems and develop ideas, pose important questions, use a variety of information gathering strategies, locate relevant and appropriate information, assess information for quality, authority, accuracy, currency and authenticity. It includes the abilities to use the practical and conceptual tools of information technology, to understand form, format, location and access methods, how information is situated and produced, research processes..."(Association for Teacher Librarians of Canada, 1997: 5).

This quotation is relevant to the present study because amongst the expected broad spectrum of skills the information literate person must possess is the ability to assess the authority, authenticity, quality and accuracy of information sources. One of the objectives of the present study was to establish the ability of students to evaluate information that they use in terms of the above. The results show that many of the students do not possess the necessary skills to evaluate information.

Eaton and Treadgold (1999) stress that students must be taught and become proficient in information literacy skills, the backbone of life-long learning. The students in the present study from secondary schools do not all have the skills to evaluate information sources. The number of those who reported that they were very able and those who were able to evaluate information was very low in comparison with those who said that they were not able and this is especially evident in their evaluating the currency and authority of information. This suggests that there are a number of students at this level who do not possess some of the skills associated with information literacy.

To emphasize the point made by Eaton and Treadgold (1999), the American Association of School Librarians reported that few educators are even aware of the existence of national guidelines for information literacy or various models that can be used to teach information literacy skills to students. That lack of awareness is particularly unfortunate in the light of the emphasis on making all students computer literate before they enter high school. The American Association of School Librarians (In Bucher, 2000) stresses that computers and related technologies are major pathways to information literacy. Students can use computers to go beyond locating library resources, they can learn to use CD-ROMs and online databases, word processors, graphic software, presentation software, electronic bulletin boards and e-mail. As a result, students become competent, independent users and evaluators of information. However, according to Bucher (2000) the key role of educators is to help students develop the skills to evaluate information and to separate superfluous data from essential details. Bucher goes on to say that mere exposure to information does not mean that students are informed.

From the present study it is evident that students' ability to evaluate information is poor. As a result, a need is evident for a major improvement in the information literacy course offered at the University of Botswana Library. As the study conducted by Makotoko (1999) at the University of Cape Town revealed, students who had information literacy skills performed better than those students who lacked those skills.

Barriers to information literacy

Tour of the school library

The results of the present study showed that 78 (36.4%) of the students reported that they were given a tour of the school library, while 136 (63.6%) said that they were not given a tour when they first arrived at the senior secondary school. There was some inconsistency in response to this question,

because the students who said that they were given the tour were not from one school, and also they were few in number.

Lwehabura (1999) asserts that for many years, particularly in developed countries, librarians have been involved in teaching and guiding users on how to use library resources effectively and efficiently. He also mentions that in many developed countries user education and information skills are taught right from primary school level. This seems not to be the case in developing countries, where secondary school students lack these particular skills. In the present study, a majority of students were not given a guided tour of the library as part of user education.

Formal instruction on use of the library

The number of students who reported that they were given formal instruction on how to find information by using the library was 90 (42%) while those who said they were *not* constituted 124 (58%). The results here are similar to the ones given regarding the tour of the library, where more than half the repondents answered in the negative.

Zaki (1991) notes that the poor background on information literacy experienced by school students has led to little or no knowledge of using library facilities. Students carry over this problem when joining universities and other institutions of learning. The present researcher tends to agree with Zaki (1991), since the students arrive at the university with no basic information skills on how to search for appropriate books in the library to carryout their academic tasks.

Table 8: Library services used in the past six months

Service	Used	Not used	Total
Borrowed a book	144 (67.0%)	70 (33.0%)	214
Used reference books	115 (53.7%)	99 (46.3%)	214
Read newspapers and magazines	183 (85.5%)	31 (14.5%)	214
Listened to a speaker	51 (24.0%)	163(76.0%)	214
Watched a video	96 (45.0%)	118 (55.0%)	214

The services that the libraries provide to the students have been outlined in the Table 8 above. Out of the total of 214 students not all of them have utilized the services as basic as borrowing a book or consulting a reference work. One would expect that some of the services were so basic that the vast majority of students would have used them. Of interest is the fact that the service most used was reading newspapers and magazines – an indication of the popularity of these formats.

Zondi (1991), de Jager and Nassimbeni (1998) and Ruth (1997) conducted studies to determine how frequently students used the library, what they use the library for and the resources that they actually used. The results show that the students indicated that they used the library for photocopying, some regarded it as a quiet study area and others used it just for meeting friends and socializing (Ruth, 1997). One can actually see that students have different perceptions on the use of the school library. The studies mentioned above have been conducted at university level, but the results are similar to the one conducted at the lower level of the secondary school in the present study. Krige (2001) noted in her study at the University of Natal that a third of the students reported to have had no library experience prior to starting at university. In the present study it is quite possible that some students enter university studies after making very little, if any use, of the services offered by the school library.

Lwehabura (1999: 133) feels that since it is clear that the level of familiarity with and use of libraries that students bring with them to the university is rather low, the need for a comprehensive and systematic user education programme is evident. Students have to be guided and helped to use various information sources in an effective, efficient and most productive way, as part of their curriculum. Essentially, students today need to learn what to do with information and not just how to find it.

Nametsegang (1997: 67) noted that school libraries in Botswana senior secondary schools have not yet developed to an appreciable extent. She further lamented the staffing situation in these libraries. According to her, there is either no one in charge of the library or the librarian is actually one of the teachers, or else there is an assistant without any training at all. The description given by Nametsegang (1997: 67) is that full-time teachers, even with dual qualifications, cannot run the libraries effectively, because they have their teaching commitments that take precedence over the library. Taking that point further Serema (1999) pointed out that the teacher librarians are not remunerated differently from the other teachers as an incentive for running the library. They are not motivated to work in the library as a result of this, because all they gain is work overload. This situation has a negative impact on the students using the school libraries, where there are often no trained full-time librarians. It is impossible for skills that constitute information literacy to be taught to the students when staffing is the number one problem. Nametsegang (1997) reports that there is little or no library instruction in senior secondary schools in Botswana.

In a study of school libraries in Botswana, Serema (1999: 183) points out the importance of school libraries, and he argues that "it is at the school libraries that children begin to learn independently, to think on their own, to ask questions about the world, make their own decisions and take responsibility for their future". Serema (1999) argues that this is particularly true in

Botswana, where there is an apparent lack of reading skills among school children. He points out that where there is a library, a teacher librarian is assigned to manage it, together with his/her normal duties as a full-time teacher, making his/her work load heavy. In most cases teachers do not have the time to work in the school library.

Noting what Nametsegang (1997) and Serema (1999) had reported on school libraries in Botswana, two of the secondary schools in the present study had full-time librarians, while the other two had teacher librarians. The observation made by the present researcher is that the libraries run by teacher librarians were not sufficiently stocked. In these libraries there are library assistants employed to be in charge while the teachers are teaching. The other point worth noting is that the library assistants are not formally trained, except for training which occurs in-service. They are not in any position to perform the more professional duties such as classification and cataloguing. Their main responsibilities are to issue books and to do some shelving. The students, as the major clients of the facilities, are at a disadvantage. The library assistants may not be in a good position to assist the students fully, as much as a trained librarian would be.

In comparison, the other two libraries, with full-time and library-trained staff, were well stocked and organized. There were new books, indicating that there had been some collection development occurring. This implied that the stock was being improved and the students were getting more of the information that might be valuable to their knowledge base and to their studies. The libraries with no full-time librarians were not in good shape. There had been no improvement on the stock and the library catalogue had not been functional since the full-time librarians left some time ago.

The above partially explains the quite significant non-use of library services as depicted in Table 8.

Use of library catalogue

Fifty-one students (23.9%) responded that they had used the library catalogue, while the vast majority (162 or 76.1%) said that they had never used the library catalogue. This contributes to some extent to the lack of information literacy, because the library catalogue is an important tool in information retrieval.

Students' skills in locating information

Fifteen students (7.0%) rated their library skills in terms of being able to locate information as "very poor" and 37 (17.3%) rated themselves as "poor". A vast majority of students (137 or 64.0%) rated their library skills as good and 25 (11.7%) rated themselves very good. Overall, 52 students (24.3%) rated themselves "very poor" and "poor" and they mentioned that they needed help in using the library catalogue. The students generally complained that it was not easy to find books on the shelves and they wasted a lot of time browsing.

In the last part of the questionnaire the students were given an opportunity to explain briefly, in their own words, the following:

The use of a subject catalogue

Out of 214, only 46 (21.6%) of the respondents knew what a subject catalogue was used for. Of the respondents, 108, or, 50.5%, had no idea even though some of them had attempted to give answers. Sixty of the students (28%) did not respond to this question, which suggests that they also did not know what a subject catalogue is. Thus, in total, 168 (78.5%) of the students did not know what a subject catalogue is and what it is used for. This is a barrier to information literacy, because one the first things that an information literate student should know is how to go about searching and accessing the information resources in the library and the search begins at the library catalogue.

The use of an encyclopedia

The number of students who knew what an encyclopaedia is used for totalled 104 (48.6%). The number who did not know, plus those who did not give an answer, was 110 (51.4%). Thus slightly more than half of the students in the study did not know what an encyclopaedia is used for. This was in spite of all the libraries having reference sections, where encyclopaedias are available. Encyclopaedias were obviously not fully utilized by all students for studying.

How the dictionary is arranged

All the students in the study knew how a dictionary is arranged. This is attributed to the fact that the students are exposed to the use of a dictionary as far back as primary school. It was frequently cited as a source used, in the section on the variety of sources of information used.

Use of an index in a book

The students who knew what the use of an index in a book was totalled 154 (72.0%) and this was impressive to note. However, 60 (28.0%) did not know what it was and what it is used for. The responses given by the students in this section were varied and very interesting. There were instances where they attempted to give a correct answer but failed. The students were given leeway to express themselves in their own words.

Conclusion

(i)   The main objective of the present study was to establish the level of information literacy among Form Five students at senior secondary schools in Botswana.

The study has revealed that, in terms of their own assessment, students in the present study seem to have the ability to demonstrate a number of the skills involved in information literacy. However, the students in senior secondary

schools are not very familiar with information evaluation skills. Those who reported that they were not able to evaluate information were in the majority. This is attributed to the fact that students at this level are not exposed to information literacy skills that help them assess the value of information and ultimately to be survivors in the information age. Information evaluation is one of the most important skills in information literacy. If students do not have the skills to deal with this aspect of information it becomes difficult for them to cope effectively with the vast amount of information that is being produced by today's technology. Taking into consideration that the students in this survey are the top students in the schools in the study, it is surprising to note that not all of them have the required skills in information literacy and for the evaluation of information, in particular.

Communication between the school librarians and the present researcher revealed that what the school librarians did mostly was orientation, especially when the students arrived at the school, rather than the teaching of information skills. The teacher librarians believed that they should be teaching information skills instead of other subjects and that it should be on-going throughout the students' stay at the school. Even so, not all the school libraries had orientation, because of a lack of qualified and full-time staff. In most cases the issue of teaching information skills cannot be achieved because of the staffing situation in the school libraries. In the present study, two schools had full time librarians and the other two had teacher librarians. As already mentioned, the libraries with teacher librarians suffer as a result, because the teachers spend most of their time teaching and neglecting the libraries. Even when students are sent to the libraries, they are not guided on how to interact with information, because they are left to their own devices.

Both the librarians and the teacher librarians in the study reported that they taught library skills. They were quick to admit, however, that most of what they did was orientation at the beginning of the year. The results of the

present study reveal that the students were not using the library services as adequately as one would expect. The students did not perform basic tasks such as borrowing library books. Still on the issue of usage of the library, it is clear that the level of familiarity with, and use of, libraries that students bring with them to university is rather low and therefore there is a need for a comprehensive and systematic information literacy programme to be put in place for both the senior secondary schools and the university.

As far as the use of a library catalogue is concerned, the majority of the students responded that they had never used a library catalogue. This implies that the students have never been shown how to access the catalogue and all they do is browse. This browsing can work because the school library is very small and therefore the collection is relatively small, too. Browsing the shelves is not possible at the university, where the library is huge and the collection is very large. With all these problems the students are not encouraged to use the catalogue before proceeding to the shelves and this is a barrier to information literacy.

It was interesting to note that in schools where there are librarians the students rated themselves good and very good in terms of library skills, while those who rated themselves poor and very poor were from schools without full- time librarians. The students who suggested that they needed some skills on how to use the library catalogue generally complained that they wasted a lot of time trying to locate books that they needed. They also suggested that the shelves be labeled for easier access. Most of them wanted the library stock to be improved because it does not meet their information needs.

4.5 Summary

In chapter 4 the purpose and objectives of the study were revisited. The data were presented in tabular form and analyzed. The main objective of the present study was to establish the level of information literacy among Form

Five students at four senior secondary schools in Gaborone, Botswana. The study has revealed that in terms of their own assessment, students in the present study seem to have the ability to demonstrate a number of skills in information literacy. However, the students in senior secondary schools are not very familiar with information evaluation skills. Communication between the school librarians and the researcher revealed that what the school librarians did mostly was orientation, especially when the students arrived at the school, rather than teaching them information skills. The results of the present study reveal that the students were not using the library services as adequately as one would expect. A conclusion on the findings of the study was presented at the end of the chapter.

CHAPTER 5: CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 Introduction

Chapter 5 reviews the research purpose and research questions. The conclusions and recommendations of the study and the researcher's suggestions for further research will be presented.

The study attempted to determine the information literacy skills of Form Five students at senior secondary schools. The study aimed to find out what information literacy skills the students bring with them to university, if they are able to use the information sources in the library, if they are able to evaluate information and to determine the barriers to information literacy in secondary schools. It is anticipated that the findings will assist in building a sound information literacy programme at the University of Botswana, to improve upon the one already in existence.

Information literacy skills are an important foundation for learning for students entering tertiary education. Without these skills studying at the university can be a frustrating and difficult experience. Students are expected to work independently when carrying out their academic work, since the trend is away from lecture-centred learning to student-centred learning. Information literacy skills enable learners to be self-directed so as to assume greater control of their own learning. With all the information and communication technologies (ICTs) available information comes out increasingly unfiltered. Consequently, students need to have skills which will assist them in the evaluation of information that they find. They must be able to check the authenticity, validity and reliability of information that they source. The uncertain quality and expanding quantity of information pose important challenges for everyone who deals with information in their daily

lives. All the problems cited in the study cannot be dealt with unless information literacy skills are acquired.

5.2 Purpose

The purpose of the study was to establish the information literacy skills among Form Five students at the four government senior secondary schools in Gaborone, in order to improve the information literacy course offered in the University of Botswana Library.

5.3 Research questions

1. What is the level of competence of the Form Five students in translating information problems into information needs?
2. What is the level of knowledge and the ability to use different sources of information among the students?
3. To what extent are the students able to evaluate information?
4. What are the barriers to information literacy in senior secondary schools?

5.4 Conclusions

➢ The study revealed that Form Five students lack the competence to translate information problems into information needs. The majority of students reported that they had the ability to work on their own. Students reported that they did not always consult the teachers and other students and relatives such as their brothers and sisters. The ability to ask and work with other people helps in widening the information horizon of students. The literature on information literacy emphasizes that information literate students ask appropriate and intelligent questions because they have learned how to learn. They can do this in spite of working on their own.

➢ The results indicate that the students do not use the school library to look for information relevant to their studies. The finding of relevant

material is also related to the adequacy of the bookstock. In effect, students rely on the notes provided by their subject teachers. Also the visiting of the library by students relates to whether they are encouraged to do so. The emphasis nowadays is to shift from teacher-centred to learner-centred learning. Students need to be encouraged to direct their information pursuits, which adds to the sense of ownership, self-confidence and reinforcement of information-gathering patterns when an information goal is achieved. For this to be attained, teachers, in collaboration with librarians, should become motivators and facilitators in the process of students seeking information to become creative problem-solvers. Student-centred learning operates on the premise that students learn by doing.

➢ Only a few students reported that they always found relevant material not specifically prescribed by their teachers in the library for their school work. Some students stated that they sometimes found relevant material for study purposes. The succinct problem that came out clearly is that the students have never been trained how to use the library to find information especially for study purposes. Most of the students only came to the library during the lesson routinely time-tabled for the library. The librarians at the schools mentioned that very few students visited the library during their lunch break and when they came out of afternoon study.

➢ Students need to be encouraged to find extra reading material, not only for the sake of broadening their knowledge and information horizons, but also for the sake of developing their thinking skills critical to the information age in which they need to function. The literature does suggest that students who go all out to supplement their prescribed textbooks seem to perform better academically.

➢ The libraries at the four senior secondary schools are housed in small rooms and the student population is too large to be accommodated in them, except one class at a time. The other problem identified is that the opening hours of the libraries do not give the students enough time to use the library resources at their own convenience. Afternoons have been reserved for students to do their assignments and quiet readings in the confinement of their classes and they are only allowed to go to the library for thirty minutes after study period. At this time the only thing students think about is going home and thus they do not go the library. The students also responded that the libraries in senior secondary schools are not sufficiently stocked to meet their demands for information.

➢ Although the students mentioned that they found extra materials to supplement their prescribed textbooks, the study revealed that they actually do not use the books from the school library, or other libraries, that much. They mostly used magazines, newspapers, radio and television as supplementary sources of information. The reason they gave for this was that the sources they use are readily available at home.

➢ The study revealed that the students used different sources of information. Students who said that they often used the sources outlined in the questionnaire were not as numerous as expected. The identified reason for this is that the students at this level do not have the required information searching skills. This should partly be blamed on the teachers and the librarians, since their responsibility is to instil in the students the ability to seek information relevant to their studies. It is the duty of both the librarian and the teachers to see to it that students develop information literacy skills through formal and informal practice, with tasks requiring information from different

sources. The other prominent factor that affects the students' use of different sources of information is that of staffing. Two of the school libraries in this study had teacher librarians and most of the time it was library assistants manning the library, while the teachers were busy with teaching. As a result, the students in these schools were not taught any information searching skills and this has had a negative impact on the students' usage of libraries in general.

➢ The study has shown that the students do not have the ability to evaluate the information sources that they used. Most of them clearly stated that they could not evaluate authority, currency and accuracy of the information. It is very important for students to have these skills, especially if they are to contend with the vast amount of information that is produced by the high level of today's technology.

➢ There are barriers to information literacy in senior secondary schools, as the study has shown. The most prominent one is staffing. The trained staff in charge of the libraries with full-time librarians were diploma holders and the other two libraries had teacher librarians were holders of Bachelor of Arts in Humanities and Certificate in School Librarianship, assisted by library assistants with no qualifications. The teacher librarians are given the same workload as other teachers and this does not give them time to perform their duties at the library. At the same there are no incentives given to the teacher librarians, even when dually qualified to work in the library, even though they may be interested to do so. They are only paid for their teaching services and this acts as a deterrent to putting effort into improving the library. The students suffer as a result of poor staffing, especially where most the time it is the library assistants manning the library. The only duties that they are good at performing are issuing, shelving and keeping order in the library.

> Many students reported that they were not given a tour of the library and also they were not shown what the library catalogue is used for and how it is arranged. All this stands in the way of the students in their effective and efficient use of library resources. The students will not be able to develop skills in note-taking, current awareness, literature searching, essay writing and bibliographic citation when they do not have information skills which are part of the all-encompassing information literacy.

5.5 Recommendations

Over time, years the first-year students have been admitted from senior secondary schools, scattered all over the country, to the university. They came from different backgrounds, for example from urban areas, rural areas and private schools. Even though this study was limited to Government senior secondary schools in Gaborone, it provided a general picture of the secondary school situation. The study has revealed that the students do not bring adequate information literacy skills from secondary schools. This calls for librarians at the University to start from the very beginning, teaching the students all the basics of information literacy. The following are the recommendations of the study:

Information literacy at the University of Botswana

✓ As an introduction the students need to be informed of the importance of the library in the academic environment, how it is organized and its layout. They need to be shown the various sections, introduced to the library staff and provided with the library rules and regulations.

✓ The sources of information, in the form of the library catalogue and other bibliographic tools, should be shown to the students. The students need to be shown where books and non-book materials are and how to access them from the shelves. A thorough introduction to

reference materials and their formats needs to be given. This should start with dictionaries on subject matter and also encyclopaedias, since the students need to know the basics of the reference materials. Skills in how to access information from electronic format sources, CD ROM searching techniques, need to be taught, as well as how to search the OPAC using different access points and online standalone databases. Information retrieval for both bibliographic and full texts should be introduced to students. The use of the Internet and how to retrieve information, using its various search engines, should be introduced to the students so that they can search for information.

✓ There is a need to train students to translate other peoples' ideas into their own words. The course offered at UBL therefore, needs to put more emphasis on teaching the students this information skill, since the assignments that they are given need this particular skill. Therefore students should benefit from basic training in academic writing and referencing.

✓ It is recommended that information literacy skills at university level be integrated into the curriculum with some subjects, since they cannot be taught in a vacuum. The course should be a semester long and be examinable, as compared to half semesters. This will help the students to acquire such skills which are very essential in today's information society.

Information literacy programmes in schools

✓ Information literacy programmes should be designed at the senior secondary school level to equip the students at this level as they graduate to institutions of higher learning. For these programmes to be successful, there is need a to have fully trained personnel in the library.

White (1995: 104) contends that the success of an information literacy programme depends on the effectiveness of librarians and support staff to develop, plan, implement and evaluate it. Since this study has revealed that there exists no such programme in the schools, it is recommended that they be put in place as soon as possible.

Staffing in school libraries

- ✓ The study has revealed that there is a staffing crisis in school libraries. Libraries which are run by teacher librarians are not accorded the attention they deserve. As a result the collection suffers, as well as the student users. It is recommended that, in order to rectify the situation, the teaching loads of these teachers be reduced compared with teachers who do not have added responsibilities. If there is a shortage of teaching staff, as is always the case, staff vacancies at the library should always be advertised in the media to get trained personnel with specialised qualifications specific to the library.

Collection Development

- ✓ What has emerged from the study is that the collections in the libraries are very small. This problem seems to be prevalent in libraries where there are no full time librarians. The library is side-lined when it comes to the budget because no one represents the library at the administrative level. For the library to be viable, it needs to have an annually increasing budget to develop the collection. It does not help anyone to read obsolete materials that do not motivate. This could be one of the reasons students are not encouraged to use the library, because most of the books in the stock are outdated.

Information literacy curriculum

- ✓ The Ministry of Education, through the Department of Curriculum Development and Evaluation, should formulate a course at Form Four

level, in which students can be taught information literacy. This may have a positive impact on the Form Five students as they get ready to enter university. This is important because an information literate person has the ability to adapt in any situation where there is information. It does not matter if not all the students go to university after Form Five. They will have learned to interact with information and will have the necessary skills for life-long learning.

Information evaluation

✓ Information evaluation is a skill that all people who deal with information should have. This is an information age, where information is produced in large quantities by the newly emerged information communication technologies (ICTs). It is for this reason that people, including students, should be well equipped with information evaluation skills in order to critically evaluate information before they use it. It is recommended that students be trained on how to evaluate the information sources, for example, to evaluate the currency, the accuracy, authenticity and authority of information. This can only be achieved if the students are taught to take note of all that is required to evaluate information.

Co-operation with other libraries

✓ It is recommended that school libraries should cooperate with other school libraries to exchange books. It is clear that there is a problem with the collections, in that they do not meet the demands of the students. Some students would prefer to borrow books outside the schools' library (for example, from the public library), to supplement what their school library already has in stock. A second problem is that other libraries may be far from where the students live and they may not have the money to commute to these other libraries.

5.6 Suggestions for further research

The author suggests the following for further research:

1. Information literacy among teachers in secondary schools requires investigation. This will throw light on what skills they really do possess. Teachers need to improve their own information literacy in order to be comfortable with the range of resources available and with accessing, evaluating and using information if they are to successfully teach these skills to their students.

2. This study covered only four senior secondary schools in Gaborone, Botswana. A similar study on information literacy should be conducted in other senior secondary schools in Botswana.

3. A study on collection evaluation of school libraries should be conducted in order to check if the collections are relevant to the curriculum in satisfying the students' demand for information.

4. Further research may lead to the establishment of a trial information literacy skills course at senior secondary schools in Botswana.

5. A follow-up study on the basis of the present study may be carried out, in which the recommendations are implemented and evaluated.

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APPENDICES

Appendix I: Sample letter sent to heads of schools asking for permission to carry out the research

Goitsemang G. Isaac
Information Studies Programme
University of Natal
Private Bag X01
Scottsville
PIETERMARITZBURG, 3209
South Africa
28 May, 2002

The Head Teacher
Gaborone Secondary School
Private Bag 0019
GABORONE
Botswana

Dear Sir/Madam,

RE: RESEARCH ON INFORMATION LITERACY AMONG THE FORM FIVE STUDENTS AT GABORONE SECONDARY SCHOOL.

I kindly request your permission to undertake research on the subject above at your school.

I am a citizen of Botswana, doing second year of study at the University of Natal, PMB.

The research is required in partial fulfilment of a Masters Degree in Information Studies.
The time for research is aimed at around June/July 2002.
If you need any further clarification you can contact my supervisor Mr Athol Leach.
The contact address is the same as the above.

I hope to hear from you as soon as possible.

Thanking you in advance.

Yours sincerely,

Goitsemang G. Isaac (Mrs)

Appendix II Letter to the Ministry of Education asking for permission to carry out the research

University of Natal
Information Studies Programme
School of Human and Social Studies
Private Bag X01
Scottsville, 3209
Pietermaritzburg
South Africa

10 June 2002

The Director
Department of Secondary Education
Ministry of Education
Private Bag 005
Gaborone
Botswana

RE: PERMISSION TO DO RESEARCH ON INFORMATION LITERACY ON FORM FIVE STUDENTS IN THE FOUR GOVERNMENT SENIOR SECONDARY SCHOOLS IN GABORONE.

I am a student at the University of Natal (Pietermaritzburg), doing a Masters degree in Information Studies (MIS). As part of this programme, I am required to undertake a research on information literacy among Form Five students in Gaborone.

I hereby request permission to conduct my research at Gaborone Secondary School (GSS), Ledumang Senior Secondary School, Naledi Senior Secondary School and St Joseph's College.

Your assistance in this regard would be most appreciated.

Yours faithfully,

Goitsemang G. Isaac (Mrs)

Appendix III: Sample letter sent to heads of schools asking for a list of academically able students

C/o Information Studies Programme
University of Natal
Private Bag X01
Scottsville, 3209
PIETERMARITZBURG
South Africa
Fax No 00 27 33 260 5092
28 May, 2002

The Head Teacher
Gaborone Secondary School
Private Bag 0019
GABORONE
Botswana

Dear Sir or Madam

<u>RE: REQUEST FOR A LIST OF ACADEMICALLY ABLE STUDENTS</u>

I hope you have already received my first correspondence, dated 28 May 2002.

I will be doing research for my thesis at all the Government Senior Secondary Schools in Gaborone. Since the number of students at the schools I am intending to study is too large I am only going to limit the study to those students who, on the basis of their Form Four results are likely to enter university studies next year.
I am kindly requesting you to send me a list of academically able students from your school so that I can draw my sample population from your school.

I hope to hear from you as soon as possible.

Thanking you in advance

Yours sincerely,

Goitsemang G. Isaac (Mrs)

Appendix IV: Covering letter for the questionnaire for collecting data

University of Natal (Pietermaritzburg)

Information Studies Programme

July 2002

Dear Student

RE: INFORMATION LITERACY SKILLS QUESTIONNAIRE

I am a masters student in the Information Studies Programme at the University of Natal, Pietermaritzburg. I am carrying out a survey of Form Five students for my thesis, in which I am determining the level of information literacy among them.

The study is aimed at establishing the level of information literacy among Form Five students in order to improve the Information Literacy course offered at the University of Botswana.

Could you be so kind to assist me by filling in this questionnaire as frankly as you can. I fully guarantee that the information collected will be treated with confidentiality and anonymity.

Please do not write your names on the questionnaires.

Your cooperation in this matter will be highly appreciated.

Yours faithfully

Goitsemang G. Isaac

Appendix V: Questionnaire for collecting data on information literacy among **Form** Five students at senior secondary schools in Gaborone

PLEASE REMEMBER THIS IS NOT A TEST AND THERE ARE NO RIGHT OR WRONG ANSWERS. IT IS VERY IMPORTANT THAT YOU MUST BE HONEST.

SECTION A: BIOGRAPHICAL DATA

Please put a cross (X) in the appropriate box.

1.What sex are you?

Male   [ ]

Female   [ ]

1.2 What is your age?_____

1.3 Name of the school you attended before coming to this school

_____

1.4 Did the school you attended have a library?   Yes [ ]   No [ ]

SECTION B: COMPETENCE IN TRANSLATING INFORMATION PROBLEMS

2. When preparing for a school project (eg essays/examinations) rate how often you do the following

	Always	Sometimes	Never
Work on your own	[ ]	[ ]	[ ]
Work in groups	[ ]	[ ]	[ ]
Consult other students	[ ]	[ ]	[ ]
Consult the teacher	[ ]	[ ]	[ ]
Consult other people e.g. father, mother, sister or brother	[ ]	[ ]	[ ]

3. How often have you used or done following in the past six months?

Often = More than 5 times or more

Sometimes = Less than 5 times

	Often	Sometimes	Never
(i) Used the school library to find relevant materials	[ ]	[ ]	[ ]
(ii) Found useful/relevant material that was not specifically prescribed	[ ]	[ ]	[ ]
(iii) Needed information sources outside the school library to find materials related to your school work?	[ ]	[ ]	[ ]
(iv) Asked the librarian for help?	[ ]	[ ]	[ ]
(v) Borrowed material from any other library other than the school library?	[ ]	[ ]	[ ]

4.How able are you in doing the following?

	Very Able	Able	Not Able
i) Express your own ideas in writing	[ ]	[ ]	[ ]
(iii) Express other writers' ideas in your own words	[ ]	[ ]	[ ]
(iv) Prepare a list of references to attach to your written work	[ ]	[ ]	[ ]
(v) Read and interpret information from charts/diagrams or graphs	[ ]	[ ]	[ ]

5. Please tick Yes or No

(i) When doing school work do you find extra material to supplement your text books?   Yes [ ]   No [ ]

(ii) If yes what are the 3 most common types of material that you use?_____

_____

_____

SECTION C: USE OF DIFFERENT SOURCES

6. Please indicate, how often have you used the following to find information for school work in the past six months?   Often = More than 5 times or more Sometimes= Less than 5 times

	Often	Sometimes	Never
Dictionary	[ ]	[ ]	[ ]
Encyclopaedia	[ ]	[ ]	[ ]
Books other than prescribed textbooks	[ ]	[ ]	[ ]
Journals e.g. Journal of Chemistry	[ ]	[ ]	[ ]
Newspapers	[ ]	[ ]	[ ]
Magazines	[ ]	[ ]	[ ]
Television	[ ]	[ ]	[ ]
Radio	[ ]	[ ]	[ ]
Videos	[ ]	[ ]	[ ]
Internet	[ ]	[ ]	[ ]

Others please specify_____

If you have indicated that you have used a source/s often, please could you explain why you use that source/s

_____

_____

_____

SECTION D: INFORMATION EVALUATION

7. How able are you in doing the following?

	Very Able	Able	Not Able
(i) Select information sources to meet your needs (eg to help answer essay questions)	[ ]	[ ]	[ ]

If able or very able could you please give an example of this_____

(ii)   Evaluate the accuracy (eg truth, reasonableness)

of information   [ ]   [ ]   [ ]

If **able or very** able please give one way in which you could evaluate the

accuracy of information _____

   (iii)   Evaluate the currency (eg up to dateness)

         of information   [ ]   [ ]   [ ]

If **able or very** able please indicate how you would assess the currency of

information_____

_____

_____

   (iv)   Evaluate the authority

   (eg author's credentials) of information   [ ]   [ ]   [ ]

If **able or very** able please give one way you could check on the author's

authority _____

SECTION E: BARRIERS TO INFORMATION LITERACY

8. **Have you** ever been given a tour of your school's library?   Yes [ ] No [ ]

9. **Since coming** to this school have you had formal instruction on ways to find
information through the use of the library?   Yes [ ] No [ ]

10. **Which of** the following library services have you used in the past six
months? (Tick all that apply)

   (i)   Borrowed a book   [ ]
   (ii)   Used reference books (e.g. encyclopaedia)   [
           ]
   (iii)   Read a newspaper or magazines   [ ]
   (iv)   Listened to a speaker   [ ]
   (v)   Watched a video   [ ]

11. **Have you** ever used library catalogue?   Yes [ ] No [ ]

12 How would you rate your library skills in terms of being able to locate information?

    (i)   Very poor   [ ]

    (ii)   Poor   [ ]

    (iii)   Good   [ ]

    (iv)   Very good   [ ]

If very poor or poor please indicate what skills you still need to locate information? _____

13. Briefly explain in your own words the following:-

    (i)   What is a subject catalogue used for? _____

    (ii)   What is the use of an encyclopaedia? _____

    How is a dictionary arranged? _____

    (iii)   What is an index in a book used for? _____

Appendix VI Letter from the Office of the President giving the researcher permission to carry out the study
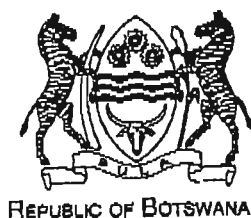
OP 46/1 XCVII1 (22)

22nd July, 2002

Ms. Goitsemang G. Isaac
P/Bag 0022
Gaborone

Dear Madam,

RE: GRANT OF A RESEARCH PERMIT: MS. G. G. ISAAC

Your application for a permit refers.

We are pleased to inform you that you have been granted permission to conduct a study entitled "Information Literacy among the Form 5 Students at all four Government Senior Secondary Schools in Gaborone, Botswana". The research will be carried out in Gaborone.

The permit is valid for a period not exceeding five (5) months effective July 22, 2002.

The permit is granted subject to the following conditions:

1. Copies of any report/papers written as a result of the study are directly deposited with the Office of the President, National Assembly, Ministry of Education, Department of Secondary Education, National Library Service, Research and Development Office, National Conservation Strategy Agency and University of Botswana Library.

2. You conduct the study according to the particulars furnished in the application.

3. The permit does not give authority to enter any premises, private establishment or protected area. Permission for such entry should be negotiated with those concerned.

4. Failure to comply with any of the above-stipulated conditions will result in the immediate cancellation of the permit.

Yours faithfully

J. Mosweu
for/PERMANENT SECRETARY TO THE PRESIDENT

cc: Permanent Secretary, Ministry of Education
Clerk of the National Assembly
Director, Department of Secondary Education
Executive Secretary, National Conservation Strategy Agency
Director, National Archives
Director, National Library Service
Director, Research and Development Office
Librarian, University of Botswana Library
District Commissioner/Town Clerk
- Gaborone