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Information Literacy Integration Strategies into the Curriculum of Senior Secondary Schools in Botswana

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DECLARATION

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ABSTRACT

The purpose of this study was to investigate information literacy integration strategies into the curriculum of senior secondary schools in Botswana. The main objectives of the study were to: examine the implementation of IL in senior secondary schools in Botswana; ascertain the roles, attitudes and perceptions of librarians, teachers, and school principals in promoting IL in senior secondary schools in Botswana; and establish the content of IL taught in senior secondary schools in Botswana.

The study was motivated by persistent concerns in Botswana that students enrolling in the University of Botswana to pursue undergraduate programmes did not possess adequate IL skills and competencies. The following research questions were addressed: What are the goals of IL programmes in senior secondary schools in Botswana? What are the content, resources, and teaching strategies for delivering IL to students? How is IL implemented at the policy level in senior secondary schools? What are the roles of teachers, librarians, school principals and the Director of Curriculum Development in promoting IL integration into senior secondary school curriculum? What are the attitudes and perceptions of teachers, librarians and school principals towards IL in senior secondary schools?

The study was underpinned by both interpretive and positivist paradigms and applied a constructivist theoretical lens complemented by the Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); and the Association of School Librarians and Association for Educational Communications and Technology AASL/AECT (1998) frameworks. The study was based on interpretive and positivist paradigms. The methodology consisting of qualitative and quantitative research approaches was employed. The population of the study consisted of teachers and school principals, school librarians and a Director of Curriculum Development in the Ministry of Education and Skills Development (MoESD). Qualitative data were analysed thematically while quantitative data were analysed using the Statistical Packages for Social Sciences (SPSS) respectively to generate descriptive and inferential statistics.

The findings revealed that senior secondary schools in Botswana did not have clearly stated goals of information literacy. Moreover, there is no national IL policy, guidelines or standards for Botswana secondary schools. The challenges affecting IL implementation were found to include low budgets, overcrowded curriculum, lack of adequate support from government, unreliable Internet connectivity and inadequate human and library resources. The study made recommendations to enhance IL integration into the curriculum of senior secondary schools that include harmonisation of IL content through institutional and national policies, adapting international best practices/standards and developing a common IL pedagogy (based on constructivist principles). Furthermore, it is recommended that librarians and teachers need to make information literacy more practical and relevant. Further research could consider extending the existing IL models/frameworks that are largely Eurocentric to a developing country context such as Botswana.

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Everything is possible through God.

DEDICATION

To God Almighty my Creator and Saviour.

To Churchill, Barbara & Dennis and in memory of "*Mama*" Dolotia Anek Okwok, my beloved grandmother who passed on in January 2015 at the ripe age of over 100, RIP. Thank you "*Mama*" for instilling in me the value of education.

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LIST OF ABBREVIATIONS AND ACRONYMS

AASL:	American Association of School Librarians
AASL/AECT:	American Association of School Librarians and Association for Educational Communications and Technology
ACRL:	Association for College and Research Libraries
AECT:	Association for Educational, Communication and Technology
ALA:	American Library Association
ANZIIL:	The Australia-New Zealand Institute for Information Literacy (ANZIIL)
AS:	Cambridge International Advanced Subsidiary Level
BGCSE:	Botswana General Certificate of Secondary Education
BLA:	Botswana Library Association
BIG6™:	A systematic approach to information problem solving using a six step process. The Big6™ model can be used whenever an individual has an information problem; co-authored by Mike Eisenberg and Bob Berkowitz.
BOSSLA:	Botswana Senior Secondary Librarian Association
CAUL:	Council of Australian University Librarians
CILIP:	Chartered Institute of Library and Information Professionals
DSE:	Department of Secondary Education
ENSIL:	European Network for School Libraries and Information Literacy
ERIC:	Educational Research Information Clearing House
HIGCSE:	Higher International General Certificate of Secondary Education
IB	International Baccalaureate
IBO	International Baccalaureate Organisation
IFAP:	Information for All Programme
IFLA:	Federation of Library Associations and Institutions
IGCSE:	Cambridge International General Certificate of Secondary Education,

IL:	Information Literacy
ISP:	Information Search Process
IT:	Information technology
LIS:	Library and Information Studies
LISTA:	Information Sciences and Technology Abstracts
MoE&SD:	Ministry of Education & Skills Development
NFIL:	National Forum on Information Literacy
RNPE:	Revised National Policy on Education
SCONUL:	Society for College, National and University Libraries
UNESCO:	United Nations Educational, Scientific and Cultural Organisation

CHAPTER ONE
INTRODUCTION

1.1. Context of the Study

The focus of this study is to investigate information literacy integration strategies into the curriculum of senior secondary schools in Botswana. The concept of information literacy (IL) refers to the ability of an individual to recognise information needs, find, evaluate, and use information effectively for problem-solving or decision-making (ALA, 1989 & AASL, 1999). Information literacy forms the basis for life-long learning and provides all members of society, without distinction, with the skills necessary to function effectively in their daily lives (Riedling, 2006:2). Taylor (2006) in this regard asserts that educating students to achieve IL competencies is a goal that must be at the heart of the library programme, if not the school. The constructivist philosophy of education advocates for students to develop the ability to understand and use information (Taylor, 2006:1). Accordingly an information literate person is multi-skilled having technical skills, application skills, research skills, critical thinking skills, ethics and responsibility skills, communication skills and collaboration skills (Allen, 2007:19).

The revolution in information technology and the emergence of the information society, which has changed the way people search for, find, and use information for personal, professional, and educational purposes has become a global priority (Bernier, 2007; Heath, 2007). Being information literate is important to students to be able to sieve effectively through a plethora of information sources from the Internet, television, newspapers, books, journals, and friends, among others. The secondary school educational institutions the world over tend to have the largest pool of young emerging learners upon which an information society is founded. It is therefore imperative for secondary school students to be sufficiently prepared to meet the needs and expectations of the information society.

1.2. Information Literacy Education in Botswana

The Botswana Senior Secondary School Curriculum Blueprint provides the framework for IL education in Botswana. The programme is aimed at preparing students for the world of work, further education and lifelong learning (Republic of Botswana Senior Secondary School Curriculum Blueprint, 1998). The question of the extent to which IL is integrated into the secondary school curriculum in Botswana therefore becomes pertinent to investigate.

Kedikilwe (1998) the former Minister of Education in the Botswana government, in his official opening address to the Third Biennial Conference on Teacher Education in 1997, emphasised the importance of information literacy for education, development, and work. He also decried the poor quality of the graduates from secondary schools in Botswana. He underscored the value of information literacy in people's lives both inside and outside the school education system. For information literacy to meet the stated goal of government as enunciated by Kedikilwe, it must, therefore, be well integrated into the school curriculum.

IL studies carried out in Botswana by Molosiwa (2007), Onen (2011); Jorosi & Isaac (2008) and Mutoroke (2009) have shown that students in senior secondary schools in Botswana lack the basic IL skills to effectively function in an increasingly information based environment and also undertake studies in the core subjects in the mainstream curriculum. Similarly, the general public and teaching profession in Botswana has often voiced concern about the poor information literacy competencies that are acquired by students in senior secondary school because graduates at this level seem ill-prepared for research, writing and reading skills when they proceed to higher education in colleges and universities (Mutula, 2010; Isaac, 2002). Studies of IL competencies possessed by students in secondary schools notably in South Africa (Zinn 1997; Hart 1999) have often expressed concerns about the lack of searching skills and critical information evaluation skills among students (Branch, 2003; Leu, 2002; Henri, 2001; Moore, 2002; Williams & Wavell, 2006; and Probert, 2009).

The information society envisioned in the Botswana's Vision 2016 document is one where the youth who are the majority of the populace and now in schools and at the University of Botswana, will become critical drivers of the information economy. It is, therefore, important

that necessary measures are taken to inculcate information literacy competencies among students in secondary schools to prepare them adequately for higher education and the information society. Moreover, if senior secondary school students are to excel in the 21st century, they must be taught how to acquire, evaluate, and use information effectively. They must become information literate workers, teachers, facilitators, and coaches (Onen, 2011). Information literacy would equip students with skills to allow them to become problem-solvers, critical and creative thinkers, effective decision makers and cooperative learners and to prepare them adequately for the challenges of the information society (Taylor, 2006; Thomas, 2004).

Information literacy skills can be taught generically across the curriculum (for example, by a school librarian) and specifically within the context of a learning area (by the teacher). However, teachers and librarians are expected to work together in delivering information literacy to benefit and guide students through the process of learning and to mould them into effective users of information (Riedling, 2006). The American Library Association Presidential Committee on Information Literacy in the United States summarises benefits of IL. Milam (2002) points out that the quality of life is much higher when an individual is informed about opportunities, alternatives, and current events. Secondly, the ability to access information ensures that individuals can make informed decisions effectively. Third, information literacy is empowering especially to individuals who lack information literacy skills and are dependent on others for receiving second-hand information that is subject to inaccuracy and biased interpretation. Fourth, informed citizens can interact effectively with ideas and values different from their own and thus have a better understanding of the world. Lastly, informed workers make better employees in a global marketplace (Milam, 2002). Effective learning and teaching of IL gives students opportunities to engage in critical thinking and problem-solving and enhances life-long learning (Kuhlthau, 2001; Thompson & Henley, 2000).

Within the Botswana context there is paucity of research on strategies for IL integration into the curriculum of Botswana senior secondary schools (Jorosi & Isaac, 2008; Onen, 2011). The school library system in Botswana as in many developing countries suffers from poor infrastructure and budget constraints thus denying senior secondary school leavers the opportunity to acquire appropriate knowledge and the skills required to effectively use

information resources in various formats. Equipping students with information literacy at all educational levels is vital not only for independent learning and academic achievement but also for life-long learning (Baffour-Awuah, 2002; Molebatsi, 2002; Pejova, 2002); Lwehabura, 2008; Dubazana & Karlsson, 2006; Mutoroke, 2009).

1.3. Senior Secondary Education and Information Literacy in Botswana

The Botswana Government perceives secondary school education as a vehicle through which basic information literacy education should occur. The government also envisages the development and nurturing of life-long learning skills, knowledge, attitudes and talents in skills into the curriculum as articulated by the Revised National Policy on Education (RNPE) of 1994 (Republic of Botswana Revised, National Policy on Education, 1994). The Ministry of Education Curriculum Blue Print for Senior Secondary School Programme of 1998 is to provide lifelong education. The Botswana Senior Secondary School Curriculum Blueprint, (hereafter the "Botswana Blueprint") expects learners to develop moral, ethical and social values necessary for the development of economic, political, cultural and national identity; unity and social harmony (*Kagisano in Setswana language)* (Republic of Botswana Senior Secondary School Curriculum Blueprint, 1998:2).

The Botswana Blue Print is a two year course following the Basic Education Programme. It offers the opportunity for learners of different abilities to develop their potential. Its aim is to apply innovative learner-centred approaches to teaching; and to promote a reading culture across all the subjects in the curriculum among others. The aims of the Botswana Blue Print, among others, are to enable students to acquire knowledge, develop confidence and the ability to assess their personal strengths and weaknesses in choosing appropriate career/employment opportunities and further education. Its aim is also to develop information technology skills in the day-to-day activities of student's lives. The critical aim is to develop foundation skills such as problem solving, critical thinking, communication, inquiring, team work and interpersonal skills to help students be productive and to survive in the information society. The emphasis of teaching strategies is learner-centred approaches where curriculum materials and learning and teaching are responsive to the needs and interests of the student rather than those of the teacher. Teachers are viewed as facilitators and guides rather than a

reservoir of knowledge. Active learning (by doing) is promoted over passive learning (by listening) (Republic of Botswana, Senior Secondary School Curriculum Blueprint, 1998:7-8).

Accordingly, the goal of the Botswana Blueprint is to produce students who are skilful consumers and producers of information in a broad range of resources and formats in order to thrive personally and economically in the information age. Secondary schools in Botswana are expected to be at the forefront in terms of imparting information literacy to students in order to prepare them adequately for higher education and for the labour market. Senior secondary schools should ensure that students acquire the knowledge and skills they need to be successful in college and the workplace. Secondary school graduates entering university education in Botswana have been found to lack critical information literacy competencies for them to effectively pursue university academic programmes (Mutula, 2010). According to Mutoroke (2009), the Botswana Ministry of Education and Skills Development should enforce implementation and the integration of IL into the secondary school curriculum to ensure the students acquire relevant IL skills before joining the university. Maruatona (1998: 88) observed that the teaching arrangement in Botswana schools is "anti-dialogic and designed to stifle the potential of the learners to develop critical thinking in the programme taught."

The teaching of IL in Botswana senior secondary schools is hampered mainly by the lack of professionally qualified staff, lack of funding, and lack of time (Mutoroke, 2009). Jorosi & Isaac (2008) indicated that although Botswana has an advanced schooling system in which all secondary schools have a library, librarian, books and technology, not all librarians are professionally trained. Limited budgets make school libraries operate under poor conditions (Allan, 2003). Also, librarians (referred to as teacher-librarians in public schools) in Botswana have to work within overloaded timetables in the core subjects. The overloaded schedule limits the effective orientation of students in library skills and information searching (Molebatsi, 2002:8). Against this background, this study investigated the strategies of integrating information literacy into the curriculum of senior secondary schools in Botswana.

1.4. Statement of the Research Problem

Despite the fact that the government of Botswana through the Ministry of Education and Skills Development recognises the importance of IL in the senior secondary school curriculum, there is no policy framework to guide its integration in the curriculum and implementation. Moreover, there is the persistent concern that students graduating from senior secondary schools and seeking to join the university are not equipped with IL skills to effectively pursue undergraduate programmes. In particular the students have been found lacking in proficient information literacy skills such as critical thinking and problem solving. They also are weak in question formation, brainstorming, categorising, skimming and scanning skills. The students have also been reported as lacking in the use of search engines and databases; evaluation of online and printed material, Internet, use of indexes; note-taking and ability to analyse or synthesise information when writing assignments (Fidzani & Lumande, 2007; Mutula, Wamukoya & Zulu, 2005).

Isaac (2002) in a study of information literacy competencies among form five students at four public senior secondary schools in Gaborone, Botswana, found that poor information literacy skills contributed to the falling standards of reading and writing skills amongst the first-year students admitted to the University of Botswana. The study found that the students did not have the competency of translating information problems into information needs. Similarly, Molosiwa, 2007; Republic of Botswana Ministry of Education, Secondary School Examination Reports, 2005; Mooko, 1996; Tabulawa, 2004 and Tafa, 2004 point out that secondary school graduates seeking admission to the University of Botswana did not have the required basic information literacy skills. The students lacked high-level reading, interpreting and writing skills.

From the literature reviewed, globally and in Botswana, there seems to be limited focus on strategies to be used to integrate IL into the curriculum of senior secondary schools. A deeper understanding of how information literacy is conceptualised, taught and delivered in senior secondary schools is therefore imperative. In addition, most of studies of IL in secondary schools are from developed countries.

1.5. Purpose of the Study

The purpose of the study was to investigate the strategies used to integrate information literacy in the senior secondary curriculum in Botswana. This was motivated by the concerns that students joining the university from secondary schools to pursue undergraduate programmers were lacking IL skills and competencies to undertake university education.

1.6. Objectives of the Study

The study seeks to address the following objectives:

1. To examine the implementation of IL in senior secondary schools in Botswana;
2. To ascertain the roles, attitudes and perceptions of librarians, teachers, and school principals in promoting IL in senior secondary schools in Botswana; and
3. To establish the content of IL taught in senior secondary schools in Botswana.

1.7. Research Questions

The following research questions were addressed:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, the resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?
4. What are the roles of librarians, teachers, school principals and the Director of Curriculum Development in promoting IL?
5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?

This study used research questions to address the research problem instead of hypotheses as recommended by (200829) that in a qualitative study, the researcher states research questions, not hypotheses. Coutin (2006) argues that in a qualitative study a researcher states questions,

not hypotheses. A qualitative research on its own or in mixed method research, often attempts to answer a question rather than test a hypothesis (Coutin, 2006). Though this study used both qualitative and quantitative methods, it sought to gain an in-depth understanding of the IL integration strategies from practical and policy perspectives in a natural setting (schools). The study therefore sought to establish the reasons for the behaviour of stakeholders (teachers, librarians, school principals and Director of Curriculum Development) rather than testing an hypothesis.

1.8. Study Assumptions

The study made the following assumptions:

1. Senior secondary students are ill equipped with IL skills when they join the University of Botswana to pursue undergraduate programmes;
2. Lack of IL policy framework may be hampering the provision of adequate resources for the integration of IL into the curriculum of senior secondary schools;
3. Private senior secondary schools have relatively well developed IL compared to public schools.

1.9. Delimitation of the Study

This study is limited to investigating strategies for integrating IL into the curriculum of senior secondary schools in Botswana. Four Public and eight Private schools in the city of Gaborone were included in the study during the preliminary investigation. All the four Public schools were included in the study because they offer IL programs (Republic of Botswana Vision 2016, 2011). Eight Private schools were selected on the basis of being actively involved in IL programmes in their schools. The respondents in this study were confined to school librarians, teachers, school principals and the Director of Curriculum Development. Students were excluded from the population because the focus of study was on providers of IL as has been the case in related studies in the United States, and United Kingdom (Carey, 1998; Williams & Wavell, 2006; Williams & Coles, 2007).

1.10. Significance of the Study

This research is expected to contribute towards the formulation of institutional and national IL policies for secondary schools in Botswana. It is also expected that the outcomes from the study will contribute towards improving IL practice and theory. The research contributes to the domain of knowledge on IL strategies in senior secondary schools in a developing country setting such as Botswana. The research will reveal how teacher librarians and teachers perceive and use constructivist approaches in the delivery of IL. The study outcomes are expected to help secondary schools in Botswana in developing more effective inter-professional collaboration among teachers and librarians in support of the IL experience and student achievement.

The study will be of interest to teachers, librarians, education administrators, policy makers, and IL practitioners concerned with improving quality of education in both secondary schools and the University of Botswana.

The outcome of the study is also expected to assist the Ministry of Education and Skills Development to promulgate relevant policy that would improve information literacy programmes in senior secondary schools in Botswana. The study will help to raise awareness among education stakeholders, on the meaning, importance and general contribution of IL to the whole process of teaching and learning.

1.11. Principal Theories upon which the Research is Constructed

The study was underpinned by both interpretive and positivist paradigms. The study used the Constructivist theoretical model complemented by various IL models such as Bloom's Taxonomy (Bloom, 1956), the Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); and the *Information Power: Building Partnerships for Learning* frameworks of the American Association of School Librarians and the Association for Educational Communications and Technology (AASL/AECT, 1998) as the theoretical lenses.

The constructivist model/approach promotes active learning and places the student at the centre of the learning process. Bonwell & Eison (1991: 19) and (Gordon, 2009: 39) assert that strategies that promote active learning have five common characteristics: students are involved in a class beyond listening; less emphasis is placed on transmitting information and more on developing the skills of the students; the students are involved in higher order thinking such as analysing, synthesising, and evaluation; the students are involved in activities like reading, discussion, and writing; and finally, greater emphasis is placed on the exploration of student values and attitudes.

Liu & Sun (2011) observed that the constructivist's teaching ideology is centred on students. Students as the subjects of information processing take the centre stage, constructing knowledge rather than remaining passive recipients of external stimuli. Students positively construct knowledge based on existing concepts; teachers are the helpers and promoters of knowledge construction, and the organisers and instructors of classroom teaching; ideal learning environment includes context, collaboration, conversation and meaning construction (Liu & Sun, 2011).

There are various related studies that have used constructivist approaches (Herring, 2010; Sharkey, 2006; Walczak & Jackson, 2007; Weisskirch & Silveria, 2005; Wopereis, Brand-Gruwel, & Vermetten, 2008; Hart, 2006). The constructivist approach underpinning this study is discussed in detail in Chapter Two (Theoretical Framework).

1.12. Preliminary Literature Review

The preliminary literature presented here is an introduction to detailed empirical and theoretical research on the subject of information literacy that will be discussed more fully in Chapter Three (Literature Review). The preliminary literature introduced here is sourced from books, journal articles, conferences proceedings, and more. The literature covers the international status of information literacy from a developed country perspective and also in developing countries. The literature reveals that the majority of studies and publications on IL have an origin in industrialised, English-speaking countries, especially from the United States

(US), Canada, United Kingdom (UK) and Australia (Virkus, 2003). For example, Wen & Shih (2006) observed that several organisations in the US have been instrumental in advocating for information literacy education. They include among others: 1) the American Library Association (ALA), 2) the International Technology Education Association (ITEA), 3) the Association of College and Research Libraries (ACRL), 4) the American Association of School Librarians (AASL), and 6) the Information Society of Technology in Education (ISTE).

The areas that have been researched in terms of information literacy are varied. In Canada, Asselin, Kymes & Lam (2007) used a case study to observe how the librarian and teachers collaborated in a Grade 9 social studies class. The results showed that teachers and the teacher-librarian worked collaboratively on research-based units of work despite the fact that the teacher did not fully understand the role of collaboration. In the United Kingdom, similar to the United States, the concept of IL as a life skill for the 21st century has been embraced with much interest. Herring (2007) conducted a qualitative study in the UK where teachers and students of a high school responded to a question of how they viewed information literacy skills. Herring examined the usefulness of the Purpose Location Use Self-evaluation (PLUS) information literacy model for second-year students on a project in sound technology in physics. The teachers and the school librarian observed that the PLUS information literacy model was useful for student research projects. Teachers commented that the PLUS model was an enabling tool as it evoked students' thinking and analytical skills. The model made students aware of the variety of information sources available.

Furthermore, Merchant & Hepworth (2002) studied the information literacy skills of teachers and pupils in two UK state grammar schools and found that teachers were information literate while pupils were found to be adept at using a variety of sources to locate information. In Scotland, Irving & Crawford (2007) interviewed university librarians as part of their study to find out what aspect of IL first-year students lacked. The researchers discovered that students did not know the origin of the information; the different types of information available; how to generate information and how to use it. The Scotland study further revealed that students had difficulty in developing a search strategy; lacked critical thinking and had difficulty evaluating located information.

In the context of Australia, Bryce & Withers (2003) studied different ways in which secondary schools can develop characteristics of life-long learning in Government and Catholic schools in the State of Victoria and South Australia. Bryce & Withers found that many schools were already addressing IL but not under the banner of life-long learning (Bryce & Withers, 2003). The findings also revealed that teachers and parents were reluctant to embrace IL education. The findings of the studies described above show librarians as being essential to moving the school library information programme from the periphery to being integrated into the school curriculum (Bruce, 2002; Lance & Loertscher, 2003; Todd, 1995).

International organisations such as the World Bank and United Nations Educational, Scientific and Cultural Organisation (UNESCO) have also been at the forefront of promoting IL and supporting the concept of IL. The Prague Declaration 2003; and the Alexandria Proclamation on Information Literacy and Life-Long Learning in 2005 were UNESCO adoptions that have contributed towards the promotion of IL (Horton, 2007). Conferences such as Librarians Information Literacy Annual Conference and National Forum on Information Literacy sponsored by UNESCO have dedicated themselves to promoting IL education. A World Bank survey (2008), underlined the centrality of school libraries in promoting information literacy. Consequently two key expectations of effective school libraries were identified that are: the development of improved reading and comprehension skills in all curriculum subjects and the ability to access required information and to research and read about curriculum subjects (World Bank, 2008:71).

In contrast to developing countries, there is a paucity of IL programmes. Those IL programmes that exist are fairly new and only came into existence within the past decade (Jacob, 1995). In Botswana, for example there are limited meaningful information literacy programmes and projects to enable learners to effectively exploit the available information resources (Jorosi & Isaac, 2008; Isaac, 2002; Pejova, 2002). Nevertheless, several countries such as Lebanon (Sakr, 2009), Brazil (Campello, 2009), Taiwan (Wen & Shih, 2006); South Africa (Vander Walt, 2005; Pejova, 2002; Olen, 1995, Jiyane & Onyancha, 2010); Namibia (Jacob, 1995) and Botswana (Jorosi & Isaac, 2008, Isaac, 2002) have generated some research on IL.

In the context of South Africa, Olen (1995) pointed out that many teachers lacked training in school librarianship. However, Pejova (2002) found that interest in IL is growing due to the transformations in education and the increasing adoption of information and communication technologies (ICTs) that has resulted in initiatives for integrating IL into the curriculum of the primary and secondary school systems. (Zinn in Underwood, Nassimbeni & De Jager, 2002: 8). Jiyane & Onyancha (2010) surveyed Library and Information Studies (LIS) departments and academic libraries in South Africa. The result of the study recommended that IL programmes should be offered to all first-year students at the university as such students enter the universities with little or no IL skills. In addition, the students found difficulty creating projects that provided students with opportunities to develop information literacy skills.

The preliminary literature presented here seems to suggest that from the perspectives of the developed world, the integration of IL into the curriculum is a well-planned and collaborative exercise between the teacher, subject teachers, students, parents and policy makers (Keith, 2007). In contrast, in developing countries IL integration into the curriculum is still in nascent stages and limited research exists in this regard. For example, most research in Southern Africa on information literacy has focused on libraries, librarians, or students and has not delved into strategies of integrating IL in the curriculum. This aspect is important to show not only the development of IL (where good progress has been made) but its implementation which seems problematic.

1.13. Research Methodology

Numerous research methods and techniques have been used and adopted in information literacy (IL) research. They include the survey (Korobili, Malliari & Christodoulou, 2008), Delphi study (Saunders, 2009), case study (Hart, 2006), interviews (McGuinness, 2006), focus group studies (Dunn, 2002), document analysis (Wright, 2007) phenomenography (Bruce, 1997), critical theory (Elmborg, 2006), and critical incident technique (Hughes, 2007; 2009). Several of these are highlighted in a text *Exploring Methods in Information Literacy Research* (Lipu, Williamson & Lloyd, 2007). This study applied interpretivist and positivist philosophies within the constructivist theoretical framework.

The information literacy research draws extensively on constructivist approaches, using quantitative and qualitative approaches which are consistent with post positivism or a combination of interpretive/positivist research paradigms.

The population of the study consisted of school librarians, teachers and school principals of senior secondary schools in Gaborone, Botswana. In addition the Director of Curriculum Development in the Ministry of Education and Skills Development was included in the study. Probability and non-probability techniques were used to select the study samples. Data were collected through the use of a semi-structured survey questionnaire, interviews, document review and observation. Quantitative data were analysed using the IBM Statistical Package for Social Sciences (SPSS) Version 20 while qualitative data were analysed thematically.

To achieve validity and reliability, the survey questionnaire and interview schedule were created and developed from previous validated and tested instruments: AASL & AECT (1998); Kuhlthau, (2004), Eisenberg & Berkowitz, (1990) as well as similar and related studies such as those of Dotan & Aharony, 2008, Kurbanoglu, Akkoyunlu, & Umay, 2006, Onen, 2011; Henry, 2003; Rojtas-Milliner, 2006 (see methodology section 4.8 for more details on validity and reliability). Different data collection tools were used in triangulation. Pre-testing of instruments was undertaken and adjustments made to the questions where applicable.

With regard to the ethical dimension of research, the study complied with University of KwaZulu Natal research ethics protocols. In addition, permission was sought from the school principals to undertake the research in their respective schools. Consent of the respondents was sought to participate in the research. The government of Botswana, Ministry of Education and Skills Development issued permission allowing the research to be undertaken in the selected schools. A detailed description of the methodology is presented in Chapter Four (Research Methodology) of this thesis.

1.14. Operational Definitions and Key Concepts

Access to information: refers to the means of obtaining information especially from a computer, physical documents such as books, CDs, or DVDs. Intellectual access ensures that all users will find materials relevant to their reading, interest, and comprehension levels while economic access refers to the removal of all barriers to the access of and use of library materials and services (Woolls & Loertscher, 2005).

Collaboration: in the context of this study refers to working jointly with others, especially in an intellectual endeavour such as that between teachers, librarians, school principals and students to enhance IL learning. It means that the school librarians, school principals and the teachers together to plan design, teach, and evaluate IL instructional events for students (Doll, 2005).

Constructivism: in the context of this study is a theory about the nature of reality and how people understand the world around them. Constructivist teaching is one form of "discovery learning" in which the student is actively involved in problem solving (Callison & Preddy, 2006:334).

Constructivist teaching: is the form of teaching: teachers provide an environment in which students are actively engaged in their own learning, and build their own knowledge structures by investigating and discovering (Marlow & Page, 2005).

Cooperative learning: is an approach to organising classroom activities into academic and social learning experiences. Unlike individual learning, which can be competitive in nature, cooperative learning capitalises on one another's resources and skills (i.e. asking one another for information, evaluating one another's ideas, monitoring one another's work, and teachers become learners at times, and learners sometimes teach) (Callison & Preddy, 2006).

Critical thinking: means employing skills that contribute to information literacy by suspending personal opinion and bias in favor of objectivity, considering issues from multiple perspectives and adequate depth that include analysis and synthesis of ideas (ALA-AECT, 1998).

Independent learner: learning information with the little assistance of others by using own initiative (ALA-AECT, 1998).

Information literate person: being information literate means that: 1) one knows how to clearly define a subject of investigation, 2) one selects the appropriate terminology to express the concept or subject under investigation, 3) one formulates a search strategy that takes into consideration difference sources of information and the various ways that information is organised and lastly that one analyses the data collected for value, relevancy, quality and suitability, and one subsequently turns that information into knowledge (Riedling, 2006:2).

Information inquiry: information inquiry involves the use of creative thinking in the creation and presentation of meaningful information (Kuhlthau, Maniotes & Caspari, 2007).

Information literacy: refers to the ability of an individual to recognise information needs, find, evaluate, and use information effectively for problem-solving or decision-making from a variety of sources. To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information. Information literate people are those who have learned how to learn (ALA, 1989 & AASL, 1999).

Information literacy integration: information literacy integration means weaving information literacy into the school curriculum content, structure, mission and sequence (Bundy, 2004).

Information literate: A person is information literate when he or she knows how to access quality information, extract acccurate data, and correctly use the found information to meet his or her needs (Stephens & Franklin, 2007:221).

Information problem-solving: information problem-solving is a concept that combines the skills needed to access and use information, and those needed to apply and solve an information problem (AASL, 1998; Eisenberg & Berkowitz, 1990).

Information skill: the phrase 'information skill' is used interchangeably with information literacy. It refers to the student's capability of selecting sources appropriate to the problem from the school library system by using Boolean operators, descriptors, search strategies; retrieving and evaluating information and using it to solve problems (AASL, 2009).

Information specialist: has been used interchangeably with school librarian, librarian, teacher-librarian as a person with professional library training in the structure, organisation, storage, and retrieval of information (Woolls & Loertscher, 2005).

Information communication and technology (ICT): refers to using computers and related software to retrieve information about problem-solving.The broad phrase of ITC is used to describe the convergence of information, networking, and telecommunications technologies into a single technology (Friedman, 2006).

Inquiry-based learning: inquiry-based learning is learner-driven learning in which learners investigate widely and then build new understandings, meanings and knowledge. This new knowledge may be used to answer a question, to develop a solution or to support a position or point of view (Alberta Learning. 2004; Callison & Preddy, 2006; Kuhlthau, Maniotes & Caspari, 2007).

Integrated information literacy skills curriculum: refers to the alignment of the identified information literacy skills into the curriculum within subject areas curriculum (Kuhlthau, 2004).

Learning: refers to assimilation of new information into the existing structure, and accommodating or modifying the existing structure to deal with the new information (Cohen & Younghee, 1999).

Library instruction: instruction provided by librarians on basic research and use of the library.

Library literacy: refers to an understanding of the different kinds of information resources housed in the school library, how to access these resources, and the information within these resources for the purposes of problem-solving (Woolls & Loertscher, 2005).

School library: this term is used interchangeably with 'school library media centre' to refer to the library structure or resource centre and/or the room within the organisation that houses the library resources or materials (Woolls & Loertscher, 2005).

School librarian: means a professional librarian or a teacher with formal education in librarianship who works in education schools, educating students from ages 4-19. The school librarian manages daily operations, and supports the curriculum through collection development, teaches media and information literacy skills appropriate to different grade levels, assists students with selecting reading materials appropriate to their reading level, and helps classroom teachers integrate library services and materials into instructional programmes (Campello, 2009, IFLA, 2015). The word librarian in this study has been used interchangeably to refer to a professionally trained school librarian, teacher-librarian and or library media specialist with specialised training and education in the school library profession with a Bachelor or Master degree in Library and Information Studies.

School library programme: a planned comprehensive offering of teaching and learning activities designed to develop students' media and information literacy skills, research and inquiry skills, engagement in reading, digital skills, and other literacy-related and curriculum-based competencies (IFLA, 2015).

Secondary school students: in the context of this study, this term refers specifically to students studying in Forms 4 –5 public senior secondary schools for the Botswana General Certificate of Secondary Education (BGCSE); Forms 1-5 public senior secondary schools for the International General Certificate of Secondary Education (IGCSE) level; A-Level and International Baccalaureate IB Diploma (see also meaning of a student below).

Social Constructivism: Learning depends on group interaction and learning activities should be collaborative (Phye, 1993).

Student: A student is a scholar, or learner; who especially studies and attends a school, college, or university. A learner on the other hand is a person who learns and is trying to gain knowledge or skill in a subject or something by studying or being taught. This study used the word student and learner interchangeably (Merriam-Webster Dictionary, 2005). The word student in this study has been used interchangeably with learner to refer to a person formally engaged in learning, and is enrolled in a secondary school as a learner or student.

Teacher: the term "teachers" refers to classroom teachers (Montiel-Overall, 2010).

1.15. Structure of the Rest of the Thesis

The rest of this thesis is structured based on Powel's (2004) model of organisation. The thesis is structured into seven chapters:

Chapter One: Introduction

This chapter sets the stage by providing a general background to the research, the statement of the problem, objectives, research questions, delimitation of the study, significance of the study, theoretical framework, preliminary literature, methodology, operational definitions and key concepts.

Chapter Two: Theoretical Framework

This chapter presents the theoretical framework for investigating ILs.

Chapter Three: Literature Review

This chapter presents a comprehensive review of both the empirical and theoretical literature located in books, journal articles, conference proceedings, databases, etc. The literature is aligned with research questions and key variables from the theoretical framework.

Chapter Four: Research Methodology

Chapter four discusses both the interpretive and positivist paradigms underpinning the study. The qualitative and quantitative methods as well as the survey research design are elaborated. In addition, the population of the study, the sampling procedure, data collection procedures and analysis, reliability/validity and ethical considerations are discussed.

Chapter Five: Data Analysis and Presentation of Findings

This chapter analyses and presents the qualitative and quantitative data collected.

Chapter Six: Discussion of Findings

This Chapter discusses the findings of the research as presented in Chapter Five, using extant literature and the theoretical framework that underpin this study.

Chapter Seven: Summary, Conclusion and Recommendations

This final chapter presents a summary of the study, conclusions, and recommendations. The contribution of the study to theory, practice and policy are discussed and and further areas for research outlined.

1.16. Summary

This chapter provides a snap shot for the rest of the thesis. Attempt is therefore made to provide salient issues discussed in the chapter to give the reader an understanding of the contents of the thesis. The chapter therefore presents the context of the study, statement of the research problem, purpose and objectives of the study, and the research questions. The choice to use research questions rather than hypotheses is based on the recommendations of Creswell (2002) that studies

involving qualitative approaches may use research questions in lieu of hypotheses. The chapter also provides the significance of and delimitations of the study, preliminary literature, theoretical framework, methodology and ethical issues. The structure of the whole thesis is also presented in this chapter.

CHAPTER TWO
THEORETICAL FRAMEWORK

2.1. Introduction

A theory in a doctoral study provides explanations of some aspects of human experience that form non-random patterns (Blaikie, 2010:124). It also offers a foundation and a framework for an area of research (DuPlooy, 2009). Like theory, the term 'model' has a variety of meanings and uses in the context of creating new knowledge and understanding social life (Blaikie: 2010:148). Models provide a conceptual or theoretical framework, they represent a mechanism or method of organising and communicating results (Blaikie, 2010). Therefore, both models and theories are explanatory devices having a broad conceptual framework. (Cohen, Manion & Morrison, 2007).

The theoretical framework chapter in a doctoral thesis, therefore, presents the theory and explains why the problem under study exists (Polit & Beck, 2004; Ocholla & Le Roux, 2011). The theoretical framework chapter also delineates the variables of the study, directs operational definitions of the variables, and limits the scope of relevant data by focusing on specific variables. The framework defines specific viewpoints that the researcher takes in analysing, and interpreting data gathered. It enables the researcher to understand the concepts and variables according to the given definitions and allows the researcher to build knowledge by validating or challenging the theoretical assumptions (Knoblech, 2003). In general, a conceptual framework provides a structure which anchor the study and gives the researcher clear vision of the key concepts of what is under study.

The purpose of this study was to investigate IL integration strategies into the curriculum of senior secondary schools in Botswana. The following research questions were investigated:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?
4. What are the roles of librarians, teachers, school principals and Director of Curriculum Development in promoting IL?

5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?

This study is underpinned by the Constructivist model as the overarching lens with others such as Bloom's Taxonomy (Bloom, 1956); Information Search Process (ISP) model (Kuhlthau, 2004); the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT), 1998 - *Information Power: Building Partnerships for Learning* guidelines for school library media programs and a framework-standards for students education, providing different variables that are investigated (AASL/AECT, 1998). Constructivism in general and these models in particular are widely used by IL practitioners across the world to study learning, teaching and integration of IL into the school curriculum. In addition, IL literature is largely based on constructivist approaches. Liu & Sun (2011) indicate that constructivist's teaching ideology centres on students' learning. Students as the subjects of information processing take the centre stage constructing knowledge rather than remaining passive recipients of external stimuli.

2.2. Learning Theories

A learning theory is an attempt to describe how people learn thereby helping us understand the inherent complex process of teaching and learning (Hill, 2009). According to Smith (2005: 17) learning theories have three main values, namely: a) to provide us with vocabulary and a conceptual framework for interpreting the examples of learning that we observe, b) to suggest where to look for solutions to practical problems and c) to direct our attention to those variables that are crucial in finding solutions such as provided by models related to IL such as thinking, research, study and technology skills (Smith, 2005: 17). Liles (2007) compared three different types of learning theory: Constructivism, Cognitive learning and Behaviourism and demonstrated how the different learning theories shape the role of IL teachers, students and the teaching methods employed. The two main learning theories related to this study are Constructivism and Bloom's taxonomy discussed below.

2.2.1. Constructivism (Dewey, 1930)

Constructivism is a theory about the nature of reality and how people understand the world around them. Constructivist teaching is one form of "discovery learning" a term generally applied to any learning environment in which the student is actively involved in problem solving (Callison & Preddy, 2006:334). Constructivism is therefore associated with pedagogic approaches that promote learning by doing. The learning activities are characterised by active engagements, hands-on activities, inquiry, problem-solving, investigations, experimental design and collaboration with others (Fox, 2001). In most pedagogies based on constructivism, the teacher's role is to observe, as well as engage with learners while they are completing activities. They should pose questions to the learners to stimulate their ability to reason (Drayton & Falk, 2001).

According to Kuhlthau (2001), a constructivist approach is at the centre of teaching IL skills, especially cooperative, authentic, collaborative, independent and lifelong learning. Kuhlthau further notes that a constructivist approach is more suitable for the teaching and learning of IL than the transmission approach or skills approach. The researcher used the constructivist learning model because it rejects the idea of regarding learners as empty vessels who depend on teachers or experts to be loaded or filled with knowledge. Constructivism exposes the inadequacy of the teacher-centred approach. The role of the teacher therefore is to provide a rich environment for the spontaneous exploration of the learner, a classroom filled with interesting things to explore and make learners become active constructors of their own knowledge through experiences that encourage integration (Nix, Fraser, & Ledbetter 2005: 111).

John Dewey in the 1930s and Benjamin Bloom (1956) are the proponents of constructivist learning. They challenged teachers to leave their pulpits as sages on the stage to become guides on the side. Constructivism is based upon the work of Piaget in which the focus lies on the psychology of the individual and his/her knowing. It is also based upon the work of Vygotsky with a focus on society/culture and skills developed through interaction within these structures (Woolfolk, 2010).

Callison & Preddy (2006:122-123) in their book *The blue book on information age inquiry, instruction and literacy* believe that learning environments for effective advanced knowledge acquisition are best developed on the principles of constructivist learning theory. Jonassen (1995) asserted that the constructivist model has implications for the secondary school setting. This makes it a suitable model to survey the public and private schools' IL integration strategies. The constructivist model presents and integrates different practices namely, active, constructive, intentional, authentic and cooperative. For example, by integrating IL into the school curriculum, students actively work in groups to construct new ideas, gather knowledge and incorporate new information and to learn from one another. Students are provided with the opportunity to reflect and generate their own knowledge to solve problems at hand without too much dependency on teachers to load or fill them with knowledge. Callison & Preddy point out that the *active* practice is concerned with manipulation, observation, interactive experiences and engagement in the activities by students to experience and learn by doing. The *constructive* practice involves articulating, and reflection by learners in their endeavor to deal with new experiences that present different ideas, information, or methods. The *intentional* practice focuses on reflective and regulatory aspects of learning that enable the learner to meet a goal, and articulate what goals are to be or have been reached. On the other hand, the *authentic practice* deals with complex and contextual learning tasks that is challenging, and not overly simplified. Finally, the c*ooperative practice* focuses on learning that is tested, refined, and shaped through collaboration and conversation as the learner shares ideas with others to receive and give constructive feedback (Callison & Preddy, 2006:123).

Constructivist instructional practices such as active, constructive, intentional, authentic, cooperative learning, among others are central to IL learning (Richardson, 1997; Callison & Preddy, 2006). Unlike behaviorism whose primary goal is to give the new knowledge to the students by the way of punishment and reinforcement, constructivism emphasises the necessity of showing the students the way to study correctly. The education philosophy of constructivism is that teaching is centred on students. Students are the subjects of information processing and take the initiative to construct significance, rather than remain passive recipients of external stimuli. Constructivism endeavours to construct knowledge based on existing concepts (Liu & Sun, 2011:228). Constructivism asserts that an ideal learning environment is one that includes context, collaboration, conversation and constructing of knowledge.

Moreover, students acquire knowledge using necessary information, depending on other people (teachers, partners, parents, society) to guide, help, collaborate and communicate under certain circumstances (social and cultural backgrounds) (Liu & Sun, 2011: 228).

Research has consistently shown that constructivist classroom environments have a positive impact with respect to a variety of student learning outcomes (Nix, Fraser, & Ledbetter, 2005). Barak & Shakhman (2007:11) studied issues in science instructional practices and found that the teaching of science subjects was based on traditional approaches. They pointed out that the teaching of science subjects must be shifted from traditional schooling to more constructivist oriented instruction. The authors listed critical thinking, problem solving, independent study, and decision making as skills that must be fostered if science education is to meet student needs. They pointed out that in a constructivist instructional practice framework the instructor shares decision-making and teaches students how to analyse their thinking, and instructs students in problem-solving (Barak & Shakhman, 2007:11). In contrast educators from a traditional framework make the classroom decisions and focus on learning facts and principles. Some other studies also found constructivist teaching methods to be beneficial to a variety of underserved populations (Knapp, 2013).

Furthermore, numerous reports and research studies have demonstrated that constructivist-based education is a major key to academic achievement. Various studies (Sharkey, 2006; Walczak & Jackson, 2007; Wopereis, Brand-Gruwel, & Vermetten, 2008; Campello, 2009; Sakr, Nabhani, & Osta, 2009) investigated the application of constructivist and active research approaches to the teaching and learning of IL including aspects of collaboration and discipline based approaches. Constructivists see education as a process that involves creation, reflection, critical awareness and critical thinking (Spiranec & Banek, 2010). Branch (2003) and Kuhlthau (1994) opined that proper instruction and instructional intervention(s) are critical for student mastery of IL and information seeking skills. According to Gross (2000), multiple components that contribute to effective IL and information seeking instruction include: (a) educators' understanding of students' cognitive, emotional, and social developmental levels; (b) effective integration of practice and hands-on activities; (c) adult educator recognition that the IL and information seeking behaviors of children and youth differ from their levels (Gross, 2000). Laverty (2002) advocated engaging students in inquiry-based and resource-based learning and activities in line with constructivist thinking.

The constructivist model of learning is central to this study because it provides the effective environment for IL knowledge acquisition in a secondary school setting. Joldersma (2011) observed that constructivism has many activities, such as active learning, discovery learning, and knowledge building underpinned by IL inquiry-oriented pedagogy. Joldersma (2011) further described the IL inquiry-based pedagogy as problem-based learning, anchored instruction, cognitive apprenticeships, reciprocal teaching, goal-based scenarios, and project-based learning. According to Richardson (2003) constructivist pedagogy places students at the centre of the learning process and sees the teacher as facilitator providing support and guidance to learners to explore (Richardson, 2003).

Kuhlthau (2001) maintains that constructivism is the fundamental theoretical foundation for library programme instruction. It provides a suitable "frame or lens" for viewing the information-seeking behavior of library users" (Kuhlthau, 2004:13). The constructivist learning environment has led many librarians to rethink approaches to bibliographic instruction and library orientation. Strong evidence exists to indicate a wide use of constructivist principles in teaching IL. Constructivism is relevant to this study because it promotes exploration, encourages higher-order thinking, fosters student independence, stimulates creativity and values alternative ideas or opinions. Also, in a constructivist classroom, a teacher guides, clarifies, responds and encourages instead of directing because the classroom is student-centred instead of being teacher-centred (Smith, 2005:78-79). The study adopts the IL competency standards for students available in the document *Information Power: Building Partnerships for Learning***,** published jointly by the American Association of School Librarians and the Association for Educational Communications and Technology in 1998. The AASL/AECT provides the lens for schools to integrate all elements of IL and information technology into the curriculum. The standards provide the basis for the librarian's role in collaborative planning and curriculum development. The nine standards and their twenty-nine narrowly-focused indicators are similar to instructional goals and measurable objectives. They constitute a process model of how students solve an information problem through connected activities that flow from accessing information efficiently and effectively, evaluating it critically and using it creatively. Dadzie (2007) reports that an IL programme that is integrated into the curriculum provide the most effective approach to providing quality IL education in schools. Embedding IL into classrooms enables students to become IL literate (Dadzie, 2007).

Despite the advantages associated with constructivism, Kirschner, Sweller, & Clark (2006) indicates that it can be problematic. Constructivism ignores the subjectivity of the learner and takes for granted the notion that students learn by doing. The biggest disadvantage of constructivism is that the learner may be hindered by contextualising learning, and may not be able to construct knowledge and skills in new situations. Another major argument against constructivist approaches and problem-based learning is that the model fails to consider efficiency in learning and human cognitive architecture (Kirschner, Sweller, & Clark, 2006). In the Big6™ specifically, there is concern that by allowing learners to construct their learning experience overloads students' working memory thus compromising optimum learning. Moreover, much erroneous information will be acquired, and relevant information may be lost. The critics of constructivist approaches warn about relationships among the members of a group working to solve a problem. Sometimes few students take the leadership role and summarise the results of a group while the submissive ones are forced to accept the choices of the stronger ones (Terhart, 2003 & Gordon, 2009).

Despite these shortcomings, constructivist approaches are on the whole widely acknowledged as effective pedagogy in IL literacy education because they prepare students to be effective users of information throughout their lives. Constructivism impacts on students' learning in three ways: curriculum, instruction and assessment. The theory calls for the elimination of a standardised curriculum in favor of a curriculum customised to the students' prior knowledge. It also emphasises hands-on problem solving. Teachers fashion their instruction strategies depending on how students respond to the teaching. The teachers' task is to encourage students to analyse, interpret, and envisage information and knowledge. To promote dialogue among students, teachers rely heavily on open-ended questions. Therefore, the strength of the constructivist approach is that the learner can interpret multiple realities to solve a problem and deal with real life situations. Also, it enables students to become better citizens by applying their existing knowledge to their learning environment where the student learns to apply their knowledge under appropriate conditions. Constructivism encourages students to be actively involved in the learning process, to create knowledge, reflect on it and understand it.

The use of scaffolding in constructivism provided by a teacher to a group of students or individual to solve a problem helps learners develop metacognitive skills (Savery & Duffy, 1995). Another advantage associated with the constructivist approach is that the constructivist classroom presents the learner with opportunities to build on prior knowledge to construct new knowledge and understanding from authentic experience. Students are encouraged to explore possibilities, invent alternative solutions, collaborate with other students (or external experts), try out ideas and hypotheses, revise their thinking, and finally present the best solution they can derive (Pulkkinen & Ruotsalainen, 1997). Also, the social aspect of constructive, collaborative learning helps develop critical thinking through directing learners towards a discussion, clarification of their ideas and evaluation of others' ideas (Pulkkinen & Ruotsalainen, 1997).

Learner-based education that is founded on constructivism recognises that learning is directed as a multi-faceted activity and a teamwork relationship. Mahendra, Bayles; Tomoeda, & Kim (2005) advocate focusing on the learning and the learner opens up a series of relationships and activities that makes the constructivist approach respectful, holistic and able to capitalise on the valuable innate qualities that the learner already possesses (Mahendra et al., 2005). Another advantage is that students can create their knowledge from an existing knowledge acquired individually or by working together (cooperating) with other people (Van der Linden et al., 2000).

The discussion above provides strong evidence that constructivist principles are widely used in teaching IL and is thus relevant to this study. The theory stems from the idea that students learn best by actively constructing their knowledge. In this theoretical theory, emphasis is placed on problem analysis and problem-solving, and frequently on collaborative work. When the focus is on learners constructing their learning, teachers become guides, or coaches, or mentors (Smalley, 2004).

In the case of Botswana, the National Commission of Education (NCE), 1977:23) stipulates that the focus of educating students at school and in the classroom should enable learners to acquire knowledge, skills, attitudes and behaviors that will give them a full successful life and continued personal growth that equips them to participate effectively in the rapidly changing society.

Theoretical models that are aligned with the constructivist approach emphasise information seeking for problem-solving through the use of higher order critical thinking skills. Examples of such models include the Big6™ by Eisenberg & Berkowitz (1990), Kuhlthau's Information Search Process (ISP) model (Kuhlthau, 2004 and Kracker, 2002); and Herring's PLUS model (Herring, Tarter & Naylor 2000, 2002; Herring, 2004) which are discussed later in this chapter.

2.2.2. Blooms Taxonomy (Bloom, 1956)

Cognitivism is commonly referred to as Bloom's Taxonomy. Keene, Colvin & Sissons (2010) applied Boom's Taxonomy of cognitive skills in designing IL activities. Like other thinking tools, Bloom's taxonomy is linked to the IL process and therefore it is important to this current study. Cognitivists make their contributions to learning theory and instructional design by creating models of how information is received, processed, and manipulated by learners and thus is related to this study. Moseley, Baumfield, Higgins, & Lin (2004:1), point out that thinking skills frameworks require learners to plan, describe and evaluate their thinking and learning. It is a goal-directed activity that requires students to remember, form concepts, plan what to do and say, imagine situations, reason, solve problems, consider opinions, make decisions and judgments and generate new viewpoints.

Ennis (1987) cited in Loertscher & Woolls (1997:353) considers critical thinkers from two perspectives in his critical thinking model: the disposition of the thinker and the ability of the thinker. Ennis further lists 12 abilities the thinker should have and include: 1) focusing on a question, 2) analysing arguments, 3) asking and answering questions of clarification and/or challenge, 4) judging the credibility of a source, 5) observing and judging observation reports, 6) deducing and judging deductions, 7) inducing and judging inductions, 8) making value judgments, 9) defining terms and judging definitions in three dimensions, 10) identifying assumptions, 11) deciding on an action, 12) interacting with others. These abilities make Bloom's Taxonomy a powerful tool for developing IL learning outcomes from lower level to higher level in students' learning (Wang, 2011).

Cognitivism is a thinking model and is based on understanding how students process information by integrating it with prior knowledge and organising it into meaningful patterns. This theory can help an IL instructor construct a lesson that promotes an inquiry and resource-based view of learning. Bloom's Taxonomy divides educational objectives into three domains: affective, psychomotor, and cognitive. A goal of Bloom's Taxonomy is to motivate educators to focus on all three domains, creating a more holistic form of education. The cognitive and affective models are reflected in the work of proponents of IL such as Kuhlthau (1993, 1999). Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation. Evaluation is part of the IL process that students have to go through to solve a problem at hand critically. Critical thinking is an important educational outcome for students (Fitzgerald, 2004).

Education institutions are expected to foster critical thinking as part of the means to enhance information evaluation and IL among students. Debates and formal presentations enable students to analyse and critically evaluate information. Bloom's Taxonomy serves as a way to categorise learning objectives and questions, allowing educators to design instructions that match learning objectives to content presented in order to assess questions (Small, 2005:41). The taxonomy begins with the lowest level thinking skill and moves to the highest level of thinking skill. The six thinking skills are knowledge, comprehension, application, analysis, synthesis and evaluation (Cruz, 2003; Small, 2005:42). The levels reflect progression within a domain of learning; each level building on the previous level. The aim of any teaching is to move up levels of learning. As students move up the levels of learning their ability to be independent thinkers (autonomy) will be developed (Small, 2005).

Knowledge in Blooms Taxonomy relates *to remembering and retaining information* and can be brought to the foreground by *asking learners to say what they know, remember or have learned* (Hepworth & Walton, 2009). Therefore, the lowest cognitive level, *Knowledge* is a starting point that includes both the acquisition of information and the ability to recall information when needed (arrange, define, duplicate, label, list, memorise, name, order, recognise, relate, recall, repeat, and reproduce state). Presenting the range of IL skills requires students to list them from memory, and it relates to Bloom's knowledge-level learning (Small, 2005:41).

Comprehension Level of Blooms Taxonomy is the basic level of understanding. It involves the ability to know what is being communicated in order to make use of the information (classify, describe, discuss, explain, express, identify, indicate, locate, recognise, report, restate, review, select, and translate). At this level, students are expected to understand the meaning of content presented. For example, asking students to explain the meaning of IL is comprehension-level learning. Both knowledge and comprehension are considered lower-level cognitive (Small, 2005:41).

Application Level is the ability to use a learned skill in a new situation (apply, choose, demonstrate, dramatise, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write) (Cruz, 2003). Small (2005:41) explains "if you teach students an IL skill model, give them some examples of how to apply that model to information problems, and then ask them to implement that model to their own situations, they would be demonstrating application-level learning". The application level is where students begin to require higher order thinking skills.

Cognitive levels: *analysis, synthesis, and evaluation* are considered the highest cognitive levels needed for critical thinking and problem-solving tasks. They are the building blocks of IL. *Analysis* is the ability to break content into components in order to identify parts, see relationships among them, and recognise organisational principles (analyse, appraise, calculate, categorise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test) (Cruz, 2003). At the analysis level Small (2005:41) states that "students are expected to be able to break down a problem into components parts, examine each part, and use this information to develop conclusions or make reference. The ability to categorise books by genre is an example of analysis-level learning."

Synthesis is the ability to combine existing elements in order to create something original (arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organise, plan, prepare, propose, set up, and write) (Cruz, 2003). According to Small (2005:41), "synthesis-level learning requires the learner to take prior knowledge and new information and fit them together in a new and useful way. For example, once students have taken notes from their information sources, writing a research paper that incorporates their notes with their ideas in a new and creative way is synthesis-level activity."

Evaluation is the ability to make a judgment about the value of something by using a standard domain (appraise, argue, assess, attach, choose compare, defend, estimate, judge, predict, rate, score, select, support, value, evaluate) (Cruz, 2003). Making judgment about the value of materials or ideas is evaluation-level learning. At this level in IL terms, students must decide which information resources are most appropriate in helping them solve their information problem or determine which author's work is highest in quality. Students are engaged in IL activities requiring evaluation-level thinking (Small, 2005). Information evaluation is one of the most important elements in IL.

Cognitive approaches emphasise critical thinking and are increasingly used as a tool in problem-solving in specific disciplines thus making it relevant to this study. Blooms Taxonomy partly informs this study because it incorporates some of the variables of thinking and reasoning such as evaluation, synthesis, analysis that are encapsulated in IL standards. Blooms Taxonomy emphasises developing understanding and problem-solving skills similar to what IL standards and models stress. The six levels of Bloom's Taxonomy are skills required by students to develop to find, access, evaluate, and communicate information. The six levels of Bloom's Taxonomy are similar to the steps highlighted by IL problem-solving models such as the Big6™ and IPS, which will be discussed later in this chapter. Small (2005:41) asserts that, IL skills are by nature, higher-order processes and, therefore, require divergent knowledge and skills such as classifying, organising, analysing, and critiquing for critical thinking and problem-solving exercises and activities demonstrated in Bloom's taxonomy.

Bloom's taxonomy (1956) has been used throughout the world as a framework for designing instruction (Moseley et al., 2004:11). At the highest levels, the school librarian engages in curriculum planning that not only enhances and helps teaching performance for all educators involved, but also leads to powerful changes in methods that can result in improved learning environments and greater student academic performance (Callison & Preddy, 2006:128). Based on Bloom's taxonomy, Wang (2011:13) notes that different IL learning outcomes can be developed for the junior and senior years. Based on these IL learning outcomes, the IL curriculum can be planned and designed.

While Bloom's Taxonomy is relevant to IL, Small (2005) cautioned that instruction that focuses mainly on Bloom's lower-level cognitive activities, such as memorisation and fact finding, should be used sparingly. The theory also fails to describe how learning happens within organisations (Small, 2005). Despite its shortcomings, Bloom's taxonomy model is still heavily relied upon by educators. The theory levels ranging from knowledge, comprehension, application, analysis, synthesis, to evaluation still serve as a framework to guide an IL curriculum development.

The central vision of constructivism in learning as noted by Perkins (1992:49) is the notion of an organism being "active" and involved in engaging, grappling and seeking to make sense of things. The pertinent issue about IL is the process of interaction with the subject material and experience. In the process of acquiring IL knowledge and skills, students need to interact with information sources and out of them draw reflections on the experience gained.

In summary, constructivism: 1) removes emphasis from teaching to learning, 2) individualises students' learning, experiences, 3) helps students develop processes, skills 4) cares about students' learning styles 5) focuses on knowledge construction, not reproduction of knowledge 6) uses authentic tasks to engage learners 7) provides for meaningful, problem-based thinking 8) needs negotiation of meaning 9) requires reflection of prior and new knowledge 10) extends students beyond content presented to them (Callison & Preddy, 2006; Liu & Sun, 2011; McKinney et al., 2006; Gross, 2000; McGregor, 1994; Kuhlthau, 2004; Laverty, 2002).

2.3. Information Literacy Standards and Models

There are many IL research models in existence that are predicated on constructivist pedagogy and provide guidance for teaching students to effectively utilise available information. These models include Kuhlthau's Information Search Process (ISP) model (Kuhlthau, 2004 and Kracker, 2002); Big6™ model- Eisenberg & Berkowitz's (1990); (Wolf, Brush, & Saye 2003); Herring's PLUS model (Herring, Tarter and Naylor 2000, 2002; Herring, 2004). Stripling (2004) presents a model for inquiry learning; Oberg (2004) reports on a model developed for Canadian teachers and librarians and Callison's Free-Inquiry Model (1986). There are also a number of reviews of IL models, such as those by Loertscher

& Woolls (2002), Branch & Oberg (2003), & Callison (2002). As already pointed out these IL models are based on constructivism, and they promote problem-based-learning and a student-centred inquiry process that aims to develop skills appropriate for lifelong learning (Newman, 2005). The models have been tested in both secondary school setting as well as at undergraduate academic institutions to teach and assess the IL competency of students. These models have been derived from research using observation of students who have been successful in completing academic assignments such as term papers, oral reports and multimedia presentations (Callison & Preddy, 2006:36).

2.3.1. Information Search Process (ISP) Model (Kuhlthau, 2004)

The Information Search Process (ISP) model was developed by Kuhlthau who is one of the scholars who have contributed to the theoretical foundations of IL. The work of constructivist philosophers such as George Kelly (1955), and Jerome Bruner (1978) influenced Kuhlthau to create the concept of personal construct (Kuhlthau, 1993:14-32). Her empirical studies leading to theoretical conclusions comprise the most extensive body of work related to IL. Her research into the information-seeking behaviour of students exhibits her philosophy about IL as being not only a discrete set of skills but rather a way of learning (Eisenberg, Lowe and Spitzer, 2004:44). Kuhlthau's theory is a combination of cognitive science and constructivist learning theory drawn from views of other scholars like Dewey (1933); Kelly (1963) & Bruner (1973; 1986). Makri (2008:32) notes that the empirical validity of the ISP model has been tested by its applicability to different information environments which makes it generalisable to both the educational and the workplace contexts. Reidling (2006:10) observed that the ISP model is unique. It is based on research and observation of "information seekers" involved in research task using six thinking activities as they prepare to do their topic assignment.

Wildemuth (2003:4-5) observed that the ISP model in Kuhlthau's study could be used as part of a library instruction programme to provide library users with an understanding of their navigation of the search processes over a given period of time. Allen (2003) embraced the ISP model as suitable for integrating IL into the content curriculum. The ISP promotes productive and meaningful research therefore helping to promote IL.

The ISP portrays learning as a process of construction of knowledge and seeking deeper meaning from a variety of sources of information. The ISP model promotes independent learning through an instructional programme that gives students the chance to create their own meaning when engaged in a research work.

The ISP approach is grounded in the theory of constructivism and closely aligned with IL. It is therefore suited to this study because of its inquiry process that involves guidance, instruction, modelling, and coaching of students. Moreover, the implementation of the ISP is flexible and depends on the school librarian who manages resources, IL, and collaborates with teachers and administrators.

Taylor (2006:89) opined that the ISP model was developed from five studies conducted by Kuhlthau over a 10 year period, designed to consider the experiences of information seeking from the point of view of library user. Analysis of the model shows that the different stages of the ISP model reflect a pattern of thinking, feeling, and acting at each point of the process (Kuhlthau 2004:185). Each of the seven stages in the research process includes tasks, thoughts, feelings, actions, and strategies that students commonly experience. The stages of learning provide insight into how to guide students in the inquiry and research process. The model embodies a holistic approach to learning through thoughts, actions, and feelings. Some studies (Kuhlthau, 2004; Todd, Kuhlthau & Heinstrom, 2005) indicate that students gain confidence as they move through the stages of the research process. Students become more engaged and interested as they construct their own understanding of the research topic. According to Kuhlthau, Maniotes, & Caspari (2007:17) the seven process stages are initiation, selection, exploration, formulation, collection, presentation and assessment. The stages of the research process can be explained as follows: initiating- opening the inquiry; selecting-selecting a general topic; exploring-exploring for background information and ideas; formulating-forming a focus; collecting-synthesising information about the focus; and presenting-organising information and ideas to share with others (Kuhlthau, 2004, Kuhlthau, Maniotes, & Caspari 2007:18; Kuhlthau & Maniotes, 2012). (See Appendices 12 and 13 respectively for more details on the ISP model).

Although Kuhlthau's ISP model is holistic in nature and focuses on a wide range of behaviors and feelings, it has various limitations and weaknesses that make it not entirely suitable for this study. The model seems to suggest that the information seeking process is a series of linearly ordered sequential activities. Another inherent weakness is that the model does not include higher-level cognitive actions such as organisation, manipulation and synthesis of information that enable information to be integrated as new knowledge in the searcher's mental structures. The model's framework does not explicitly present in its stages of information processing, criteria for evaluating the quality of the information offered by the resources. The model is centred on the lone individual and ignores potential social contexts of information seeking. It is centred on a particular kind of research process, most often related to school assignments. The ISP model also includes prescriptive elements that might limit its applicability to a wide scope of information behavior (Kumar, Natarajan & Shankar, 2005).

Despite its limitations, the ISP remains a strong model and is partially relevant to this study because it communicates complex ideas about human behavior. Moreover, given the growing push for integrated IL instruction in schools, and the decline in resources, including school librarians, the ISP model can be used to create partnerships with teachers in the classroom. Librarians can use the ISP model to communicate and teach deeper concepts such as exploring general information in the early stages of research and viewing it as a recursive process. Kuhlthau (1987:23) asserted that the ISP model is unique and is based on research and observations of "information seekers" involved in research task (Riedling, 2006:10).

2.3.2. The Big6™ Information Problem-Solving model (Eisenberg and Berkowitz, 1990)

The Big6™ is the most widely known and used IL model in North America (Herring, 2004:76). It is an information problem-solving approach that attempts to link information, problem-solving and critical thinking (Eisenberg & Berkowitz, 1990). The model provides stages for problem-solving and integration of IL into the curriculum. This model contributes to the teaching of strategies for research, technology skills, and many other valuable skills critical in the development of lifelong learning that extends well beyond the classroom and the library.

The model is an essential framework in which to approach any information question (Callison & Preddy, 2006:44). The model is applicable for any information-related problem or assignment for every age group and study level, and is therefore relevant to this study because it is widely used today for developing IL (Eisenberg, Lowe & Berkowitz 2004; Malliari et al., 2014).

Eisenberg, Lowe & Spitzer (2004:44) report that Eisenberg & Berkowitz (1988) in their textbook the Big6™, argue that the model gives students a systematic framework for solving information problems and it can be used with students at all levels (Eisenberg, Lowe & Spitzer, 2004). The Big6™ model presents problem-solving in a systematic process that requires students to ask questions among others: What is my question? How can I get my information? Where can I find this information? What can I make to show that I have learned? and How will I know I did my job well? The goal of the Big6™ is to have students approach every information problem with a systematic strategy and to think critically in finding, using, organising, presenting, and evaluating information (Taylor, 2006:62).

The Big6™ allows students to brainstorm use of all possible information sources to meet the task, and then critically determine the best sources and answers for completing the particular task. The Big6™ emphasises the importance of student-instructor interaction in brainstorming ideas and the desirability of using human as well as the print and electronic information resources. The model supports a variety of search strategies, making it and appropriate choice for teachers and librarians who hope to address the needs of a variety of students' learners (Thomas, 2004).

The Big6™ model promotes IL integration into the curriculum in that it is easily incorporated in the classroom curriculum. Teachers and librarians play an important role in using the Big6™ as a framework for teaching the course content. They have to analyse the curriculum from a Big6™ perspective to help students learn the content of the course and express their knowledge through writing, projects, and exams (Kumar, Natarajan & Shankar, 2005).

The Big6™ is a highly useful approach to solving information problems and can be integrated throughout the curriculum (Eisenberg, Lowe & Spitzer, 2004:87).

Thomas (2004) points out that the Big6™ can also be used recursively as the student progresses through the six stages namely: task definition, information seeking strategies, location, and use of information, synthesis and evaluation (See Appendices 11 and 13 respectively on the Big6™ model). The steps involve intellectual and active participation and the six stages are straight forward structure to follow.

The ***Task Definition*** stage involves students defining the problem and information needed to solve the problem or their assignment. The second stage, the ***Information Search/Seeking Strategies*** allows students to determine the range of all possible sources, select the best sources and evaluate the different possible resources to determine priorities about their assignment. In the ***Location*** and ***Access*** stage, the students locate sources of information (intellectually and physically) and find information within resources to carry out their work. At the ***Use of Information*** stage, the students engage with the sources of information (i.e. read, hear, view, touch) and extract relevant information from sources for their assignment. During the ***Synthesis*** stage, the students organise information from multiple sources and present information. Lastly at the ***Evaluation*** stage, the students judge the product (effectiveness) and the information problem-solving process (efficiency) (Thomas 2004; Smith, 2005:20; Riedling, 2006:8; Taylor, 2006:87; Herring, 2004:76).

Milam (2004:20) confirms that the Big6™ is based on constructivist methods. The model encourages students to construct knowledge using a number of sources to create variety of end products. Milam (2004) further argues that the Big6™ is founded on Bloom's taxonomy since the model's six stages are similar to six level of Bloom's taxonomy (knowledge, comprehension, application, analysis, synthesis and evaluation). Milam also states that every two steps in the Big6™ model also relate to one of Piaget's three stages of cognitive development namely pre-operational, concrete operational and formal operational that support critical thinking. The Big6™ model enables students achieve IL skills based on their level of cognitive development (Eisenberg and Berkowitz, 2000). The Big6™ skills deal with higher order thinking skills that assist students to think about the type of research question, possible resources to be used, where these resources can be found, how to access the information, relevant information, how it can be organised and used, and how to evaluate it (Eisenberg, Berkowitz, 1990).

Teachers and librarians play an important role in using the Big6™ as a framework to promote IL integration into the curriculum and teaching the course content. They have to analyse the curriculum from a Big6™ perspective to help students learn the content of the programme and express their knowledge through writing, projects, and exams (Kumar, Natarajan & Shankar, 2005). Grey (2008) notes that the Big6™ strategy has the most elaborate philosophy and strongest following in the US and Australia. Riedling (2006) indicates that because of its simplicity, the Big6™ model can be used by librarians, teachers, parents and information specialists to help learners attain IL. Teachers and school librarians can integrate the Big6™ into their own school's curriculum as the model of IL programme to address directed learning skills, cooperating skills, locating skills, planning skills, gathering skills, selecting and appraising skills, organising and recording skills, communicating and realising skill and evaluating skills as already discussed in the literature (Mokhtar, Foo, Madjid, & Theng, 2009).

Due to some of the limitations and challenges of the Big6™ model, it cannot be used fully to inform this study. The model requires incorporating it into the classroom curriculum and the teacher and librarian are required to play a role for this model to show results. Grey (2008) also observed that the Big6™ appears to be complex because it has too many subsidiary steps. Some strategies are written for teachers rather than learners. Also, instructors using the Big6™ as a framework for teaching the course content have to analyse the curriculum from a Big6™ perspective to help students learn the content of the course and express their knowledge through writing, projects, and exams (Kumar, Natarajan & Shankar, 2005). Another weakness of the Big6™ approach is that its users often lack well-formed statements of information needs (Eisenberg, 2004). Eisenberg further recognised that there are a number of challenges to being able to effectively apply the Big6™ skills to problem solving due to information overload which can overwhelm students. Part of Eisenberg's proposed solution to this weakness is for schools to help students become discriminatory users of information. In addition, the model does not seem to recognise that the information gathering process can fail and when that happens, it does not indicate how to deal with such a situation (Eisenberg, 2004).

Despite some of the weaknesses of Big6™, the strength of the Big6™ lies with the three basic components of IL access, evaluation, and use, therefore making it a framework that in part informs this study.

The Big6™ also correlates with Bloom's cognitive levels within the information seeking process. It links information behaviour directly to the six levels of learning illustrated in Bloom's Taxonomy of educational objectives which is one of the theoretical frameworks that underpin this study.

2.3.3. Association for Educational Communications and Technology and the American Association of School Librarians AASL/AECT (1998)

The *Information Power: Building Partnerships for Learning* (AASL/AECT, 1998) student's learning framework constitutes various elements of constructivism since it emphasises teaching IL skills based on learning experiences that move from a lower through to a higher cognitive position (that is, critical evaluation analysis) and higher order thinking skills that include the exploitation of information sources, using evaluation criteria on information, using manipulation techniques and being able to present material to others. It emphasises the school library's direct involvement in the students' IL education process (see Appendix 10 for more details on the AASL/AECT nine IL standards for student learning).

Learning, according to the AASL & AECT (1998), is placed into context in relation to what the learner knows and believes. It requires active learning, social interaction, and applications to real problems and needs. The constructivist-learning environments require students to: seek and organise information; think critically and creatively; plan and conduct learning and research activities, and monitor their understanding (Wilson & Cole, 1991). The ALA Presidential Committee on IL summarises the benefits of IL to society in five salient points. Firstly, the quality of life is much higher when an individual is informed about opportunities, alternatives and current event. Secondly, the ability to access information ensures that individuals can make decisions. Third, IL is empowering because individuals who lack IL skills are dependent on others and therefore receive all information second-hand, making it subject to inaccuracy and biased interpretation. Forth, informed citizens are able to interact effectively with ideas and values different from their own and thus have a better understanding of the world. Lastly, informed workers make better employees in a global market place (Milam, 2002).

The IL programme in the school library is guided by the standards set forth in *Information Power: Building Partnerships for Learning* published by the American Association of School Librarians and Association for Educational Communication and Technology (AASL/AECT, 1998). The standards "demonstrate clearly that information skills should be linked to the curriculum in every subject area and grade level. The standards provide the basis for the librarian's role in collaborative planning and curriculum development. The AASL/AECT standard is relevant to this study in that they support the librarian's leadership role in analyzing learning needs, identifying instructional strategies and resources, and evaluating student achievement" (AASL, 1998:62-63).

IL standards form a substantial part of educating individuals to be information literate. Research has shown that an effective IL programme links school libraries to student achievement. For example, strategies offered in *Information Power* are assumed to help librarians and teachers assess what students have learned from what they have been instructed to learn to make them information literate. These strategies ensure that IL is embedded in library lesson plans matching them with the school curriculum. They help identify how the use of library has made a difference in students' teaching (Kuhlthau &Todd, 2005; Todd, 2007).

According to (AASL/AECT, 1998), the school library programme should be focused on improving teaching and learning by providing IL programmes characterised by authentic student learning and aiming at creating a community of learners. Effectiveness of these programmes requires 'collaboration, leadership, and technology (AASL/AECT, 1998:47), that is, leadership and commitment by school administration, budgets that promote wide use of technology, teachers willing to make effective use of the library and collaborate with the librarians, and efforts by the librarians to enhance, enact and reinforce the above and to link their role to the school curriculum. The school library programme should reflect the school's mission and goals for student achievement and ensure that students and teachers are 'effective users of ideas and information' (AASL/AECT, 1998:2, 6), and that the programme is dynamic, enthusiastic and student-centred. The standards also demonstrate clearly that information skills should be linked to the school curriculum in every subject area.

The standards provide a basis for the librarian's role in collaborative planning and curriculum development and collaboration with the teachers. The standards also support the librarian's leadership role in analysing learning needs, identifying instructional strategies and resources, and evaluating student achievement (AASL, 1998:62-63).

The AASL/AECT IL standards might not be fully suitable for this study in that the standards and guidelines simply list the competencies that students ought to possess and exhibit. The standards fails to make recommendations as to how these competencies can be integrated within the school curriculum and how the various strategies can be implemented to effectively impart these IL competencies to students. Nevertheless, the importance of *Information Power: Building Partnerships for Learning* to this study is its emphasis on integrating IL skills into the school curriculum and encouragement of collaboration between teachers and librarians so that students can move beyond merely absorbing information to finding it, evaluating it and applying it (Breivik & Senn, 2000).

Constructivism stands out in the literature as the most recognised and preferred approach to IL instruction over the last two decades (Kuhlthau, 1993:24). The constructivist theory of learning provides a theoretical foundation for many of the teaching strategies used in senior secondary schools as indicated by numerous reports and research studies (Sharkey, 2006; Walczak & Jackson, 2007; Weisskirch & Silveria, 2005; Wopereis, Brand-Gruwel, & Vermetten, 2008; Campello, 2009; Sakr et al., 2009; Kuhlthau, 2001; Woolfolk, 2010; Vieira, Tenreiro-Vieira, & Martins, 2011). In addition, IL education relies heavily on constructivist approaches with regard to teaching, and how students think, perceive, remember and learn (Kuhlthau, 2001; 2004).

While constructivism is the overarching, model/framework for this study, each model discussed here gives some level of specificities to certain aspects of IL. However, Streatfield, Shaper, Markless, & Rae-Scott (2011) assert that most IL models and frameworks appear to be simplistic and sometimes create problems when applied. This is particularly true when dealing with the complexities inherent in learning. Most IL models are not linked to the learning process because they underplay reflection, iteration, different learning styles and strategies.

IL models also place little emphasis on cognitive and metacognitive elements which are the essence of constructivist theory. IL models are mechanistic in nature and rely greatly on processes such as citation and keyword searching. For example, the research process such as that portrayed in the Big Six™ model lack an intellectual framework and is purely mechanistic. The Big Six™ lacks a broader mission to teach critical thinking, creativity, and reading skill in addition to other literacies such as media literacy and technology literacy. The implication is that while the IL models discussed here are relevant, their contribution in underpinning the study is limited.

2.4. Summary

The theories underpinning the study have provided the lens through which to examine issues of information literacy integration in the curriculum from practical and policy perspectives at regional and international levels. The learning theories and IL models presented in this chapter include: Constructivism, Cognitive learning, Behaviourism, Bloom's Taxonomy and others provided a framework for interpreting learning environments for IL in Botswana and globally.

Table 2.1 provides a summary of the relationship between research questions that were addressed in this study and key variables of the theoretical lens that underpinned the study.

Table 2.1: Mapping of Research Question to Key Variables of Constructivism/Models

Research Questions	Theory/Models	Key Variables/constructs
1. What are the goals of IL in Senior Secondary schools in Botswana?	AASL/AECT Bloom's Taxonomy Constructivism	Lifelong learning, IL culture, student-centred learning , knowledge construction; active learning; discovery learning; reflective learning knowledge sharing; group discussion; inquiry-based learning; collaborative learning; creative learning, problem-based learning, cooperative learning, independent learning.
2. What are the IL content, resources, and teaching strategies for IL	Big6™ ISP Constructivism Bloom's Taxonomy AASL/AECT	Curriculum, pedagogies, teaching methods, knowledge construction; social learning; collaborative learning; creative learning environments; student-centred activities, problem-based learning, cooperative learning, independent learning, reflective learning
3. How is IL implemented at the policy level?	AASL/AECT Constructivism	Nation IL policy, institutional IL policy, IL standards, IL resources provision, IL infrastructure
4. What are the roles of librarians, teachers, school principals and Director of Curriculum Development in promoting IL?	AASL/AECT ISP Big6™ Bloom's Taxonomy	Facilitation, collaboration, capacity building, instruction, coaching, communication, leadership
5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?	AASL/AECT Constructivism Bloom's Taxonomy Big6™	Perceptions, attitudes, behavioural intention, beliefs, self efficacy

CHAPTER THREE
LITERATURE REVIEW

3.1. Introduction

The purpose of review of the literature in a doctoral project has been extensively discussed in research studies. For example, Kaniki (2002:19) asserts that the main purpose of the literature review is to present the various methods and designs in similar and related research and also familiarise the researcher with theories, definitions and theoretical argumentation concerning the research problem. In this regard Stilwell (2000) points out that the literature review needs to be accurately portrayed when interpreting and discussing findings and should cover in-depth, a survey of previous research related to the study. Similarly, Bearfields & Eller (2008) point out that the literature review should be tailored to address the only scholarly subject directly linked to the research question.

The purpose of this study was to investigate the strategies for integrating IL into the curriculum of senior secondary schools in Botswana. This chapter therefore covers empirical and theoretical literature in books, book chapters, journal articles, conference proceedings, technical papers, databases and more. The chapter is organised around the research questions and variables of the theoretical models underpinning this study that were discussed in Chapters One and Two of this thesis respectively. The literature reviewed in this chapter covers the following themes: goals of IL; content, resources, and teaching strategies; IL implementation at policy level; roles of teachers, librarians, school principals and the Director of Curriculum Development in promoting IL; the perceptions and attitudes of teachers, librarians, and school principals towards IL.

These themes are predicated on the following research questions:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?

4. What are the roles of librarians, teachers, school principals and Director of Curriculum Development in promoting IL?
5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?

3.2. Goals of Information Literacy in Schools

The goal of IL is to support teaching and learning by engaging students in the development and application of skills needed to find, evaluate, and use information that will contribute to their academic success and life-long learning. The fundamental goal of IL is therefore to develop critical users of information. Yaacob, Iskandar, & Jusoff (2011:1) in this regard state that educators bear an enormous obligation in the 21st century to equip students with IL skills while pursuing their education, and extending it further into their workplace, and developing life-long skills.

This study adopted the definition of an information literate person as enunciated by the American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT). The AASL/AECT (1998:1) states that to be information literate requires an understanding of: a need for information, the resources available, how to find information, the need to evaluate results, how to work with or exploit results, ethics and responsibility of use, how to communicate or share findings, and how to manage the findings. Eisenberg (2008:40) on the other hand defines "IL as the set of skills and knowledge that not only allows us to find, evaluate and use information we need but more importantly, allows us to filter out the information we don't need."

The AASL/AECT (1998) further asserts that IL is aimed at ensuring that students and teachers become effective users of ideas and information and advocates for the move from a teacher-centred and textbook approach to teaching and learning that is student-centred and information/resource/inquiry-based (AASL/AECT, 1998:2; Hughes-Hassell & Wheelock, 2001; Eisenberg, Lowe & Spitzer, 2004). The IL programme enables individuals to develop problem-solving, critical and creative thinking, decision making, and cooperative learning skills that prepare students to cope with the challenges of the information society.

The goals of IL are further enunciated by AASL/AECT (1998:6-7) as aimed at:

- Providing intellectual access to information through learning activities (inquiry-based individual and group projects) that are integrated into the curriculum and which help all students achieve information literacy.
- Developing effective cognitive strategies for selecting, retrieving, analysing, evaluating, synthesizing, creating, and communicating information in all formats and all content areas of the curriculum.
- Providing physical access to information through a carefully selected and systematically organised local collection of diverse learning resources that represent a broad range of subjects, levels of difficulty and formats.
- Providing learning experiences that encourage students and others to become discriminating consumers and skilled creators of information through comprehensive instruction in using a wide range of equipment for accessing local and remote information in any format.
- Providing leadership, collaboration, and assisting teachers and others in applying principles of instructional design to the use of instructional information technology.
- Providing resources and activities for learning that represent diversity of experiences, opinions, and social and cultural perspectives and to support the concept that intellectual freedom and access to information are prerequisite to efficient and responsible citizenship in a democracy.

Yaacob, Iskandar, & Jusoff (2011) assert that IL leads to skillful, responsible thinking that facilitates good judgement and is considered as a powerful weapon for life-long learning. Grey (2008) lists twenty main skills of IL as follows: asking the right questions, defining the task, making decisions, brainstorming, problem-solving, identifying sources, locating sources, selecting sources, finding information within sources, reading for meaning, skimming and scanning, evaluating material, note-making, sorting and arranging, developing ideas, presenting findings, writing clearly, rhetoric, citing sources and evaluation and review. In addition, Lupton (2004) adds that the goal of an IL programme is to create opportunities for self-directed and independent learning where learners become engaged in using a wide variety of information sources to expand their knowledge, construct knowledge, ask informed questions, and sharpen their critical thinking.

Lupton points out that IL education supports cross-curriculum skills such as problem-solving, resource-based, evidence-based and problem-based learning (Lupton, 2004).

The central mission of educational institutions therefore, is to develop life-long skills and support the continued growth of students' career and life in society. In the context of Botswana, the Revised National Policy on Education spells out the government's commitment to the improvement of senior secondary education through transforming methods of learning from being teacher-centred to student-centred (Republic of Botswana Revised National Policy on Education, 1994). The Botswana government therefore puts much emphasis on education for life-long learning (Republic of Botswana Vision 2016, 2004). The Botswana government *Vision 2016* similarly outlines the attributes of life-long learners to include being literate and numerate, being critical and creative thinkers, being active seekers of information, being users and creators of knowledge and being effective decision makers (Republic of Botswana Vision 2016, 2004).

In the United States, the K-12 standards enunciated by the American Association of School Libraries (2007) summarise goals of IL as follows: 1) to encourage the development of students' skills, knowledge, and attitudes with regard to finding, evaluating, and using information, 2) to increase awareness of IL among librarians, administrators, teachers, school principals and students of its benefits and importance in academic success, 3) to establish an ongoing assessment of the IL needs of students, 4) to establish comprehensive IL support across the curriculum using a coordinated and collaborative approach to instruction activities and research consultations and 5) to establish a continuous improvement of the IL programme through ongoing assessment and refinement in schools (AASL, 2007). For clarifications, the K-12 is the equivalent of grade 12 Matriculation in South Africa, or form five Botswana General Certificate of Secondary Education (BGCSE), or the Cambridge International General Certificate of Secondary Education (IGCSE) in Botswana.

According to Bruce (2004:15) an IL programme should aim for:

- Facilitating the learning of specific skills, e.g., Web-based information skills enhancement packages and self-paced instruction.

- Providing the opportunity to learn specific skills, either early in a course or at point of need (from self-paced packages, peers, lecturers, librarians).
- Providing learning activities that require ongoing interaction with the information environment.
- Providing opportunities for reflection and documentation of learning about effective information practices.

The learning outcome of an IL programme according to Riedling (2006:3) is: 1) to locate information by recognising the need for information, 2) to understand that accurate and complete information is the basis for intelligent decision making, 3) to form questions based on information needs, 4) to develop successful search strategies, and 5) to efficiently and effectively access print and electronic materials.

From the literature reviewed in this section, the goal of IL is to produce IL literate individuals and to promote life-long learning. The goal of IL cannot be discussed in isolation from the IL programme that is in place. The content, resources and teaching strategies must be clearly clarified so that the IL pedagogical and methodological implementation can be properly integrated into the school curriculum. The following section therefore discusses what constitutes IL curriculum content, resources and instructional strategies.

3.3. Information Literacy Content, Resources, and Teaching Strategies

This section discusses the IL content, resources and teaching strategies.

3.3.1. Information Literacy Content

The IL content of the IL programme is generally designed to enable students to become active and creative locators, evaluators and users of information to solve problems and satisfy their curiosity and learning goal (Callison & Preddy, 2006). Such content is aimed at enabling students to access, evaluate and use it (Smith, 2005). Callison & Preddy (2006:90) pointed out that before students graduate from senior secondary school, they should be able to

perform the tasks highlighted in the IL curriculum such as evaluation technique, literature appreciation, technology application, media literacy, listening, viewing, research and reporting techniques.

Smith (2005:37) points out that the IL content should aim at equipping students to be able to question the need for information; hypothesise about possible sources; identify alternative strategies; locate specific information aided by guidewords, tables of content, indexes, books parts, keys, newspaper section, cross-references, entry point, classification systems, headings, captions, signs, and labels; recognise various types of information (e.g., words, facts, concepts, theories); know information formats (e.g., globes, atlases, thesaurus, almanac); distinguish fictional formats (e.g., historical fiction, science fiction, fantasy, poetry etc.); interview and read graphs, charts, and other graphical organisers.

In addition, IL content should aims at equipping students to evaluate information by**:** previewing; scanning and skimming materials; estimating; using context to determine meaning; interpreting the mood, sequence, and setting of selection; judging relevance, timeliness, completeness, accuracy; finding relationships (compare & contrast, categorise, generalise, cause & effect); identifying errors, inconsistencies, and flawed argument and verifying information (Smith, 2005).

Finally, IL content for learners aims at enabling them to relate new information to what is known; take notes; categorise; generalise; infer and extrapolate; create analogies and metaphors; summarise; interpret; transpose; and illustrate among other skills (Smith, 2005:37).

The IL content enables students to distinguish fact from fiction and also enable them to identify and use information sources found in the library such as dictionaries, glossaries, encyclopaedias, atlases, the Internet, newspapers, and almanacs to mention just a few. The IL content also aims at teaching students to demonstrate knowledge of the library physical layout and the principles of the classification schemes; to understand general library rules and procedures; and be able to search for information in online public access catalogues (OPAC).

The IL content should be carefully selected to enable students to know how to find information on the Internet; how to use certain ICTs; how to examine and evaluate the quality of information from various sources; to organise and synthesise information from multiple sources. The IL content should enable students to know how to use information and cite references; and take necessary steps when searching the literature to create and effectively communicate information to others; to understand and respect the virtues of intellectual freedom and property rights (Onen, 2011).

The IL content should therefore cover different *types of information* (e.g. words, terms, expressions, quotations, foreign phrases, place names, initialism, acronyms, abbreviations, facts, locations, concepts, laws, statistics); information sources (e.g. dictionaries, glossaries, language dictionaries, handbooks, atlases, maps, manuals, encyclopaedias, fiction, non-fiction, Internet, primary documents, schedules); *information elements* (e.g. main idea, sequence, conclusion, book parts, figurative language, story elements, guide words, newspaper sections, cross references, label, search terms, comparison, contrast, metaphor, dialect, citation, footnote); *information symbols* (e.g. Dewey Decimal System, map symbols, scales, keys, statistics); *organisation of information* (e.g. alphabetical order, catalogue, directory, database, classification, index, contents table, Boolean operators, electronic addresses, search engine); *graphical information* (e.g. picture, map, graph, chart, photo, grid); *information product* (e.g. picture, chart, graph, timeline, diagram, diorama, story, report, play, pantomime, notes, bibliography, map, web, essay, slide, transparency); and *information issues* (e.g. care of resources, bias, propaganda, copyright, plagiarism, intellectual freedom) (Smith, 2005).

The United States Congress passed the *Goals 2000* legislation stipulating school content standards of IL (Smith, 2005). The *Goals 2000* are aimed at enabling students to access information efficiently and effectively; recognise the need for information; and become proficient in determining whether additional information beyond one's own knowledge is needed to resolve a problem (ALA, 1998:11).

The *Goals 2000* also give specific IL content for individual subjects. For example, in English Language students should be enabled to use a variety of resource materials such as magazines, newspapers, dictionaries, schedules, journals, phone directories, globes, atlases, and almanacs to find research topics for their projects (ALA, 1998). In Geography, the student should know the characteristics and purposes of geographic databases containing census data, land-use data and topographic information. In History, the students should know the different types of primary and secondary sources and the motives, interests, and biases expressed in them (e.g., eyewitness accounts, letters, diaries, artefacts, photos, magazine articles, newspaper and hearsay) (ALA, 1998). In Mathematics, the student should formulate a problem, determine information required for solving the problem, choosing methods for obtaining this information, and set limits for acceptable solutions. In Science, the student should know tools such as thermometers, magnifiers, rulers, and balances that can be used to gather information and extend the senses. In Technology, the student should know the common features and uses of databases (e.g., databases containing records of similar data, which are sorted or organised for ease of use) (ALA, 1998:11-14).

Smith (2005) opines that in Mathematics, IL content should cover problem-solving, estimation, thinking strategies; formulating; investigating; and using computers & other technologies. For Social Studies, Smith (2006) notes that the focus of IL content should be on imparting knowledge that would enable students to investigate sources; examine pictures and artefact; paraphrase; use maps and globes; interpret & infer; record sources; reason; quote sources; develop timelines; recognise different perspectives and use cross references. In Science Smith (2005) opines that the IL content should cover inquiry; decision-making; investigation skills; critical thinking skills; and ability to access, evaluate, and use information. Finally in English, Smith (2005) states that IL should aim to impart skills that enable students to conduct research, use a variety of technological and information resources; and participate as member of literacy communities.

In the context of Botswana, the Senior Secondary Educational Blueprint Curriculum (1995) outlines content areas for an IL curriculum consistent with global trends. These include among others, critical thinking, problem-solving, individual initiative, interpersonal and inquiry skills, etc. (Vavrus, Thomas, & Bartlett, 2011:6) observed:"In recent years, many African countries have been reforming the historically common teacher-centred curriculum, which employs a lecture style, 'learning by rote' method of teaching. Botswana, Kenya, Senegal, and others seek to promote creativity, critical thinking, and problem solving skills in their students.

3.3.2. Resources for Teaching IL

The resources that a school library offers for teaching IL most often include a collection of books, periodicals, and non-print material in a variety of formats (both print and electronic) that support curriculum topics and are suited to inquiry learning and users' needs and interests" (AASL, 2009:38). The librarians who are responsible for selecting the collection of resources must ensure the unique needs of all students and teachers for classroom learning and instruction respectively are met.

The constructivist theory advocates that teachers and librarians should move away from a textbook-centred approach and have access to a rich variety of resources in all formats in order to facilitate and support teaching and learning (Bishop, 2001; Lance & Loertscher, 2002). For traditional teachers this requires going beyond the conventional information formats of books, paper journals, indexes, and reference sources and accessing information in electronic formats (e.g. Internet, subscription databases, indexes, and automated library catalogues) (Thompson & Henley, 2000). Besides Internet-based resources, diaries, other primary sources, newspaper and magazines articles, reference and nonfiction books, maps, chart, poems, play, fiction books, CD ROMs, digital databases, museum, work of art, videos, musical compositions, cultural artefacts and even games must be integrated into the resources for the teacher and the learner (Thompson & Henley, 2000).

In addition to the rich collection of diverse resources, an effective IL programme requires computer software and hardware, access to information networks, and equipment for accessing, processing, and presenting information in a variety of formats (Bruce, 2002; Lance & Loertscher, 2002; Thompson & Henley, 2000).

Furthermore, a resource-based approach to teaching and learning is central to IL (Bruce, 2002; Thompson & Henley, 2002;2004; Kuhlthau, 1999). To ensure all the needed information resources are available for teaching IL, adequate financial provision must be made available to the school library to develop an effective IL programme (Bishop, 2001; Lance & Loertscher, 2002; Hartzell, 2003). The IFLA/UNESCO (2000) document stipulates that a school library materials budget should be at least 5% of the per student expenditure for the school system, exclusive of all salaries, special education expenses, transportation and capital improvement funds.

The school library is central in achieving the mission and vision of the school. Consequently, resources that include staffing, physical space, furniture and equipment, electronic and AV equipment (computer work station, public access catalogue, tape recorders, CD-ROM players, scanning equipment, and video players) must also be provided. According to IFLA/UNESCO (2000), book resources should comprise of ten books per student. However, where a school enrolment is relatively small, the library should have at least 2,500 relevant and updated items. In addition, 60% of the library stock should consist of curriculum-related non-fiction resources (Satre & Willars, 2005:119).

Haycock (2011) in a study carried out in British Columbia (Canada) among schools, established that an easily accessed, well-funded, well-staffed, well-managed, well-stocked, integrated and heavily used school library correlated to higher student achievement. Other factors that were found to influence high student achievement included among others: access, staffing, collection, and networked technologies.

3.3.3. IL Teaching Strategies

The instructional strategies for delivering IL are mostly seen through constructivist approaches, and the related IL theoretical models such as those of AASL/AECT (1998), Kuhlthau's ISP (2004), Eisenberg & Berkowitz Big6™ (2002), The IL Instructional Model (Maitaouthong, Tuamsuk, & Techamanee, 2011) and Information Literacy Integration Model (Wang, 2010). These IL models espouse instruction strategies and steps necessary for defining the task/problem, locating or accessing information, processing information, organising and creating, communicating and evaluating information. The AASL *Standards for 21st Century Learner* require instruction strategies that would enable learners to inquire, think critically, gain knowledge, draw conclusions, make informed decisions, apply knowledge to new situations, create new knowledge; and share knowledge (AASL, 2009).

Kuhlthau's Information Search Process (ISP) model (Kulthau, 2004) is critical for informing IL instruction pedagogy that cultivates and extends students' IL skills and facilitates developing an effective school-wide IL programme (Bishop, 2001; Donham, 2001; Thompson & Henley, 2000). The ISP IL model supports concept of *guided inquiry* which advocates for learning through research. The guided inquiry process involves guidance, instruction, modelling, and coaching. The ISP comprises six stages namely: 1) initiation-recognise information need; 2) selection-identify general topic; 3) exploration-investigate information in general; 4) formulation-formulate focus; 5) collection-gather information pertaining to focus; and 6) presentation-complete search closure (Hyldegård, 2006:278). These stages guide and assist students in the inquiry process. Moreover, in an inquiry approach teachers provide engaging problems or questions for students to explore or students select their own problems. Teachers guide students as they develop solutions and identify the resources needed for solving problems or constructing answers available to them (Donham, 2001; Kuhlthau, 2001, 2004). By engaging students in inquiry learning the librarian and teachers prepare "students to apply their knowledge to the information tasks in their lives" (Kuthlthau, 2004:11).

The Big6™ model on the other hand advocates for teaching strategies that include research, acquisition of technology skills, and many other valuable skills critical in the development of life-long learning that extends well beyond the classroom and the library.

Riedling (2006) indicates that because of its simplicity, the Big6™ model can be used by librarians, teachers, parents and information specialists to help learners attain IL. The Big6™ employs a constructivist strategy and provides a systematic approach to information problem-solving and critical thinking skills. The Big6™ fosters the acquisition of research, problem-solving, and metacognitive skills through the cooperation of both the school librarian and classroom teachers. Mokhtar et al. (2009) noted that the Big6™ model is very popular and has been adopted by many schools in the United States of America for teaching IL in schools.

The AASL/AECT (1998) framework which like most IL models such as Big6™ is founded on constructivist approaches and requires changes in teaching strategies that emphasise a move from a teacher-centred approach to student-centred approach. The AASL/AECT encourages collaboration between librarians and teachers in the delivery of IL content in order to have a positive effect on student learning outcomes and improvement of research skills (AASL/AECT, 1998).

The IL Instructional Model advocated by Maitaouthong, Tuamsuk, & Techamanee (2011) is also useful in defining IL instruction strategies. The model has eight components: learning outcomes, teaching methods, learning activities, teachers' roles, librarians' roles, student's roles, teaching media, and learning assessment and evaluation. For example, the teaching aspect involves seven steps namely: assigning case studies, selecting case study topics, searching on related information, setting self-learning topics, self-learning/study, presenting self-learning/study report, and evaluating the final report. The instructional model can assist librarians and teachers to deliver problem-based learning (Maitaouthong, Tuamsuk, & Techamanee, 2011:148).

The other IL model that has embedded in it teaching strategies, is the Information Literacy Integration Model (Wang 2010) developed for the New Zealand institution of higher education. It emphasises face-to-face and online teaching strategies. The model also provides a framework of how IL can be integrated into multiple courses across an undergraduate academic degree in higher education (Wang, 2010:159).

3.3.4. IL Instruction Strategies from a Behaviourism Perspective

Behaviourism is a theoretical approach that has influenced teaching strategies not only in education but in many other disciplines that espouse IL. Behaviourism focuses on observed behaviours with the goal of behavioural change. Herring (2004:2) notes that although behaviourist theories are no longer seen as of key importance to the curriculum in the 21st century, certain elements of the theories are still recognised as being useful.

The theory posits that learning, especially simple skills, can be effectively and efficiently managed through control of stimulus and response (Callison & Preddy, 2006). Woolfolk (2010) provides examples of behaviourism in the classroom to include the teacher providing instruction before an assignment, cueing, prompting, shaping, positive practice, reprimands, response costs, cautions, punishments, and social isolation.

Behaviorism supports the teacher-centred (traditional transmission instruction) approaches (Woolfolk, 2010). The current senior secondary school curriculum and syllabi in Botswana is more or less based on behaviorist theory as documented in numerous studies (Prophet, 1993; Tabulawa, 1998, 2003, 2009; Tafa, 2001 and Polelo, 2005). These studies show that teachers are stuck in their comfortable behaviourist groove of being authoritarian with students engaged in passive learning. The behaviourist approach to teaching is reinforced by an examination and accountability systems that encourage the view that students are customers and teachers providers (Tabulawa, 2009). Callison (2006) critiques the behaviourist perspective saying it does not provide a meaningful framework for learners to be engaged in, in the development of higher order thinking skills. Herring (2004:3-4) points out that students taught using behavioural approaches often find using a school library problematic because teacher themselves are ill-equipped to teach enquiry learning or higher order thinking skills.

Tabulawa (2009: 105) opined:

> "This paradox has its genesis in the internal contradictions of the Revised National Policy on Education (RNPE) itself: constructivism and behaviourism, in their conflated form, are expected to deliver the self-programmable learner, yet the two are epistemologically diametrically opposed. Conflating them can only lead to conceptual (and ultimately pedagogical) confusion, thus creating a dilemma for classroom teachers-on the one hand, policy requires them to use student-centred methods in their lessons, while on the other, the skills-based syllabus constrains them from doing so."

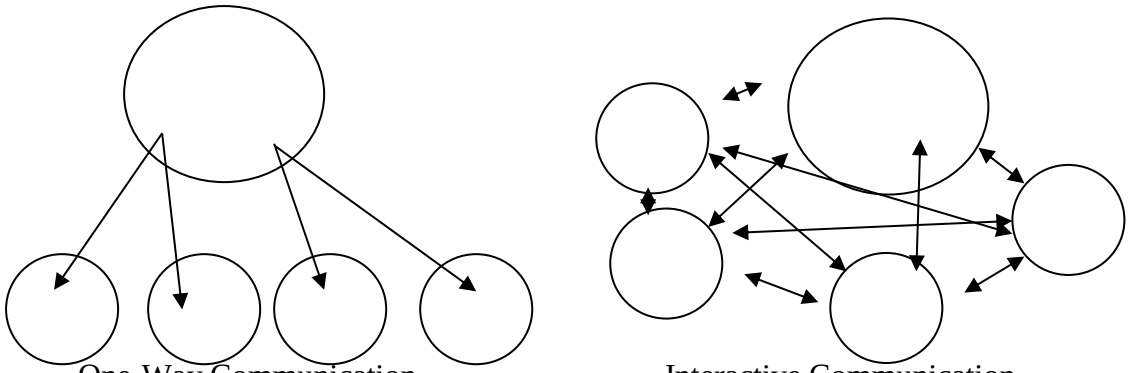
3.3.5. IL Instruction Strategy from the Constructivism Perspective

Constructivism pedagogy focuses on "discovery learning" or a student-centred learning environment in which the student is actively involved in problem-solving (Callison & Preddy, 2006:334). Thomas (2004) states that educational goals and most teaching strategies in a school library setting have been shaped by the constructivist theoretical framework. Through constructivism students are empowered to evaluate information resources and take control of their learning (Small, 2005). Kuhlthau (2001) maintains that constructivism is the fundamental theoretical foundation for library programme instruction. However, several studies have revealed that even teachers who hold constructivist pedagogical beliefs may not necessarily teach actively because of other contextual factors such as teacher technology competence, time constraints and demands of high stakes examinations that must be addressed in the first instance (Becker, 2000; Liu, 2010).

Small (2005: 15) observes that the constructivist teacher (1) understands the mental models students use and any assumptions used to support them; (2) fosters collaboration (and models it), motivates students through active participation; (3) provides reassurance and encouragement to students, when needed; and (4) is a "guide on the side" with teachers and students interacting and sharing information, rather than as a "sage on the stage."

Figure 3.1 below depicts these variant teaching styles (Small, 2005).

Two Teaching styles



One-Way Communication
"Sage on Stage"

Interactive Communication
"Guide on the Side"

(Source: Small, 2005:15)

Figure 3.1: Two Teaching Styles

The type of active learning referred to as a "guide on the side" requires teachers and librarians to move away from the traditional approaches of being conveyer of information to that of facilitator or coach. Teachers and students interact and share information rather than what some characterise as a "sage on the stage," where teachers are the source of all information and the communication is one way (Small, 2005:15). In the interactive communication (guide on the side), teachers are expected to guide students, stimulate and provoke the student's critical thinking, analysis, and synthesis throughout the learning process (Small, 2005). This student-centred approach is expected to bring students into the process of their own education, get involved in class beyond listening in line with a constructivist classroom. In such classroom, student questions and their interests are valued, learning is interactive, building on what the student already knows. In addition, teachers have a dialogue with students, helping students construct their own knowledge. Assessment includes student works, observations, and points of view, as well as tests. Students work primarily in groups (Small, 2005).

The traditional approaches to instruction on the one hand focus on a curriculum that begins with the parts of the whole and only basic skills are emphasised. The teacher strictly adheres to a fixed curriculum.

Materials for delivery are primarily textbooks and workbooks. Learning is based on repetition (Thompson & Henley, 2000). Teachers disseminate information to students who are regarded as recipients of knowledge. Mostly, the teacher's role is directive and rooted in authority. Assessment is done through testing for correct answers (Thompson & Henley, 2000). Knowledge is seen as inert, and students work primarily alone. It is therefore important to always bring the learners and the learning process to the centre so that they are the key determinants of how education develops and grows.

Small (2005:15) observed that today, teachers and librarians are looking at a much more dynamic and diverse approach to learning, incorporating a variety of teaching methods in response to the varied learning styles found in the classroom. On the other hand, Taylor (2006) is of the view that IL skills must be taught at the point where students need them. If IL is taught in isolation, skills are not retained by students because they see no need to learn the skill, nor do they get much immediate practice in using skill. Grafstein (2002) for his part opines that teaching IL through guided practice enables students to learn to incorporate IL skills and develop as critical thinkers and creative problem solvers.

McCartin & Field (2001:7) for their part recommend that IL should be integrated into the curriculum because it is through the curriculum that students see the skills associated with IL as a skill set, relevant to all subjects and of help to their academic success.

From the perspective of this study, IL skills should be taught by different subject teachers. For example, as McCartin & Field (2001) point out, the Geography teacher should teach a range of organising skills such as recording and note-taking; the science teacher may use brain storming and the history may teach writing techniques that include essays, and report writing. This approach is consistent with De Jager & Nassimbeni's (2005) view that teaching of information skills should be firmly embedded in subject knowledge instead of 'generic' courses that are not firmly integrated into the curriculum of specific course.

In Botswana, several studies on secondary school curriculum has revealed that teachers predominantly talk or lecture to students. The studies show that there is minimum active engagement or participation in class by learners. Moreover, there is hardly any evidence of group work in class. Classroom instruction remains predominantly teacher-centred and authoritarian with passive students engaged mainly in recall learning (Adeyemi, 2010; Polelo, 2005). Tabulawa (1997, 2003, 2004) revealed that in Botswana secondary schools, there is very little student-student and student-teacher interaction in class. He pointed out that Geography teaching was purely teacher-centred. The teachers were the providers of knowledge while students were receivers.

Mogapi & Yandila (2001) also carried out a study to find out the extent to which secondary school teachers were employing the student-centred approach in Pure Science, Double Science and Single Sciences subjects in Botswana. The results of the study found that most science teachers were not following a student-centred approach as emphasised in the Blueprint curriculum (1997) for senior secondary schools. Teachers dominated in class activities with little student participation. Similarly, a study by Polelo (2005) in Botswana secondary schools that included 289 children from 10 schools, 48 teachers, 96 parents and eight boarding staff revealed that most teaching was teacher-centred.

For this reason, Tabulawa (1997) argued that many teachers in Botswana secondary schools were trapped in an endless examination preparation cycle and see student-centred teaching methodologies as luxuries they cannot afford**.** "Thus casting the value of student-centredness in educational terms in the Botswana Revised National Policy on Education was more of a symbolic gesture than anything else" (Tabulawa, 2009:99).

From the discussion above, it would seem delivery of IL skills should adopt a multipronged strategy that is predicated on sudent-centred approaches but also integrated into individual courses.

3.3.6. Strategies for Integrating IL into the Curriculum

The process of integrating IL into the school curriculum involves collaboration, negotiation, and cooperation. Montiel-Overall (2005:6) refers to school curriculum as subjects taught in school, including mathematics, science, art, music, drama, English, social studies, geography, history, physical education, and foreign languages, art, music, and drama. The curriculum standards in secondary schools include outcomes or learning expectations that all students are expected to reach.

Integrating IL into the curriculum involves teacher and librarian in shared thinking, planning, and evaluation. As collaborators they come together as colleagues to create a learning experience for the students that will facilitate their learning. The librarian and teacher are able to create a more powerful learning experience together than they could not create individually (Montiel-Overall, 2005).

Farmer (2007) pointed out the important aspects of the school librarian's role in the school include IL integration across the curriculum to facilitate transfer of learning and articulation of knowledge; and collaboration with the school and community to provide a systematic and interdependent programme of teaching and learning. Integration of IL in the curriculum involves collaboration between multiple partners and negotiation, which is built on personal relationships. It includes pedagogies for contextualising IL in an academic curriculum and ongoing interaction with information (Wang, Bruce, & Hughes, 2011:300).

Teachers must be equally involved in the integration process of IL in the curriculum so that they can see the connections and how the skills help students' learning (Taylor, 2006:41). Todd (1995) notes that integrating IL into the curriculum requires establishing wider relationships among teachers, school principals, administrators, parents, and students in order to solicit their input and support (Bruce, 2002; Fullan, 2005). Librarians and the school principals who support them need to acquire a deep understanding of the educational change process if they are to learn how to initiate and guide this change and create the working conditions that will support IL successful implementation and sustainability (Elmore, 2000; Fullan, 2005).

Grafstein (2002:200) asserts that, the relevance of IL is best exemplified when it is integrated within a subject specific context. This is because locating conceptions of IL within a disciplinary context helps promote an attitude of critical inquiry in the learning process and provide a framework by which needed skills can be integrated into the curriculum.

IL skills integration thus should be undertaken with the support and involvement of classroom teachers, school principals and the school librarian. Besides, a collaboration of teachers and a school librarian in providing optimum teaching and learning environments is also essential to achieving information literacy implementation (Taylor, 2006).

In Botswana, private senior secondary schools have made an attempt to integrate IL into the curriculum compared to public schools. Consequently there is limited IL in the Botswana General Certificate of Secondary Education (BGCSE) curriculum offered in public schools. In contrast private secondary schools have IL infused in the individual courses offered in the syllabi of the Cambridge International General Certificate of Secondary Education (IGCSE), Cambridge International Advanced Subsidiary Level (AS); Advanced Level (A2), Higher International General Certificate of Secondary Education (HIGCSE), and International Baccalaureate Diploma Programme (IB).

3.4. IL Implementation at Policy Level

A policy framework for the implementation of IL is essential. The policy normally outlines principles or rules that are expected to promote, guide, and inform future actions within a particular area and with special interests. Policies generally focus on what ought to be done rather than on what has been done (Pilerot & Lindberg, 2011: 248). IL in western democracies was originally conceived as a policy goal in 1974, when Paul Zurkowski the originator of the term "information literacy," in a proposal to the United States National Commission on Libraries and Information Science, expressed the need for establishing a major *national programme* to achieve *universal* information literacy (IFLA/UNESCO, 2002).

Despite such early recognition and political imprinting, the policy dimension of IL has been given little attention in the academic literature (Basili, 2011). Organisations such as IFLA and UNESCO, have made attempts and published several policy documents to promote IL in various countries (Pilerot & Lindberg, 2011). For example, UNESCO's Information for All Programme (IFAP), provides a conceptual for identifying IL indicators (Catts & Lau, 2008). IFLA/UNESCO Manifesto (2000) urges governments, through their ministries responsible for education, to develop strategies, policies and plans that implement, give support and guidance to the library community.

In this regard, Moore (2005:27) observes that government departments responsible for education and the provision of library and information resources to schools need to:

- give urgent attention to the availability of print and digital learning resources reflecting the cultures and languages of learners in educationally disadvantaged regions;
- ensure that IL is an identifiable and explicitly addressed aspect of even the most basic curriculum, including speaking, viewing, image making and learning to read; and
- ensure that developmental views of IL take account of changing abilities of learners and evolution in information environments.

In addition, Moore (2005:15) states that policy developers in education and library service provision, as well as local school administrators need to develop transparent action plans that:

- include sufficient time and resources for monitoring and revising the process of establishing information literate school communities ;
- provide a variety of models to guide application of IL concepts alongside more teacher-directed learning methods, and
- are informed by knowledge of the critical relationship between school principals and teacher-librarians in establishing collaborative teaching and the development of IL school communities.

Singapore, one of the first countries to produce a coherent information policy backed by an action plan and budget commitment, (Butterworth, 2000), has its policy focus on access to information through technological and library resource development. In addition, the information policy is aimed at reforming the educational system with the aim of moving "from a content-based curriculum dependent upon rote learning to a system that produces creative thinkers" (Butterworth, 2000:166). In Latvia, government considers the school librarian as a pedagogical worker. The school librarians are therefore required to have library or higher educational qualifications. Herring (2004) observes that governments across the world regard IL as a core educational and life skill, and schools have a key role to play in developing their students' information literacy. Horton (2007) is of the view that decisions concerning educational policies, pedagogies, and practices should be based upon research evidence. Crawford (2013) also points out that policy making for IL is still relatively underdeveloped with a limited number of documents being exclusively devoted to the subject.

In Botswana, government has shown some interest for IL integration in schools. The intent of government as already pointed out is captured in the report of the commission, *Education for Kagisano* (1977) and, *The Revised National Policy on Education* (RNPE, 1994). These two policy documents support library and IL development. The RNPE proposes the establishment of a library service at the Ministry of Education and Skills Development. This service would provide support and training for the development of library services in the schools. The Botswana Library Association (BLA) (2012) urges government to do more and put IL at the centre of the education process by improving the status of librarians, enhancing budgets to schools, improve ICT infrastructure; and also establishing a national framework for the integration and implementation of IL in the curriculum.

3.5. Role of Teachers, Librarians, and School Principals in Promoting IL

This section presents the roles played by teachers, school librarians, school principals and the government in promoting IL.

3.5.1. Role of Teachers in Promoting IL

In the education arena, teachers' qualifications, experience, knowledge of subject areas, and pedagogical skills radically influence student learning. The primary role of a teacher is to engage students in inductive, hands-on activities, group work, and reflection to promote critical thinking, self-evaluation, and the integration of knowledge across core subject areas (Vavrus, et al., 2011).

Henri (2001) is of the view that development of IL in schools is bestowed on teachers who are presumed to be information literate. Moreover, it is presumed that information-processing models or approaches inform their teaching, and that they apply higher order thinking skills when undertaking complex information tasks.

Tschamler (2002:14) states that collaboration between teachers and librarians provide an opportunity to create a purpose in conjunction with a lesson, in order to teach students the value of information and search skills. These partnerships must be cultivated through ongoing planning, dialogue, and classroom practice.

Asselin (2000:85) asserts that for effective delivery of IL, teachers must understand the role of the librarian and vice versa to promote IL effectively. Montiel-Overall (2005:6) has developed four models of collaboration between teachers and librarians in promoting IL:

- Model A - coordination (schedules, activities, resources, time, space, etc.)
- Model B - cooperation/partnership (working toward similar goals)
- Model C - integrated instruction (integrating expertise to contribute to instruction)
- Model D - integrated curriculum (integrating content and information literacy)

The IFLA/UNESCO (2002) school library guidelines stipulate the role of teachers in promoting IL and maximising the potential of the library services to include the following:

- develop, instruct and evaluate students' learning across the curriculum
- develop and evaluate students' information skills and information knowledge
- develop lesson plans

- prepare and carry out special project work to be done in an extended learning environment, including the library
- prepare and carry out reading programmes and cultural events
- integrate information technology in the curriculum
- make clear to parent the importance of the school library

Lindsay (2004) in a review of the teacher's role in promoting IL, identified the following roles: 1) teachers impart IL skills; 2) integrating information skills into the curriculum requires the leadership of the school principal and the support of teachers; and 3) trust of teachers, and school principals.

Todd (2001) asserts that the role of teachers is essential for IL initiatives to be successful. These roles must be cultivated through ongoing planning, dialogue, and classroom practice.

Arnone and Reynolds (2009) observe that teachers should provide instruction, learning strategies, and practice in using the essential learning skills needed in the 21st century where students are required to: 1) inquire, think critically and gain knowledge, 2) draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge, (3) share knowledge and participate ethically and productively as members of a society, and 4) pursue personal and aesthetic growth.

A study by Dotan & Aharony (2008) in Israel found that with the role of teachers in the provision of IL programmes to students, their position in the educational system was higher than the librarian position because librarians did not develop school library-based comprehensive IL programmes relevant to educational priorities.

Library research findings support the notion that the most effective teaching that fosters the greatest increases in student achievement, is one in which the teacher integrates IL into the curriculum (Bruce, 2002; Lance & Loertscher, 2001, 2002). The teacher provides the content and the context of the curriculum (Kuhlthau, 2001).

The teacher also engages in curriculum planning, lesson design, instruction, student assessment and lesson evaluation (Loertscher, 2005).

Thompson & Henley (2000:92) point out that teachers are responsible for designing units or lessons that fulfil both curriculum and IL goals and objectives. Teachers are experts on matters concerning the academic curriculum and individual student learning styles and abilities. Teachers also design lessons that meet curriculum standards and IL objectives. They also engage all students in hands-on, challenging, and real-life problem-solving activities."

In the context of Botswana, the role of teachers in promoting IL in secondary school has been a subject of debate (Jorosi & Isaac, 2008) because of their full time role in teaching, and overloaded school curriculum.

3.5.2. Role of School Librarian in Promoting IL

The American Association of School Librarians (AASL) and the Association for Educational Communications and Technology (AECT) (1998) describes the school librarian as having four roles: a teacher, an instructional partner, an information specialist, and a programme administrator. These roles provide a blueprint for school librarians, to enable them to establish effective library programmes that help increase the academic achievement level of the students in schools. The school librarian's teaching role has been central to the connection between the curriculum and the library (AASL/AECT, 1998).

The role of the school librarian is critical in building IL into the curriculum. In the United States of America, Alexander, Smith, & Carey (2003) identified roles and responsibilities of school librarians to include (1) information literacy, (2) collaboration/leadership/ technology, (3) learning and teaching, (4) information access and delivery, and (5) programme administration.

Satre & Willars (2005:120) state that the librarian's main role is to contribute to the mission and goals of the school including the evaluation procedures, and to develop and implement those of the school library.

In cooperation with the school principals and teachers, the librarian is involved in the development of plans and the implementation of the curriculum. Farmer (2007) asserts that librarians are crucial to the teaching skills and strategies for students' learning needs. Librarians are partners in developing curriculum, and integrating resources into teaching and learning. They teach the skills that make students become effective users of ideas and information. Librarians seek, select, evaluate, and utilise electronic resources and tools and instruct teachers and students in how to use them (Farmer, 2007).

The school librarian plays an essential role in promoting information and reading literacy among students. The school librarian also selects materials that support and promote the curriculum as well as independent study and leisure reading. They plan learning experiences that offer whole classes, small groups, and individual learners an interdisciplinary approach to literacy learning (Eisenberg & Berkowitz, 2003). School librarians ensure that the teaching and learning process is taught as a comprehensive process, systematically and developmentally, to all students in the school ((Eisenberg & Berkowitz, 2003; Moore & Trebilcock, 2003). Therefore the school librarians are significant school assets, and need to be considered as an educational investment rather than a cost.

Branch & Oberg (2003) observes that the librarian plays a leadership role in the school. The fundamental duties of the school librarian in this regard are to: 1) analyse the resources and information needs of the school, 2) formulate and implement policies for service development, 3) catalogue and classify library materials, 4) assist students and teachers in the use of library resources and information technology, 5) instruct in information knowledge and information literacy, 6) prepare and implement budget among others (Satre & Willars 2005:121; Subramaniam, Ahn, Waugh, & Taylor, 2015).

Hayes (2001:2) states that the role of a school librarian is ever changing; "trainer/designer, coach, resource provider, programme manager, consultant, task facilitator or process facilitator, and a catalyst for change". Hayes suggests that school librarians should lead job-embedded practices by coaching and mentoring, networking, and conducting study groups. Technology provides a platform for the school librarian to become more involved with teachers.

The AASL/AECT (1998) framework refers to the school librarian as "instructional partner" thus elevating their position to that of "curriculum, instructional, and technology leader."

In the context of Botswana, the roles of the school librarian include being teacher of library skills as well as instructional leaders. Librarians are instructional partners and library programme administrators because they impart skills that empower students to learn research and analyse information more efficiently (RNPE, 1994).

3.5.3. Role of School Principals in Promoting IL

As the instructional leader of the school and the key person in providing a framework and climate for implementing the curriculum, the school principal has an important role in ensuring an effective school library service and encouraging its use. The school principal works closely with the library in the design of school development plans, especially in the fields of IL and reading promotion programmes. The school principal also ensures cooperation between teaching staff and library staff. He or she makes sure that the school librarians are involved in instruction, curriculum planning, continuing staff development, programme evaluation and assessment of student learning (IFLA/UNESCO, 2002).

School principals foster effective library programmes through budgetary decisions that affect collections and staffing, through organisational decisions that affect scheduling, and through the expectations that they set timetable for library use by students and teachers (Hartzell, 2002). Henri and Oberg (2005:80-81) identified four roles for the school principals: 1) as a supervisor working directly with teachers; 2) as a model demonstrating personal commitment; 3) as a manager enabling the programme; and 4) as a mentor providing visibility/importance.

As the school's instructional leader and manager, the school principal shapes the school culture, sets expectations for the school's staff, and usually has the final word in budget decisions. The school principals' activities influence the size and quality of the library collection, the level of collaboration between teachers and the librarian, and the opportunities the librarian has for leadership responsibilities beyond the school library (Donham, 2008).

In the context of Botswana the role of the school principals in promoting IL is diverse. Their roles for example, include among others budgetary support for collection development ensuring IL is included in the teaching timetable; and helping create awareness about the importance of IL programmes. Chapman (1994) adds that in Botswana, principals of secondary schools have four main roles: school management, instructional supervision, school-community relationships, and communications between the school and the Ministry of Education and Skills Development. They also serve the role of communicating ministry policies to the teachers and representing school activities and achievements to the ministry.

3.6. Perceptions and Attitudes of Teachers, Librarians, and School Principals towards IL

This section discusses the perceptions and attitudes of teachers, librarians and school principals towards IL.

3.6.1 Perceptions and Attitudes of Teachers towards IL

Freedman and Carver (2007:656), following a review of several studies, suggest "it is now widely accepted that teachers' personally held beliefs and values help to guide their teaching practices." Hall (2005:404) also indicates that the decisions that teachers make about what to teach and how to teach it may be largely influenced by their beliefs. Hall elaborates that, "despite the types and amounts of knowledge that teachers may hold, it is their beliefs that are more likely to dictate their actions in the classroom" (Hall, 2005:405).

According to Nourie & Lenski (1998:372), "the attitude of classroom teachers toward IL can be one of the most important factors in reading skills achievement and reading practice of secondary students." Hall (2005) reveals that subject teachers also hold the belief that teaching reading is the responsibility of others.

Probert (2009) in a study that included 148 school teachers, using questionnaires, interviews, worksheet templates, policies and departmental planning documents, found that teachers had limited or little understanding of IL. Those with little understanding of IL were those

teaching Mathematics, Science, Technology, Health and Physical Education. In addition, those with limited or proper understanding of IL taught English, Languages, and Social Studies. Such limited understanding would influence the way they perceived and taught IL. Williams & Coles (2007: 98) suggest that ICTs influence teachers' perceptions about the pedagogy. Moreover, teachers connect IL with literacy or with reading (Probert, 2009:31).

Probert (2009:28) further observed that teachers did not teach website evaluation nor did they teach students how to take notes because they took it for granted that IL skills were taught by someone else either in a previous class or by another school. There was also the assumption that IL skills would be developed naturally. The ideologies found in the literature suggest that teachers think learning of IL skills occurs by osmosis (Merchant & Hepworth, 2002; Moore, 2002; Williams & Wavell, 2006).

Miller (2005) explored the perceptions of novice teachers in western Canada regarding the role of the library media teacher in secondary schools The results showed that teachers and administrators did not understand the role of school librarians. All teachers unanimously agreed that they had never heard the term "information literacy", neither during their pre-service training nor subsequent teaching experience. Therefore, none of them felt the obligation to implement IL in their classrooms (Miller, 2005).

Williams & Wavell (2006) in their study entitled "Information literacy in the classroom: secondary school teachers' conceptions" undertaken in the UK, investigated how secondary school teachers interpret IL in relation to the learning tasks they design, monitor and assess, and issues related to its integration into the curriculum. The findings revealed that teachers described IL in relation to the student context and suggested that some students have the ability to see connections and develop the skills required to be information literate more naturally than others. Teachers were not confident that they knew how they could influence the development of IL.

The study also inquired into teachers conceptions and understanding of IL change after a period of reflection and discussion with colleagues. It also looked into how teachers' and information professionals' understand and interpret IL (Williams & Wavell, 2006:199). They found that as far as teachers were concerned, developing IL was not in their habit.

They simply wanted students to be using IL skills (Williams & Wavell, 2006:205). Many teachers said that lack of time and pressing curriculum constraints affected their teaching and for this reason they did not intervene directly in developing and monitoring IL skills. Teachers were reluctant to deviate from the examination-oriented curriculum (Williams & Wavell, 2006:208).

Williams & Wavell (2006) further maintained that teachers perceived IL as a matter of process and skills rather than as outcomes, that is, knowledge building and dissemination. They saw no, or little, link to problem-solving or learning. Teachers did not see IL linked to subject knowledge (Williams & Wavell, 2006:209). Williams & Wavell found that teacher's conceptualised IL in their personal context.

Loertscher (2008) indicates that despite the wide range of research and publications, some issues relating to teachers' perception of IL remain unresolved. A study by (Smith, 2013) in Alberta, Canada, using semi-structured interviews, explored eight secondary teachers' perceptions of IL and their experiences with IL. They found that secondary school teachers have failed and instead allowed students to graduate and enter post-secondary studies with low IL proficiency. The findings further revealed that teachers unanimously agreed that IL skills, based on the Association of College and Research Libraries *Information Literacy Standards for Higher Education* (ACRL, 2000), were important for their students. The respondents also assumed that IL skill development was the responsibility of the student, and passive acquisition was anticipated.

Becker's (2000) nationwide survey of teachers in the United States revealed that, while ICT use enabled a minority of teachers to put into practice a pedagogy that is more constructivist and more in tune with their teaching philosophy, it has not transformed the teaching practices of a majority of teachers, particularly teachers of secondary academic subjects. The teachers did acknowledge that under the right conditions computers were becoming a valuable instructional tool. Liu (2011) examined the relationship between the pedagogical beliefs of teachers and technology integration in the classroom in a study involving 1,139 elementary schools teachers in Taiwan. The study found that while teachers held student-centred beliefs they did not integrate constructivist teaching with technology use thus revealing clear inconsistencies between teacher pedagogical beliefs and teaching activities.

The study by Moore (2000), found that majority of teachers did not have a clear understanding of the concept of IL and tended to confuse it with research or library skills. Similarly, a survey by Whelan (2003) involving more than 800 school librarians on IL and their instructional role revealed that neither teachers nor students recognised the importance of skills tied to information literacy. Miller (2005), in a study of pre-service teachers' perception on librarians and IL found that most teachers had positive recollections of librarians from their high school and university days. However, when asked how their pre-service training prepared them to work with school librarians, the teachers were unanimous in their responses -"not at all." When asked about their understanding of IL, all of the pre-service teachers agreed that they had never heard the term information literacy. None of the teachers felt they had been specifically prepared to implement it in their classrooms (Miller, 2005).

Hall & Hord (2001) have argued that teachers' attitudes and beliefs about teaching and how students acquire knowledge plays a critical role in determining not only the degree to which technology is used in the classroom but how technology is used to support teaching and learning. Teachers often view the technology integration into the curriculum as an additional imposition on their already demanding time schedule when they simply want to get on with the business of teaching. In addition, the teachers do not believe that they have the technical competence to use effective technology in the classroom. They also fail to see utility of technology or its relevance for their subject. Research has shown that teachers' perceived usefulness of an innovation plays a pivotal role in determining the extent to which that innovation will be adopted for use in the classroom (Hall & Hord, 2001).

In Botswana, studies on classroom practice have reported that teachers' classroom interaction continues to be teacher-centred in spite of the fact that the Ministry of Education and Skills Development has prescribed a student-centred pedagogy (Prophet, 1995; Tabulawa, 1997; Tabulawa, 1998; Yandila et al., 2003). Milam (2002) asserts that students begin to take control of their learning when teachers begin to move away from their image of being the experts.

3.6.2. Perceptions and Attitudes of the School Librarians towards IL

Miller (2005) asserted that there is a lack of literature investigating librarians' perceptions of IL in schools. This view is reinforced by Lo, Dukic, Chen, & Youn (2014) that little research is available on the attitudes and perceptions of the school librarians regarding their teaching role, in relation to IL and enquiry based learning. Nevertheless the extant studies reveal that the school librarians' perception of the library influences the way they teach IL skills (Small, Shanahan & Stasak, 2010).

Lo et al., (2014) in the context of Asia, found that librarians showed poor attitudes in serving as reading programme and curriculum facilitators. These findings seem to go against the belief that school librarians are facilitators of learning and provide information skills needed to develop learners' competencies in mastering IL skills. Lo et al. (2014) further observed that poor career path and limited career progression are major factors that seriously lower the morale of the school librarians in their endeavour to effectively implement IL in secondary schools. Librarians' morale towards IL is lowered because they often become the first victims of budget cuts made by school administrators. As a result their degree of job satisfaction is lowered.

Within the higher learning institutions, Smith (2000) asserts that librarians believe that their expertise makes them better instructors of IL. Lo et al. (2014:66) report that lack of resources, lack of training opportunities, lack of recognition of librarians' qualifications, and lack of support from the school principals and teachers make them perceive IL as not important. Similarly, Ash-Argyle & Shoham (2014) point out that undervaluing of librarians by teachers and school principals leads to a poor perception on the part of librarians about their work and this hinders librarian's efforts to promote IL effectively. Librarians are aware that teachers and principals often perceive them as storytellers and supplier of information resources, rather than as peer and co-teachers. The librarians attitudes towards IL is also influenced by the fact that many teachers are either not interested in, or are resistant to, professional relationships with librarians.

According to Hartzell (1997) the school principals and teachers tend to perceive the role of the librarian as purely clerical, resulting in an attitude of indifference towards librarians and making them invisible in the school environment. Meanwhile Ash-Argyle & Shoham's, (2014) study evaluated the role perception of school librarians, and found that they perceived themselves as information experts, education and teaching consultants, managers of the library programme, promoters of reading skills, co-teachers, and leaders in the school community.

In Botswana, Jorosi & Isaac (2008) point out that not much is known about what librarians' feelings toward IL in secondary schools are. However, subjective evidence seems to suggest that though they seem to understand the benefits of IL, the implementation is hampered by limited resources especially in public secondary schools. Besides this, the teacher-librarians feel overworked since they are expected to have a teaching subject besides managing the school library. The absence of time-tabled period for IL leaves teacher-librarians with no voice.

The librarians are offered little recognition for what they do in managing the library and they feel undervalued for the role they play in promoting IL in the school and this feeling discourages them. Consequently the teacher librarians seem to have a generally poor attitude towards IL as reflected by the limited time they spend in the running of the library. In contrast within private schools, qualified librarians are employed to manage the school library. Their attitude towards IL is positive. As a result they play an active role in facilitating IL (Onen, 2011; Adekanmbi, 2009).

3.6.3. Perceptions and Attitudes of School Principals towards IL

Principals' support and advocacy are important to the development of a strong school library programme (Henri, Hay, & Oberg, 2002). School principals are key stakeholders of school library agendas and they focus on student learning (Church, 2010:17). The school principals' perception and attitude is critical to the successful integration of IL into the school curriculum. Kuhlthau & Maniotes (2012) agreed that, unless there is optimal cooperation between the school leadership, teachers, school librarian, the ICT co-ordinator and the systems manager, the school would not be able to operate successfully in the 21st century.

Church (2010) explored school principals' perceptions towards IL within the context of the critical incident technique (CIT) in 134 school divisions in Virginia, United States of America. Findings showed that school principals perceive the role of school librarians as synergic with teachers. They also expect school librarians to connect library instruction with classroom instruction, promote reading and literacy, teach technology skills, and provide staff development for faculty. They want school librarians to create welcoming learning environments in their libraries; to be approachable, enthusiastic, and innovative; and be able to interact positively, collaboratively, and proactively with the staff (Church, 2010).

Data obtained from the *School Libraries Work* (2008) research provides evidence that school principals are sometimes unaware of the benefits which the trained school librarian can bring to the educational quality of the school. Some school principals think that school libraries are no longer necessary after all; and that pupils can find all the books and information which they need on the Internet. In some schools, the trained school librarian has been replaced by just a library clerk who scans the books (*School Libraries Work,* 2008).

Research has also demonstrated that school principals are not knowledgeable of the critical role that school librarian plays in student learning (Kolencik, 2001). Most school principals try to foster effective library programmes through budgetary decisions that affect collections and staffing (Hartzell, 2002). In addition, a perception exists among school principals and teachers that there is no longer a need to develop the school library collection because of the availability of the Internet and CD-ROM encyclopaedias (Scheirer, 2000). Furthermore, Church (2008) asserts that less emphasis is being placed by school principals on the educational achievement of students.

The attitude of the school principals towards the school library programme plays a significant role in the success of the implementation of the IL agenda. Radebe (1997) in a study of South African professionally trained teacher librarians found that 61% of respondents were of the view that that their school principals' attitudes towards them were negative and in these schools no libraries were established. Dubazana (2008) in a case study of school library integration into the curriculum in South Africa, found that the school principals played a positive role in the establishment of the school library programme. Dubazana also pointed out that the leadership role of the school principal played a key part in the successful implementation of the school library programme.

3.7. Summary of the Literature Review

This chapter reviewed empirical and theoretical literature in books, journal articles, technical reports, conference proceedings, book chapters and online databases. Due to the extensive amount of literature available on IL, the literature reviewed was limited to that addressing the IL integration in the curriculum especially of secondary schools with regard to goals of IL; IL content; IL resources; IL delivery methods and IL integration strategies; perceptions and attitudes of teachers, librarians, and school principals towards IL.

Overall, the extant literatures revealed that the majority of IL studies are concentrated in western industrialised, English-speaking countries, especially in the United States, Canada, the United Kingdom and Australia. In addition, most of the studies on IL integration are also concentrated in higher education with little focus on secondary schools.

Further literature reviewed showed that throughout the world, the value and importance of IL is relatively well established in the western countries such as the US, the UK and Australia with regard to IL policies and practice, They therefore provide models of best practices in IL that Botswana can learn from. Other than IL policies the literature revealed that role played by different stakeholders through collaboration for IL initiatives bear the desired outcomes.

Furthermore, the extant literature has shown that research into IL integration has relied mainly on either the positivist or interpretive paradigms and ignored triangulating multiple approaches. The current study's point of departure was therefore to apply both positivist and interpretive paradigms in addressing the research problem under investigation on the integration of IL in Botswana senior secondary schools. This approach allowed the simultaneous use of qualitative and quantitative methods thus facilitating numeric and textual data.

Theoretically, extant studies on IL have largely applied constructivist approaches from the education field perspective. However limited studies exist that have used constructivist approaches from library and information sciences especially in a developing country in a secondary school context.

This study used a combination of different theoretical models that are founded on constructivism such as Blooms Taxonomy (Bloom, 1956), Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); American Association of School Library and AASL/AECT framework, (1998). The combination of these theoretical approaches in this study are consistent with paradigm shifts in instruction pedagogy which advocate for a shift from a teacher-centred approach to student-centred learning using project, problem-based learning, inquiry approach, active learning, authentic learning, and self-directed inquiry that are all suited for lifelong learning.

The literature reviewed exposed poor IL infrastructure in developing countries especially in Africa. The lack of well-equipped libraries, lack of trained school librarians and reliance on teacher-centred curriculum were found to be common in countries such as Botswana, Kenya, Senegal, and others.

The next chapter focuses on the methodology used to address the research problem of this study. The research paradigms, research approach, research design and methodology, population, selection of sample size, sampling techniques, data collection instruments, data collection procedures, instruments validity and reliability, data analysis and ethical considerations are described and discussed.

CHAPTER FOUR
RESEARCH METHODOLOGY

4.1. Introduction

The methodology chapter in doctoral research provides a systematic framework to describe, understand, explain and predict research phenomena. It is a way the researcher uses to systematically solve the research problems scientifically (Kothari (2004:8). The three commonly used approaches in research are: qualitative, quantitative and mixed methods, these will be discussed in more detail later in this chapter. The purpose of the study was to investigate the strategies for integrating IL into the curriculum of senior secondary schools in Botswana. The study sought to address the following research questions:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?
4. What are the roles of librarians, teachers, school principals and Director of Curriculum Development in promoting IL?
5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?

The rest of the chapter is organised around the following themes: research paradigms, research approach, research design and methodology, population, selection of sample size, sampling techniques, data collection instruments, data collection procedures, instruments validity and reliability, data analysis and ethical considerations.

4.2. Research Paradigm

Pickard (2007) states that a research paradigm implies the research methodology of an individual's view of how the world dictates the nature of the research they engage with. Creswell (2009:6) refers to a paradigm as "a basic set of beliefs that guide action."

The research paradigm is therefore formulations of reality (ontology), knowledge (epistemology), phenomenon (theory) and how to best learn about the world (methodology) (Babbie & Mouton, 1998:645). Ontology refers to assumptions about the nature of reality or human existence (DuPlooy, 2009:20). Epistemology in contrast, refers to the science of knowledge (DuPlooy, 2009:20) while theory refers to a generalisation that offers a particular explanation of a phenomenon (DuPlooy, 2009:20).

There exist different research paradigms such as positivist, post positivist, interpretive and pragmatism among others. According to Easterby-Smith, Thorpe and Lowe (2002:28) the positivist paradigm is grounded in a research philosophy that proclaims that the "social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensations, reflection or intuition". Similarly, Aliyu, Bello, Kasim, & Martin (2014) assert that the positivist paradigm is regarded as a research strategy and approach that is rooted in the ontological principle and doctrine that truth and reality is free and independent of the viewer and observer. The positivist paradigm is inclined towards the use of survey questionnaires, analytical statistical analysis such as hypothesis testing, random sampling, aggregation, precision and measurement. The post-positivist paradigm emerged as a result of the criticisms of the positivist paradigm. Post positivism is based on critical realist ontology. Within critical realism, social reality is objective but exists with multiple interpretations. These multiple interpretations of social reality are due to the limitations in human enquiry to fully comprehend the reality (Hatch, 2002; Wikgren, 2004). The post positivist paradigm therefore insists that social reality is knowable only in an imperfect and probabilistic manner.

The interpretive paradigm in contrast, is predicated on the premise that society does not exist in an objective, observable form; rather it is experienced subjectively because we give it meaning by the way we behave and to discover the problems that exist within the phenomenon (Leedy & Ormond, 2010:136). Interpretivists believe the social world is therefore understood or interpreted by different people in different situations in different ways since people proceed from different cultures and from different contexts.

By relying on the interpretivist philosophy for this study, the aim is to assist the researcher in understanding the world or views in which the respondents being investigated (teachers, librarians, school principals and the Director of Curriculum Development) live and the way things (information literacy) happen in a given pattern. Understanding social behaviour involves understanding how people define and interpret their particular social situation, that is, how they construct the social realities in their natural environment (Creswell, 2009:21).

Aliyu et al., (2014) assert that there is ongoing debate about whether or not interpretivist and positivist paradigms are entirely suitable for the social sciences. For example, scholars in the social sciences have criticised the positivist framework for being inadequate for researching people because of its weakness in understanding social process. The current study triangulated both the interpretive and positivist paradigms in order to alleviate any shortcomings of using any one of the two paradigms. Besides, the researcher believes that the respondents (teachers, librarians, school principals and Director of Curriculum Development) who were the subjects of study have different, varied experiences and multiple realities on the topic being investigated.

4.3. Research Approach

There are three commonly used research approaches namely; quantitative, qualitative and mixed methods. Ngulube (2005) and Macrina (2005) point out that the choice of which approach to use in research depends on the research topic and the appropriateness of the questions asked.

Neuman (2006) observe that quantitative analysis measures phenomena using numbers in combination with statistics to process data and summarise results. Quantitative research includes the use of statistical analysis (Newman, 2006). The use of quantitative methods is prevalent in IL. Allen (2007) used a quantitative approach in a study of IL of high school, and college students in the United States.

In contrast, qualitative research involves "studying things in their natural settings, attempting to make sense of, or interpret phenomenon in terms of the meanings people bring to them" (Denzin & Lincoln, 2000:3; Gorman & Clayton, 2005:3). Cresswell (2009) opined that qualitative researchers try to study human action from the insider's perspective.

It is a "means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2009:4). Mixed method on the other hand is known as a pragmatist approach since it combines both quantitative and qualitative research methods (Flick, 2009:32) together with the underlying philosophical assumptions. The mixed method is usually more suited in a situation where one approach (e.g. quantitative or qualitative) is first applied and then the resulting findings are subject to the other approach. (e.g. qualitative or quantitative, whatever the case may be). However in a situation where one approach (e.g. quantitative) is used to address a particular set of research questions and another set is addressed using the qualitative approach, this is referred to as triangulation.

The three research approaches (qualitative, quantitative and mixed methods) may also be differentiated on their relationship with research paradigms. While qualitative research design is associated with interpretive paradigm or constructivism, quantitative/mixed method research designs are associated with positivist or post-positivist paradigms. Babbie & Mouton (1998:645) in this regard, state that both positivist and interpretive paradigms are embedded into epistemological issues of quantitative and qualitative approaches respectively.

This study triangulated both quantitative and qualitative approaches. The qualitative and quantitative approaches (triangulation) adopted in this study are consistent with both interpretive and positivist paradigms. The quantitative approach which is predicated on the tenets of the positivist paradigm enabled the researcher to accurately describe the research participants' views on IL integration strategies in secondary schools in Botswana. On the other hand, the qualitative part of this study was informed by the tenets of the interpretive paradigm. The interpretive paradigm is aimed at understanding how people in everyday surroundings construct meaning and explain their events, actions and experiences of their world (Creswell, 2009:21). The aim of using qualitative research in this study was therefore to gain an in-depth understanding of the people under investigation (teachers, librarians, school principals and the Director of Curriculum Development) and find out how they behave in their natural settings (schools and work place) and establish the reasons for the behaviour.

IL literature draws heavily on constructivist approaches, by triangulating both quantitative and qualitative research approaches. School library researchers (Bruce, 2002; Lance & Loertscher, 2002; Lance et al., 2000) have conducted and published many quantitative and qualitative studies because the use of a single methodology often fails to explore all of the components of a single approach. Ngulube (2005:131) on his part claims that using both qualitative and quantitative approaches offer insights that neither type of analysis could provide alone. The qualitative approach in this study allowed for administration of interviews to gain a deeper understanding of librarians, school principals, Director of Curriculum Development and teachers' attitude and perceptions towards IL. On the other hand, the quantitative approach was used to describe, predict and explain quantitative degrees and relationships. By combining both quantitative and qualitative approaches it was possible to obtain comprehensive data and generate confidence in the researcher's findings and conclusions.

4.4. Research Design

Within qualitative and quantitative modes of inquiry there are several theoretical traditions or orientations such as case study, surveys, ethnography, phenomenology and more. Most of IL research relies on surveys and case studies that are consistent with both interpretivist and positivist paradigms. This study applied survey and multi-case study research designs.

Powell & Connaway (2004) refer to survey as the research strategy where one collects data from all or part of a population to assess the relative incidence, distribution and interrelations of naturally occurring variables. Surveys involve setting objectives for information collection, designing research, preparing a reliable and valid data collection instrument, administering and scoring the instrument, analysing data and reporting results with the aim of studying relationship between specific variables. The survey was suited for this study because as Burkell (2003) points out Library & Information Science (LIS) researchers often study needs, challenges and problems of information professionals and information users using surveys.

Creswell (2003) asserts that a survey design provides both qualitative and quantitative descriptions of trends, attitudes or opinions of the population. Case study tends to support largely qualitative studies. Finally survey design was used because it is suited for generating results that have wider applicability. The study of IL demands replicability of the outcomes and also deep understanding of unique situations.

Within the survey, the case study method was used with the goal of contributing to the collective understanding of individuals (teachers, librarians, school principals and Director of Curriculum Development) and related phenomenon (information literacy). According to Yin (2003:8) case study has the capacity "to deal with a full variety of evidence." Case study methodology has been used extensively in the social sciences, particularly in education, because of its capacity to produce views of participants and contexts that are not possible with experimental methodology.

This study was aimed at understanding the strategies being used to integrate IL into the curriculum of senior secondary schools in Botswana. The case study design provided the opportunity to consider each case in depth to understand how teachers, librarians, school principals and Director of Curriculum Development interacted to integrate IL into the senior secondary school curriculum from both practical and policy perspective. The school principals, librarians, teachers and Director of Curriculum Development formed the unit of analysis (Gall & Borg, 2003; Yin, 2003) and were studied separately in detail. Yin (2003) asserts that the case study is more open to presenting complex and multiple perspectives of a case such as implementation and integration of IL into a school curriculum. The case study approach gives policy makers opportunities to increase their understanding of IL program and inform their judgments.

4.5. Population of Study

The population refers to the people who have the answers to the research questions. Brink, Van der Walt & Van Rensburg (2012:131) define a population as the entire group of persons or objects that is of interest to the researcher.

The current study investigated four different categories of groups that were of interest to the researcher: the teachers, librarians, school principals and the Director of Curriculum Development. There are 22 senior secondary schools in Gaborone, Botswana, of which 18 are private and 4 are public schools respectively (Republic of Botswana Minisrty of Education and Skills Development Secondary School list, 2011). Preliminary investigation by the researcher revealed that all 4 public schools and 8 private schools offer IL programmes (Republic of Botswana Vision 2016 News Letter, 2011). Thus these 12 schools made up the total population of the study. Within the 12 schools, there were 900 teachers of which 540 were in public schools, while 360 were in private schools. In addition to this population there were 12 school principals, 12 librarians and one Director of Curriculum Development.

4.6. Sampling Procedure

Cohen, Manion & Morrison (2000) asserted that the quality of a piece of research not only stands or falls by the appropriateness of methodology and instrumentation but also by the suitability of the sampling strategy that has been adopted. Mills (2007) emphasised that a sample of the target population must be drawn in such a way that it is representative of the population.

There are two types of sampling methods: probability and non-probability sampling. Non-probability sampling refers to sampling approaches where subjective judgment plays a role in the selection of the sample (Cohen, Manion & Morrison, 2011:153). Examples of non-probability sampling include: convenience sampling, purposive sampling, snowballing, quota, judgmental, dimensional and more. In contrast, in probability sampling each member of a population has an equal chance of being selected as a member of the sample (Cohen, Manion & Morrison, 2011). Examples of probability sampling include: random sampling, systematic sampling, etc. For the purpose of this study purposive sampling was used to select respondents after sample sizes had been determined using Israel's (1992) table of selecting sample sizes.

The samples of the study population consisted of teachers, librarians, school principals and the Director of Curriculum Development. Respondents for the study were selected because of their respective roles in promoting IL in senior secondary schools in Botswana.

The Israel (1992) table of selecting sample size (see Table 4.1 below) was used to select the sample for teachers from the total population of 900 teachers identified from the 12 schools that were studied.

4. 1: Teachers Sample Size Selection Criteria

Sample size for ±3%, ±5%, ±7% and ±10% Precision Levels Where Confidence Level is 95% and P=.5.

Size of population	Sample Size (n) for Precision (e) of:			
	±3%	±5%	±7%	±10%
500	a	222	145	83
600	a	240	152	86
700	a	255	158	88
800	a	267	163	89
900	a	277	166	90
1000	a	286	169	91

a = Assumption of normal population is poor (Yamane, 1967) - the entire population should be sampled. (Source: Israel, 1992)

The confidence level of the study is in line with established conventions stated by Babbie (2006), who suggests at least a 95% confidence level for any response. Based on Israel's model in Table 4.1 above, the population of 900 teachers yielded a sample size of 277 teachers in all the schools under study. In order to determine the sample size of teachers for each school, the total sample size of teachers was distributed based on the two categories of schools: public and private.

To calculate the sample size for each public schools, the sample of 277 was distributed by dividing 540 (the number of teachers in public schools), by 900 (total number of all the teachers in the study population) and multiplying by the sample of 277 to give the required sample size of 166 teachers from the public schools to participate in the study: (540/900)*277 = 166. Likewise the sample size for the private schools was calculated as follows: (360/900)*277 = 111. The sample size for each school was calculated by dividing the numbers of teachers in each school. For example, the sample size for school PUB1 (public

school 1: pseudonyms were used to identify each school in order to ensure anonymity- see below), was calculated as follows: number of teachers in the school (132) divided by total teacher population (540) and multiplied by the sample size of teachers (166) would give 41 teachers. That is, 132/540*166 = 41. Likewise, the sample number of teachers in the private schools was obtained in the same way. For example, the first private school PVT1: 35/360*111 = 11. Table 4.2 below lists the distribution of teacher sample sizes per school, and (total population of the school librarians, school principals and the Director of Curriculum Development). The school names were given pseudonyms which are also presented in presented in Table 4.2.

Table 4.2: Sample Size

Schools/ Institution	No. of Teachers per school	Teachers sample sizes per school	School Librarians	School Principals Sample size	Director of Curriculum Development
1. PUB1	132	41	1	1	-
2. PUB2	136	42	1	1	-
3 PUB3	138	42	1	1	-
4 PUB4	134	41	1	1	-
1. PVT1	35	11	1	1	-
2.PVT2	34	10	1	1	-
3. PVT3	55	17	1	1	-
4. PVT4	56	17	1	1	-
5. PVT5	60	19	1	1	-
6. PVT6	54	17	1	1	-
7. PVT7	30	9	1	1	-
8. PVT8	36	11	1	1	-
MoE&SD	-	-	-	-	**1**
TOTAL	**900**	**277**	**12**	**12**	**1**

Key: PUB – Public School; PVT – Private School;
MoE&SD – Ministry of Education and Skills Development.

The respondents: (teachers, librarians, school principals and the Director of Curriculum Development) were identified purposively because of their specific role in IL development in the schools. Kothari (2004:59) asserts that purposive sampling procedure does not require any condition for estimating the probability of each item in the population being included in the sample. Moreover, purposive sampling technique allows the researcher to decide what needs to be known and find people with valuable knowledge and life experiences on the subject under study (Patton, 2002, Gorman & Clayton 2005:128).

As already mention in chapter one section 1.5, students were excluded from this study because of the nature of the research problem which placed educators of IL at the centre of the study.

4.7. Data Collection Methods

The collection of data was guided by Madjumdar (2008) who observes that data collection requires the selection of a mode of collection from where the data is entered. The choice of any particular method of data collection is often based on its appropriateness in answering the areas of investigation in a study. The study made use of survey questionnaires, observation checklist and an interview schedule to collect data from the respondents (teachers, librarians, school principals and the Director of Curriculum Development).

The teachers' survey questionnaires (see Table 4.2 above) were delivered to each of the 12 School Principals by the researcher. Each individual school principal appointed a head of department or senior teacher to distribute the questionnaire to teachers who were available or willing to participate in the study. The selection of teachers who participated in the study was based on the fact that they were involved in teaching IL in the schools.

The schools in the study were also sent further information and contacted via telephone or email by the researcher to organise mutually convenient times for data collection. The instrument was developed from a review of the literature. The survey questionnaire contained a list of research-based constructivist instructional practices with a Likert scale of 1-3 for participants to indicate their level of use for each practice (1= Agree; 2=Disagre, 3=I don't know) (Henry, 2003). Babbie, (1991: 180) says that the Likert scale provides researchers with quantitative data,. Such data can be considered descriptive and analyzed using descriptive statistics. Two advantages of using Likert scale are the ease with which the researcher can develop the scale and the fact that reliability can be measured prior to collecting the data (Mills, 2007). The Likert-scale however has the limitations due to a possibility that a total score may hide specific details of a respondent's responses such as opinions or attitudes (Du Plooy, 2009).

The survey questionnaires as well as interview schedules were used to collect data from librarians, school principals and the Director of Curriculum Development (see Appendices: 22 to 26 respectively). Interviews were conducted over a period of four weeks and each interview session lasted 15-30 minutes. The purpose of the interviews with the school principals and the Director of Curriculum Development were purposefully done since they hold key administrative leadership positions and are knowledgeable about issues of policy, budgeting, funding, training and the overall successful implementation and integration of IL into curriculum of senior secondary schools. Each interview was recorded by the researcher. Some interview questions were open-ended to help gather as much qualitative data as possible on the IL content, resources, teaching strategies, roles, attitude and perceptions of librarians, school principals and the Director of Curriculum Development towards IL.

Observing things helps in gathering quick information. Kothari (2004) points out that observation can be used to gather information on what is going on in a specific situation. The researcher can make own observation without asking the respondents questions (Kothari 2004: 96). Krishnaswami & Ranganatham (2010:169) indicate that observation is a systematic viewing of a specific phenomenon in its proper setting for specific purpose of gathering data for a particular study.

Kothari (2004) argues that observation eliminates subjective bias, and information observed by the researcher relates to the current situation in the environment. Du Ploy (2009) adds that observation measures observable human behavior accurately and objectively using observation schedule checklist of the behavior of interest. In this study an observation checklist (see Appendix 21) was used to supplement the findings obtained through questionnaires and interviews.

Observation was done in line with what Cohen, Marion & Morrison (2011:457) refer to as unstructured or non-intrusive descriptive observation that allows a researcher to observe and explain physical setting and resources in a specific facility under study. Cohen, Marion & Morrison (2011) opined that observation could be of facts, for example, number of books in a classroom.

The researcher observed among other things school library lay out, size of the school library, library collection and resources, availability of ICT equipment such as: TV, scanners, video cameras, digital whiteboards, computers, and type of library catalogue in use (manual or electronic). In undertaking the observation the researcher was cautious because as Mills (2007) cautions, as one embarks on observation, one should not be overwhelmed with the task as it is not humanly possible to take everything that the researcher sees during the observation.

Document reviews on the status of IL in the various schools and observations of resources available in the school libraries were used to complement the survey questionnaire and interview (see Appendices 20 and 21 respectively for document check list and observation schedule). Table 4.3 below presents research questions and the data collection tools that were applied.

Table 4.3: Research Questions and Data Sources

No.	Research questions	Approach and method(s)	Data sources
1	What are the goals of IL programs in Senior Secondary schools in Botswana?	Qualitative/ Quantitative	Survey questionnaire, document analysis school records and publications. IL models and standards
2	What are the IL content, resources, and teaching strategies to deliver IL to students?	Qualitative/ Quantitative	Survey questionnaire, semi-structured interview, document analysis Observation
3	How is IL implemented at the policy level in Senior Secondary Schools?	Qualitative/ Quantitative	Survey questionnaire, semi-structured interview, literature review, School curriculum
4	What are the roles of librarians, teachers and school principals and Director of Curriculum Development in promoting IL integration into Senior Secondary School curriculum?	Qualitative/ Quantitative	Survey questionnaire, semi-structured interview, literature review
5	What are the perceptions and attitudes of teachers, librarians, school principals and Director of Curriculum Development towards IL in Senior Secondary Schools?	Qualitative/ Quantitative	Semi-structured interview, survey questionnaire, literature review

As can be seen in Table 4.3 above, a number of methods were triangulated to address the research questions. Mason (2002) indicates that triangulation is necessary because it helps in exploring different parts of phenomenon. It also helps in answering different research questions with different methods collating one source with another to enhance the quality of information.

4.8. Validity and Reliability of Instruments

Validity is a term describing a measure that accurately reflects the concept it is intended to measure (Babbie & Mouton 2007:648). Validity is regarded as a matter of degree in both qualitative and quantitative research. On the other hand, reliability is the degree to which a test consistently measures whatever it measures (Best & Khan, 2006; Mills, 2007). In other words, reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions (Bell, 2005). For something to be reliable means to consistently obtain the same answer when researched at different time (Du Ploy, 2009). Reliability determination of an instrument means that the researcher or user can depend on it for data collection. The layout and design of the questionnaire has a direct bearing on response rates and on the reliability of measures (Chilisa & Preece, 2005). An important step in questionnaire design is to minimize error so as to ensure the validity of the study (Chilisa & Preece, 2005).

To enhance the reliability and validity the researcher adapted questionnaires that have been used previously in similar studies with Cronbach values of above 0.7 such as Kurbanoglu, Akkoyunlu, & Umay (2006:742) information literacy self-efficacy scale, with an alpha reliability coefficient of 0.92. In addition, other survey questionnaire and interview schedule items were adapted from related studies such as: Cahoy, 2002: A survey using questionnaire developed from AASL/AECT, 1998: Connecting K-12 and College Standards for Information Literacy; Dotan & Aharony, 2008: A survey of information literacy roles of library media specialists in high schools in Israel; Onen, 2011: A survey of Maru-a-Pula IL program in Botswana, Henry, 2003: Frequency of use of constructivist teaching strategies: effect on academic performance.

Henri, Hay, & Oberg, 2002: A study of the school library-school principal relationship: Guidelines for research and practice, Rojtas-Milliner, 2006: A survey of school library change process and the socio-political realities of implementing a curricular integrated high school IL programme. The use of multiple sources of data collection such as survey questionnaire, semi structured interview, observation checklist and an interview schedule enhanced the validity of the study as advised by Creswell (2003) and Merriam (2002).

Powell (1997:105) stressed that questionnaires need to be pre-tested or evaluated to improve the standard of questioning, before they are used in a survey. Pretesting is important because it can solve problems the researchers did not solve in the design of the survey instrument (Fowler 2002:114). Brink, van der Walt & van Rensburg (2012:157) also pointed out that the questionnaire should be tested on a small sample and revised if necessary. A pre-test gives the researcher an opportunity to identify questionnaire items that tend to be misunderstood by the participants, or do not obtain the information that is needed (De Vos et al. 2011:484).

The survey questionnaires were pilot-tested on three different schools not under study. These included 2 teachers: one from Kgari-Sechele II secondary school in Molepolole and a teacher from Kagiso secondary school in Ramotswa 1 school librarian and 1 school principal from Broadhusrt School. The pretesting questionnaire was delivered personally to the individuals after arranging with the schools via telephone. The questionnaire was filled on the same day and feedback obtained from the respondents.

This was to establish in general how the respondents would react to the questions as advised by Babbie and Mouton (2001: 224). In addition, the instruments were given to two professors from the University of Botswana to review and advise on the possible areas of revision. This afforded the researcher the opportunity to identify questions that could be misunderstood by the respondents. Following the pilot study and the review of the questionnaires by the two professors, relevant adjustments and corrections to the questions were undertaken. Ambiguous questions that did not obtain the desired information, poor instructions to questions, unnecessary questions, and missing questions to establish general reactions to the questions as pointed out by Babbie & Mouton (2001:224) were removed or reworked.

Some items in the questionnaires were revised based on (Brink, van der Walt & van Rensburg, 2012). Minor typographic errors in the questionnaire were also corrected before the questionnaire was administered to the intended target population.

4.9. Data Analysis

Yin (2003:109) describes data analysis as consisting of "examining, categorising, tabulating, testing or otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study." Data collected through interviews were transcribed by the researcher during the interview session or immediately thereafter.

This was achieved by organising data systematically in a standard format that allowed the researcher to draw conclusions about the characteristics and meaning of recorded data (Babbie & Mouton 2001:383). The themes for thematic analysis were derived from theoretical variables identified in this study.

The data collected was entered directly to SPSS database for analysis to generate simple descriptive statistics. The analysis of data using SPSS allowed the researcher to explore and describe patterns in the study. Microsoft Excel was used for generating simple tables Content analysis was used to analyse the open-ended responses of the questionnaires. According to Teddlie & Tashakkor (2009: 263); Creswell & Plano Clark, (2011:203) triangulation methods of data analysis enables quantitative and qualitative data analyses to be integrated in a study.

4.10. Ethical Considerations

Ethics are principles of conduct that are considered correct by a given profession or group (Bailey, 1994: 420). Du Ploy (2009) refers to ethics as a set of standards for conducting research in a morally acceptable manner by respecting respondents' privacy, confidentiality and institutional or professional control.

The research complied with the University of KwaZulu-Natal Ethical Protocol (see Appendix 4 for the ethical clearance letter). In addition, permission was granted to undertake the study in senior secondary schools by the Ministry of Education and Skills Development Secondary Department in Botswana (see Appendices 2 and 3 respectively) and the school principals (see Appendix 5).

To further comply with ethical requirements of research all participants were informed by the researcher about the purpose of the study (see Appendices 6, 7, 8, 9 respectively). The participants were also assured of confidentiality. In addition, the consent form included a section explaining that participation was entirely voluntary. According to (Cohen, Manion & Morrison, 2011), informed consent is the procedure in which individuals choose whether to participate in a study after being informed of facts that would be likely to influence their decisions. Respondents signed consent form agreeing to participate in the study. In addition, the form explained that participants retained the right to decline participation in the study at any point once the study began, if they chose to do so.

Participants were encouraged to seek clarification on all matters pertaining to their participation; and, in no way, were they coerced to agree to participate, or continue participating. Participants were provided with full contact information for access to the researcher in the event of unexpected circumstances or other concerns related to their participation in the study (Hatch, 2002). The names of participants and the schools in which they worked were not identified in the study. When the use of a name was necessary for clarity in reading and writing, pseudonyms were used in both field notes and the final report (Spradley, 1980).

4.11 Summary

This chapter focused on presenting research methodological issues including research paradigms, research design, population and location of the study, sampling procedure, data collection instruments and procedures, data analysis, instruments validity and reliability, and ethical consideration. The rationale and justification for using the qualitative and quantitative approaches the survey design within multiple case studies was presented.

The study like previous LIS researches did not deviate from the philosophical social sciences approaches to research. The study therefore used methodological triangulation (using both qualitative and quantitative) with the belief that it is better to look at something from several angles than only from one angle. The results of data collection and analyses are presented in the next chapter (Chapter Five).

CHAPTER FIVE
DATA ANALYSIS AND PRESENTATION OF FINDINGS

5.1. Introduction

The purpose of data analysis and presentation of findings chapter in a doctoral thesis is to systematically present answers to the research questions posed in the study and to adequately communicate the research findings in a meaningful way (Neuman, 2011:507).

The purpose of this study was to investigate the strategies used to integrate IL into the curriculum of senior secondary schools in Botswana. The study sought to address the following research questions:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?
4. What are the roles of librarians, teachers, school principals and the Director of Curriculum Development in promoting IL?
5. What are the attitudes and perceptions of teachers, librarians, and school Principals towards IL?

The rest of this chapter is organised around the following major themes: response rate; demographic details of respondents (e.g. age, gender, level of education, subjects taught, etc.); goals of IL in senior secondary schools; IL content, resources, and teaching strategies; IL implementation at policy level in senior secondary schools; roles of teachers, librarians, school principals and Director of Curriculum Development in promoting IL senior secondary schools; and perceptions and attitudes of teachers, librarians and school principals towards IL.

5.2. Response Rate

Twelve schools (4 public and 8 private) participated in the study. The population consisted of teachers, librarians, school principals and the Director of Curriculum Development in the Ministry of Education and Skills Development (MoE&SD). The response rates are summarised in Table 5.1.

Table 5.1: Response Rates from Survey

Institution	Teachers		School Librarians		School Principals	
School	Total Questionnaire Distributed (N=277)	Returned (N=150)	Semi-structured Questionnaire (N=12)	Semi-structured Questionnaire/Interview (N=10)	Semi-structured Questionnaire/Interview (N=12)	Returned/ (N=12)
PVT1	11	11 (100%)	1	1 (100%)	1	1 (100%)
PVT2	10	10 (100%)	0	0 (0%)	1	1 (100%)
PVT3	17	14 (82%)	1	1 (100%)	1	1 (100%)
PVT4	17	17 (100%)	1	1 (100%)	1	1 (100%)
PVT5	19	19 (100%)	1	1 (100%)	1	1 (100%)
PVT6	17	17 (100%)	1	1 (100%)	1	1 (100%)
PVT7	9	0 (0%)	0	0 (0%)	1	1 (100%)
PVT8	11	11 (100%)	1	1 (100%)	1	1 (100%)
PUB1	41	17 (41%)	1	1 (100%)	1	1 (100%)
PUB2	42	12 (29%)	1	1 (100%)	1	1 (100%)
PUB3	42	10 (24%)	1	1 (100%)	1	1 (100%)
PUB4	41	12 (29%)	1	1 (100%)	1	1 (100%)

Key: PVT – Private School, PUB – Public school

One hundred and fifty (54%) teachers responded to the questionnaire while ten (83%) participated in the study. The teachers' response rate was lower than expected because of very poor return rate from the Public school that formed the largest number teacher' sample size. Also one principal of a private school prevented her teachers and the librarian from responding to the survey questionnaire and so there was zero return rate from that school (see Appendix 17 and 18). All the school principals of the 12 schools (100%) participated in the study as was the Director of Curriculum Development (100%).

5.3. Respondents' Demographic Information

This section presents respondents' school of affiliation, gender, age, level of education, academic qualifications, work experiences, length of service, subject taught, and class size taught. Sections 5.3.1 - 5.3.4 present teachers demographic details, librarians' demographic data, the school principals' demographic information and the demographic profile of the Director of Curriculum Development respectively.

5.3.1 Teachers' Demographic Information (N=150)

A total of 150 teachers with equal gender distribution, from 12 schools (4 public and 8 private) participated in the study. Ninety-nine (66%) of respondents were from the private schools while 51(34%) were from public schools. Twice as many private school teachers responded to the questionnaire (66%) as compared to public school teachers (34%).

a) Teachers' Age Distribution. The results shown in Figure 5.1 reveal that the majority of the teachers were in their thirties: 52 (35%) and forties: 62 (41%) respectively. The youngest respondent among the teachers was 24 years while the oldest was 64 years old. Twenty-two (15%) teachers were in the age range of 50 to 59 years. Eight (5%) of the respondents did not state their age.

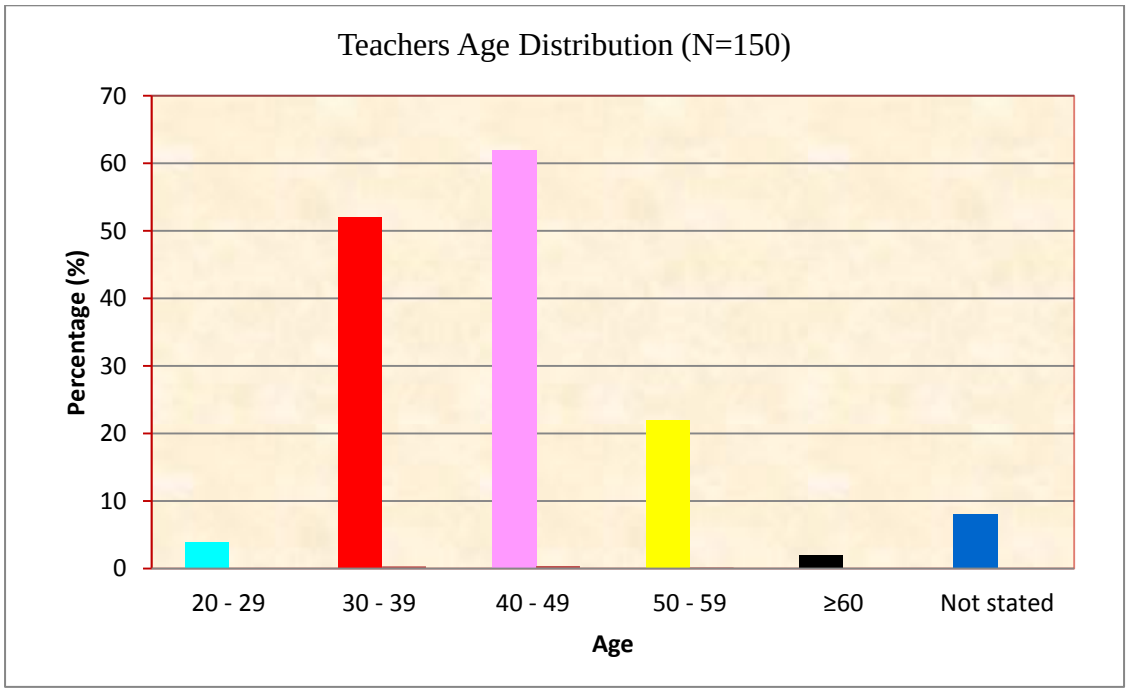


Figure 5.1: Teachers Age Distribution

b) Education Level of Teachers: Most of the teachers had high levels of education as shown in Figure 5.2 below. Nearly 69% of the teachers had Bachelors' degrees while 24% had Masters' degrees. Only 7% were holders of diploma qualifications. Nearly a quarter of the teachers (23%) had Bachelor of Arts degrees with an equal number (24%) holding a Bachelor of Education degree and another 26% holding Bachelor of Science degrees. There were more teachers 26 (17%) from private schools holding Masters degrees compared to only 10 (7) from public schools.

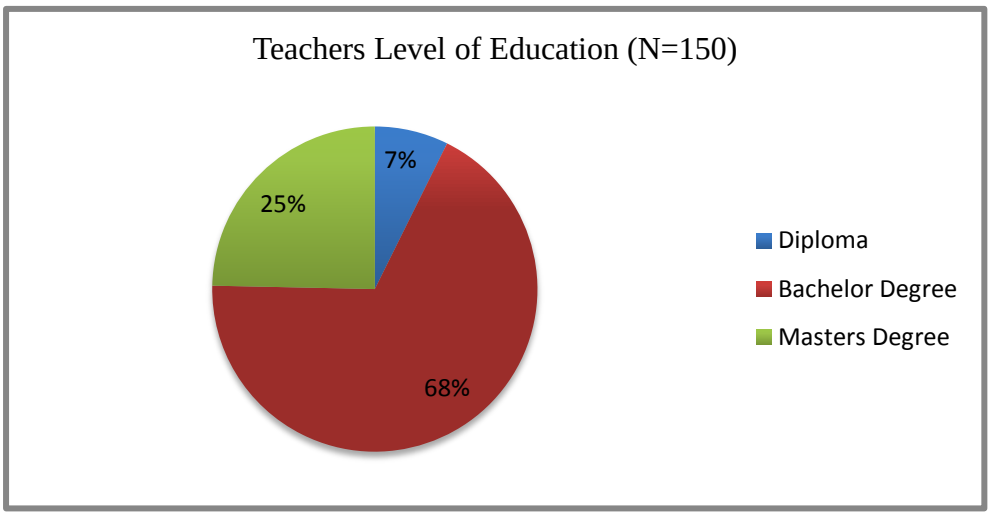


Figure 5.2: Teachers Level of Education

c) Length of Service of Teachers in the Current School: More than a half of teachers (58%) had served their current school for up to 5 years. One teacher had been with the same school for over 21 years. The details of the results are shown in Table 5.2.

Table 5.2: Teachers Length of Service at Current School (N=150)

Years Spent as Teacher at Current School	Frequency	Percentage
1 – 5	87	58%
6 - 10	45	30%
11 - 15	12	8%
16 - 20	3	2%
+21	3	2%

d) Subjects Taught by Teachers*:* Although most teachers taught multiple subjects, the majority taught English Language, Sciences and ECOBUSAC (Economics, Business, Accounting & Commerce) respectively. The subjects they taught are clustered into ten (10) broad groups and presented in Table 5.3 below.

Table 5.3: Subject Taught by Teachers (N=150)

Subjects	Frequency	Percentage
Agriculture	3	2%
Computer Studies and ICT	10	7%
Creative Art (Visual art, Design and technology, Home economics)	8	5%
ECOBUSAC (Economics, Business, Accounting & Commerce)	25	17%
English & Literature	26	17%
Humanities (History, Geography, Religious Education, Development study)	19	13%
Mathematics	16	11%
Other Languages (French, Setswana & Afrikaans)	9	6%
Sciences (Biology, Physics & Chemistry)	29	19%
Social studies and PE	5	3%
Total:	150	100%

e) Level at which Teachers Taught: Although teachers were assigned to teach one dedicated class they also taught multiple subjects across different classes ranging from forms 1-6 in the private schools, and forms 4-5 in the public schools respectively. A third of private school teachers taught at Cambridge International General Certificate of Secondary Education (IGCSE) level, whereas in public schools, a third of the teachers taught at the Botswana General Certificate of Secondary Education (BGCSE) level. The details of the results are presented in Figure 5.3 below.

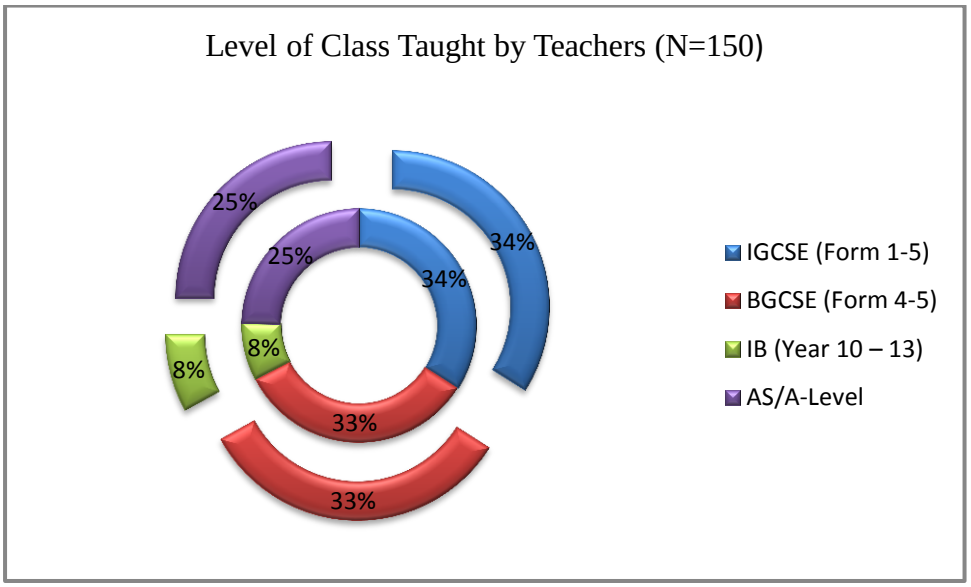


Figure 5.3: Level of Class Taught by Teachers

As shown in Table 5.4, the average class size taught by each teacher ranged from 27 to 45 students with a median size of 25. The private schools had a maximum of 28 students per class while some public schools had up to a maximum of 45 students per class.

Table 5.4: Class Size Taught by Teachers (N=150)

Class size:	Frequency	Percentage
1 – 9	2	1%
10 - 19	17	11%
20 - 29	83	55%
30 - 39	13	9%
≥40	35	24%

5.3.2. Librarians' Demographic Details (N=10)

Ten out of twelve librarians responded to the survey giving a response rate of 83%. Two private school librarians did not take part in the study, one of the librarians died at the time the study was being undertaken and the other was denied permission to participate in the survey by the principal of her school. Six librarians were from private schools and four were from public schools. Ninety percent of the librarians were females and there was only one male.

a) Librarian's Age Category and Years of Experience: The results in Table 5.5 below present the librarians' age category, years of experience and years spent at current school. Most of the respondents were relatively young (aged 30-39 years). Six (60%) had served as librarians for about 10 years or more. Four librarians had worked at their current school for over ten years.

Table 5.5: Librarians' Age and Experience (N=10)

Age category %		Years spent as Librarian (Experience) %		Years spent as Librarian at Current School %	
35-39	30%	<5	30%	1-4	30%
40-44	20%	6-10	30%	5-9	10%
45-49	20%	11-19	20%	10-14	40%
50-54	20%	20-30	10%	15-20+	10%
55-60	10%	Not stated	10%	Not stated	10%

b) Librarians' Education Background: The librarians were of diverse educational backgrounds. Most librarians had at least a bachelor's degree and above (60%). Three had bachelor's degrees in Library and Information Studies while the other two had Bachelor of Arts degrees. Three librarians had Masters degrees, of which two had Masters of Library and Information Studies and one had Master of Arts. In total, five librarians were trained professional librarians and one had a diploma qualification in library studies. The remaining four were professional teachers from the public schools working as teacher librarians. All the 4 (40%) librarians from public schools taught classes at forms 4 and 5 levels respectively. One (10.0%) librarian from a private school taught at Grade 7 to 13 levels. The male respondent from the private school was a professional teacher and not a trained librarian. He managed the school library, and taught English at Cambridge International Advanced Subsidiary (AS) and Advanced Level (A2) levels. Four (40%) of the professional librarians had no teaching roles but managed the library.

c) Subjects Taught by Librarians*:* Regarding subjects taught by librarians, four teacher-librarians taught English Language. Four private school librarians did not teach any subject but offered library services to the school. One librarian taught IL while another taught Religious Education.

d) Class Sizes Taught by Librarians*:* In general, the smallest class size taught by librarians consisted of 18 students while the largest class consisted of forty-five (45) students. The class sizes in public schools tended to vary from forty (40) to forty-five (45) students, double the sizes in private schools with typically eighteen (18) to twenty-eight (28) students per class.

5.3.3. School Principals' Demographic Information (N=12)

The subsequent analysis consists of data collected from the twelve senior secondary schools principals, eight from private schools and four from public schools. As shown in Table 5.6, in general, two-thirds of the school principals were males; and three were female. Two female school principals were from the private schools and only one was from a public school. Three of the male school principals were in public schools and six male school principals in private school (see results in Table 5.6)

Table 5.6: Gender Distribution of the School Principals (N=12)

Gender distribution		Frequency	Percentage
Gender	Male:	9	75%
	Female:	3	25%
		TOTAL:	100%

a) Age Distribution and Work Experience: The results in Table 5.7 below show age of the principals of schools, work experience, and number of years working in the current school. The school principals were in the age range between 45 and 63 years. The longest serving principal of a school, with 36 years' work experience, had worked with the current school for one year and did not teach any class. The other school principal with 35 years of experience had been with the current school for 19 years. Most of the school principals had served their current schools for over 5 years and above.

Table 5.7: Age Distribution and Work Experience of the School Principals (N=12)

Age	Frequency/ Percentage	Work Experience	Frequency/ Percentage	Years as principal at current school	Frequency/ Percentage
45-49	1 (8%)	3-5	3 (25%)	1-4	3 (25%)
50-55	5 (42%)	6-9	3 (25%)	5-9	6 (50%)
56-59	2 (17%)	10-19	4 (33%)	10-14	0%
60-63	4 (33%)	20-34	0%	15-20	3 (25%)
		35-36	2 (17%)		

b) Subjects Taught by the Principals: The results in Table 5.8 show the subjects and levels that were taught by principals of schools. Two-thirds of the school principals taught subjects such as Administration, Mathematics, English, Geography and Bible Studies in descending order of frequency. Although a half of the school principals taught higher classes (forms 4, 5 and A-Levels respectively), the other half did not indicate at what level they taught.

Table 5.8: Subjects and Levels Taught by the School Principals (N=12)

Subject taught by Principals	Frequency/ Percentage	Level Taught by Principals	Frequency/ Percentage
Administration	4 (33%)		
Bible Studies	1 (8%)	Form 4-5	3 (25%)
English	2 (17%)	A-Level	3 (25%)
Geography	2 (17%)	None	6 (50%)
Mathematics	3 (25%)	TOTAL:	12(100%)
TOTAL:	12(100%)		

c) Levels of Education of the Principals of Schools: As expected, most school principals had high levels of education, with 50% of them holding Masters degrees. Five (42%) school principals from the private schools had Masters degrees while the public schools had only one principal with a master's degree.

5.3.4. Director of Curriculum Development

One male Director of Curriculum Development was interviewed and completed a semi-structured questionnaire on various aspects of Information Literacy. He was aged 53 and possessed a Masters degree. He had worked for four years as the Director of Curriculum Development.

5.4. Goals of Information Literacy in Senior Secondary Schools

The survey questionnaire was used to address goals of IL using the Constructivist model as the overarching theoretical lens. The other complementary theoretical lenses that were used included Blooms Taxonomy (Bloom, 1956), Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); and American Association of School Library and (AASL/AECT, 1998).

The teachers were asked to rate eight statements on perceived goals of IL that included: 1) To provide learning experiences that make students and others to become discriminating consumers and skilled creators of information; 2) To increase awareness of IL among librarians, administrators, teachers, and students; 3) To provide an instructional framework through which librarians and teachers equip students with research skills, critical thinking, and writing competencies in schools; 4) To prepare students to become independent, lifelong learner and have the ability to appreciate wide-range of information, gain new knowledge and fresh insights into the information society; 5) To prepare students to become independent, lifelong learner and to have the ability to appreciate wide-range of information, gain new knowledge and fresh insights into the information society; 6) To provide leadership and encourage cooperative constructivist inquiry-based instruction, group project in which teachers are facilitators;

7) To provide physical access to information through a carefully selected and systematically organised local collection of diverse learning resources that represent a broad range of subjects and formats; 8) To equip students with competencies for selecting, retrieving, analysing, evaluating, synthesising, creating, and communicating information in all formats and all content areas of the curriculum.

As evidenced by the findings presented in the Table 5.9, teachers' responses seem to suggest they understood what constituted the goals of IL programmes in senior secondary schools.

Table 5.9: Teachers Understanding of Goals of IL Programmes (N=150)

	Goal of IL Programme	Agree	Disagree	Don't Know
i.	Provide learning experiences that make students and others to become discriminating consumers and skilled creators of information through comprehensive instruction in using a wide range of resources and technology equipment for accessing local and remote information to thrive economically in the information society an communication age.	128 (85%)	22 (15%)	0 (0%)
ii.	To increase awareness of IL among librarians, administrators, teachers, and students of its benefits and importance in academic success that prepares students adequately for higher education and the labour market.	129 (86%)	21 (14%)	0 (0%)
iii.	To give instructional framework through which librarians and teachers equip students with research skills, critical thinking, and writing competencies in schools.	117 (78%)	33 (22%)	0 (0%)
iv.	To prepare students to become independent, lifelong learner and to have the ability to appreciate wide-range of information, gain new knowledge and fresh insights into the information society.	134 (89%)	16 (11%)	0 (0%)
v.	To equip students for the rapidly expanding world of ICT in the classroom and the outside world.	116 (77%)	34 (23%)	0 (0%)
vi.	Provide leadership and encourage cooperative constructivist inquiry-based instruction, group project in which teachers are facilitators of creative and collaborative learning environment that is integrated into the curriculum to help all students achieve information literacy in teaching and learning.	127 (85%)	23 (15%)	0 (0%)
vii.	Provide physical access to information through a carefully selected and systematically organised local collection of diverse learning resources that represent a broad range of subjects and formats.	69 (46%)	81 (54%)	0 (0%)
viii.	Equip students and develop effective cognitive strategies for selecting, retrieving, analysing, evaluating, synthesising, creating, and communicating information in all formats and all content areas of the curriculum.	130 (87%)	20 (13%)	0 (0%)

In contrast, when librarians were asked to state the goals of IL in their specific schools in an open-ended question, two overriding themes emerged:

i. Helping students to make use of library resources by teaching them how to find the needed information, and
ii. Preparing students for university and higher education.

Librarians in two schools had nothing concrete to report. Four librarians (40%) understood the goals of IL as being to equip students with research skills needed to acquire, interpret, evaluate, and apply information.

The librarians who responded also emphasised that IL should develop students for lifelong learning and cultivate reading skills among students. In one of the schools, a librarian reported:

> *"The goal of information literacy is or should be to equip students with the skills of searching, locating and using information in its various formats in an effective way. This involves evaluating and refining information, using citations and writing bibliography."(A female librarian aged 52, from a private school).*

A librarian in one of the schools stated the goal of IL as to empower staff and students with information as reflected in the verbatim statement below:

> *"To empower both staff and students with information while at the same time supporting the school's academic programme."(A female librarian aged 39, from a private school).*

In summary, the goals of IL were relatively understood by the school librarians.

Like the teachers, the 12 principals of schools, expressed different opinions about the goals of IL programmes. The majority (92%) of the school principals acknowledged the important role played by IL in educating students to become skillful users of information. All agreed that IL keeps students abreast with current trends in the information society by making them access information independently and become lifelong learners.

The majority (92%) of school principals understood goals of IL to include:

i. Preparing students adequately for higher education or even for the labour market.
ii. Giving an instructional framework through which librarians and teachers equip students with research, critical thinking, and writing competencies in schools.
iii. Equipping students to be able to identify, locate, evaluate, and effectively use information to solve problems.
iv. Enabling students to rapidly expand their knowledge in the world of ICT in the classroom and the outside world.
v. Encouraging cooperative learning in which teachers are facilitators of creative and collaborative learning environment.

In general, all the school principals were united about the goal of IL being to keep learners abreast with trends in the information society and assist to transform learners to become lifelong independent learners who can find relevant information and use it to solve problems.

The Director of Curriculum Development was asked (see question A1 in the interview schedule Appendix 26) to state his views on the goals of IL and his response is reflected verbatim below:

> *"My understanding of information literacy is that it allows people, students inclusive to carry out independent information research and retrieve information from the library or the Internet and to critically evaluate and use the information to solve problems." (Male director of curriculum development aged 53).*
>
> *"The goal of information literacy is to produce independent thinkers. So there is need to equip our students with life-skills, other than just teaching them to pass the Botswana General Certificate of Secondary Education (BGCSE) examinations. This way, students would become more successful at universities and graduate as a better workforce in the economy." (Male director of curriculum development aged 53).*

The Director of Curriculum Development also stated that IL enabled learners to source, synthesise, evaluate and use information to solve problem. Moreover, he pointed out that IL prepared students not only for higher education but also for the job market in the rapidly expanding information age.

The respondent stated among other things that the main aim of IL was to produce students who are skillful users and producers of information to promote economic development. He indicated that IL literacy should aim at enabling learners to identify, locate, evaluate, and effectively use information. IL encourages cooperative and independent learning and enables students to think critically and write and produce good essays and coursework. The Director of Curriculum Development added that because of the importance of IL in the education process, the MoESD was in the process of equipping all schools with computers to expand the world of ICT in the classroom.

5.5. IL Content, Resources, and Teaching Strategies

This section presents data on the views of all four respondents regarding IL content, resources and teaching strategies. The teachers in particular were asked to rate statements highlighting the ideal IL curriculum content that should be delivered in senior secondary schools. The questions were structured in *"agree" or "disagree or "don't know""* format for the teachers, while the librarians, school principals and the Director of Curriculum Development was interviewed and also completed a semi structured questionnaire.

5.5.1. Information Literacy Content

Thirteen listed items on IL content required respondents to answer *"agree" or "disagree or don't'know."* The results in Table 5.10 show most teachers 112 (75%) said use of print and electronic sources was being taught. Up to 76 (51%) said citing sources of information and writing references or bibliography in assignments was also being taught. Eighty-six of the teachers (57%) said the use of dictionary, glossary, encyclopaedia, newspaper, almanac, indexes, magazines and differences between fiction, non-fiction books and parts of a book was part of part of IL content. There was general agreement by 50% of teachers that use of library catalogue to search library materials by author's name, title or subject in the content of IL was being taught. However 75 (50%) disagreed that this aspect was included in the IL content. More than fifty percent 76 (51%) of teachers noted that content pertaining to examining, organising, and evaluating information from various sources was being taught to students while 74 (49%) disagreed.

The majority 101 (71%) of teachers agreed IL content pertaining to library orientation, (policies, rules, procedures for checking out books, and location of library materials) were constantly taught while a small number 49 (29%) disagreed. Regarding areas of critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts) ninety (63%) teachers agreed that these aspects were being taught while up to 60 (37%) disagreed. Eighty-four (56%) of the teachers indicated agreed IL appreciation, problem-solving and the research process were offered in the school to students but 66 (44%) of teachers were in disagreement. The detailed results are given in Table 5.10 below.

Table 5.10: Teachers Responses on IL Content (N=150)

IL Curriculum Content		Agree	Disagree	Don't know
i.	Use of dictionary, glossary, encyclopaedia, newspaper, almanac, Indexes, magazines and differences between fiction, non-fiction books and parts of a book.	86 (57%)	64 (43%)	0 (0%)
ii.	Effective use of print and electronic sources	112 (75%)	38 (25%)	0 (0%)
iii.	ICT skills related to effective use of Internet, websites and social media.	95 (66%)	55 (37%)	0 (0%)
iv.	How to use library catalogue to search for library materials by author, title and subject entries.	75 (50%)	75 (50%)	0 (0%)
v.	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts) and how to evaluate quality of information from various sources.	76 (51%)	74 (49%)	0 (0%)
vi.	Cite sources of information and write references or bibliography for assignments.	74 (49%)	76 (51%)	0 (0%)
vii.	Creation, application and effective communication of information to others.	71 (47%)	79 (53%)	0 (0%)
viii.	Basic knowledge of information laws (respect of intellectual freedom and property rights.)	78 (52%)	72 (48%)	0 (0%)
ix.	Library orientation, (policies, rules, procedures for checking out books, and location of library materials).	101 (71%)	49 (29%)	0 (0%)
x.	Library physical layout, classification scheme, indexing, keywords, catalogue and call number of books in the library.	74 (49%)	76 (51%)	0 (0%)
xi.	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts).	90 (63%)	60 (37%)	0 (0%)
xii.	Information ethics related to plagiarism and its consequences.	76 (51%)	74 (49%)	0 (0%)
xiii.	Information and literacy appreciation, problem-solving and the research process.	84 (56%)	66 (44%)	0 (0%)

In contrast, the open-ended responses from the librarians about IL content revealed interesting results in comparison with the teachers. In general the librarians indicated that there was no clearly defined IL content or syllabi. The majority of librarians 8(80%) indicated having no clearly defined IL curriculum in their schools. Only 2(20%) librarians: one from a public school and the other one from a private school said they had some form of IL content.

The preliminary investigation indicated that IL was taught to students in all the schools in the study. The librarians indicated that there was no clearly defined IL content or syllabi to guide them teach. The majority of librarians 7(70%) indicated having no clearly defined IL curriculum in their schools. Only 3(30%) librarians: two from the private schools and the other one from a public school said they had some form of IL content.

In general, the librarians said their IL content was aimed at teaching the students to : exhibit proper library media behaviour, to know and follow the library rules and procedures, to be familiar with the layout and organisation of the library in order to locate needed materials, to recognise style elements of various authors and illustrators, to know how to differentiate between fiction and nonfiction books, how to locate books on the shelves by using the call numbers, how to use special collections such as references biographies and African writers series, multilingual collections and Botswana collections.

The librarian from private school indicated the IL content in her school covered how to locate and use the periodicals section of the library, how to use the card and electronic computerise catalogue to locate materials on particular subjects, to know information about interlibrary loan and what procedure to follow to get them, how to select appropriate resources for reference information, how to use primary & secondary information sources to enhance research, how to paraphrase information to avoid plagiarism, facts on understanding consequences of plagiarism and the need for documentation when doing a research project, how to prepare a bibliography, how to apply the use of Turn-it-in software in every assignments and project work among others.

The librarian concluded by pointing out that the International Baccalaureate (IB) inquiry learning programme offered in the school:

> *"Engaged students in an in-depth study of a topic of their interest within a chosen subject. Emphasis is placed on the research process, formulating an appropriate research question; engaging in a personal exploration of the topic, communicating ideas and developing an argument. Students are supported throughout the process with advice and guidance from a teacher's supervision." (A female librarian aged 60, from a private school).*

Meanwhile the librarian from one of the public schools stated that no specific IL content existed, but orientation was offered to new students by guiding them on how to use the library by issuing brochures and posters. IL skills were also taught as part of English lessons on reading skills, notes taking and how to write good essays. The librarian further noted:

> *"I am not a trained librarian. I am a teacher of Religious Education managing the library; The IL content has no stipulated coverage. So it's provided on voluntary basis at the discretion of the teacher. IL is conducted through library lessons and students consult the librarian at tea break or lunch time with their IL problems." (A female librarian aged 38, from a public school).*

The school principals were also asked to give their views on what constituted or should constitute IL content taught at their schools. The majority ten (83%) agreed that the following IL content was delivered to students: 1) Effective use of a dictionary, glossary, encyclopaedia, fiction, non-fiction, atlas, the Internet, newspaper, almanac, Indexes, and magazines. 2) How to create and effectively communicate information to others. 3) To understand and respect the virtues of intellectual freedom and property rights. On the other hand, thirty-four percent of the school principals doubted if the following IL content was delivered: 1) Citation and how to write references and or bibliography for assignments. 2) How to use library catalogue to search for library materials by author, title and subject entries. 3) How to examine, organise, synthesise and evaluate quality of information from various sources. 4) Physical layout of the library, the general concept of the Dewey Decimal Classification Scheme and call number of books in the library.

It appeared from the responses of both the teachers and the principals that IL content such as the use of library catalogue to search for library materials by author, title and subject entries was not effectively delivered to students. Likewise, over fifty percent of both teachers and school principals were worried the IL content of how to cite sources of information and write references or bibliography for assignments were also not delivered to students.

The Director of Curriculum Development was interviewed about IL content that should be delivered or was being delivered to senior secondary schools in Botswana. The respondent said no content existed, but desired that such content should cover skills, knowledge, and attitudes on how to find, evaluate, and use information to improve students' achievements.
He added that IL content should contain significant elements of active learning, including peer assessment elements. Such content should be flexible and adaptable in all senior secondary schools. The respondent also felt that students should be taught how to use resources and be able to distinguish between fiction and non-fiction books, how to use a dictionary, glossary, and encyclopedias, how to cite and write bibliography, how to use the library catalogue, how to avoid plagiarism; how to effectively search the internet, how to solve problem and become lifelong learners.

The respondent noted that having a robust IL curriculum would help students to use information to solve problems. He supported the fact that IL content should be modular consisting of ongoing classes to meet the developing needs of students not only during their whole secondary school period, but also for just one-shot library orientation sessions as is being done in senior secondary schools across the country. The respondent also agreed that IL should be embedded into the school curriculum thereby, forming important part of academic teaching, or be run closely alongside activities related to students' core subject context.

5.5.2. IL Resources

According to Constructivism, the underlying theory of this study as well AASL & AECT IL framework, adequate resource collection in the school library is an essential component for teaching IL (AASL & AECT, 1998).

From the survey, the common resources that were used to deliver IL included magazines, journals, newspapers, personal resources, prescribed textbooks, e-resources such as CDs, CD-ROM, videos, DVDs, audio tapes, online databases e-mail, Chat, Website, Blog, and computer software programmes. As reflected in Table 5.11 below, less than a half of the teachers used electronic media and computer software programmes to deliver IL. Three conventional sources that teachers regularly used included prescribed text books 93(62%), followed by their personal resources 85(57%) and the Internet. The majority 105 (70%) of teachers did not use social media platforms such as email, chat, website and database and computer software programmes to prepare research topics or assignments for students.

Table 5.11: Resources used by Teachers to Teach IL (N=150)

Resources used by teachers		Regularly Frequency	Occasionally Frequency	Never Frequency
i.	Internet in the library/school to locate information.	61 (41%)	48 (32%)	41 (27%)
ii.	Subscribed textbooks.	93 (62%)	34 (23%)	23 (15%)
iii.	Magazines, journals, newspapers.	42 (28%)	70 (47%)	38 (25%)
iv.	Own personal resources.	85 (57%)	45 (30%)	20 (13%)
v.	Electronic digital resources	31 (21%)	76 (51%)	43 (29%)
vi.	Subscribed and free online databases	37 (24%)	53 (35%)	60 (40%)
vii.	E-mail, Chat, Website, and Blog.	34 (23%)	23 (15%)	93 (62%)
viii.	Course curriculum related computer Software	26 (17%)	18 (12%)	106 (71%)

Regarding wireless connectivity, about 65 (43%) of teachers from private schools indicated they had wireless connectivity in their schools while 41 (27%) teachers from the public schools indicated that they had also wireless connectivity but these were very poor and erratic due to power outages.

In the open-ended questionnaire, teachers were asked to state the IT resources available in their schools and to indicate if these resources they used were adequate. The most popular resources teachers stated were available in the schools included computers, projection equipment, scanners, and digital Whiteboard.

Other IT resources used by teachers in their schools included digital and video cameras. A significant number of teachers 67 (45%) stated their schools did not use large screen television sets. Some teachers declined to specify the types of IT resources in their schools. Only 50 (33%) admitted resources were adequate.

The following are some excerpts from their comments:

> *"There are computers in the library and centralised projectors as well as a scanner. The other tools are in the computer labs and classrooms, to be used during exams." (Female teacher aged 56, from a private School).*
>
> *"What we have is useful for the moment, but there is need for more computers to enhance the teaching criteria. The other problem is that the wireless connectivity and Internet are so poor and erratic." (Male teacher aged 29, from a private school).*
>
> *"The IT resources are adequate and students get more interested when teachers use the technology resources to teach than just traditional boards." (Male teacher aged 39, from a public school).*

More than three quarters 70 (47%) of respondents mentioned that IT resources were not adequate for teaching IL.

Some of the teachers' specific responses in this regard are summarised below:

> *"Computers are few and their numbers do not tally with the number of the students in the school. Most of computers are in the computer lab, and not all subjects are time-tabled to use the labs, so there is more demand for computers than what is available."(Female teacher aged 46, from a private School).*
>
> *"Resources are inadequate especially access to the Internet 24 hours a day. The poor Internet connectivity hinder the complete teaching of information technology." (Male teacher aged 41,from a private School).*
>
> *"Many teachers do not have access to some of the resources such as digital whiteboards, projectors and a digital video camera." (Female teacher aged 54, from a private School).*

In the open-ended question, the teachers emphasised that school equipment was insufficient for teaching IL. Participants expressed the need for more books in the library for the students, as well as a need for overhead projectors, computers, VCRs, and televisions.

Teachers pointed out that the requirement for audio-visual and computer lab to be booked in advance demotivated them to use the equipment.

The responses gathered from librarians, indicated that public schools had fewer resources than private schools. The private schools were far more advanced in the resources (print and no-print resources e.g. books, online databases, computers, journals, and newspapers books) they used in IL compared to public schools which suffered from insufficient funds that hindered collection development.

The researcher also observed in the various school libraries visited, that all four libraries in the public schools were small in size and close to impossible to cater for a population of 1600 students. Each library could accommodate 50 students at a time.

The students used the space for quiet reading and it was occupied on a first come, first served basis. All four libraries used traditional manual card catalogues. Inspection of the book shelves revealed outdated books. There were very few fiction books on display. A visual count of fiction books showed about 150 adult novels. There were more publications in the Botswana collection which included government publications and statistics. Students carried their texts to read in the library where a poster on the wall sternly warned that silence must be observed while in the library.

When asked if the library resources were adequate to teach IL, there were mixed responses from the librarians. Five librarians were indecisive and unsure about the adequacy of library resources.

On the other hand, the librarians from two private schools stated they had enough resources in their school libraries as reflected in the verbatim statements below:

> *"Yes they are because we have more computers that students use in the computer lab and some in the library for easy access to students." (Female teacher aged 52, private school).*

"Yes they are. Students use the online databases adequately, and borrow library books." (Female teacher aged 60, from a private school).

Three librarians from the public schools along with two librarians from the private schools stated they could only lend out two books to students per library visit. Three private schools and one public school stated they could allow their students to borrow up to three books per visit. Only one private school had the luxury of lending students up to 10 books without restrictions to the number a student could borrow at any given time.

Overall, librarians reported that there were inadequate IT tools/facilities for the teaching of IL. Only two private schools (20%) had online databases such as Encyclopedia Britannica and online periodicals while the majority 80% had none. Fifty percent of the schools had computerised libraries using various library software such as L4U, Ed Admin, Edu Master and Entimex. Likewise 50% of the librarians said they had Internet and wireless connectivity. Only one private school indicated having e-book facilities while another stated their audio visual service still needed to be developed. In general, there was no school with electronic mobile gadgets such as iPad, Tablets or Kindle.

One school librarian commented:

"Yes the technology resources are mainly used for teaching research using the Internet as well as using L4U OPAC. The library has 24 computers and the whole school has 132 computers."(A female librarian, aged 52, from a private School).

In general many of the schools studied had inadequate IT facilities with only four schools having scanners, one had a digital camera, and only half (50%) had projection equipment and television sets. Two private schools reported having more than 100 computers. Other facilities such as digital cameras, digital videos, scanners, projection equipment, LCD televisions and white boards were limited in most of the schools. The public schools were the worst affected having one to three computers in the library or none at all.

From the responses of the school principals, it was revealed that they gave financial support towards resources in the library. The school principals from public schools funded school library resources largely from the government through the Ministry of Education and Skills

Development. However, they lamented that the funding was insufficient to buy all the required resources in the school library. In contrast six of the eight school principals from private schools seemed to have relatively fair amount of money for the resources in their school libraries. However, the availability of funding for resources varied in each private school.

One school principal was worried about lack of human resources to ensure that selection of resources in the library is done appropriately. She stated:

> *"We do not have a qualified librarian and this hampers progress in library collection development although our staff members help by suggesting materials and resources they believe will be helpful." (A female school principal, aged 59, from a private school).*

The private schools funded library resources from school fees. Only one private school indicated that sometimes they received donations from the local corporate world and other sponsors. The budget each principal allocated for library resources varied. The public school principals were disappointed by the meager budgets they received from the government for library resources. The amount varied each year from a meager BWP30, 000 to BWP 60,000 (US$ 3,000 to US$6,000). Seven principals from private schools were not keen to state their budgetary allocation for the school library. One school principal from a private school simply noted vaguely that their budget varied according to need. Another retorted that the issue of library budget was confidential. Five other school principals declined to comment. However one principal from a private school provided the proportion of budget allocation for his school library saying in one year, a total amount of BWP874, 598 (US $ 90,000) was allocated to buy library resources including other materials requested by teaching staff for the library. There was more support for the school libraries in private schools by school principals than in public schools. The researcher observed that the school library appeared well stocked with mostly new and current materials.

The Director of Curriculum Development had this to say regarding library resources:

> *"Each school receives a budget allocation for its library requirements. MoE&SD has embarked on school library revamp project to advice schools on basic resources/set minimum standards which cover these. Computers and Internet connectivity are being provided to all secondary schools." (Director of Curriculum Development, male, age 53,).*

The Director of Curriculum Development further indicated that the Government of Botswana has committed itself to provide resources for the expansion of educational facilities, including the provision of computer and Internet access in all schools by the year 2016.

5.5.3. Strategies Used to Deliver IL

The teachers were asked to rate 17 statements representing descriptions of traditional and constructivist teaching strategies on a Likert scale where *"3=Always, 2= Never and 1= Don't know."* The results in Table 5.12 represent views of teachers about IL teaching strategies they used to deliver IL.

Overall, teachers claimed they practiced constructivist strategies although a significant number of teachers reported using traditional methods in delivering IL. For example, 96 (64%) of teachers never gave assignments that would make students use the library. Some 110 (73%) preferred to give notes to students rather than let students summarise and make their own notes. Most respondents 101 (67%) always gave students what was expected to be learnt in a topic and then reminded them of what they should know.

Table 5.12: Strategies Used to Deliver IL by Teachers (N=150)

	Strategies Used to Deliver IL	Always	Never	Don't know
i.	Give assignments that make students use the library. (*C)	44(29%)	96(64%)	10(6%)
ii.	Rely only on prescribed textbooks for teaching. (*T)	74(49%)	64(43%)	12(8%)
iii.	Provide students with notes always. (*T)	77(51%)	63(42%)	10(6%)
iv.	Photocopy relevant materials to disseminate to students always as recipients of knowledge. (*T)	70(47%)	70(47%)	10(6%)
v.	Let students summarise and make own notes. (*C)	30(20%)	110(73%)	10(6%)
vi.	Covering and completing the subject course content is the primary goal on my lesson plans. (*T)	95(63%)	44(29%)	139(93%)
vii.	Make students raise hands in class to talk, ask questions or give answers. (*T)	99(66%)	40(27%)	11(7%)
viii.	Allow class activities to be student-centred. (*C)	83(55%)	56(37%)	11(7%)
ix.	Classroom activities demonstrate multi-cultural diversity (*C).	93(62%)	45(30%)	12(8%)
x.	Test students for comprehension of information presented in class. (*T)	88(59%)	50(33%)	12(8%)
xi.	Always sit or stand in front of the class "Sage on the Stage" while teaching instead of moving around to interact with students. (*T)	58(37%)	79(53%)	13(9%)
xii.	Foster motivation and allow students to monitor, construct their own knowledge and explore content of the topic being taught. (*C)	72(48%)	66(44%)	12(8%)
xiii.	Allow students access to both primary and secondary information to gather data through survey, observation, or test to write their assignment. (*C)	79(53%)	60(40%)	11(7%)
xiv.	Encourage students to engage in dialogue with teacher and with one another in the classroom. (*C)	90(60%)	49(33%)	11(7%)
xv.	State facts and what is expected in a topic being learnt and remind students of what they should know. (*T)	101(67%)	38(25%)	11(7%)
xvi.	Encourage social negotiation and accepts students point of view as part of the learning process. (*C)	98(65%)	41(27%)	11(7%)
xvii.	Facilitate group interactions "guide on the side" to ensure students work in cooperative groups. (*C)	82(55%)	57(38%)	11(7%)

Key: Constructivist (*C); Traditional (*T) strategies

The teachers were also asked to state strategies they used for assessing IL. The results in Table 5.13 below show that majority of respondents 132 (88%) agreed that discussions and collaborative learning exercises in class formed part of IL assessment. Likewise most respondents 105 (70%) also agreed that online tutorials including library searches and the use of mind maps were an important part of IL assessment. A very small number of respondents disagreed or were clueless about IL assessment methods.

Table 5.13: Teachers Responses on Strategies for Assessing IL (N=150)

	IL Assessment Methods	Agree	Disagree	Don't' know
i.	On-line tutorial with a series of activities such quizzes or tests	105 (70%)	45 (30%)	0 (0%)
ii.	Library class time for students to research on topic, course embedded assignments, and case studies with the help of librarian and teacher	117 (78%)	33 (22%)	0 (0%)
iii.	Discussions and collaborative learning exercises in class with students working in groups	132 (88%)	18 (12%)	0 (0%)
iv.	Use of Mind maps	101 (67%)	49 (33%)	0 (0%)
v.	Practical problems to solve	122 (81%)	28 (19%)	0 (0%)
vi.	Essay examination	118 (78%)	32 (21%)	0 (0%)
vii.	Reviewing products such as power point presentations created by students to demonstrate their ability to apply, analyse and synthesize their learning skills	124 (83%)	26 (17%)	0 (0%)
viii.	Evaluating and grading student research topic based on criteria set by the teacher or the librarian on accuracy completeness, choice of appropriate sources and resources used	123 (82%)	27 (18%)	0 (0%)
ix.	Use of Rubrics to guide to guide analysis of student work in what is to be done and identify goals for improvement and quality of performance	107 (71%)	43 (29%)	0 (0%)
x.	Use of Portfolios of student's collection of work that convey a story achievement or progress showing of what has been learned and understood from the resources the students found most useful	110 (73%)	40 (27%)	0 (0%)
xi.	Diaries or log books where students record their thinking about the topic, questions, keywords, and the progress of their research as a way to assess their thinking and note-taking process	108 (72%)	42 (28%)	0 (0%)
xii.	Giving competency and standardize tests in final exams such as multiple choice questions, matching and self-report for students to express their thinking to answer question	116 (77%)	34 (23%)	0 (0%)
xiii.	Oral interviews on learning activities and reports	108 (72%)	42 (28%)	0 (0%)
xiv.	Worksheets and scaffolding to help students construct knowledge by providing instructions for using the sources of information that includes space for writing about what was found in that source	118 (78%)	32 (21%)	0 (0%)

The librarians were similarly asked to state the strategies they used for delivering IL. The majority of the librarians from both private and public school seemed inclined towards constructivist instruction strategies but it was not clear the extent to which this was done. Eighty percent of the librarians mentioned that they encouraged students to make use of the library for doing their assignments. All ten librarians said they tell students to paraphrase text extracted from books in the library while making notes and to reference the sources of information. As is common practice 9 (90%) of the librarian said they promoted student-centred activities in the library by allowing students to discuss topics and consult the librarian when necessary. The majority 9 (90%) of the librarians also stated that they often allowed students to monitor their own learning or to construct knowledge and explore topics freely while researching in the library. A similar number 9 (90%) also said they allowed students to use multiple resources in the library or to access primary and local documents to gather information through survey or observation. All ten librarians indicated they encouraged students to ask questions or consult with fellow students to clarify research problems. All the librarians in the study mentioned that it was their task to facilitate group interaction to ensure students worked in cooperative groups in the library.

Three librarians supported library activities being teacher-centered with the librarian located in front of the class when teaching. Five (50%) of the librarians reported that they asked students to make reference to their prescribed textbooks for assignments because such books contained everything the students needed to pass exams. Seven of the 10 librarians said they encouraged silence in the library and did not entertain noise or discussions in the library.

A specific verbatim response from one of the school librarian asserts:

> *"The teaching strategy is inquiry-based and is centred on the units of inquiry. Students discuss topics in groups and debate issues related to classroom assignment." (A female school librarian aged 60, from a private school).*

In general, the school librarians understood their responsibility as teaching students the virtues of IL to promote lifelong learning.

The opinions of the school principals with regard to strategies for IL delivery were also sought in question B8 and B9 of Appendix 25.

All the school principals observed that they offered support to teachers by encouraging them to move away from teacher-centred, a self- contained text, and textbook-oriented teaching style towards a more collaborative, cooperative and resource-based constructivist teaching approaches. The school principals' views showed that they were inclined to embrace strategies that promoted constructivist teaching approaches. The school principals further noted they discouraged traditional approaches of teaching and encouraged teachers to transit to a modern participatory styled environment; where students were encouraged to participate and consult freely with their teachers. They also encouraged students to interact and work in groups. Nine school principals (75%) felt that their teachers took learning to authentic levels where students used multiple resources to access primary and local documents or conduct research activities. A similar number also strongly agreed that teachers supported student-centred class activities. Ten school principals (84%) thought teachers gave students library-based assignments.

The same number of the principals also agreed that teachers facilitated group interaction to ensure that students worked in cooperative groups. Eight principals (67%) also concurred that teachers encouraged social negotiation and accepted student's point of view as part of the learning process. Seven (58.3%) principals agreed that teachers usually covered subject course content as the primary goal of lesson plans. The same number pointed out that teachers allowed students to make their own notes. Six of the principals said teachers tested students for comprehension of information presented in class. All of the 12 principals exhibited their discontent with the statement that teachers solely used prescribed textbooks to teach and make students pass exams. The majority (83%) objected to the statement that their teachers dictated notes to students and the class activities provided by teachers were never teacher-centred. In general the principals felt their teachers were moving away from the traditional methods to more oriented constructivist practices.

Finally, the Director of Curriculum Development particular views on strategies for delivering IL were also sought. His responses are captured in the verbatim statement below:-

> *"The broad goals of public education are to facilitate the acquisition of knowledge first and foremost so that students construct their knowledge and gain independent life-long learning. It is in the interest of the Ministry of Education and Skills Development to encourage teachers to facilitate IL education. Constructivist teaching strategies accomplish these goals." (Director of Curriculum Development, male aged 53)*

A review of some of the curriculum documents of senior secondary schools revealed teachers and librarians are were expected to construct appropriate IL delivery strategies for their classes

5.6. IL Implementation at Policy Level

All the four categories of respondents: (teachers, librarians, School Principals and the Director of Curriculum Development concurred that there was no national IL policy in Botswana.

Teachers were provided with a series of statements to indicate what they perceived should be done to facilitate IL policy for Botswana.

i. The majority (132, 88%) pointed out the need for policy on delivery and implementation of IL in schools.
ii. National IL standard, model and programme are needed for teaching, 129 (86%).
iii. Adoption of international IL standards such as American Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT) and IL Models such as the Big6™ and Information Search Process (ISP) may help schools develop their own IL models that would improve the teaching of IL in schools 118 (78.6%).
iv. The appropriate national policy on IL curriculum should be developed for the country 132 (88%).

The librarians' opinions were also sought on the issue of IL policy. Like the teachers, the librarians were not aware of the existence of any policy on IL in Botswana. Most of the librarians intimated the need for IL policies to support IL education.

Although the school librarians were also unfamiliar with many of the international IL standards such as those of the Association of American School Librarian Standard (AASL, 2007), American Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT, 1998), the Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ information problem-solving model (Eisenberg & Berkovitz, 1990), eight of the 10 librarians suggested that it was time the government looked into IL policy and promote existing international IL standards and models in the country.

Principals were similarly asked to state their views on IL policy implementation in Botswana and at institutional level. All the principals did not know of any national policy on IL. However, two of them from the private schools pointed out that they had school IL policies. However, they did not spell out clearly what these policies entailed. One specific response from one of the principals of a private school is presented below:

> *"We do not have a policy that is explicitly reinforcing information literacy per se. We are working on it. IL plays an important role in educating our students. The school library also encourages students to complete their projects and assignments. We want to ensure that all our students are information literate." (Male school principal age d60, from a private school).*

A response from one principal of a public school noted:

> *"The government does not have IL policy to guide teaching at the moment. IL is not integrated into the curriculum either. Our teachers are too busy with the BGCSE curriculum and have no time for IL. The large class size (forty five or more students) makes it difficult for teachers to deliver IL to students even though every student must have one period (40mins) per week to visit the library to read books, magazines, newspapers and watch television. I hope the department of curriculum development will look into developing IL policy. . The government is planning to install computers in the library and have afternoon sessions for various classes to learn more in the library."(A male school principal age 55, from a public school).*

As far as the Director of Curriculum Development was concerned, there is no IL policy in Botswana. He expressed the need for the government to put in place IL policy as this would help schools to produce information literate graduates who can take active part in building the economy in line with the Botswana Vision 2016 of promoting an information-driven society dispensation. He added that an IL policy for Botswana would contribute towards economic development. At the moment, he noted that government was focusing on ICT development particularly with regard to equipping all secondary schools with computers.

5.7. Role of Teachers, Librarians, School Principals, and the Director of Curriculum Development in Promoting IL

Teachers were asked in an open-ended question, to indicate the roles they played in promoting IL in their schools. The results revealed that teachers did not see teaching IL as their responsibility. Moreover, they were not familiar with the concept of IL. The thematic analysis of data revealed teachers showed little interest in teaching basic IL skills such as effective use of print and electronic sources, literacy appreciation and reading skills, problem-solving and the research process.

Teachers were asked also who they thought should be responsible for IL instruction in their schools. Some 96% of the 150 teachers believed the responsibility or role of teaching IL was for the librarians. Only six (4%) teachers said it was their responsibility to provide IL instructions to students.

Teachers further acknowledged that a rich IL educational curriculum provides opportunities for students to interact with their peers. They also expressed the view that it was critical for schools to promote the integration of IL into the curriculum.

The following five key themes emerged from teachers suggestions on how they believed IL could be promoted in their schools:-

i. Empowerment of librarians to run workshops to enlighten teachers about the importance of IL.

ii. Hiring of trained professional librarians to manage the library and promote IL to the school.

iii. Provision of computers, wireless, Internet connectivity and other IL resources available in the library to promote IL practices.

iv. Increased collaboration between librarians and subject teachers beyond the English Department to promote IL integration into school curriculum.

v. Inclusion of IL into the school timetable to allow all subject teachers have a library period to teach IL skills among students.

The following direct quotes further illustrate responses provided by teachers:

> *"Convince the librarian to buy books in good numbers for students' use in the library." (A female teacher age d42, from a public school).*
>
> *"Involve parents to be part of IL promotion in schools." (A female teacher aged 37, from a private school).*
>
> *"Build bigger libraries with more space to accommodate more students in the library." (A female teacher aged 41, from a public school).*
>
> *"The librarian should update resources based on the needs of subject teachers as well." (A female teacher aged 49, from a private school).*
>
> *"Librarians must be trained in information literacy and be given opportunity to contribute and participate in the development, planning and running of school curriculum. The school curriculum must also be research-based. Teachers and librarians should be made to encourage students to research and not to spoon-feed them to pass exams only." (A female teacher ,aged 39, from a private school).*
>
> *"Make information literacy a subject from the beginning of secondary schooling. It would make integration into all subjects possible." (A female teacher aged 37, from a private school).*
>
> *"Timetable is needed for Librarians to have a period to teach students separately from the English Department teachers' library period." (A male teacher aged 38, public school).*
>
> *"IL to be offered as an optional subject to enhance the evaluation of data" (A male teacher aged 48 , private school).*
>
> *"The time table already has too many subjects. Schools do not have enough human resources. There are not enough labs and computers in schools" (A male teacher aged 44, public school).*

"Information literacy can be incorporated into a particular subject and its significance to the subject area shown within that context. Effectiveness can be checked through assessment such as writing research papers on various topics in the subject" (A male teacher aged 35, private school).

"There is no need for IL to be a separate subject. It has to be incorporated into the main academic subjects." (A female teacher aged 55, from a private school).

Information literacy forms part of all academic learning. It should be taught by all teachers in their subject area" (A female teacher aged 45, private school).

"The school needs to be better equipped with IT facilities to cater for IL integration." (A female teacher aged 44, from a private school).

Teachers identified several challenges affecting teaching and integration of IL into the curriculum, which included among others, erratic Internet connectivity, inadequate computers, lack of ICT skills, lack of resources such as human resources, limited time and overcrowded curriculum, insufficient funding and lack of administrative support.

The librarians equally voiced their opinions on what role they played in promoting IL. In general all the librarians (N=10) voiced their main role and responsibility as custodian of the school library with the task of taking care of the school library's physical and digital learning space. They pointed out that the role of the librarian was to ensure reading was encouraged as well as inquiry-based learning and research in the library. The librarians further outlined various roles and strategies they played to promote IL integration into the curriculum. They felt library class periods are used to share information with teachers and students. A librarian from one private school explained that plans were underway to incorporate IL into school curriculum by working together with the English Department to develop the IL programme. One teacher-librarian from the public school stated that she volunteered to teach IL during non-teaching hours by helping students understand how to access information from various sources and how to approach doing their assignment critically and write a well-meaning project. The librarians also cited their specific roles in promoting IL to include the following:

i. Collaborate with teachers and school principals.
ii. Ensuring IL lessons were in the timetables.
iii. Organising book week celebrations.

iv. Helping students and staff to obtain information they needed via books and Internet.
v. Reading to young children to improve their attention span and listening skills.
vi. Ensuring flexible opening times for the library.
vii. Having library club and library month celebration.
viii. Encouraging teachers to use the library.
ix. Organising workshops for teachers on IL.
x. Inviting resource persons in the field of IL to give talks.

The following are some of the verbatim excerpts from the librarians regarding the roles they played and could play in promoting IL in their schools:

> *"Firstly the school should have a recognized information literacy syllabus that is monitored by the librarian. The syllabus should be strictly followed and teachers should give feedback on its impact." (A female teacher aged 52, from a private school).*

> *"I see myself and my role as being central to enhancing life-long reading through every available medium including cellphones." (A female teacher aged 39, from a private school).*

> *"To do my part in achieving total integration of information literacy, the support from both teachers and administration is critical." (A female teacher aged 40, public school).*

The verbatim statements in general covered: managing and operating the school library; planning for library collections; organising information resources for teachers and students; working with all the students in the school; marketing the school library in the school community running workshops for teacher-librarians; part of committees of Botswana National Library Service (BNLS) to address issues of concerns in secondary school libraries; Youth writing competition at a national level; assisting students and staff with different new ideas; and availing information to the school community; and imparting information skills to students.

The librarians also pointed out that they contribute towards promoting IL in their schools by ensuring IL is taught by qualified librarians, making IL teaching more student-centered and incorporating IL into the school syllabus.

One librarian suggested subject teachers should create more time for students to learn in the library; the need for more library budget for electronic resources in the library; maintaining constant communication with school principals with the aim of jointly promoting IL in the schools; face-to-face meetings with teachers in staff meetings and library committees.

The librarians pointed out that their efforts to promote IL in their schools was hampered by lack of support from teachers, school management and Ministry of Education and Skills Development; small size of the library; lack of dedicated trained librarians; school principals not showing much understanding of the role of librarianship in IL; loaded curriculum for core subjects leaving no space for IL; lack of standardised secondary IL syllabus; inadequate ICT facilities such as computers, limited wireless connectivity, and absence of professional development and training for librarians.

The school principals were similarly asked to state what roles they play in promoting IL in their schools. The following roles featured strongly: advocacy, soliciting funds, and providing support to the school librarians, and supporting library resource collection development; giving support to the school librarian in his/her endeavor to promote IL programmes; and providing appropriate in-service training to librarians.

Furthermore, the school principals elaborated on their roles in promoting IL to include: providing supportive infrastructure such as Internet connectivity and equipment such as projectors; conducting regular consultative and planning meetings with teachers and librarians; encouraging teachers to give students research-based assignments that motivated learners to do research and make presentations in class. The principals also used various strategies to promote IL by diversifying sources of information, commemoration of library day, and equipping the library. Five principals noted that they promoted IL in their schools by:

i. Conducting workshops and training teachers on IL and IT equipment.
ii. Providing enough books in the library.
iii. Encouraging teachers to make students read more and to give students assignments that warrant research skills.
iv. Providing Internet for staff as well as projectors and screens and Interactive White Boards for teaching purposes.

The school principals isolated a number of challenges similar to what the librarians had provided that impeded their quest to integrate IL into the curriculum. These challenges included among others: inadequate infrastructure such as internet connectivity, demanding curriculum; insufficient teaching resources, lack of full-time trained librarians and poorly furnished library. Some verbatim responses from some of the school principals of both the public and private schools are outlined below:

> *"The library is not well connected to the Internet and this denies students source of information." (A male school principal aged 55, from a private school).*

> *"Due to financial constraints, funding is not available to purchase library resources, There is also lack of IT equipment as well as lack of a qualified or trained librarians to run the school library; "Lack of resources and financial constraints." (A female school principal aged 49, from a public school).*

> *"There are shortages of computer software and hardware." (A female school principal aged 50, from a public school).*

> *"Bandwidth bottlenecks and Internet speed in Botswana is a hindrance to downloading and retrieving information from the Internet." (A male school principal aged 60, from a private school).*

The Director of Curriculum Development was also asked what his role was in promoting IL. He revealed that the Ministry of Education and Curriculum Development supports proposed library/ information skills syllabus (see Appendix 14). He stated that his role was to ensure students in senior secondary schools produced information literate students who were lifelong learners. Furthermore, he pointed out that the Revised National Policy on Education in its Senior Secondary Education Blueprint plan aims to produce students who are skillful consumers and producers of information in a wide range of resources and formats.

5.8. Perceptions and Attitudes of Teachers, Librarians, and School Principals towards IL

To gauge the attitude and perception of teachers towards IL, it was important to find out if teachers were information literate enough to impart the skills to their students.

Using the definition of IL as being "the ability to find and use information", and promote it as "the keystone of lifelong learning" (AASL/AECT, 1998:1), the teachers were asked to rate their IL literacy level using the scale 1 to 3 and the responses indicated the following: 1) "I am not information literate"; 2) "I am moderately information literate" and 3) "I am highly information literate". The results showed that sixty-six of the 150 (44%) of respondents were moderately information literate whereas 46 (31%) were highly information literate. Responses from the four public schools surveyed indicated that five teachers were not IL literate; seventeen were highly IL literate whereas 21 were moderately IL literate. Eight teachers declined self-rating. Forty-four private school teachers were moderately IL literate; 30 were highly IL literate; and only one was not IL literate. Twenty-four teachers refrained from self-rating. In general, teachers perceived themselves as moderately IL literate.

Teachers were further asked to indicate on a 10 item-rating scale the extent to which they were able to perform the activities of IL as *"poor" or "excellent."* One hundred and six teachers (64%) said they understood cultural, ethical, economic, legal and social issues surrounding the use of information. A majority 101 (68%) also stated that they were able to select and access the best sources of information and choose relevant content from a source to meet their information need. The same number of teachers (101) said they always identified the purpose for which information was needed to solve problem for a research paper, lesson plan, oral presentation, class exercises or project as part of regular classroom practices. Moreover, 81 (54%) admitted that they were poor when it came to utilising software tools such as spreadsheets, databases, statistical software, as well as social networks, and multimedia equipment to investigate the interaction between pieces of information, materials, practices, ideas, documents, or other data. The results are further summarised in Table 5.14.

Table 5.14: Teachers' Attitudes towards IL (N=150)

	IL activities	Excellent	Poor
i.	I critically evaluate sources of information by examining, comparing, and critically analysing information from various sources in order to evaluate and ascertain reliability, validity, accuracy, authority, and timeliness to present point of view or bias.	79(66%)	51(34%)
ii.	I always identify the purpose for which information is needed to solve problem for a research paper, lesson plan, oral presentation, class exercises or project as part of my regular classroom practices.	101(74%)	39(26%)
iii.	I am able to determine the extent of information needed and locate and access resources in the library from both print (i.e. books, periodicals, encyclopedias etc.) and electronic sources from the internet and library catalogue.	91(60%)	59(40%)
iv.	I can select and access the best sources of information and choose relevant content from a source to meet my information need effectively and efficiently.	101(68%)	49(32%)
v.	I am able to organise information by using various processes such as saving and organising information into files, folders, an accessible filing system, bibliographic management software such as Ref Works, EndNote and Google Docs; or use a photocopier, scanner, and other piece of audio/visual equipment to maintain, organise, and manage located resources to aid my teaching.	83(55%)	67(45%)
vi.	I can utilise software tools such as spreadsheets, databases, statistical software, as well as social networks, and multimedia equipment to investigate the interaction between pieces of information, materials, practices, ideas, documents, or other data.	69(46%)	81(54%)
vii.	I understand ethical, legal, and socio-economic issues surrounding information and information technology and/or problems arising from the creation, collection, recording, distribution, and processing of information	86(67%)	64(33%)
viii.	I always manage and incorporate selected information into my knowledge base.	95(64%)	55(36%)
ix.	I use information effectively to accomplish a specific purpose or create new understanding.	100(67%)	50(33%)
x.	I use information with understanding and acknowledge of cultural, ethical, economic, legal and social issues surrounding the use of information.	106(64%)	54(36%)

The results above indicate that a significant number of teachers perceived themselves as insufficiently information literate.

The librarians were also asked about their perceptions and attitudes towards IL. Various responses were received, some of which were forthright while others were not as are highlighted below.

The majority of the librarians 7 (70%) perceived that it was their obligation to take control of teaching IL in the school. Reasons given by librarians for perceiving themselves as the main promoters of IL in schools included: Firstly, librarians are custodian of information resources and it is their responsibility educate students how to use library resources. Secondly, teaching IL is the responsibility of the librarians who are mandated to impact the value of life-long-learning on students. Third, librarians are trained to impart to the students, research skills, identifying relevant information, avoiding plagiarism and how to write bibliographies. Forth, librarians can give more time to IL than subject teachers who are challenged with marking, revising, teaching core subjects and meeting deadlines. Only 3 (30%) librarians noted that they as librarians need teachers to help teach IL. The three librarians claimed that English teachers were better placed to teach IL since they could help students with spellings, writing skills, and spoken English besides teaching IL and research skills to students.

In general, the librarian's perceptions and attitudes towards IL were relatively positive. Almost all the librarians reported being happy and satisfied with the fact that they were at the centre of teaching IL and contributing to knowledge building in secondary schools. Some of their specific responses included:

i. I am passionate about seeing students become educated and I feel being a librarian has given me an opportunity to partake in developing educated students.
ii. I get fulfilled when I meet the information needs of the school clientele.
iii. The satisfaction of providing books that children enjoy. To see the happiness and excitement children show when they hold a new book they have been waiting for.
iv. Being updated about current affairs, inferring/assisting and coming up with different new ideas with students and staff.
v. Information is power. Availing information to the school community and seeing them use it is quite fulfilling.
vi. Working with people owning information as well as imparting information skills so that people end up owning information.

Despite the positive perception and attitudes towards IL and the expressed love of their profession, the librarians from both private and public schools confessed frustrations they encountered in their day-to-day work vis a vis the following issues:

i. Long work hours.
ii. Not being able to control the library budget.
iii. Monotonous work patterns sometimes.
iv. School curriculum not catering for information literacy.
v. Having to teach Religious Education instead of focusing on managing the library.
vi. Insufficient funds make it difficult to acquire enough resources.
vii. Struggling to get library materials and resources make it impossible to assist especially completing students.
viii. Not a trained librarian, just assisting in the library.

Generally the librarians maintained a climate of positive perceptions and attitudes towards IL. Despite existing drawbacks, the librarians wanted to see their school become information literate school. For example, one librarian commented:

> *"I have a very crucial role to play as the teacher librarian because I have the opportunity to work with all the students in the school. I am currently pursuing masters in library and information studies to develop grow and integrate IL in the curriculum, thus helping the school to be an information literate school. Currently I have strategies that help to market the school library in the school community and with the newly acquired library management system; the library is going to be having many customers using it." (A female school librarian aged 40, public school).*

The school principals' attitude towards IL was also solicited. Generally, the principals expressed a positive attitude towards IL. They perceived IL as something if promoted, would contribute towards student life-long learning. Two principals of private schools stated that they have IL in their curriculum and that there was a library period for each class every week and departments were required to give study projects to students.

When asked what efforts they were making in their schools to promote and integrate IL into the school syllabus, varied opinions were expressed. One principal from a private school said: *"We don't have any formal plan for IL integration into the curriculum."* The principals from the private schools said they made available library resources, Internet facilities and, encouraged school projects, and used the library to promote reading as a way of promoting IL. The principals from both public and private schools were of the view that it was important to integrate IL into the school curriculum. In general, the attitude of all the principals towards IL seemed positive.

When librarians were asked about the attitude of principals towards IL, they expressed diverse opinions. The librarians perceived the school principals' support for the libraries were minimal. A half of the librarians (50%) noted the principals were supportive of IL. The other 50% of the librarians perceived the principal as not being supportive. The librarians who perceived principals as supportive felt the principals demonstrated leadership and usually helped to establish collaboration among teachers and the librarian in planning and teaching, lifelong learning, and IL. Those who perceived the principals as not being supportive were concerned about lack of support for staff development on IL matters. Librarians also thought that the principals failed to promote IL programmes. In general, the principals' support for libraries and IL was greater in private schools than in public schools.

5.9. Summary

This chapter presented the findings in the integration of IL in senior secondary schools in Botswana. The findings presented reflected the opinions of respondents namely: teachers, school principals, librarians and the Director of the Curriculum Development. The research data was collected through survey questionnaires, semi-structured interviews, document review and observation. Qualitative and quantitative data were analysed using thematic categorisation and SPSS respectively to generate simple descriptive inferential statistics.

The findings revealed that senior secondary schools in Botswana did not have clearly stated goals of IL to guide the teaching of IL.

The findings further showed that the content of IL programmes was based on individual initiative and not standardised across all the schools because of the lack of national IL guidelines or policy. Overall, teachers and librarians claimed practicing non-traditional and constructivist approaches although a significant number of them were still bent on using traditional methods to teach. The school principals noted their teaching staff embraced constructivist strategies in the delivery of IL.

The findings also revealed lack of leadership in promoting IL in the schools. The librarians were passive towards IL and encountered challenges such as lack of trained human resources, lack of infrastructure and limited or complete lack of budget. Resources particularly IT facilities were not adequate for teaching IL across all the schools. The teachers did not engage in the full range of collaborative activities with the librarians to implement and integrate IL in the curriculum. The librarians, particularly those from the public school still rely on the traditional bibliographic instruction of IL based on orientation. None of the schools had IL curriculum based on IL international standards such as Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT), (1998) for students' education.

In addition, the majority of teachers were not adequately trained to the level of IL needed to enable them to teach IL to students effectively. Teachers were overwhelmed with too many subjects to teach and had no time to focus on IL. Though opportunities existed in the curriculum according to the Revised National Policy on Education of 1994 (RNPE, 1994) to teach independent learning and life-long skills, teachers put their energy into completing the IGCSE and the IBGCSE curriculum for the final exam in Form Five and their teaching styles emphasised or reflected rote learning . In addition, most of the librarians and teachers were not adequately trained to the level of IL needed to enable them to teach IL to students effectively. The perceptions and attitudes of all four categories of respondents towards IL were varied but generally positive.

The findings revealed that the promotion of IL is dependent on having adequate resources such as ICT facilities and a well-stocked and functioning school libraries managed by a professional qualified librarians supported by teachers and the school principals. The perceptions and attitudes of all four categories of respondents towards IL were varied but generally positive.

The next chapter (Chapter Six) discusses the findings presented in chapter five using extant literature on IL and theoretical lens that underpinned this study.

CHAPTER SIX
DISCUSSION OF FINDINGS

6.1. Introduction

The purpose of discussions of findings chapter in a doctoral thesis is to provide the connection between the data analysis and the issues being investigated (Feldman, 2001:2; Blaxter, Hughes & Tight, 2006:219). It allows the researcher to derive meaningful links between the research questions and objectives of the study (Perry, 2002:34). It also gives the researcher the opportunity to evaluate and interpret the implications of the study to the research problem in order to draw inferences from the findings (Oso & Onen, 2008:134).

The purpose of the study was to investigate strategies used to integrate IL into the curriculum of senior secondary schools in Botswana. The study was underpinned by the Constructivist model as the overarching theoretical lens complemented by Blooms Taxonomy (Bloom, 1956), Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT, 1998). The study is based on interpretive and positivist paradigms. Both qualitative and quantitative research approaches were used to inform the study.

Leedy & Ormrod (2005:276) advise that it is important to discuss findings by focusing on the research objectives, research questions, literature reviewed, and theories to give a clear implication for policy, theory and practice. This chapter is organised around the research questions outlined below:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?
4. What are the roles of librarians, teachers, school principals and the Director of Curriculum Development in promoting IL?

5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?

The following themes from the research questions preceded by the demographical profile of respondents are therefore discussed: goals of IL; IL content, resources and teaching strategies for IL; IL implementation at policy level; roles of librarians, teachers, school principals and director of curriculum development in promoting IL; and the perceptions and attitudes of teachers, librarians and school principals towards IL

6.2. Demographical Profiles of the Respondents

Data were collected from the twelve schools (four public and eight private) under study about the respondents' profiles in terms of school of affiliation, gender, age, level of education, academic qualifications, work experiences, and length of service. The population consisted of teachers, librarians; principals of schools and the Director of Curriculum Development in the Ministry of Education and Skills Development (MoE&SD).

The teachers who numbered 99 from the private schools and 51 from the public schools participated in the study. A total of one hundred and fifty teachers of equal gender distribution responded to the questionnaire. The majority of teachers were in their thirties and forties 114 (76%) showing a young and energetic workforce. The teachers were highly qualified with 103 (69%) of them holding bachelor's degree; 36 (24%) masters' degrees and only 7% possessed diploma qualifications. The results demonstrated that the teachers were adequately qualified for their teaching roles. The teachers in the study were experienced and had served their schools for between five and twenty years. Twenty-six of the respondents taught English. The average class size taught ranged from 20 to 45 with the public schools bearing the brunt of having to teach large classes of 40-45 students, while private school class size is limited to at most 30 students.

Ten librarians participated in the study. Nine out of the ten librarians were female. This result was not surprising in Botswana where the majority of the labour force in the library sectors is female.

Jorosi & Isaac (2008) in a study of school librarians' IL in junior community secondary schools in Botswana, found in a sample of 30 respondents that 20 (67%) were female. Likewise in the UK, Streatfield, Shaper, Markless, & Rae-Scott (2011) in a study of school librarians' approaches to promoting reading for pleasure, had 70 female librarians and only one male. Bergman (2005:117) noted that throughout the past century of library history, librarianship has been a female intensive occupation. However a study by Lo et al., (2014) on attitudes and self-perceptions of school librarians in relation to their professional practices in five Asian countries (Hong Kong, Shanghai, South Korea, Taipei, and Japan) found an equal number of male and female school librarians which is unusual. The equal proportion of male to female librarians may be attributed to the fact that in Taiwan school librarian jobs are considered privileged positions with an attractive salary (Lo et al., 2014:53-54).

Overall, females dominate males across the world in the jobs of school librarians. In this regard, Haras & Brasley, (2011) and O'Connor (2009:272) expressed concerns about the library profession continuously remaining a "feminized profession" with female librarians facing the wrath of working under the power of patriarchal structures which do not support librarians to influence and implement changes. This is problematic for promoting the development and implementation integration of IL in schools where school principals are predominantly male as in the case of Botswana, where 75% of school principals are male. The results in this study revealed that librarians' efforts to promote IL in secondary schools was somewhat hampered by lack of support from the male dominated school principals. Although the findings showed the school principals supported the library they had little understanding of the library profession.

The librarians were also of diverse educational backgrounds with six having a bachelor's degree; three were holders of master's degree while one possessed a certificate in librarianship. Professional librarians with high qualification have been found to enhance student academic achievement (Haycock, 2011). Similarly, AASL/AECT (1998) asserts that the success of any school library programme, no matter how well designed, depends ultimately on the quality of trained and qualified librarian responsible for managing the library programme. The AASL/AECT framework states that all students, teachers, and administrators must have access to a school library programme that is provided by one or more qualified professional librarian working fulltime in the school library.

The findings revealed that four out of the ten librarians from the public schools taught English language full time besides managing the library, four librarians from the private schools were not involved in teaching but managed the library especially if they possessed library and information studies (LIS) qualifications.

The findings revealed that the school leadership was male dominated with nine school principals being male and only three being women. They represented a mature workforce with age differentials of 45 to 63 years with two school principals having worked for over thirty years indicating well-experienced leaders of the school. The school principals were all degree holders with 50% holding masters' degrees. The schools principals were in their 50s so much older than teaching staff and the librarians who predominantly were in their 40s.

The Director of Curriculum Development was the only male participant from the Ministry of Education and Skills Development and aged 53. He possessed a master's degree and has served as the Director of Curriculum Development for four years.

6.3. Goals of Information Literacy

The first research question sought to determine the goals of IL programmes in senior secondary schools in Botswana. The results revealed that teachers, as shown in Table 5.9, understood the goals of IL in senior secondary schools to include among others: 1) providing learning experiences that make students and others to become discriminating consumers and skilled creators of information through comprehensive instruction in using a wide range of resources and technology equipment for accessing local and remote information in order to thrive economically in the information society and communication age; 2) preparing students to become independent, lifelong learners and to have the ability to appreciate a wide-range of information, gain new knowledge and fresh insights into the information society; and 3) encouraging inquiry based on group projects.

The results also revealed that librarians believed the goals of IL to include helping students to make use of library resources by teaching them how to find the needed information, developing students to become lifelong learners and empowering both staff and students with information and supporting the school's academic programme. It appeared from the

librarian's responses that the goals of IL were largely unknown to some school librarians as librarians in two schools had nothing concrete to report about the goals of IL. The results also showed that the principals of schools were united that the goal of IL is to keep learners abreast with trends in the information society and assist in transforming learners to become lifelong independent learners who can find relevant information and use it to solve problems. Furthermore, the Director of Curriculum Development understood the goal of IL as aimed at producing students who are skillful users and producers of information to promote economic development.

The IL theoretical framework (AASL/AECT, 1998:1) indicates that "to be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information". The school library IL programme should thus reflect the school's mission and areas for student achievement and ensure that students and teachers are effective users of ideas and information (AASL/AECT, 1998: 6), and that the programme is dynamic, interesting and student-centred (AASL/AECT, 1998: 2). The goals of an IL programme are also summarised as laying the foundation for lifelong learning to enable individuals to master content, become self-directed learners and assume greater control over their learning (Riedling, 2006).

CILIP (2011) indicates that the skills one requires to become information literate include: a need for information, knowing the resources available, how to find information, the need to evaluate results, how to work with or exploit results, ethics and responsibility of use, how to communicate or share findings, and how to manage findings. These are important goals of IL that Botswana needs to place the same focus on, in a similar way to how it is focusing on the development of ICT in secondary schools. The goals of IL as elaborated by AASL (2007:1) are to: encourage the development of students' skills, knowledge, and attitudes with regard to finding, evaluating, and using information; 2) to increase awareness of IL among librarians, administrators, teachers, and students of its benefits and importance in academic success; 3) to establish an ongoing assessment of the IL needs of students; 4) to establish comprehensive IL support across the curriculum using a coordinated and collaborative approach to instruction activities and research consultations; and 5) to establish and / or improve the IL programme through ongoing assessment and refinement in those schools where IL is largely unknown to the librarians.

The goal of IL programmes according to the Botswana government is to lay the foundation for lifelong learning. The RNPE (1994) articulates the national aims of secondary education as aimed at producing students who are skilful consumers and producers of information, preparing students for higher education and the labour market, preparing leaners to become independent, lifelong learner, encouraging cooperative learning and collaborative learning environment. Furthermore, the Botswana senior secondary educational curriculum blueprint advocates for IL programme that prepares students for the world of work, further education and lifelong learning (Republic of Botswana Secondary Blue Print Ministry of Education, 1998).

Botswana IL ideology concurs with other policy documents of countries such as Australia and New Zealand that strongly link information to the development of life-long learning (Bruce, Candy, & Klaus, 2000; Clephane, 2014: 14). The findings however, show the implementation of the goals of IL programmes in the country remain on the margins of the education process, from primary school through to secondary and tertiary institutions. This situation is detrimental to Botswana's workforce and economic potential. As Julien & Barker (2009: 12) clearly point out in the current information society, access to information and critical evaluation of that information is central to economic and personal well-being of everyone, and that IL skills are crucial just like basic reading and writing. Bruce (2002: 1) adds that IL is essential to the pursuit of lifelong learning, and central to achieving both personal and economic development.

Moreover, despite the clearly defined goals of IL as enunciated by different IL frameworks in Botswana policy documents, many students in senior secondary schools lack the requisite skills and therefore struggle to locate and to make use of information. They also enter higher education (in universities and other tertiary education institutions) lacking fundamental research and IL skills (including critical thinking, decision making, and self-directed learning). For the goals of IL programmes in Botswana to be effectively pursued, the Prague 2004 and Alexandria 2006 IL declarations set forth key guiding IL principles useful to realising dreams of governments wanting to benchmark with international practices to create IL policy to educate an informed, literate and cultured society (Ponjuan, 2010:92).

The findings presented in Table 5.9 revealed most teachers were familiar with the goals of IL programmes for secondary schools such as enabling students to research, synthesise, analyse and use information to make informed choices to become life-long learners; providing learning experiences that make students and others to become discriminating consumers and skilled creators of information; preparing students to become independent, lifelong learners and to have the ability to appreciate a wide range of information, gain new knowledge and fresh insights into the information society. These findings seem to suggest that teachers knew what constituted goals of IL programmes except that they found the implementation a challenge. Weetman (2005) in a study of the perception of teaching staff in the UK towards IL found a high level of enthusiasm amongst teachers about IL though there was very little activity, on their part to either teach or assess information skills.

Successful implementation strategies for IL must be espoused to integrate and institutionalise IL in the curriculum. In this regard, the constructivist model advocates a change of direction in teaching practices, from teacher-centred to student-centred where learners can only truly learn to think critically and are also able to challenge the problems within power and knowledge structures in their educational environment as well as the wider world. Furthermore, the Big6™ framework can be used by teachers to help learners attain IL. The Big6™ employs a constructivist model and provides a systematic approach to information problem-solving and critical thinking skills. In addition, the Big6™ fosters the acquisition of research, problem-solving, and metacognitive skills through the cooperation of both the school librarian and classroom teachers. The Big6™ model has been adopted by many schools in the United States of America for teaching IL in schools (Mokhtar et al., 2009). The constructivist approaches give students the opportunity to develop the knowledge, skills and sense of responsibility necessary to engage in a culture of questioning.

The implementation of IL goals can be enhanced in schools according to AASL (2007), if teachers encourage the development of students' IL skills, knowledge, and attitudes with regard to critical thinking, finding, evaluating, and using information to the benefits academic success. Lupton (2004) points out that teachers must help develop life-long skills among students and provide support for their careers.

The successful implementation of IL programme in secondary schools is contingent upon clear understanding of the IL goals. In the context of Botswana, the findings revealed the goals of IL were not clear to the librarians. This lack of awarenes of the goals of IL leave much to be desired about the quality of librarians serving in the schools. This is in contrast with the emphasis echoed by Ash-Argyle & Snunith (2014: 119) that "the school librarian is expected to act as an IL leader within the school." The librarians in the study did not demonstrate capacity to drive the goal of IL in the school. The AASL/AECT (1998) IL standards state that librarians are expected to take leadership positions in promoting the goals of IL in schools. They are expected to teach IL and research process skills; critical thinking abilities; the ability to construct knowledge; formulate conclusions and share knowledge in accordance with the ethical guidelines of a democratic society; and the drive to achieve personal growth.

The private schools seemed well positioned to offer IL in contrast to public schools. The librarian also stated that school promoted student-centered learning which accommodated individual learning styles based on constructivism framework (see Appendix 15 for details on the International Baccalaureate (IB)). The UNESCO manifesto for school libraries, emphasises that IL should be taught from a learner centered approach Songsaengchan et al. (2008:186) emphasise the need for librarians to understand clearly the goals of IL because they play a significant role in inculcating IL skills in the learners. It is therefore important that goals of IL should be tied to school mission.

In contrast to the school librarians, the study revealed that all the school principals perceived the goals of IL as crucial in enabling students in gathering, finding, and accessing information from various sources to assist learners with research in academic areas. The majority (92%) of the school principals including the Director of Curriculum Development, acknowledged the important role played by IL in educating students to become skillful users of information.

6.4. Information Literacy Content, Resources and Teaching Strategies

The research question on the above theme sought to establish the IL content, resources and strategies used for delivering IL.

The results obtained from the questionnaires, observation (in the 12 schools as regards size, appearance and resources) and document analysis of school records (e.g. school library policies, IL programme syllabi, yearbooks, and school curriculum, school visions and missions) revealed that IL programmes of the schools studied were patchy or non-existent.
The importance of providing adequate information resources, relevant content and using appropriate strategies to deliver IL cannot be over - emphasised. Information resources and learning tools are crucial components in the development of IL and learning skills of the students. Providing powerful and diverse information resources significantly promotes academic achievements of students (Kuhlthau, 2005). Besides the information resources, IL content is designed to enable students to become active and creative locators, evaluators and users of information to solve problems and satisfy their curiosity and meet learning goals (Callison & Preddy, 2006). In addition, instructional strategies for IL are based mainly on constructivist approaches as advocated for by IL theoretical models such AASL/AECT (1998), Kuhlthau's ISP (2004), Eisenberg & Berkowitz Big6™ (2003), The IL Instructional Model (Maitaouthong, Tuamsuk, & Techamanee, 2011) and Information Literacy Integration Model (Wang, 2010).

The discussion of findings on IL content, resources and teaching strategies are presented under the three sub-headings: IL content, resources and teaching strategies.

6.4.1. Information Literacy Content

As far as the IL content was concerned, Rasaki (2008) stated that relevant IL course content allows students to acquire the requisite skills for lifelong learning. Such skills may include the ability to formulate search strategies, and analyse data collected for value, relevancy, quality, suitability, and then turn the information into knowledge.

The findings revealed there was no standardised IL content that was taught across public and private secondary schools in Botswana. Though formal IL syllabi did not exist, the content covered included such topics as: how to access information from various sources, how to properly cite sources of information and write references or bibliographies for assignments, physical layout of the library, classification scheme, indexing, keywords, catalogue and call numbers of books in the library, problem-solving and the research process, critical thinking

skills and independent learning, differences between fiction and non-fiction books, knowledge of different sources, proper handling of books, effective use of the encyclopedia, the meaning of biography and autobiography and their importance as information sources, effective use of the almanac, how to select and use dictionaries, paraphrasing, outlining, summarising information, plagiarism and its consequences, and online information sources, online information retrieval among others.

In addition other IL content variously covered in the schools surveyed included information searching skills, recognition of information needs, information evaluation, and use of information sources including digital sources, internet, and databases; understanding the role of information in society; how information is organised, stored, and disseminated; organising information, effective search strategies; and how to evaluate quality of information.

The results in Table 5.10 show that most teachers 112 (75%) said the use of print and electronic sources was being taught. Another 101 (71%); agreed that issues such as library orientation, (policies, rules, procedures for checking out books, and location of library materials) were taught while half 76 (51%) were concerned that the concept of plagiarism and its consequences was not adequately taught to students.

Findings revealed that 74 (49%) of teachers did not agree that critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of information) were being adequately taught to enable students become discriminatory consumers of information and skill creators of information. The findings seem to suggest teachers were relatively familiar with the content area of IL. A study undertaken in the UK about teachers' knowledge of IL content by Merchant & Hepworth (2002), found that teachers' own understanding of IL content was deep but its effective delivery to students was problematic.

The librarians felt that there was no well-defined IL curriculum in their schools. In this regard Seven (70%) of the librarians indicated they had no clear IL syllabi to guide them in teaching IL to students. Some schools devised their own IL curriculum. One of the public schools used the 2009 draft library and information skills guideline/syllabus for Botswana secondary schools that was developed by BOSSLA (see Appendix 14).

The findings revealed that two private schools used basic IL course content (see Appendices 15 & 16 respectively). The IL content included how to access and locate books, how to use search engines to find information, how to evaluate Web sites, how to find a book in the catalogue using the OPAC how to avoid plagiarism, and differences between fiction and non-fiction.

The findings revealed the school principals on their part had minimal knowledge of what IL content existed in their schools. They pointed out that content such as the use of library catalogue to search for library materials by author, title and subject entries; how to examine, organise, synthesise and evaluate the quality of information from various sources; critical thinking skills (knowledge, comprehension, application, analysis, synthesis and evaluation of facts); the concept of plagiarism and its consequences, paraphrasing, outlining, summarising information, information and literacy appreciation, problem-solving, the research process, ICT skills; use of Internet, websites and social media were taught throughout the school and were not unique to the IL curriculum content in the library.

The Director of Curriculum Development confirmed the lack of coherent IL content in senior secondary schools in Botswana. The director himself did not have anything to comment on IL content delivered to students. However, he acknowledged that there was no approved curriculum content for IL. The Director of Curriculum Development strongly agreed that CILIP's and UNESCO's visions of what IL curriculum development entails (Secker & Coonan, 2011:4) should be considered for Botswana secondary schools. Such intended IL curriculum should be sufficiently flexible and adaptable in any senior secondary school level. Its design should be informed by the following principles:

- Holistic: supporting the whole process of study and research rather than just teaching traditional library skills
- Modular: consisting of ongoing classes to meet the developing needs of students during their whole undergraduate career, not just one-shot sessions.
- Embedded: forming a salient part of academic teaching, or run closely alongside it over the course of the academic year, and with activities and problems directly related to students' subject context

- Active and assessed: containing a significant element of active and reflective learning, including peer assessment elements
- Flexible: for use and adaptation in all UK Higher Education Institutes, and designed specifically for flexible implementation
- Transformative: grounded in a broad reading of 'information literacy' which sees IL not as a set of competencies but as a fundamental attribute of the discerning scholar, and as a crucial social and personal element in the digital age (Secker & Coonan, 2001:4).

The Director of Curriculum Development further pointed out that the CILIP and UNESCO visions for IL were holistic in nature and would be useful guideline to teach IL in secondary schools. He was of the view that a robust IL curriculum should help students to handle, evaluate, analyse and use information to solve problems. The respondent also agreed that IL should be embedded into the school curriculum thereby forming an important part of academic teaching, or run closely alongside activities and problems directly related to students' core subject content.

In general, the findings revealed there was no approved IL curriculum for secondary schools in Botswana. This view was expressed by all the respondents including teachers, librarians, principals of schools and Director of Curriculum Development. Though IL syllabi did not exist, the IL content devised by the various librarians in the study covered a range of topics such as how to access information from various sources, how to properly cite sources of information and write references or bibliography for assignments, physical layout of the library, classification scheme, indexing, keywords, introduction of resources and services offered, how to perform searches on library catalogues. This situation should be addressed by librarians and other education stakeholders. The focus should be on devising IL curriculum that would inculcate information literacy competence among secondary school students.

The lack of approved IL curriculum is not on unique to Botswana. Pejova (2002) reported that the issue of IL in developing countries has not been given due recognition by information and library professionals.

According to Pejova (2002) in order to improve IL in developing countries many problems pertaining to the library and information sector that : securing adequate financial resources, upgrading ICTs, developing and implementing IL curriculum programes, intensifying the education and training of the librarians and improving the organisation and management of the information and library systems and networks must be addressed.

Botswana can learn from South Africa that has made some significant steps towards IL development. According to Underwood (2002), in South Africa, the INFOLIT project is aimed at promoting IL in higher education, secondary and primary schools as well as in communities across the Western Cape region. The primary objectives of the project are among others investigating IL models, programmes and initiatives in other countries that could be adapted to local conditions and launching a series of pilot projects to explore and establish means of spreading IL education in the region.

In order to have an effective IL programme should be linked to students' academic curriculum, and importance should be attached to it. Orr, Appleton & Wallin (2001:457) argue that IL classes delivered out of the curriculum context are not in sync with students' need for information. It is therefore, important for educators to provide opportunities for students to learn IL that is integrated into the school curriculum (Eisenberg, Lowe & Spitzer 2004:53). Such IL programme is most suitable for promoting among students the norms of inquiry, problem solving and lifelong learning.

De Jagger & Nassimbeni (2003) propose that the main component of a basic information literacy to include

Orientation:

- Identifying a research topic or an information need
- Defining the topic, ensuring a manageable focus
- Exploring general information sources to become familiar with the topic
- Selecting main concepts & key terms
- Interaction: Specific skills to be taught & mastered:
- Choosing a range of most appropriate and subject specific information sources, e.g.:
    - Library catalogues; Encyclopedias; Indexes: print and online
    - Bibliographies; Monographs; Journals;
    - Electronic databases; World Wide Web resources

- Constructing search statements; using Boolean logic where appropriate
- Formulating strategies appropriate for searching the World Wide Web
- Selecting information that is at the right level and fulfils the information need
- Maintaining a list of information sources used
- Quoting and citing correctly
- Understanding copyright and avoiding plagiarism
- Understanding the importance of currency and authority; recognizing bias

Internalization:

- Comparing and evaluating information from different resources
- Organizing, using and communicating information
- Producing and presenting an organized piece of work
- Synthesizing and building new knowledge

6.4.2. Information Literacy Resources

In order to teach IL effectively, appropriate and current information resources in all formats is required. The findings revealed that most of the resources, particularly in the public schools were inadequate, and outdated due to lack of funding. Financial and budgetary constraints were mentioned as the main reasons for poor library collection. Rosenberg (2006) stated that general lack of teaching and learning materials is rampant in Africa and cuts in library budgets were the main reasons affecting the teaching and integration of IL in the curriculum.

The majority of teachers used a wide range of information resources to teach IL as reflected in Table 5.11. These resources included among others: Internet, textbooks, magazines, journals, personal resources, online digital resources, email, blog, curriculum software to mention just a few. Less than half of the teachers used electronic media and computer software programmes. Arua & Chinaka (2011: 2-6) stated that school library information resources are all the inputs which are utilised in the library in order to provide a good learning environment for students and teachers so as to be able to achieve educational goals and learning habits of students. Korobili et al., (2011: 85) report that historically, high school teachers have been assumed to be teaching their students using prescribed text books.

This situation still seems to be the case today because a significant number: 76 (51%) of the teachers indicated they occasionally use electronic digital resources, while 60 (40%) teachers never used subscribed online databases to prepare their teaching. Becta (2003) in a study in Australia attributed the reluctance by teachers to use online facilities to lack of ICT skills. One teacher who opted out of this study indicated he did not know much about computers (see Appendix 19).

In this study, about 60% of the librarians reported that traditional library collections such as books, journals, newspapers, fictions, reference books were inadequate. The findings further revealed that private schools were superior to public schools in terms of the resources they provided to support IL. In addition, the book lending patterns in private schools differed from that of the public schools. Librarians from the public schools could only lend a maximum of two books per student per library visit because of inadequate collections. In contrast private schools could lend up to four books per student per visit. This indicated that the librarians were more pessimistic about the budget allocation by the school principals for spending on library resources and services. That is why almost a half of the librarians in the survey, did not think that the current financial support by the school principals was adequate to promote IL in the school.

The school principals of public schools depended largely on the government for financial support. They lamented that insufficient funding from government was the main limitation in the provision of the library materials to support the teaching of IL. A study by Arua & Chinaka (2011) in the Abia state of Nigeria on use of library resources by staff and students in seven secondary schools showed lack of funding as the major constraint. Other constraints included poor library accommodation and lack of professional librarians.

The American Association of School Library (AASL, 2009:38) asserts that the collection of resources that a school library offers must reflect the needs of the school curriculum and the diversity of its users. The school library programme should include a well-developed collection of books, periodicals, and non-print material in a variety of formats that support curricular needs for inquiry learning (ALA, 2000:6).

The findings revealed that budget provided to the schools investigated fell short of expectations to support among other things continuing professional development for the library staff, information resources, technology and facilities. The IFLA/UNESCO (2001:6) School Library Manifesto states that: "As a general rule, the school library material budget should be at least 5% of the overall school budget."

All respondents in the study acknowledged that a lack of access to ICT resources was one of the main barriers to the integration of IL in the curriculum (Ertmer, 2005; Hew & Brush, 2007). While private school students and teachers were provided with access to software and hardware, the same could not be said of public schools. In addition the private schools tended to have computer laboratories and wireless connectivity in the library.

The findings showed that most schools experienced inadequate IT resources and tools for teaching IL. All twelve school principals indicated that allocating resources to technologies in the school library meant taking up resources that were needed elsewhere. They pointed out that it was often difficult to invest the 'right' and 'adequate' amounts of technologies into the school library. All respondents in the study acknowledged that a lack of access to ICT resources was one of the main barriers to the integration of IL in the curriculum (Ertmer, 2005; Hew & Brush, 2007). While private school students and teachers were provided with access to software and hardware, the same could not be said of public schools. In addition the private schools tended to have computer laboratories and wireless connectivity in the library. Public school teachers in the study who could not rely on technology to impart IL resorted to prescribed text books, personal resources and the Internet. More than three quarters 70 (47%) of teachers mentioned that IT resources were inadequate for teaching IL let alone integrating ICT into the curriculum. Arko-Cobbah (2004:267) asserted that ICT is a very important component of the learning process in the information age because it makes students active seekers rather than passive recipients of knowledge. The Big6™ model advocates for teaching strategies that include acquisition of technology skills critical in the development of life-long learning that extends well beyond the classroom and the library (Riedling, 2006). Technology resources such as computers, the Internet and the World Wide Web have had a profound effect on learning.

All four of the public school libraries lacked equipment such as computers, printers, photocopies, video and TV sets. In contrast a small number of the private schools libraries (20%) had online databases such as Encyclopedia Britannica and online periodicals while the majority, 80% had none. Lack of such essential equipment and electronic databases implies that school libraries are lagging behind as far as technology is concerned. This prevents learners from engaging with technology and accessing information in diverse formats for their research. Teacher in the study did not have access to computers in the library except in the computer lab where access to the Internet was erratic due to power outage and poor connectivity. The poor Internet connectivity hindered teachers from teaching of information technology effectively. Out of the ten school libraries studied, only five had computerised libraries. Access to Internet and wireless connectivity remained problematic for most of them. Teachers in all of the studied schools expressed frustrations with lack of access to ICT facilities. Maitlamo's (2004) study of e-readiness of the education sector in Botswana noted that use of computers by teachers and learners in secondary schools was limited and this situation did not bode well for promoting integration of IL into the curriculum. The Botswana Library Association (2012) urges government to do more and place IL at the centre of the education process by improving ICT infrastructure. Proponent of Blooms Taxonomy emphasise that school leaders should ensure that teachers use ICT effectively to support and extend student learning by adding value to teaching and learning, and moving students to higher levels of critical and creative thinking (Lonsdale, 2003). De Jager & Nassimbeni (2003:108) add that taking into consideration Bloom's Taxonomy of educational objectives and inculcating it in IL programmes promotes students to master cognitive skills.

A study by Simba (2014) exploring the status and role of secondary school library resource centres in resource-based learning in the Iringa and Njombe regions of Tanzania, found that secondary school resource centres in Tanzania is hampered by their poor condition and lack both print and electronic resources including ICT facilities. Other studies concerning school libraries in Africa, including those by Dike & Amucheazi (2003) and Obajemu (2002), report poor library resources, as well as non-existent school library facilities. The findings revealed that there was a lack of resources, inadequately qualified librarians, lack of financial resources, and poor ICT infrastructures for implementing IL programmes.

The school principals and the librarians were particularly worried about budgetary constraints that were affecting the effective delivery of IL. King & Newmann (2000) found that schools are effective if they have access to IT tools and equipment. Technology helps to extend the reach of the library and its resources into the classrooms and beyond.

6.4.3 Strategies Used to Deliver Information Literacy

Regarding information literacy instructions strategies are largely founded on the constructivist model of learning though do not necessarily practise constructivism (William & Weavel, 2006:8).

As far as teachers were concerned, despite the importance of the student-centered approach, to instruction in IL, very little has changed in terms of students' and teachers' classroom practices in Botswana (Tabulawa, 2004; Tafa, 2004). The findings revealed most teachers still relied heavily on traditional methods of teaching that depended on prescribed textbooks and requiring students to memorise material learned. Some teachers however, claimed they practiced constructivist approaches by encouraging students to learn critical thinking and problem-solving skills and thus allow students to investigate and solve real-world problems. They also allowed students to construct their own knowledge; engage in group interactions; and dialogue with one another and with the teachers in the classroom. The constructivist concept of learning theory underpins the teaching of IL by putting emphasis the move away from a teacher-centered approach to teaching toward a student-centered approach (AASL, 1998).

As pointed out earlier, a significant number of teachers used traditional methods in developing IL skills. For example, 96 (64%) of teachers never gave assignments that would make students use the library. Up to 110 (73%) preferred to give notes to students rather than let students summarise and make their own notes; 101 (67%) always gave students what was expected to be learnt in a topic and then reminded them of what they should know. The AASL/AECT (1998) standards, like most IL standards, are founded on constructivist approaches.

Constructivist strategies for teaching emphasise a move from a teacher-centred approach to student-centred approach. Constructivist instructional practices such as inquiry, active, constructive, intentional, authentic, cooperative learning, among others are central to IL learning (Callison & Preddy, 2006).

The study found that teachers fell short of constructivist principles in their teaching. Galotshoge (2009) points out that though government revised its education policy in 1997 and adopted constructivist approaches to teaching, this was not being practiced. The role of the teacher according to this policy was to be facilitator and guide, they were to pay attention to student-centred teaching and authentic learning. However, two decades later, the implementation of this new policy has not materialised in secondary schools and has impacted negatively on the learning-teaching process. Small (2005:15) strongly encourages teachers to adopt constructivist methods because it enables the teacher to: 1) understand the mental models students use and any assumptions used to support them; (2) foster collaboration (and models it); 3) motivate students through active participation; (4) provide reassurance and encouragement to students, when needed etc.

Teachers in Botswana secondary schools are still lagging behind in applying constructivist methods in their lessons. Polelo (2005) and Adeyemi (2010) found that teachers in Botswana secondary schools still predominantly talk or lecture to students and therefore classroom instruction remains predominantly teacher-centred and authoritarian with passive students engaged mainly in recall learning. Tabulawa (1997) noted that Botswana secondary schools practised very little student-student and student-teacher interaction in class.

When the views of the Director of Curriculum Development were sought about current delivery strategies used by teachers in secondary schools in Botswana, he advocated for constructivist approaches. A review of some of the curriculum documents of senior secondary schools revealed teachers and librarians were expected to construct appropriate IL delivery strategies for their classes but this was rarely happening. Several studies have revealed that even teachers who hold constructivists pedagogical beliefs may not necessarily teach actively because of other contextual factors such as teacher technology competence, time constraints and demands of high stakes examinations that must be addressed in the first instance (Becker, 2000; Liu, 2010).

McBrien & Brandt (1997) are of the view that encouraging learners to think and explain their reasoning and have hands-on materials should replace textbooks, memorising and reciting.

The findings in the study signify that application of constructivist methodology is constrained by various issues such as lack of IL resources and high student to teacher ratios particularly in the public schools where the teacher to student ratio is 1:45. The study demonstrated that teachers of secondary schools in Botswana face a number of challenges such as crowded curriculum and examinations not being coherently organised, to name but a few. These findings resonate with findings from a study conducted in Malawi by Mtika (2010:398) implying that progressive pedagogical notions aligned with constructivism have not resulted in widespread change in classroom practice. Mtika recommends that teacher educators and policy makers need to be aware of this and examine relevant ways and possible adaptations that can be reasonably made to ensure that secondary teaching appropriately benefits from the strength of student-centred pedagogy (Mtika, 2010).

American authors (Darling-Hammond, 1997 and Muncey & Mcquillan, 1996) have claimed that student-centred education requires restructuring the curricula and school structure in order to engage learners' ideas and interests and to develop their knowledge and skills in key areas. The substantial restructuring of curricular needed in the face of resource constraints raises questions about whether constructivist pedagogy can effectively be implemented in Botswana secondary schools. Research and professional practice show that IL plays a crucial role in improving student achievement, and therefore it is necessary to teach IL in all disciplines (Hollister, 2010; Rockman, 2004). IL teaching strategy is recognised as a major responsibility of the library, and librarians have developed and delivered IL in limited formats.

On the other hand, the librarians' IL instruction strategies were inclined towards practices of student-centred teaching methodology. The results of this study revealed that the majority of the librarians from both private and public school seemed more inclined towards constructivist instruction strategies than teachers though it was not clear the extent to which this was done. This seems to concur with Kuhlthau's (2001) assertions that constructivism is the fundamental theoretical foundation for library programme instruction.

Within the library field at least in the US, Australia and Canada, the constructivist learning environment has led many librarians to rethink traditional approaches to bibliographic instruction and library orientation. The findings in the current study revealed that teaching strategies used by librarians tended to lean towards constructivism. A majority of librarians mentioned that they enabled students to make use of the library for doing their assignments; taught students to paraphrase text extracted from books in the library while making notes and to reference the sources of information; allowed students to discuss topics and engage in consultation with the librarian; allowed students to construct knowledge and explore topics freely while researching in the library; encouraged students to ask questions or consult with fellow students to clarify research problems; facilitated group interaction to ensure students worked in cooperative groups in the library. It was also hard to tell the extent to which constructivist values such as promoting exploration, higher-order thinking, fostering student independence learning and stimulating creativity were being practiced by the librarians faced with limited resources. Lwehabura (2008) in his work on IL delivery in four Tanzanian universities concluded that because of a number of factors, IL delivery approaches were not effective.

Despite the efforts by librarians in Botswana secondary schools to adopt constructivist teaching strategies compared to teachers, they are hampered by limited professional training. Fifty percent of the librarians in this study were not professional librarians.

The success of school library services or programmes, regardless of how well designed, ultimately depend on the quality and number of well-trained qualified staff responsible for managing such programmes (ALA 2005, AASL/AECT, 1998).

As far as the school principals were concerned, IL teaching strategies needed to be based on student-centred philosophy. The school principals believed that their teachers were transitioning from traditional learning to a modern participatory styled environment; where students were encouraged to participate and consult freely with their teachers, interact and work in groups. The majority of school principals felt that teachers took learning to 'authentic' levels where students used multiple resources, accessed primary and local documents or conducted research related activities. They strongly believed that teachers supported student-centered class activities and thought teachers gave students library-based assignments.

The majority of school principals were also of the view that teachers facilitated group interactions to ensure that students worked in cooperative groups. They also believed teachers encouraged social negotiation and accepted student's point of view as part of the learning process.

All the school principals observed that they offered support to teachers and encouraged them to move away from teacher-centred, a self-contained text, and a textbook-oriented teaching style towards a more collaborative, cooperative and resource-based constructivist teaching approach The school principals' views showed that they were inclined to embrace strategies that promoted constructivist teaching approaches.

The school principals are key to the implementation of IL. Teachers and the librarians therefore look upon the school principals to realise the goal and vision of IL in the curriculum. The zeal shown by the school principals towards constructivist approaches to teaching IL was however unmatched by the low commitment shown by librarians. This difference suggest a disconnect between the school principals and teachers on the question of pedagogic approaches to IL in the schools.

The reluctance of teachers to adopt constructivist approaches to teaching can be attributed perhaps to the fact that they are required to cover the entire BGCSE curriculum that is constructed around textbooks and they also deal with large class sizes (forty five or more students in public schools), making it difficult for them to vary methodology. They are therefore left with little room to innovate their teaching approaches and instead rely on lecturing in their classrooms, with little time devoted to discussion or inquiry-based learning that constructivist approaches dictate. Besides, the present educational system in Botswana is examination oriented, which is used to determine if students continue to higher institutions of learning and beyond in their careers. The knowing of factual information to pass an exam therefore takes precedence over life-long learning. Teachers receive the curriculum sealed with the Teacher's Guide to implement them. The teachers' roles are reduced to that of a technician who dispenses pre-packaged chunks of knowledge without any ethical consideration of what they are doing. In short, the curriculum is teacher-proof (Tabulawa, 2009).

In addition, Botswana secondary teachers are still preoccupied with the behaviourist model of curriculum 'delivery' of information to meek and passive students (Tabulawa, 2009:103-4).

6.5. Information Literacy Implementation at Policy Level

The Botswana education policy and the National Vision 2016, place IL high on the educational agenda of the country. The government through the Ministry of Education and Skills Development recognises the importance of school libraries in the provision of information resources and services for schools across the country. Botswana has neither a national school library policy nor IL syllabus for senior secondary schools. This situation seems to be the same in other African countries given Bawa's assertion that (Bawa, 1996) many African countries do not have articulate school library policies. Kinnell, Yu and Creaser (2000:44) maintain that if a policy is not in place, library activities, including training and development of library staff, will not happen thus affecting service delivery.

The findings from this study revealed that all the respondents: teachers, librarians, school principals and the Director of Curriculum Development were aware that there is no IL policy in Botswana. The findings further revealed the majority of teachers 132 (88%) agreed that an appropriate national policy on IL was long overdue. The majority of teachers suggested the need for Botswana secondary schools to adopt international IL standards such as those of the American Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT). They also believed using IL models such as the Big Six™ and Information Search Process (ISP) would help to develop IL international best practices in Botswana secondary schools.

Policy makers in Botswana are concerned about finding ways to improve how teachers should teach using pedagogical approaches that engage students and make learning more interactive. National curricula in Botswana and a growing number of other African countries seek to promote such skills as analysis, creativity, critical thinking, and problem solving. The aim of these reforms is to enable teachers to move away from standard 'learning by rote' methods and to utilise alternatives that encourage inquiry among students as they develop, research, and reflect on new ideas (Leyendecker, Ottevanger, & van den Akker, 2008).

However, De Jager and Nassimbeni (2005) in a survey to track progress in institutionalising and including IL in higher education in South Africa, found little evidence of institutional commitment. Likewise Jorosi & Isaac (2008) found no IL policy in place in Botswana. Hart (2005) and van der Walt (2005) in South Africa similarly found no policy on IL.

Like teachers, librarians held the view that implementation of a standardised IL model curriculum was needed in Botswana secondary schools. They pointed out that adopting existing international IL standards and models would help guide the process of implementing standardised IL curriculum for senior secondary schools in Botswana. Despite the fact that the majority of librarians were in favour of a standardised IL programme, follow-up open-ended questions in the questionnaire revealed a lack of knowledge about the contents of existing IL models such as those of the Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT, 1998); Kuhlthau, (2004); Eisenberg & Berkowitz (1990). Adopting IL standards is encouraged by Snavely (2001) who advises adapting them to suit local situations.

Crawford (2013) asserts that policy making for IL is still relatively underdeveloped with a limited number of documents being exclusively devoted to the subject. Therefore a cooperative approach involving all the stakeholders: teachers, librarians, principals, and curriculum developers are needed to develop a policy framework for integration of IL into the curriculum. The IFLA/UNESCO Manifesto (2000) encourages governments, through their ministries responsible for education, to develop strategies, policies and plans that implement, give support and guidance to the library community to implement IL policy.

The findings revealed the school principals acknowledged that they did not have any written school policy on IL integration into the curriculum. Only one private school claimed to have an IL policy. Two other school principals (one from a private school and another from a public school) reported that they have IL policies but they did not spell out clearly what these policies entailed perhaps suggesting that nothing concrete existed.

There seemed clearly to be a lack of understanding of what an IL policy is all about.

The school principals from the public schools equated IL policy to a library schedule. Such schedule stipulated that "*Every student must have one period (40mins) per week to visit the library.*" Others thought IL policy was synonymous with: "*Reading of books, magazines, newspapers and watching television,*" while another school principal noted that the government was developing an IL policy which would among other things ensure: "*every school install computers in the library and have afternoon sessions for various classes*".

The Director of Curriculum Development confirmed the absence of an IL policy or programme in Botswana. The respondent declined to give a concrete statement on any measures being taken by the Ministry of Education and Skills Development towards developing IL standards for Botswana. The respondent also reported that no designated person or unit existed in the Ministry of Education & Skills Development, Secondary Department Section for coordinating school library activities and overseeing IL integration in schools. However, he pointed out that "*teacher librarians were available in schools to coordinate library issues.*" He asserted that the major obstacle impeding the development of IL in school was a shortage of human resources. The respondent also noted: "*Each school receives a budget allocation for its library requirements.*" *In addition, Ministry of Education and Skills Development has embarked on school library revamp project to advice schools on basic resources/set minimum standards which cover these*." "*Computers and Internet connectivity are being provided to all secondary schools.*"

The respondent however declined to answer questions relating to a) how IL was reflected in secondary schools education and b) what IL content was being offered in secondary schools. The findings of this study are similar to that of De Jager and Nassimbeni's (2003) study in South Africa which revealed little explicit evidence of institutional strategic plans or policy statements that specifically acknowledged a responsibility for inculcating IL among students. The absence of an IL policy in Botswana is responsible for poor conditions in most school libraries including: small budgets; lack of IL standards and procedures; lack of coherent IL content and lack of capacity building plans (Otike 2004; Turner 2006; Adeyemi 2010; Baffour-Awuah 2002).

The international IL standards guidelines and policies can direct and support the adoption of IL education in Botswana. IL national policy is of fundamental importance in enhancing information technology and IL education programme in schools. Guidelines and policies for teacher education, and the establishment of IL programmes, are key to effective implementation of IL. National policies and guidelines for IL education are needed to enhance the development of associated infrastructure (Bruce, 2004).

6.6. Role of Teachers, Librarians, School Principals and the Director of Curriculum Development in Promoting IL

Librarians, teachers and school principals together with government, play pivotal roles in ensuring effective implementation and integration of IL into the curriculum. All these stakeholders need to work together to create student-centred learning environments in which the student is actively involved in problem-solving (Callison & Preddy, 2006). They also need to take the necessary measures that will inculcate IL competencies in students in secondary schools and prepare them adequately for higher education and the information society dispensation.

Regarding the roles of teachers, in promoting IL Sang, Valcke, van Braak, & Tondeur (2010) points out that successful integration of IL into the curriculum is related to the teachers' thinking process rather than the skills they possess. In order to play their rightful role in promoting IL, teachers need to be familiar with the concept of IL. They must also have the competency to teach basic IL skills such as effective use of print and electronic sources, literacy appreciation and reading skills, problem-solving and the research process. This is out of the expectation that teachers are not only information literate but that they also know how to mediate IL, or that they have a method for teaching IL. Probert (2009) and Slyfield (2001) believe that teachers must make IL clear and be able to understand the principles and goals of IL. The findings revealed that two thirds of teachers had only a limited or little understanding of IL. Henri (2001) points out that development of IL in schools rests upon teachers who are presumed as being information literate. Moore (2002) asserts that teachers need to be familiar with the concept of information literacy and must explicitly teach IL skills.

Merchant and Hepworth (2002:87) point out that teachers must be able to mediate IL with their students and have a conscious understanding of the characteristics of IL in order for them to enhance the development of students' IL.

The findings revealed that in senior secondary schools in Botswana 144 (96%) of the 150 teachers seemed to shift the responsibility of teaching IL to the librarians. Only six (4%) teachers said it was their responsibility to provide IL instructions to students. The central role played by teachers in instruction delivery need not be over emphasised. Bruce (2002) and Lance & Loertscher (2001) are of the view that the most effective teaching that fosters the greatest improvement in student achievement, is one in which the teacher integrates IL into the curriculum.

Findings revealed that teachers believed IL could be promoted in the schools if they were empowered to become competent. Teachers felt that collaboration between themselves and librarians would promote IL integration into the school curriculum. Teachers wanted librarians to be capable of running workshops to enlighten teachers about the importance of IL. The teachers' concern echoes what Montiel-Overall & Jones (2011), in a study of teacher-school librarian collaboration from the teachers' perspective found, that teachers looked to librarians to run workshops to enlighten them about the importance of IL. They also advocated for the hiring of trained professional librarians to manage libraries and promote IL in the school. Furthermore, teachers also felt they needed to include a library period into the school timetable to allow all subject teachers to have a library period to teach IL skills to students.

Teachers identified several challenges affecting their role in teaching and integrating IL into the curriculum including among others, erratic Internet connection, inadequate computers, lack of ICT skills, lack of human resources, limited time and overcrowded curriculum, insufficient funding and lack of administrative support. The other problem that seems to be hampering teachers in promoting IL in secondary schools as opined by Jorosi & Isaac (2008) is their full time role in teaching, and an overloaded school curriculum. Therefore, a great responsibility lies ahead for the secondary schools to develop teachers with IL knowledge so that they can be well prepared to develop an information society in Botswana.

6.6.2 Role of the School Librarians in Promoting IL

As far as the roles school librarians in promoting IL are concerned, the study found they were the most pivotal in the implementation and integration of IL into the school curriculum. The constructivist learning environment has led many librarians to rethink approaches to bibliographic instruction and library orientation. Literature reviewed emphasises that in the last three decades the school librarian's teaching role is central to the connection between the curriculum and the library (ALA, 1988). Traditionally, IL has been established as the domain of the school librarian and therefore it is their role to promote library and IL programme in collaboration with teachers (Farmer, 2007). Moreover, with the advent of technology, the digitisation of information, the integration of computer networks and the Internet, school librarians are expected to adapt to the new technological age. The school librarians are expected to be at the forefront of IL leaders within the school community in order to meet the information demands of the school community (Ash-Argyle & Snunith, 2014). The librarians, through IL programmes are to inculcate in students IL skills to access, evaluate, manage, use and communicate information purposefully.

Fundamental to the role of school librarians, the study findings revealed that the majority of the librarians 7 (70%) acknowledge that it is their obligation to take control of teaching IL in the library. The librarians in the study were cognisant of their roles as custodians of information resources, and believed it was their responsibility to educate students how to use library resources and impart the values of life-long-learning to students. Moreover, they believed it was also their prerogative to teach students research skills, how to identify relevant information, how to appropriately cite sources in their projects and how to write bibliographies. One librarian from a private school emphasised that a collaborative approach between teachers and librarians was the best way to deliver IL. Another librarian from a public school was of the view that the responsibility of promoting IL in secondary schools rests with the English teachers who are competent with spelling, writing skills, and spoken English.

The findings further revealed that sixty percent of the librarians emphasised that it was pertinent for them to develop new methods of improving IL through reading clubs and library clubs.

Two librarians from private schools pointed out they also organised workshops for teachers and encouraged them to use the library. They stated that their role in promoting IL included helping students and staff to obtain the information they needed via books and Internet and inviting guest speakers to talk to students during library month annual celebrations.

The findings from the current study revealed that librarians faced obstacles in executing their roles in promoting IL just like the teachers did. They stated that their roles in promoting IL were hampered by lack of support from teachers, school management and government. They also decried the very small size of the library; poor Internet access and other ICTs to facilitate instruction delivery; lack of dedicated trained librarians to manage the library and lack of understanding of the whole spectrum of librarianship by the school principal.

In general the findings showed that the librarians were committed to contributing towards promoting IL in their schools by ensuring IL is taught by qualified librarians, making IL teaching more student-centered and incorporating IL into the school syllabus. In this regard, Henri, Hay & Oberg (2002); Hartzell (2002); and Hara (2006:522) observed that librarians were the driving force behind school library success.

The findings revealed that the role played by school principals in promoting IL in the school was of paramount importance. As the chief executive of the school, the school principal is responsible for providing the framework for implementing IL. In this role the school principal works with teacher librarians and other teachers in developing IL plans and in promoting reading programmes in the school. The school principal also provides resources such as budget and infrastructure, to ensure the IL programme is effectively implemented. The IFLA/UNESCO (2002) standards proclaim that the school principal must make sure that the school librarians are involved in instruction, curriculum planning, continuing staff development, programme evaluation and assessment of student learning.

The findings revealed that school principals from both private and public secondary schools supported the development of school library resources and the general curriculum needs of the school by offering arrays of materials, financial, intellectual and human resource.

The role of the school principal in supporting the school library programmes through budgetand staffing and timetabling decisions has been discussed extensively by various scholars (Hartzell, 2003; Oberg, 2006; Church, 2008; Henri, Hay & Oberg, 2002; Howard, 2009; Sykes, 2002). The school principals are also expected to enhance advocacy to ensure IL is integrated into the curriculum (Henri, Hay, & Oberg, 2002).

The findings revealed that school principals in all the four public schools studied depended on the budget provided by government to schools to support their school libraries. The role of the school principals in promoting IL in public schools seemed constrained by insufficient funding from government. In contrast, six of the eight school principals of private schools depended on funds accrued from school fees or sometimes received through donations from sponsors to support and finance their school libraries. One of the school principals from a private school was open enough to declare the proportion of the budget allocation for his school library saying it amounted to US $ 90,000 annually.

The findings revealed that school principals perceived themselves as being supportive of their school library, but not all school librarians shared this view. Half of the librarians (50%) rated the school principals as supportive of IL in their respective school libraries. They stated the nature of the school principals' support included: 1) funding acquisition of library materials and 2) ensuring flexible scheduling of time and resources to allow students and teachers full access to the school library and its programmes. The results revealed that about 30% of school principals were not supportive in such areas as staff development in IL; helping to establish collaboration among teachers and with the librarian in planning and teaching of IL. Kaplan (2006) is of the view that school principals' support for the library is hampered by not being sufficiently aware of the teaching role of librarians The findings revealed that there was more support for the school libraries in private schools by school principals than in public schools Henri & Boyd (2002) observed that school principals tend to support school libraries by providing the relevant resources. Most school librarians recognised that the support of the school principal was critical to the success of the school's library programme (Hartzell, 2002; Todd, 2007).

Shannon (2009) noted that the school library programme's positive and lasting impact on student achievement cannot be realised without a strong partnership between the school principal and the school librarian.

McGhee and Jansen (2006:35) point out that "bringing the school principal on board" may be the school librarian's "greatest challenge but well worth the effort."

The school principals' role in promoting IL seemed constrained by a number of challenges apart from funding such as inadequate internet connectivity, demanding curriculum; insufficient teaching resources, lack of full-time trained librarians, and poorly furnished libraries.

Haras (2006:522) believes that school principals are the driving force behind school library success and enhancement of IL programmes. School principals play key roles in establishing the information literate school community. Henri & Oberg (2005) aver that whenever there is school principal's support of the librarian and the library programme, this facilitates and motivates teachers to teach IL regardless of their attitude. The findings in this study suggested that the support of school principals was a catalyst and facilitating condition for the implementation and integration of IL in the curriculum.

With regard to the role of the Director of Curriculum Development in promoting IL the findings revealed that the Ministry of Education and Curriculum Development supported the development of information skills syllabus (see Appendix 14). He stated that his role was to ensure senior secondary schools produced information literate students who were lifelong learners. Furthermore, he pointed out that the Revised National Policy on Education (RNPE, 1994) aims to produce students who are skillful consumers and producers of information in a wide range of resources and formats.

The Director of Curriculum Development seemed supportive of IL integration in the curriculum in senior secondary schools. He noted that the Revised National Policy on Education (RNPE, 1994) spells out the government's commitment to the improvement of secondary education by integrating IL into the curriculum. He strongly felt the need for teachers and school librarians to work together to promote IL in the schools. Therefore a cooperative design of an IL programme needed to involve critical stakeholders such as library professionals and other educators (Mancall, Aaron & Walker, 1986).

The role and support of the government of Botswana in promoting IL was reflected in the resources they were providing for the expansion of educational facilities, including the proposed provision of computer and Internet access in all schools by the year 2016 in line with the National Vision 2016. However, as Moore (2005) points out the road leading to the full recognition of IL as a policy matter is still a long one, and what is needed is for a governance approach that brings together the different stakeholders involved in its implementation.

6.7 Perceptions and Attitudes of Teachers, Librarians and School Principals towards IL

The study sought to determine the perceptions and attitudes of the teachers, librarians and school principals towards IL. Attitudes and perceptions in general are important factors in influencing the behaviourial intentions of people to act in a certain way. Hall (2005:405), in the context of the classroom, asserts that "despite the types and amounts of knowledge that teachers may hold, it is their beliefs that are more likely to dictate their actions in the classroom".

With regards to teachers, attitudes towards IL it was found positive as they felt they were responsible for providing the opportunity to impart to students the professional knowledge that fostered critical thinking, creativity, independent learning and lifelong-learning. . To gauge the perceptions and attitudes of teachers towards IL, it was important to find out if teachers were information literate enough to impart the necessary skills to their students. Using the definition of IL as being "the ability to find and use information", and promote it as "the keystone of lifelong learning" (AASL/AECT, 1998:1), teachers were asked to rate their IL literacy level using the scale 1 to 3 namely: 1) "I am not information literate"; 2) "I am moderately information literate" and 3) "I am highly information literate". Findings showed that sixty-six of the 150 (44%) of teachers were moderately information literate whereas 46 (31%) were highly information literate. Five teachers from public school and one from private school indicated they were not IL literate while 32 teachers refrained (eight from private schools and 24 from public schools) from self-rating, perhaps because they were not information literate.

The findings that revealed that teachers perceived themselves as moderately IL literate echoes a similar situation in which Merchant and Hepworth (2002) in a study to examine the IL skills of teachers and pupils in two UK grammar schools, found that majority of the teachers were information literate, as a result of their personal interest rather than because of any training. The most significant finding, according to the authors, was that teachers' skills and attitudes towards information were not being transferred to their pupils.

Teachers were further asked to indicate on a 10 item-rating scale the extent to which they were able to perform the activities of IL as "*poor*" *or* "*excellent.*" One hundred and six teachers (64%) said they understood the cultural, ethical, economic, legal and social issues of the use of information. As shown by the results in Table 5.14, the majority 101 (68%) of respondents stated that they were able to select and access the best sources of information and choose relevant content from a source to meet their information need. The same number of respondents (101) said they always identified the purpose for which information was needed to solve a problem for a research paper, lesson plan, oral presentation, class exercises or project as part of regular classroom practices. The findings also indicated that significant number of teachers perceived themselves being insufficiently IL literate as their attitudes were poor towards certain IL activities demonstrated by the results in Table 5.14.

There was some evidence from the current study to support the findings of Korobili, Malliari, Daniilidou, & Christodoulou's (2011) study that sought to establish the perceptions and attitudes of teachers towards IL. The researchers found that teachers' did not use any electronic sources but instead used textbooks. They also did not feel any need to use any other sources to enrich their teaching content and methodology. They concluded that the moderate IL skills of respondents were not being transferred to their pupils. A similar situation was found in the present study, in which 150 school teachers were surveyed and about 91 (60%) accessed both print (i.e. books, periodicals, encyclopedias etc.) and electronic resources. More than half of the teachers 81 (54%) admitted that they were largely unable to use software tools such as spreadsheets, databases, statistical software, as well as social networks, and multimedia equipment to investigate the interaction between pieces of information, materials, practices, ideas, documents, or other data. Reidling (2007) points that teachers at all levels of education continue to struggle with exactly how to effectively integrate IL skills into their curriculum. Asselin (2000) opined that teachers have little knowledge about IL compared to the teacher-librarians.

Teachers in the survey perceived that one way to promote IL is to integrate IL it into the school curriculum as one of the mainstream subjects Although teachers' attitudes and perceptions towards IL were positive, in general the results indicated that a significant number of teachers perceived themselves as insufficiently information literate. Therefore teachers' perceptions of IL fell short of the prescription of the American Library Association (ALA, 2006) that teachers' should: 1) develop a broad knowledge of IL and IL standards; 2) collaborate with librarians to integrate IL competencies into their core content areas, while meeting the accountability and testing requirement of these fields; 3) use the IL standards for student learning as a foundation for constructing thematic units and teaching their subject area; 4) manage and facilitate the learning environment, creating a positive atmosphere conducive for maximum learning; 5) collaboratively plan experiences to teach and assess student achievement of information concepts and processes; 6) be familiar with the strengths and weaknesses of different instructional assessment approaches; and 7) provide content area support to librarians in developing library programmes to teach and assess information skills. Duke & Ward (2009:253) indicated that teachers need to be information literate in order to promote IL practices amongst their students so that they are able to access knowledge and resources. Duke & Ward further added that many teachers are not taught how to make IL explicit in the classroom and for this reason they do not apply constructivist and inquiry-based approaches in their teaching.

Williams & Coles, (2007) aver that teacher attitudes toward IL have been universally recognised as an important factor in the successful integration of IL in formal education yet, relatively little is known about teachers' IL ability and willingness to engage in the process of information seeking and use as part of professional practice (Williams & Coles, 2007:188).

The findings generally revealed that the majority 101 (67%) of teachers were able to select and access the best sources of information to meet their information needs effectively; evaluate and process information from a range of sources that is central to learning and to the creation and application of new knowledge. The teachers also expressed positive attitudes towards IL though this was not necessarily a measure of their abilities to teach IL. Smith (2013) in Alberta, Canada, using semi-structured interviews to explore eight secondary school teachers' perceptions of IL and their experiences with IL. They found that secondary school teachers had failed at inculcating IL skills and knowledge and instead allowed students to graduate and enter post-secondary studies with low IL proficiency.

As pointed out, the results in the current study in Botswana secondary schools overall revealed that teachers had positive attitudes towards IL although remain moderately enthusiastic about teaching IL, and the extent to which they fully espoused it in the classroom was uncertain.

As far as the perception and attitudes of librarians towards IL was concerned, the literature reviewed suggest a lack of research in this area (Miller, 2005). This view is shared by Lo, Dukic, Chen, & Youn (2014) that little research is available about the attitudes and perceptions of school librarians regarding their teaching role, in relation to IL and enquiry based learning. The main emphasis in education is student achievement of identified academic outcomes, and tying IL instruction to the rest of the school curriculum optimises student transfer of learning (Henry, 2008).

The findings of the present study suggest the majority of the librarians 7 (70%) perceived that it was their obligation to take control of teaching IL in the school. Reasons given by librarians perceiving themselves as the main promoters of IL in schools included librarians seeing themselves as custodians of information resources with a responsibility to educate students how to use library resources. The findings in the current study further revealed librarians perceived themselves as teachers that impact life-long-learning in students. The librarians also saw themselves as having more time at hand to teach IL compared to subject teachers who are challenged with markings, revising, and teaching core subjects.

In general, the librarians' perceptions and attitudes towards IL were relatively positive compared to those of the teachers. Almost all the librarians reported being happy and satisfied with the fact that they were at the centre of teaching IL and contributing to knowledge production in secondary schools. The librarians were also found to be passionate about imparting IL to students in their formal education journey. They pointed out that their satisfaction lies in providing books that students enjoy. Despite their positive attitudes towards IL, the librarians from both private and public schools expressed frustrations they encountered in their day-to-day work such long working hours, having no control over the library budget, monotonous work patterns, IL not mainstreamed in the curriculum and lack of resources making it impossible to adequately assist students. Librarians were interested in transforming their schools to becoming information literate.

Moreover, librarians in secondary schools in Botswana see their responsibility as being to support teaching and learning processes via the school library. The stance of the librarians in this study mirror those of a similar study in the UK by Streatfield et al., (2011) that found school librarians were more proactive, and more and more involved in providing IL-related services. Likewise, Dotan & Aharony (2008) in a study in Israel, reported high involvement of the librarians in promoting reading and in guiding students in information searching and in evaluating information resources.. The findings revealed that the librarian quest for creating information literate secondary schools in Botswana were being constrained by challenges such as limited budget; lack of technology and person-power; lack of time for cooperative planning with teachers; and lack of interest from the teachers and school principals.

6.7.3. Perceptions and Attitudes of School Principals towards IL

The perception and attitudes of school principals towards IL were generally positive. A negative attitude of school principals could have a detrimental impact on the implementation of IL in the school and contribute to the poor condition of school libraries. In general, the school principals perceived IL as something if promoted, would contribute towards student life-long learning.

The findings revealed that despite not having a formal IL plan and experiencing financial constraints, the school principals in Botswana made efforts to make available library resources, Internet facilities and initiated school projects. They also promoted a reading culture as a way of promoting IL. The school principals were of the view that it was important to integrate IL into the school curriculum.

When librarians were asked about the attitude of school principals towards IL, they expressed diverse opinions. Some librarians felt that support for the libraries from the school principal was minimal. A half of the librarians (50%) noted the school principals were supportive of IL while the other 50% perceived school principals as not being supportive. The librarians who perceived school principals as supportive felt the school principals demonstrated leadership and usually helped to establish collaboration among teachers and the librarian in planning teaching of IL and for promoting lifelong learning.

Church (2008) in a study in the state of Virginia, Australia, found that the heads of secondary schools had positive attitudes towards school libraries; however, declining budgets were the major barrier to delivering quality IL. Radebe (1997), in a related study in South Africa, found that the librarians felt their school principals' attitudes towards IL were negative. In contrast a study by Dubazana (2008, 2006) on the IL integration into the curriculum in South Africa showed the school principals played a positive role in the establishment of the school library programme. Dubazana also pointed out that the leadership role of the school principal played a key part in the successful implementation of the school library programme.

6.9. Summary

This chapter provided the discussion and interpretation of the research findings underpinned by the Constructivist framework as the overarching theoretical lens complemented by others including Blooms Taxonomy (Bloom, 1956), the Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); the American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT, 1998).

The discussion and interpretation of the findings was centred on the goals of IL in senior secondary schools in Botswana; IL content, resources, and teaching strategies for IL; IL implementation at the policy level in senior secondary schools; roles of librarians, teachers, school principals and the Director of Curriculum Development in promoting IL; attitudes and perceptions of teachers, librarians, and school principals towards IL.

The findings showed the respondents in this study were highly qualified. The findings further revealed that despite having high level of academic qualifications teachers and librarians did not generally have the competency to deliver IL to students to the desired standard as espoused by IL international theoretical models such as the Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); and *Information Power: Building Partnerships for Learning* American Association of School Library and Association for Educational Communications and Technology (AASL/AECT, 1998) framework.

The findings further revealed that secondary schools in Botswana did not have clearly articulated IL goals. The teachers understood the goals of IL but had challenges teaching IL skills and knowledge.

Similarly, the goals of IL were understood by the librarians as demonstrated by one school librarian that the goal of IL is to *"To empower both staff and students with information while at the same time supporting the school's academic programme."* The school principals on their part perceived the goals of IL as crucial to students' ability to acquire requisite skills for their learning. The Director of Curriculum Development acknowledged the lack of coherent IL goals in senior secondary schools.

The findings also established an absence of uniform IL content or syllabi across the secondary schools. It was also revealed that inadequate resources resulted in poor IL delivery strategies among teachers and librarians. There was divided opinion about a lack of administrative support for the implementation and integration of IL into the curriculum. The findings revealed challenges in the integration of IL in most schools that included inadequate IT Tools, reliance by teachers on traditional methods characterised by the dependence on prescribed textbooks.

Furthermore, the absence of an IL policy in Botswana had resulted in limited budgets for school libraries; lack of IL standards and procedures; lack of coherent IL content, and lack of capacity building plans.

In summary, secondary schools in Botswana did not have a concrete IL policy or programme and this situation was undermining the IL education to produce students who are IL competent.

CHAPTER SEVEN
SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1. Introduction

This Chapter presents the summary, conclusion and recommendations on the IL integration strategies in senior secondary schools in Botswana. The study was conducted in the south central region of Botswana in the Gaborone district covering four public and eight private senior secondary schools.

The study was guided by the following research questions:

1. What are the goals of IL in senior secondary schools in Botswana?
2. What is the IL content, resources, and teaching strategies for IL?
3. How is IL implemented at the policy level in senior secondary schools?
4. What are the roles of librarians, teachers, school principals and Director of Curriculum Development in promoting IL?
5. What are the attitudes and perceptions of teachers, librarians, and school principals towards IL?

The study was underpinned by both interpretive and positivist paradigms and applied the Constructivist framework as the overarching theoretical lens complemented by Blooms Taxonomy (Bloom, 1956), the Information Search Process (ISP) model (Kuhlthau, 2004), the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 1990); and the *Information Power: Building Partnerships for learning guidelines* of the American Association of School Librarians and the Association for Educational Communications and Technology (AASL/AECT, 1998) framework. The methodology consisting of qualitative and quantitative research methods was employed. The population of the study consisted of teachers, librarians, school principals, and a Director of Curriculum Development in the Ministry of Education and Skills Development (MoE&SD). Quantitative and qualitative data were collected using a survey questionnaire and semi-structured interviews respectively.

Relevant documents were reviewed and the nature of school libraries observed first hand in situ. Qualitative and quantitative data were analysed using thematic analysis and SPSS respectively to generate descriptive and inferential statistics.

The rest of this chapter is organised around themes derived from the research questions, variables from the theoretical lens and issues around the research problem that include: summary of findings, conclusion, recommendations, originality and contribution of the study to theory, practice, policy and further areas of study.

7.2. Summary of Findings

The summaries of findings described here are presented in the order of the research questions that were addressed in this study.

7.2.1. Goals of Information Literacy in Senior Secondary Schools in Botswana

The first research question sought to establish the existence and nature of the goals of IL in senior secondary schools in Botswana. The findings revealed a lack of clearly stated goals guiding the teaching and learning of IL. However, both the teachers and school principals understood and appreciated the role of IL in enabling students to learn the core curriculum and become lifelong learners as evidenced by the results presented in Table 5.9. Teachers understood the goals of IL but were not adequately equipped with IL skills to effectively teach students. The Botswana Senior Secondary School Curriculum Blueprint provides the plan for IL education in Botswana. For IL to meet the stated goal of government, it is important to close the gap of IL illiteracy among senior secondary school students by teaching them IL skills to become IL literate to be able to effectively function in an increasingly information based environment. IL skills lay the foundation for lifelong learning and allow students to assume greater control over learning.

The goal of IL programme according to the Botswana government is to lay the foundation for lifelong learning as enunciated by the RNPE (1994). The government of Botswana strongly advocates for IL in its educational system to promote development of life-long learning for the learners at both secondary and primary levels.

Furthermore, the findings revealed that the majority of librarians (90%) stated that the goal of IL is library orientation and helping students to make use of library resources. Developed countries such as the United States, Canada, Australia and others understand IL goals from a broader perspective because they commonly use IL standards published by organisations such as AASL & AECT (1998) and School Library Media Programmes (2009).

According to the Director of Curriculum Development the goal of IL is to produce independent learners and life-long learners.

The results overall revealed that the implementation of goals of IL in Botswana remain on the margins of the education process in secondary schools. This situation is detrimental to building an informed and educated nation as espoused by the country's development vision for 2016 (Presidential Task Force, 1997).

7.2.2. Information Literacy Content, Resources, and Teaching Strategies

The second research question investigated IL content, resources, and teaching strategies for teaching IL in secondary schools. Data to address this issue were collected through survey questionnaires, observation of the school libraries and document analysis of school records such as school library policy, IL syllabus, yearbooks, and school curriculum and school vision and missions.

More information was sought about IL content provided by international standards such as those of AASL/ACTL (1998) framework; the Information Search Process (ISP) model (Kuhlthau, 2005) and the Big6™ Information Problem-Solving model (Eisenberg & Berkowitz, 2003). The subsections 7.2.2.1 – 7.2.2.3 are devoted to IL content, resources and teaching strategies.

7.2.2.1. Information Literacy Content

As far as IL content is concerned, the findings revealed that the content of IL taught, varied between public and private senior secondary schools. In addition, syllabi used to deliver IL to students especially in public schools were patchy and not standardised across all the schools because of lack of national guidelines or policy. In the absence of a national IL policy, the IL engaged with in public schools was little more than an orientation to familiarise students with the library resources available. The study revealed IL instruction was still typically bibliographic in orientation. The content of IL lessons taught to students involved the care of books and other library materials, the part of a book, authors and illustrators, the use of specific reference tools, library organization, location of library items on shelves, alphabetical order, the card catalogue and Dewey Classification System. Library skills were mostly taught as part of English courses.

The findings also revealed that the private schools like their public counterparts did not have clearly defined IL syllabi despite the fact that preliminary investigation showed that all the 8 private schools in the study offered IL. The findings revealed the schools relied on individually generated library guidelines to help them teach IL competencies such as how to use electronic catalogues, referencing, how to write a bibliography and more. The findings revealed that 70% of librarians taught IL based on the contents they developed in their own schools.

The diversity in the content of IL delivered in schools especially in the absence of national guidelines was not surprising. The school principals seem to equate IL to ICT skills. Probert (2009) pointed out that some people mistake technology or ICT fluency for IL. As the school principals were also unclear about what constituted IL, it is unlikely that an explicit content for IL could emerge.

The findings also revealed that the Director of Curriculum Development seemed to have little knowledge of IL content. He declined to comment on the content of IL in secondary schools but instead attributed the lack of explicit IL content for secondary schools to lack of trained librarians and resources. The Director of Curriculum Development, however, agreed that having a robust IL curriculum would help students to handle and use the information to solve problems. The Director of Curriculum Development pointed out that the Ministry of Education and Skills Development had embarked on a School Library Revamp Project to advise schools on essential resources and set minimum standards for IL content. From the findings presented in this section it is clear that the absence of a national IL policy or guidelines has resulted in an incoherent approach to the content that is taught across the senior secondary schools in Botswana. Government, teachers, librarian, the school principals and the Director of Curriculum Development all have key roles to play in developing consistent IL content for senior secondary schools in Botswana.

7.2.2.2. Information Literacy Resources

Resources for supporting the teaching and learning of IL available in the schools studied, mainly consisted of traditional library collections such as books, journals, and newspapers which were inadequate for teaching IL. Although the Director of Curriculum Development was enthusiastic that the Government is equipping all secondary schools in Botswana with computers and Internet connectivity to promote digital literacy, the four public schools in the study were constrained by the lack of resources to effectively teach IL. Financial and budgetary shortfalls; poor library collections; ICT infrastructure, lack of online databases; limited journals, newspapers, DVDs; lack of professional librarians; lack of automated library catalogues, and absence of computer labs were mentioned as major constraints affecting the offering of effective IL. Public schools depended largely on inadequate government financial support while the private schools relied on school fees and donation for funding. The private schools had more resources to offer teaching of IL than their public schools counterparts. The findings revealed that successful IL programme development is dependent upon access to supportive resources: time, facilities, learning resources, and an adequate budget. A well-developed collection of books, periodicals, and non-print material in a variety of formats are suited to inquiry learning.

7.2.2.3. Strategies Used in Teaching IL

Although, the findings revealed that almost 50% of teachers claimed they practiced the constructivist pedagogy in teaching IL, the contrary teachers preferred to give notes to students rather than let students summarise and make their notes. Another 96 (64%) of teachers never gave assignments that would make students use the library. Galotshoge (2009) points out that though government revised its education policy in 1997 to include constructivist methods of teaching, but this was not being fully practiced. Tabulawa (2009:103-4) also pointed out that secondary teachers in Botswana are still preoccupied with teacher-centred models of curriculum 'delivery' of information to meek and passive students. Kuhlthau (2001) asserts that within the library field at least in the US, Australia and Canada, the constructivist learning environment has led many librarians to rethink traditional approaches to bibliographic instruction and library orientation.

The school principals in this study believed that their teachers were transitioning from traditional teaching methodologies to a modern participatory constructivist environment. The majority of school principals felt that teachers and librarians took learning to authentic levels where students used multiple resources, accessed primary and local documents or conducted research related activities. Despite this position taken by school principals, most teachers were still struggling to change to the student-centred pedagogy.

The Director of Curriculum Development supported constructivist teaching strategies in schools in Botswana. Lupton (2002:81-82) advocated for the need to embed IL into the school curriculum in order ensure it is part of the pedagogy.

7.2.3. Information Literacy Implementation at Policy Level

The third research question sought to find out how IL was being implemented at policy level. In particular, the question sought to establish what government was doing regarding IL integration into the senior secondary schools curriculum. For successful implementation of IL, proper planning including resources (teachers/librarians, ICT infrastructure, etc.) are crucial.

The Botswana education policy and the National Vision 2016, place IL high on the educational agenda of the country. The government through the Ministry of Education and Skills Development recognise the importance of school libraries in the provision of information resources and services for schools across the country. All the respondents: teachers, librarians, school principals and the Director of Curriculum Development were aware of the lack of IL policy in Botswana.

The lack of IL policy in Botswana seems replicated across Africa as stated by Bawa (1996) that many African countries do not have articulate school library policies. Due to the absence of an IL policy, IL was not integrated into senior secondary schools' curriculum in Botswana. The Botswana Secondary School Librarian Association (BOSSLA) drafted ad hoc syllabi, a guideline for library and information skills/curriculum for secondary schools in 2009 (see Appendix 14). This was presented to government to consider and provide a framework for its implementation. Government has not acted on this draft syllabus though some schools are using it to teach IL. The content of this draft syllabus though falls short of internationally recognised IL standards that guide the teaching of IL. A government framework would assist in improving this document and become a standard IL syllabus for Botswana secondary schools similar to existing international IL standards espoused by AASL/AECT (1998) framework and Eisenberg & Berkowitz (1990) among others.

The findings also revealed that the implementation of IL by senior secondary schools in Botswana faced several challenges such as overcrowded curriculum, lack of government support and poor ICT infrastructure that frustrates IL development in schools. The absence of a national IL policy also did not make matters any easier.

7.2.4. Role of Teachers, Librarians, School Principals and Director of Curriculum Development in Promoting IL

The fourth research question sought to understand roles of teachers, librarians, school principals and the Director of Curriculum Development in promoting IL.

7.2.4.1. Role of Teachers in Promoting IL

Though teachers professed to understand the goals of IL, the study revealed that most of them did not have the competence to teach IL. Montiel-Overall & Jones (2011) in a study of teacher-school librarian collaboration from the teachers' perspective found that teachers looked upon librarians to run workshops to enlighten them about the importance of IL. The findings revealed that teachers did not play direct active roles in teaching IL. Of the 150 teachers who participated in the study, 144 (96%) seemed to expect the responsibility of teaching IL to be the domain of the librarians. Only six (4%) teachers said it was their responsibility to provide IL instruction to students.

The study identified the roles of teachers in promoting IL to include teaching students how to access both primary and secondary information for their assignments; encouraging students to undertake independent research and take responsibility for their learning.

Teachers identified several challenges affecting their role in teaching and integrating IL into the curriculum. These included among others erratic Internet connection, inadequate computers, lack of ICT skills, lack of human resources, limited time and overcrowded curriculum, insufficient funding and lack of administrative support.

7.2.4.2. Role of the Librarian in Promoting IL

According to Farmer (2007), the role of the librarian is essential in building IL into the school curriculum. The literature reviewed indicated that the school librarian's teaching role is central to the connection between the curriculum and the library (ALA, 1988). The role of school librarians often supports the work of students and teachers (Grizzle, Moore, Dezuanni, & Asthana, 2014). Librarians assist students in gathering appropriate sources for research papers and locating and using materials to support the curriculum.

The findings revealed a lack of leadership by school librarians in promoting IL. This finding was somewhat surprising as the literature is replete with guiding principles in developing and implementing IL from such bodies as ALA/AASL.

While such standards have not been adopted in Botswana, they have been helpful in informing the IL programmes of many institutions around the world because the frameworks are flexible to adapt to local situations to support students learning responsibility (ALA/AASL, 2010:55-56). The findings also revealed that librarians were not proactive in promoting IL. They were hampered by such challenges such as lack of trained human resources, lack of infrastructure, and limited or complete lack of a budget.

These findings seemed to suggest that much work remains to be done by librarians to integrate IL into the curriculum in senior secondary schools in Botswana. This findings may not be peculiar to Botswana as a survey carried out in Israel on the current state of librarians by Dotan & Aharony (2008), found minimum librarians' involvement in the IL programmes in schools.

7.2.4.3. Role of the School Principals in Promoting IL

Despite the challenges of inadequate resources to implement IL programmes in secondary schools in Botswana, findings revealed that school principals from both private and public secondary schools were in support of the development of school library resources and the general IL curriculum needs. Hartzell (2003); Oberg (2006); Church (2008); Henri, Hay & Oberg (2002); Howard (2009); Sykes (2002) in related studies found that school principals supported the library and IL through budgetary, staffing and timetabling provisions, as well as a proactive belief in the value of IL to student and lifelong learning.

Although the school principals supported the budgetary needs of the library resources, there was a general feeling among librarians that the support of school principals in promoting IL was not enough. Teachers 56 (37.3%) also felt that the principals of schools did not appreciate school librarians' roles in implementing IL programmes. The school principals were also perceived as unsure about school librarian's capability to use technology to promote IL in the schools. School principals are the driving force behind school library success and enhancement of IL programme (Haras, 2011) and their support for the library is critical for the successful integration of IL into the curriculum.

7.2.4.4. Role of the Director of Curriculum Development in Promoting IL

The study revealed that the Director of Curriculum Development was generally supportive of IL integration into the curriculum in senior secondary schools in line with the Botswana Revised National Policy on Education (RNPE, 1994). For example, government was committed to providing educational facilities, including computer facilities and Internet access in all schools by the year 2016 in agreement with the Vision 2016. The Director of Curriculum Development did not seem to have his own vision on how to promote IL in senior secondary schools. Instead tended to explain what government was trying to do.

7.2.5. Attitudes and Perceptions of Teachers, Librarians, Principals of Schools towards IL

The fifth research question addressed the perceptions and attitudes of teachers, librarians and school principals towards IL.

7.2.5.1. Perceptions and Attitudes of Teachers towards IL

The study showed, in general, that the attitudes and perceptions of teachers towards IL were positive. Teachers in the survey perceived themselves as moderately IL literate. The teachers lacked the capacity and abilities to teach IL. The study revealed that 62% of teachers agreed that IL should be taught as part of the mainstream curriculum and all supported IL integration into the school curriculum. Williams & Coles (2007) aver that teacher's attitudes toward IL have been universally recognised as an important factor in the success of IL integration in education.

The findings revealed the majority (105 (70%) of teachers did not believe they had sufficient knowledge and abilities to integrate IL into their subject content area. "The interrelated IL skills of location, selection, organisation, presentation and evaluation of information were not easily understood by the teachers and most of them were not able to transfer these skills to the learners" (Wessel, 2012:47).

Moreover, most teachers were ill-prepared to teach IL because of lack of professional development, lack of funding, inadequate staffing and lack of time (Mutoroke, 2009; Jorosi & Isaac, 2008).

The findings indicated that some teachers did not engage or collaboration fully with the librarians in teaching and promoting IL. About (55%) of teachers found it unnecessary to ask the librarians for assistance to help their students do research in the library. Teachers' attitudes towards IL were in part influenced by challenges they faced in integrating IL into the mainstream curriculum because of heavy teaching workloads, curriculum demands and reluctance to change traditional pedagogical methods. The teachers seemed not prepared to help students attain adequate levels of IL.

Information literacy is a crucial element of student academic development and teachers should be aware of the concept and its importance to teaching and learning. This study is directly linked to improving the awareness of teacher's perceptions of how IL impacts on their lives. Increased awareness is expected to change teachers' knowledge, perceptions, and attitudes towards IL. Further, the outcomes of this study have the potential to inform teachers and school principals about librarian's roles and their impact in promoting IL for student academic achievement. These views can be considered when working toward implementation and integration of IL into the school curriculum.

7.2.5.2. Perceptions and Attitudes of Librarians towards IL

The findings revealed that the majority of the librarians, 7 (70%), perceived that it was their obligation to take control of teaching IL in the school. Almost all the librarians believed they were the right individuals to teach IL in secondary schools. The librarians also believed they were the custodians of information resources. They felt that challenges such as limited budgets; lack of technology, lack of time for cooperative planning with teachers, and lack of interest from the teachers were hampering their efforts to promote IL.

7.2.5.3. Perceptions and Attitudes of School Principals towards IL

The study revealed that the school principals' perceptions and attitudes towards IL were positive. They perceived IL as something, if promoted, would contribute towards student life-long learning. The school principals made efforts to make available library resources, Internet facilities and viewed the integration of IL into the school curriculum as quite important. Despite the positive attitudes of school principals towards IL there were mixed feelings among librarians about the actual support given by the school principals. A half of the librarians (50%) felt school principals were supportive of IL while the other 50% perceived school principals as not being supportive enough to promote IL in the schools.

7.3. Conclusion

The conclusions provided in this section covered the goals of IL in senior secondary schools in Botswana; IL content, resources, and teaching strategies for IL; IL implemented at the policy level; the roles of librarians, teachers, school principals and the Director of Curriculum Development in promoting IL; the attitudes and perceptions of teachers, librarians, and school principals towards IL.

The study findings have generally shown that, all the respondents in this study did not seem to have a shared understanding of the goals of IL as enunciated by international IL standards and guidelines. This finding was in part attributed to the fact that there were no national guidelines and policy on IL in Botswana. The study has also revealed there is no standardised IL content that is taught across public and private secondary schools in Botswana.

The findings have also shown that resources such as ICT infrastructures, IL teachers, and qualified librarians were largely insufficient. Though some teachers practiced constructivist methods, the findings revealed that significant numbers of teachers still relied heavily on traditional methods of teaching that depended on prescribed textbooks and requiring students to memorise material learned (see Table 5.12).

The study demonstrated limitations of teachers and librarians in effectively imparting IL skills to students due to lack of skills. In addition, the findings have revealed lack of national IL policy, guidelines or standards for Botswana to guide the teaching and learning of IL in secondary schools. As a result implementation of IL in secondary schools is being hampered. The findings have also found that, teachers' teaching approach did not conform to Bruce's (2004:6) thinking that advocates for curriculum practices that involve active, collaborative, resource-based learning as exemplary methodologies for instructional delivery.

The study found that, though the librarians imparted library skills they seem to carry out orientations, performed clerical tasks such as processing books for the shelves, handing out books to the student; creating book lists, or overseeing quiet study sessions. These roles would seem to suggest the job of the librarian did not require professional skills. Moreover, the librarians did not seem proactive enough to promote IL in the school. For these reasons it would seem the role of librarians in promoting IL was not well appreciated by school principals and teachers. Consequently, IL integration into the curriculum in senior secondary schools in Botswana was far from being realised (Mutoroke, 2009).

The findings in addition revealed that teachers were moderately enthusiastic about IL, but the extent to which they fully promoted it through teaching in the classroom remained uncertain.

7.4. Recommendations

The recommendations presented here are aligned with the research findings and conclusions on the integration of IL in the curriculum of senior secondary schools in Botswana

Recommendation 1:

The findings point to the need for stakeholders in the secondary school sector to work together to develop national IL policy framework to guide the integration of IL into the curriculum.

Additionally, the Government of Botswana should expedite the provision of ICT infrastructure especially Internet connectivity and also raise the annual library budget to conform to the international standards of at least 5-6% of the total amount of the school budget (IFLA School Library Manifesto, 2002).

The policy could borrow from international standards and best practices such as *Information Power: Building Partnerships for Learning guidelines* (AASL/AEC 1998) school library media programs and IL framework for students learning. The IL policy should ensure school libraries are transformed from what they are today as reading rooms to a more integrated IL learning environment. Furthermore, schools should be encouraged to review their missions and educational goals to encapsulate how information literacy can be used to improve learning. To achieve an integrated IL curriculum capacity building of staff through training workshops, attending conferences and other forms of training should be provided.

Recommendation 2:

The Ministry of Education and Curriculum Development should consider engaging with the draft syllabus that was developed by The Botswana Secondary School Librarian Association (BOSSLA (see Appendix 14) in an effort to develop a national IL curriculum. The process of engagement should also involve all key stakeholders including library associations in Botswana, teachers, and parents teachers associations. Botswana schools should consider adopting or adapting international IL standards which espouse best practices to develop a common IL curriculum and pedagogy (based on constructivist principles). Such IL best practices could come from international standards such as AASL/ACTL 1998 and IL models (e.g. the Information Search Process (ISP) (Kuhlthau, 2005) and the Big6™ Information Problem-Solving (Eisenberg & Berkowitz, 2003).

Recommendation 3:

The Government of Botswana should consider providing adequate budget to the library in line with the international standard which IFLA School Library Manifesto pegs at 5-6% of the total amount of the school budget (IFLA School Library Manifesto, 2002).

Besides, government must be ready and willing to make funding available to build capacity in IL and also bring stakeholders in higher education together develop IL policy..

Recommendation 4:

A programme of capacity building and continuing education in IL for teachers and librarians should be developed jointly by the Ministry of Education and Skills Development, Library Associations and Parent Teachers Associations. The University of Botswana and Colleges of teachers' education should also be involved because they are at core of higher education in Botswana.

Recommendation 5:

An innovative IL pedagogy should be developed by teachers librarians and curriculum developers that is predicated on IL models such the Big6™ (Eisenberg & Berkowitz, 1990), the Information Search Process (Kuhlthau, 2004) and *Information Power: Building Partnerships for Learning guidelines* of the American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT), 1998) which espouses student-centred-learning.

Recommendation 6:

It is recommended that the integration of information literacy (IL) into the senior secondary school curriculum be mandatory to ensure it is adopted throughout all secondary schools in Botswana. This recommendation would require a policy framework to effect it.

Recommendation 7:

The government must provide a conducive environment for IL to be espoused and practiced in the schools. Such environment should focus on formalising IL in the school time table, and provision of Internet access in schools.

7.5. Originality and Contribution of the Study

Phillip & Pugh (2005:62) assert that a critical requirement for a doctoral study is to make a significant and original contribution to the knowledge of facts and or theories in the field of the study. The contributions of this study to theory, practice and policy are addressed.

The extant literature on the subject matter investigated in this study shows that little research exists in the context of Botswana about IL integration into the school curriculum based on the constructivist approach. This study is, therefore, useful in providing a platform for teachers and curriculum developers in Botswana to engage and determine appropriate pedagogic approaches of delivering IL. This is important given that most of the students entering the university from secondary school have been found to lack adequate IL skills to enable them to effectively pursue university education.

These IL models used to underpin this study are critical for informing IL instruction pedagogy that cultivates and extends students' IL skills and also facilitates developing an effective school-wide IL programme. The Botswana secondary schools can therefore benefit from the best practices in terms of IL pedagogy, learning and assessment strategies. Besides the IL models used in this study demonstrate how IL should be integrated into the school currriculum. For example, AASL/AECT, ISP and the Big6™ IL models can be used as guidelines when integrating IL into a secondary school curriculum. The models provide not only what IL is and what information literate students should be like, but they also provide IL learning outcomes. The IL models provide a blueprint for what information literate students should demonstrate. The IL models also act as useful tools for designing IL curriculum.

The study focused on how teachers and librarians can enact or apply constructivism in the classroom from Botswana context. Various studies such as (Sharkey, 2006; Walczak & Jackson, 2007; Weisskirch & Silveria, 2005; Wopereis, Brand-Gruwel, & Vermetten, 2008; Campello, 2009; Sakr et al., 2009) investigated IL using constructivism from a developed country context. Constructivism provides a suitable "frame or lens" for viewing the information-seeking behaviour of library users" (Kuhlthau, 2004: 13).

Its application in this study would therefore, enable librarians in Botswana to rethink teacher-centred approaches to bibliographic instruction and library orientation and instead place more emphasis on constructivist approach.

This study is expected to generate broad debates and conversation among policy makers and different stakeholders including, teachers, librarians, school principals and the Director of Curriculum Development on how they can cooperate to develop IL policy for Botswana that has wide appeal and takes into account the needs of the learners, teachers and librarians in secondary schools.

7.6. Suggestion for Further Research

The findings of this study and gaps from the literature reviewed thereof, suggest that further research on IL in Botswana and beyond should consider investigating the following areas:

i. A nationwide research on the status of IL in Botswana secondary schools to make the results more generalisable and also take into account various regional differences in which the schools exist and from which students are drawn.
ii. Research to find out how students in senior secondary schools interact with information, what kind of information they tend to use and how they use it so that IL syllabus developed can be customised to students' needs and learning styles.
iii. More evidence is needed to determine precisely how the school librarian contributes to the information skills acquisition of students and the relationship between IL and learning achievement. For example, what does it mean to be information literate today? Which information skills are necessary for students to have? How can educators know that students have acquired these skills? What indicators will tell educators this? How can educators measure the contribution that school librarians have made to the information skills acquisition of students and teachers?
iv. Williams & Wavell (2001) express the need for more research to determine the extent to which the success of an IL programme is due to the librarian's personal attributes or training and experience.

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LIST OF APPENDICES

Appendix 1: UKZN Letter of Introduction

University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: +27 (033) 260 5571
Fax: +27 (033) 260 5092
Email: Mutulas@ukzn.ac.za

25 September, 2012

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: Mrs Margaret Aber Onen

This serves to introduce Mrs Margaret Aber Onen, who is a PhD student at the University of KwaZulu Natal in South Africa Department of Information Studies. She is conducting a study to explore ***"Information literacy integration strategies in Senior Secondary schools in Botswana."***

Please afford her the necessary assistance.

Thank you for your understanding

Stephen S. Mutula
Professor, Information Studies
Thesis Supervisor

Appendix 2: Letter to the Permanent Secretary for Research Permit

Mrs Margaret Aber Onen
University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: + (267) 71784142
Email: margaret.onen@gmail.com

26 March, 2012

The Permanent Secretary
Department of Secondary Education
Ministry of Education and Skills Development
Private Bag 005
Gaborone
Botswana

Dear Sir/Madam,

RE: Permission to carry out research on Information Literacy Integration strategies in Senior Secondary schools in Botswana

I am a Doctoral student at the University of KwaZulu Natal in South Africa. I am conducting a study to explore information literacy integration strategies in Senior Secondary schools in Botswana.

This research project is undertaken as part of the requirements for the award of a PhD at the University of KwaZulu-Natal, Information Studies Programme. The outcome from the study will inform policy and practice on information literacy integration in secondary schools that is critical for developing an information society and information economy in Botswana as espoused in Vision 2016.

The schools which the research is targeting are: Naledi Senior Secondary, Gaborone Senior Secondary, Ledumang Senior Secondary, St. Joseph's College, Maru-a-Pula Secondary, Livingstone Kolobeng College, Legae Academy, Al Nur Secondary, Gaborone International School, Rainbow Secondary, Westwood International School and the Learning Centre.

Your assistance in this regard would be most appreciated.

Yours faithfully

Margaret Aber Onen (Mrs)

Appendix 3: Research Permit, Ministry of Education & Skills Development Botswana

TELEPHONE: 3655469
TELEX: 2944 THUTO BD
FAX: 3185167

REPUBLIC OF BOTSWANA

MINISTRY OF EDUCATION
AND SKILLS DEVELOPMENT
PRIVATE BAG 005
GABORONE

REFERENCE: DEPRS 7/1/5 /5 V (11)

14 March 2014

Margaret Aber Onen
University of KwaZulu Natal
School of Social Sciences
P Bag X01
Scottsville 3209 PMP
South Africa

Dear Madam

RE: REQUEST FOR A PERMIT TO CONDUCT A RESEARCH STUDY

This serves to grant you permission to conduct your study in the sampled areas in Botswana to address the following research objectives/questions /topic:

Information Literacy Integration Strategies in Senior Secondary in Botswana.

It is of paramount importance to seek **Assent** and **Consent** from Regional Education Office, School Heads of Senior Secondary Schools in Naledi, Gaborone, Maru-a-Pula, Livingstone Kolobeng, St Joseph College, Legae Academy, Westwood, Rainbow, Alnur Senior Secondary School, Teachers and Head of Curriculum Office, that you are going to collect data from. We hope that you will conduct your study as stated in your proposal and that you will adhere to research ethics. Failure to comply with the above stated, will result in immediate termination of the research permit. The validity of the permit is from **14th March 2014 to 13th March 2015.**

You are requested to submit a copy of your final report of the study to the Ministry of Education and Skills Development, in the Department of Educational Planning and Research Services, Botswana.

Thank you.

pp. Ndotsi

E Ranganai
For/Permanent Secretary

MINISTRY OF EDUCATION & SKILLS DEVELOPMENT
17 MAR 2014
TEL: 3674509 FAX: 3185167

Appendix 4: Ethical Clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

Research Office, Govan Mbeki Centre
Westville Campus
Private Bag x54001
DURBAN, 4000
Tel No: +27 31 260 8350
Fax No: +27 31 260 4609
snymanm@ukzn.ac.za

27 March 2012

Mrs MA Onen (212558056)
School of Social Sciences

Dear Mrs Onen

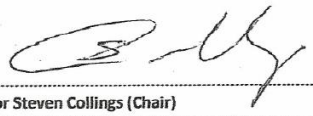
Protocol reference number: HSS/0194/012D
Project title: Information Literacy Integration strategies in Senior Secondary Schools in Botswana

In response to your application dated 26 March 2012, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted FULL APPROVAL.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



Professor Steven Collings (Chair)
Humanities & Social Science Research Ethics Committee

cc Supervisor: Professor Stephen Mutula and Dr Ruth Hoskins
cc Academic Leader: Professor Victor Muzvidziwa
cc Mrs B Jacobsen

1910 - 2010
100 YEARS OF ACADEMIC EXCELLENCE

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

Appendix 5: Email to the School Principals Asking for Permission to do Research

Mrs Margaret Aber Onen
University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: + (267) 71784142
Email: margaret.onen@gmail.com

25 July, 2014

The Principal
_____
_____

Dear _____

Re: Permission to carry out research on Information Literacy at Your School

I am Margaret Onen, a PhD student at the University of KwaZulu Natal in South Africa. I am conducting a study on information literacy integration strategies in Senior Secondary schools in Botswana. The outcome from the study will inform policy and practice on information literacy integration in secondary schools that is critical for developing an information society and information economy in Botswana as espoused in Vision 2016.

Your school is one of the 12 sites: (The Learning Centre, Maru-a-Pula, Gaborone International School, Al-Nur, Legae Academy, Livingstone Kolobeng College, Rainbow High School, Westwood International School, Gaborone SSS, Naledi SSS, St Joseph SSS, and Ledumang SSS) selected for my research. Participants in the study include you as the Head of the school, the school librarian and subject class teachers of upper school (Forms: 4, 5 and A Levels). Documents pertaining to the research are attached including a letter from the Ministry of Education and Skills Development granting permission to conduct the research. Your assistance in this regard would be most appreciated as I hope to collect data from your school before you close for the second term holidays.

Kindly respond to the Principal's semi-structured survey questionnaire attached. Please let me know when it is possible to meet with you for an interview. I would like to administer the survey questionnaire to subject class teachers. I would also like to meet and administer a semi-structured interview questionnaire to the school librarian.

Thank you in advance for your cooperation.

Best regards

Yours Sincerely

Margaret Onen

Appendix 6: Informed Consent to Participate in the Research: Teachers

Mrs Margaret Aber Onen
University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: + (267) 71784142
Email: margaret.onen@gmail.com

Dear Respondent

My name is Margaret Onen, I am a PhD student in the Department of Library and Information Studies, University of KwaZulu-Natal, South Africa. I am conducting a study on the "***Information Literacy Integration strategies in Senior Secondary Schools in Botswana."***

Purpose of the study

The study aims at providing further knowledge into information literacy (IL) teaching and integration into the curriculum with specific reference on how to implement and/or improve on information literacy practices and education in senior secondary schools in Botswana.

Information literacy

The American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT, 1998:1) define information literacy as "the ability to find and use information", and promote it as "the keystone of lifelong learning." Information literacy is an important component in the development of the student as an independent learner and critical thinking individuals. It embraces information skills, library skills, problem-solving and cognitive skills. Information literacy education is necessary to enhance academic and work place skills of a nation.

Requirements

You are kindly asked to complete the attached semi structured survey questionnaire. It should take you about an hour to respond to the survey. Please answer all the questions. Should you have any problems or questions concerning the study, please feel free to contact the researcher or her supervisors at the contact details indicated below.

Confidentiality

Please be assured that your confidentiality and anonymity is guaranteed. Your privacy will be strictly kept throughout the study and no reference will be made to your name in the thesis, presentations or publications based on the results of the study. The name of your school will also not appear in the write up, only pseudonyms will be used in the final report. After completion of the study, anonymity of data and information collected will be maintained for five years by the Department of Information Studies, at the University of KwaZulu-Natal, following which it will be destroyed through incineration.

Your co-operation is highly appreciated as it will assist me to come up with useful conclusions and recommendations that can help raise awareness on the importance of information literacy integration into senior secondary school curriculum.

I wish to thank you in advance for taking part in this important exercise.

Yours Sincerely,

Margaret Onen

Declaration of Consent

I confirm and understand the explanation on the contents of this document and the nature of the study given above. I voluntarily consent to participating in this research effort. I know that I am at liberty to withdraw from the study should I so desire.

_____ _____

Signature of Participant Date

Appendix 7: Informed Consent to Participate in the Research: Librarians

Mrs Margaret Aber Onen
University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: + (267) 71784142
Email: margaret.onen@gmail.com

Dear Respondent

Introduction

My name is Margaret Onen, a PhD student in the Department of Library and Information Studies, University of KwaZulu-Natal, South Africa. I am conducting a study on "***Information Literacy Integration strategies in Senior Secondary Schools in Botswana."***

Purpose of the study

The study aims at providing further knowledge into information literacy (IL) teaching and integration into the school curriculum with specific reference on how to implement and/or improve on information literacy practices and education in senior secondary schools in Botswana.

Information Literacy

The concept of information literacy emerged as an instructional framework through which librarians and teachers can collaborate to enhance students' research, critical thinking, and writing competencies (Herring, 2006; Lupton, 2008). It embraces information skills, library skills, problem-solving and cognitive skills, along with attitudes and values that enable students to function effectively in the information society

Requirements

Your school library has the distinct honour of being one of the 12 selected sites for my research. A semi-structured interview schedule is attached at end of this letter for you to respond. I kindly request to have an interview with you and the meeting should last approximately an hour. The interviews will be hand written or tape recorded to ensure the accuracy of the conversation. If you agree to participate in the study, the consent form below requires your signature. Should you have any problems or questions concerning the study, please feel free to contact the researcher or her supervisors at the contact details indicated below.

Confidentiality

Please be assured that your confidentiality and anonymity is guaranteed. Your confidentiality and privacy will be strictly kept throughout the study and no reference will be made to your name in the thesis, presentations or publications based on the results of the study. The name of your school library will also not appear in the write up, only pseudonyms will be used in the final report. Once the study has been completed and assessed, the interview recordings will be disposed of responsibly. Data and information collected will be maintained for five years by the Department of Information Studies, at the University of KwaZulu-Natal, following which it will be destroyed through incineration.

Your co-operation is highly appreciated as it will assist me to come up with useful conclusions and recommendations that can help raise awareness on the importance of information literacy integration into senior secondary school curriculum.

Yours Sincerely,

Margaret Onen

Declaration of Consent

I confirm and understand the explanation on the contents of this document and the nature of the study given above. I voluntarily consent to participating in this research effort. I know that I am at liberty to withdraw from the study at any time, should I so desire.

_____ _____

Signature of Participant Date

Appendix 8: Informed Consent to Participate in the Research: School Principals

Mrs Margaret Aber Onen
University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: + (267) 71784142
Email: margaret.onen@gmail.com

Dear Respondent

Introduction

My name is Margaret Onen, a PhD student in the Department of Library and Information Studies, University of KwaZulu-Natal, South Africa. I am conducting a study on "***Information Literacy Integration strategies in Senior Secondary Schools in Botswana."***

Purpose of the study

The study aims at providing further knowledge into information literacy (IL) teaching and integration into the curriculum with specific reference on how to implement and/or improve on information literacy practices and education in senior secondary schools in Botswana.

Information literacy

The American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT, 1998:1) define information literacy as "the ability to find and use information", and promote it as "the keystone of lifelong learning." Information literacy is an important component in the development of the student as an independent learner and critical thinking individuals. It embraces information skills, library skills, problem-solving and cognitive skills. Information literacy education is necessary to enhance academic and work place skills of a nation.

Requirements

A semi-structured survey questionnaire is attached at end of this letter for your response. If you agree to participate in the study, the consent form below requires your signature. Should you have any problems or questions concerning the study, please feel free to contact the researcher or her supervisors at the contact details indicated below.

Confidentiality

Please be assured that your confidentiality and anonymity is guaranteed. Your confidentiality and privacy will be strictly kept throughout the study and no reference will be made to your name in the thesis, presentations or publications based on the results of the study. The name of your school will also not appear in the write up, only pseudonyms will be used in the final report. After completion of the study, anonymity of data and information collected will be maintained for five years by the Department of Information Studies, at the University of KwaZulu-Natal, following which it will be destroyed through incineration.

Your co-operation is highly appreciated as it will assist me to come up with useful conclusions and recommendations that can help raise awareness on the importance of information literacy integration into senior secondary school curriculum.

I wish to thank you in advance for taking part in this important exercise.

Yours Sincerely,

Margaret Onen

Declaration of Consent

I confirm and understand the explanation on the contents of this document and the nature of the study given above. I voluntarily consent to participating in this research effort. I know that I am at liberty to withdraw from the study should I so desire.

_____ _____

Signature of Participant Date

Appendix 9: Informed Consent to Participate in the Research: Director of Curriculum

Mrs Margaret Aber Onen
University of KwaZulu-Natal
College of Humanities
Faculty of Social Science
Private Bag X01
Scottsville 3209 PMB
South Africa
Phone: + (267) 71784142
Email: margaret.onen@gmail.com

Dear Sir

I am Margaret Onen, a PhD student in the Department of Library and Information Studies, University of KwaZulu-Natal, South Africa. I am conducting a study on "***Information Literacy Integration strategies in Senior Secondary Schools in Botswana."***

Purpose of the study

The study aims at providing further knowledge into information literacy (IL) teaching and integration into the curriculum with specific reference on how to implement and/or improve on information literacy practices and education in senior secondary schools in Botswana.

Information literacy

The American Association of School Librarians and Association for Educational Communications and Technology (AASL/AECT, 1998:1) define IL as "the ability to find and use information", and promote it as "the keystone of lifelong learning." Information literacy is an important component in the development of the student as an independent learner and critical thinking individuals. IL education is necessary to enhance academic and work place skills of a nation.

Requirements

Part of this study is to collect evidence about information literacy from a policy level in the Ministry of Education and Skills Development. If you agree to participate in the research, the consent form below requires your signature. Please be assured that your confidentiality and privacy will be kept throughout the study and no reference will be made to your name in the thesis, presentations or publications based on the study. Anonymity of records identifying you as a participant will be maintained by the Department of Information Studies, at the University of KwaZulu-Natal.

Attached is a semi-structured survey interview schedule for your attention. I kindly request an interview with you that should last approximately one hour. Your co-operation is highly appreciated. The interviews will be hand written or tape recorded to ensure the accuracy of the conversation. Once the study has been completed and assessed, the recordings will be disposed off responsibly. If you have any problems or questions concerning the study, please feel free to contact the researcher or her supervisors at the contact details given below.

I look forward to meeting with you.

Yours Sincerely,

Margaret Onen
University of KwaZulu-Natal

Declaration of Consent

I confirm and understand the explanation on the contents of this document and the nature of the study given above. I voluntarily consent to participating in this research effort. I know that I am at liberty to withdraw from the study should I so desire.

_____ _____

Signature of Participant Date

Appendix 10: AASL/AECT Nine Information Literacy Standards for Student Learning

The AASL/AECT Nine Information Literacy Standards for Students Learning

Information Literacy	Independent Learning	Social Responsibility
The student who is information literate accesses information efficiently and effectively	The student who is an independent learner is information literate and pursues information related to personal interests	The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.
The student who is information literate evaluates information critically and competently.	The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.	The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.
The student who is information literate uses information accurately and creatively	The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.	The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information

(AASL/AECT, 1998).

Standard 1 The student who is information literate accesses information efficiently and effectively.

The student who is information literate recognizes that having good information is central to meeting the opportunities and challenges of day-to-day living. That student knows when to seek information beyond his or her personal knowledge, how to frame questions that will lead to the appropriate information, and where to seek that information. The student knows how to structure a search across a variety of sources and formats to locate the best information to meet a particular need.

Indicators:

Indicator 1. Recognizes the need for information

Indicator 2. Recognizes that accurate and comprehensive information is the basis for intelligent decision making

Indicator 3. Formulates questions based on information needs

Indicator 4. Identifies a variety of potential sources of information

Indicator 5. Develops and uses successful strategies for locating Information

Standard 2 The student who is information literate evaluates information critically and competently.

The student who is information literate weighs information carefully and wisely to determine its quality. That student understands traditional and emerging principles for assessing the accuracy, validity, relevance, completeness, and impartiality of information. The student applies these principles insightfully across information sources and formats and uses logic and informed judgment to accept, reject, or replace information to meet a particular need.

Indicators

Indicator 1. Determines accuracy, relevance, and comprehensiveness

Indicator 2. Distinguishes among fact, point of view, and opinion

Indicator 3. Identifies inaccurate and misleading information

Indicator 4**.** Selects information appropriate to the problem or question at hand

Standard 3 The student who is information literate uses information accurately and creatively

The student who is information literate manages information skillfully and effectively in a variety of contexts. That student organizes and integrates information from a range of sources and formats in order to apply it to decision making, problem solving, critical thinking, and creative expression. The student communicates information and ideas for a variety of purposes, both scholarly and creative; to a range of audiences, both in school and beyond; and in print, non-print, and electronic formats. This Standard promotes the design and execution of authentic products that involve critical and creative thinking and that reflect real world situations. The indicators under this Standard therefore deviate from the traditional definition of use. Rather than suggesting that students simply insert researched information into a perfunctory product, the indicators emphasize the thinking processes involved when students use information to draw conclusions and develop new understandings.

Indicators

Indicator 1. Organizes information for practical application

Indicator 2. Integrates new information into one's own knowledge

Indicator 3. Applies information in critical thinking and problem solving

Indicator 4**.** Produces and communicates information and ideas in appropriate formats

INDEPENDENT LEARNING STANDARDS

Standard 4 The student who is an independent learner is information literate and pursues information related to personal interests.

The student who is an independent learner applies the principles of information literacy to access, evaluate, and use information about issues and situations of personal interest. That student actively and independently seeks information to enrich understanding of career, community, health, leisure, and other personal situations. The student constructs meaningful personal knowledge based on that information and communicates that knowledge accurately and creatively across the range of information formats.

Indicators:

Indicator 1. Seeks information related to various dimensions of personal well-being, such as career interests, community involvement, health matters, and recreational pursuits

Indicator 2. Designs, develops, and evaluates information products and solutions related to personal interests

Standard 5 The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.

The student who is an independent learner applies the principles of information literacy to access, evaluate, enjoy, value, and create artistic products. That student actively and independently seeks to master the principles, conventions, and criteria of literature in print, non-print, and electronic formats. The student is able both to understand and enjoy creative works presented in all formats and to create products that capitalize on each format's particular strengths.

Indicators:

Indicator 1. Is a competent and self-motivated reader

Indicator 2. Derives meaning from information presented creatively in a variety of formats

Indicator 3. Develops creative products in a variety of formats

Standard 6 The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

The student who is an independent learner applies the principles of information literacy to evaluate and use his or her own information processes and products as well as those developed by others. That student actively and independently reflects on and critiques personal thought processes and individually created information products. The student recognizes when these efforts are successful and unsuccessful and develops strategies for revising and improving them in light of changing information.

Indicators

Indicator 1. Assesses the quality of the process and products of personal information seeking

Indicator 2. Devises strategies for revising, improving, and updating self-generated knowledge

SOCIAL RESPONSIBILITY STANDARDS

Standard 7 The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

The student who is socially responsible with regard to information understands that access to information is basic to the functioning of a democracy. That student seeks out information from a diversity of viewpoints, scholarly traditions, and cultural perspectives in an attempt to arrive at a reasoned and informed understanding of issues. The student realizes that equitable access to information from a range of sources and in all formats is a fundamental right in a democracy.

Indicators:

Indicator 1. Seeks information from diverse sources, contexts, disciplines, and cultures

Indicator 2. Respects the principle of equitable access to Information

Standard 8 The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

The student who is socially responsible with regard to information applies principles and practices that reflect high ethical standards for accessing, evaluating, and using information. That student recognizes the importance of equitable access to information in a democratic society and respects the principles of intellectual freedom and the rights of producers of intellectual property. The student applies these principles across the range of information formats—print, non-print, and electronic.

Indicators:

Indicator 1. Respects the principles of intellectual freedom

Indicator 2. Respects intellectual property rights

Indicator 3. Uses information technology responsibly

Appendix 11: Eisenberg & Berkowitz: The Big6™ Skills Approach to Problem Solving

EISENBERG & BERKOWITZ: THE BIG6™ SKILLS APPROACH TO PROBLEM SOLVING

1	Task Definition 1.1 Define the information problem 1.2 Identify information needed
2	Information Seeking Strategies 2.1 Determine all possible sources 2.2 Select the best sources
3	Location and Access 3.1 Locate sources (intellectually and physically) 3.2 Find information within sources
4	Use of Information 4.1 Engage (e.g., read, hear, view, touch) 4.2 Extract relevant information
5	Synthesis 5.1 Organize from multiple sources 5.2 Present the information
6	Evaluation 6.1 Judge the product (effectiveness) 6.2 Judge the process (efficiency)

(As found in Eisenberg & Berkowitz's *Information problem-solving: the Big6™ Skills Approach to library & information skills instruction,* 1990, pp22 and 24.)

Appendix 12: Kuhlthau's Model of the Information Search Process (ISP)

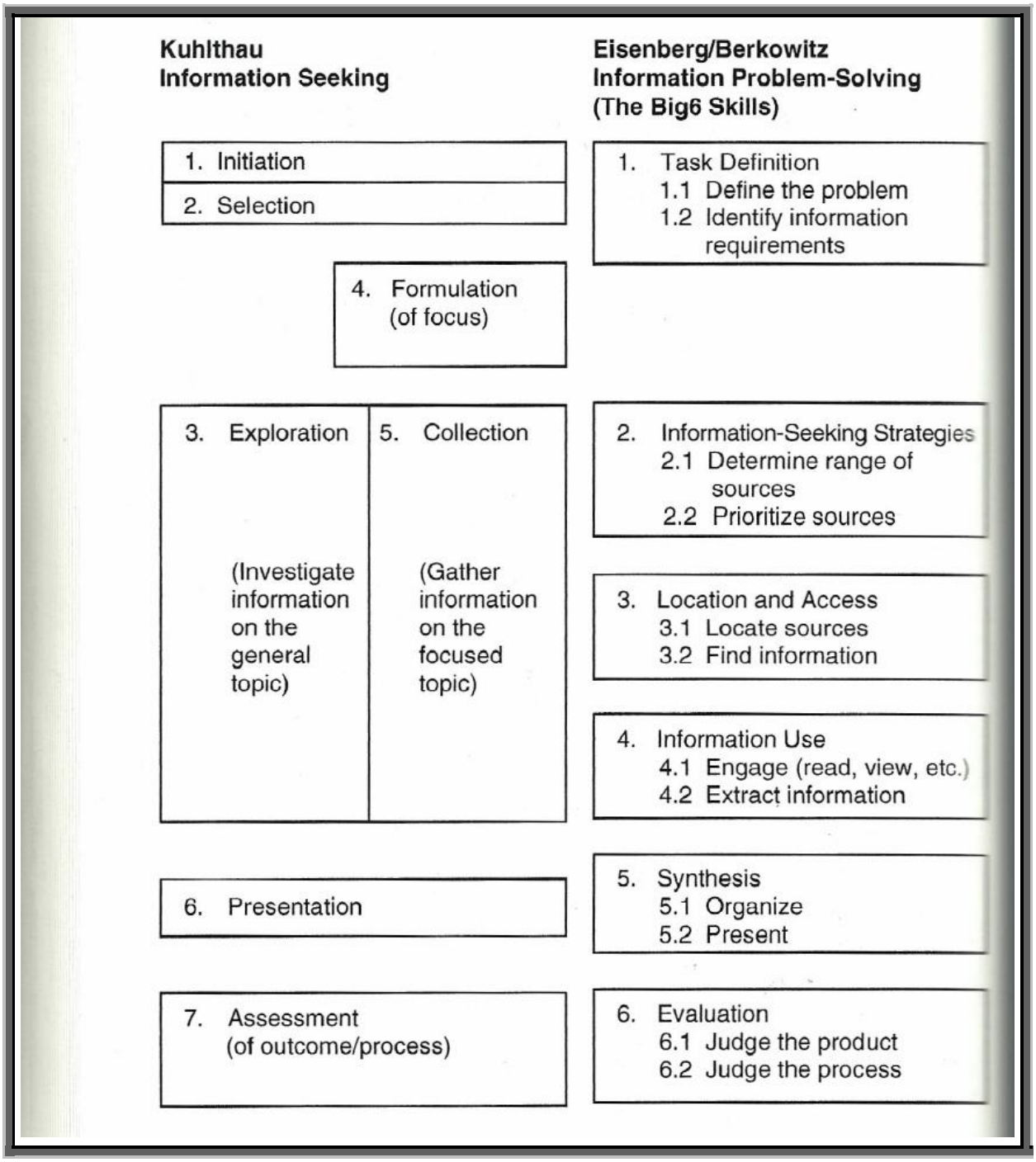
Model of the Information Search Process

	Initiation	Selection	Exploration	Formulation	Collection	Presentation	Assessment
Feelings (Affective)	Uncertainty	Optimism	Confusion Frustration Doubt	Clarity	Sense of direction/ confidence	Satisfaction or Disappointment	
Thought (Cognitive	Vague →			Focused →			Increased self-awareness
					Increased interest		
Action (Physical)	Seeking relevant information →				Seeking pertinent information		
	Exploring				Documenting		

Source: Kuhlthau (2004:82)

Appendix 13: Comparison of Information of Kuhlthau Information Search Process and Eisenberg/Berkowitz Information problem-solving (The Big6™ Skills)

COMPARISON OF INFORMATION OF KUHLTHAU INFORMATION SEARCH PROCESS AND EISENBERG/BERKOWITZ INFORMATION PROBLEM-SOLVING (THE BIG6™ SKILLS)



Comparison of Information Skills Process Models (Adapted from Eisenberg and Brown 1992)

Source: Eisenberg, Lowe & Spitzer, 2004:40)

Appendix 14: Department of Secondary Education Draft Library and Information Skills Guideline/Syllabus for Botswana Secondary Schools 2009

DEPARTMENT OF SECONDARY EDUCATION PROPOSED LIBRARY AND INFORMATION SKILLS GUIDELINES/SYLLABUSFOR SECONDARY SCHOOLS APRIL 2009. PRIVATE BAG 297, GABORONE, BOTSWANA.

INTRODUCTION

This curriculum document provides a framework that will help Teacher Librarians integrate information skills instruction into all areas of Learning. It also provides avenues to help schools integrate information technology into the curriculum, so that technology use is driven by information and instructional needs, rather than the other way around. One of the greatest challenges for secondary schools is to teach our students the kills needed to acquire, evaluate, interpret, and apply the information they will need throughout life. As stated in the American Association of School Librarians' Information Power, "If children are to be prepared for a future characterized by change, they must learn to think rationally and creatively, to solve problems, to manage and retrieve information, and to communicate effectively."

Librarians play a critical role in teaching these essential skills. The librarian is no longer simply a "keeper of the books." School library media centers are now places where many forms of both print and electronic media are used efficiently to teach reading comprehension, appreciation and information skills. In order for this curriculum to be effective, Teacher librarians and classroom teachers must work as a team in the teaching of library skills to support learning. Our goal is to augment and reinforce classroom curriculum content with apt and timely library resources. Our primary mission shall be to provide materials and experiences that will empower students to be life-long learners, able to locate, retrieve, evaluate, and productively use information from a wide variety of sources.

AIMS OF THE TEN-YEAR BASIC EDUCATION PROGRAMME

On completion of the ten-year programme, students will have:

1. Developed competency and confidence in the application of computational skills in order to solve day to day problems.
2. Developed an understanding of business, everyday commercial transactions and entrepreneurial skills.
1. 3. Developed critical thinking, problem solving ability, individual initiative, interpersonal and inquiry skills.
3. Developed desirable attitudes towards different types of work; and ability to assess personal achievement and capabilities realistically in pursuit of appropriate career/employment opportunities and/or further education.
4. Acquired knowledge, skills, and attitudes in food production and industrial arts for self- reliance and self-sufficiency.
5. Developed awareness and/or literacy and understanding of the significance of computers in the world of work.
6. Acquired knowledge and understanding of their environment and the need for sustaining utilization of natural resources.
7. Developed: desirable attitudes/behavioural patterns in interacting with others in a way that is protective, preserving and nurturing.

8. Acquired knowledge and understanding of society, appreciation of their culture including languages, traditions, songs, ceremonies, customs social norms and a sense of citizenship.
9. Develop the ability to express themselves clearly in English, Setswana, a third language both orally and in writing, using them as tools for further learning and employment.
10. Acquired the basic science knowledge and skills, including basic knowledge of the laws governing the natural world.
11. Acquired good knowledge and practice of moral standards and health practices that prepare them for responsible family and community life.
12. Develop their own special interests, talents and skills whether these are dexterity, physical strength, intellectual ability, and/or artistic gifts.
13. Acquired an appreciation of technology and technological skills including basic handling tools and materials.
14. Gained the necessary knowledge and ability to interact with and learn about their community, government of their country, and the world around them.

AIMS OF THE LIBRARY SKILLS PROGRAMME

The secondary school learner will be an independent learner, capable of using effectively traditional and modern sources of information. The proposed Library Skills course is designed to nurture such a characteristic in the secondary school leavers.

Objectives

Curriculum shall promote: opportunities for every student to participate equitably; achievement at the highest Level in every curricular area for every student; objectives derived from school, regional, national, and international standards as Appropriate. The curriculum shall provide teachers, students, and parents with support and enhance curriculum development and delivery. All decisions are made with respect to curriculum.

Scope and Sequence

Due to the need for Teacher-Librarians to be sensitive to the pacing of core area curriculum, this document does not address scope or sequence other than to recommend a "time frame" in which all objectives should be addressed. Each learning objective in this document **must** be covered at some point during the school year. Librarians should adjust the recommended arrangement, however, to best support the needs of their school and their students based upon careful analysis of the different abilities of their students. Additional modification of the suggested time frames may also be necessary based upon future revisions to curriculum documents for other subject areas, current local or national events {teachable moments, inclement weather, etc.}, as well as the instructional needs of the individual student and/or group.

TlME ALLOCATION

This syllabus has been designed to be implemented in a forty minutes lesson per week. The total library skills time over three years is calculated to be the national expectations of what students should know and be able to do at the end of their secondary schools course.

Rationale- A curriculum is a clear, practical, and concise guide to what is taught that combines local or school, regional, and national standards. The curriculum defines the expectations for academic outcomes, rigor, instructional strategies, and staff development needed to facilitate increased student achievement.

Purpose- Curriculum provides support to teachers so that they can effectively plan, deliver, and assess instructions that positively facilitate increased student achievement.

Philosophy- Education is the development of basic skills, knowledge, processes, and attitudes necessary for the student to successfully function as a productive citizen. Education recognizes the characteristics unique to each individual and provides a process for the development and expression of each student's abilities and talents. The school requires the development of school approved curriculum that states clear objectives, defines quality teaching, and emphasizes high expectations for student achievement, assesses the degree and success of learning, and is aligned to regional and national standards.

Beliefs- Curriculum development is a participatory process involving teams of teachers, administrators, students, parents, and community. Curriculum is based on a set of relevant and challenging student objectives designed for the purpose of guiding decisions about teaching and learning. Every child has a better opportunity to learn when the curriculum is delivered in a manner that actively engages the student. A commitment to the unique learning needs of the student is reflected in the design and delivery of curriculum. The curriculum is evaluated through the analysis of aligned assessments. National policies require a written, taught, and tested curriculum. Staff development is designed and implemented.

LIBRARY ORIENTATION: (General objectives) 1. Students should find the library without any help the library. 2. Students will demonstrate knowledge of what a library is, library personnel, policies and procedures. 3. Follow the general rules while at the school. Know how to check out books properly. **Specific objectives** • Welcome students to • Define the library • Discuss library rules • To point out the location of card catalogue, fiction, non-fiction, reference, video, games **PROPER HANDLING OF BOOKS** **General objectives** 1. Demonstrate proper care of books 2. Be responsible for damaged materials in the library	**CARD CATALOGUE** **General objectives** 1 Students will know how to use a card catalogue to obtain information 2 Students will know the different types of card catalogues in their library. **Specific objectives** • To discuss the use of labels on the card drawers • To discuss three basic kind of catalogue • To review the fact that words 'a', 'an', and 'the' are disregarded as first words of titles • To discuss the use of guide cards. • To discuss the card catalogue • Present the following: cards, author, title, subject and class. **HOW CATALOGUE CARDS ARE FILED (General objectives)** 1 Students will know how to file catalogue cards appropriately

Specific objectives

- State and discuss the various causes of damage of books.
- Demonstrate an understanding of proper ways of handling books

DEWEY CLASSIFICATION

General objectives0

1. Understand the physical layout of the library
2. Learn the general concept of the Dewey system

Specific objectives

- To present the Dewey decimal classification
- To give students practice in suing the Dewey system

Specific objectives

- To teach the students the order in which the cards are filed.
- To check mastery with a follow up quiz

NEWS PAPERS (General objectives)

1 Students will appreciate the different columns covered by newspapers

Specific objectives

- To introduce students to newspapers
- To define, discuss and examine a news story, an editorial, and a cartoon
- To have students examine a newspaper in detail

ARTICLES AND STUDY AIDS (General objectives)

Students will use study aids effectively

Specific objectives

To examine various study aids at the end of encyclopedia

INDEXES (General objectives)

1 Students will know how to use indexes to locate information

Specific objectives

- To review the use of encyclopedia indexes
- To give practice in the use of index
- To give an overview of special features contained in encyclopedia

DICTIONARIES (General objectives)

1 Students will use alphabetical order and guide words to gather information from dictionary to obtain information about spelling and meaning of words

1 Locate words in a dictionary using guiding words

Specific objectives

- To introduce a copy of the dictionary
- State the purpose of a dictionary
- Discuss the three types of dictionaries
- To teach students the arrangements of the dictionary
- To teach students how to use a dictionary and to give them practice in location, reading and using dictionary

USING REFERENCE SOURCES (General objectives)

1 Students will select the most appropriate reference sources for specific purpose

Specific objectives

- State what reference source are
- Discuss the different types of reference source: those that tell uses where information can be found such as bibliographies and those that contain the needed information such as handbooks, gazettes and bibliographical dictionaries
- Discuss the importance of reference sources
- Discuss characteristics of reference sources
- Differentiate a reference source from a non-fiction source
- Develop alphabetizing skills necessary to effectively use reference sources

USE OF THE INTERNET SOURCES (General objectives)

Students will appreciate the wide variety

COPY RIGHT (General objectives)

1 Students will recognize the importance of expressing information in ones words and abiding by copyright

1. They will cite reference sources used

Specific objectives

- Define copyright
- Discuss what can be copyrighted
- How long does copyright last
- What is in the public domain
- What is fair use
- Alternatives o copyright
- Copyright in the news (P3s, Copyright extension)

sources offered by the Internet

They will learn how to different online sources for different purposes

Specific objectives

- The student will learn searching techniques using Internet services
- The student will learn how to access articles from periodical databases
- through online searching and Internet sites

PARTS OF A BOOK 1:

General objectives

1. Identify different parts of a book.
2. The student will describe what authors and illustrators do.

Specific objectives

- Discuss the importance of books
- Identify specific parts of a book *and* the information included in each part
- To review parts of a book: title page, copyright page, table of contents, glossary
- and index.
- To introduce lesser known parts of a book: binding, endpapers fly leaves, half page, dedication, preface, acknowledgements, introduction, appendix and bibliography.
- To review meanings of these terms: title, author, illustrator, publisher, place of publication and copyright.
- Learn five parts as follows:
  - spine
  - author
  - illustrator
  - title

FICTION

General objectives

1. Know the difference between fiction and non-fiction

Specific objectives

- To discuss meaning and arrangement of fiction

NON FICTION

General objectives

2. Students will locate fiction and non-fiction

Specific objectives

- To discuss the meaning and arrangement of non-fiction
- To present class and call numbers
- To teach students how call numbers and decimals are arranged
- To discuss the meaning and arrangement of reference books
- To give practice in locating non-fiction

BIOGRAPHY AND AUTOBIOGRAPHY (General objectives)

1 Student will obtain information from various types of literature including biographies

Specific objectives

- To discuss the meaning of biograph and autobiography
- To discuss how the above are classified and shelved

MAGAZINES (General objectives)

1 Students will know how to scan through a magazine for interesting issues

Specific objectives

- To introduce the library's school magazines
- To acquaint students with magazine formula and coverage
- To have students examine and evaluate a

• To present fiction classification • To discuss the fact that the words "a" "an" and "the" are disregarded as first words of the title	magazine **ENCYCLOPEDIA (General objectives)** 1 Students will use an encyclopedia effectively **Specific objectives** To review the following about encyclopedia: definition, arrangement, guide, words and subject location.

CROSS REFERENCE (General objectives) 1 Students will collect the most appropriate reference sources for specific purposes **Specific objectives** – To review the use of cross-reference – To provide practice in picking key words **THE WORLD ALMANAC (General objectives)** 2 Student will use the almanac effectively **Specific objectives** – To introduce almanacs in general and the world – To give the students an overview of the kinds of information contained in almanacs – To teach students how to locate information in an almanac **PLAGIARISM (General objectives)** 1 Students will synthesize information from a wide variety of sources: skim or scan for specific information, paraphrase information obtained from resources, outline generalize and summarize information, take accurate notes **Specific objectives** – Define plagiarism – Discuss the different types of plagiarism – How to avoid plagiarism – Why students plagiarize – Source of online plagiarism – How faculty detect plagiarize papers **TYPES OF LITERATURE (General objectives)** 1 Be introduce to different genre of books **Specific objectives** – Introduce different types of literature: poetry, fiction, and non-fiction – Locate literature books in the library	**TYPES OF LIBRARIES (General objectives)** 1 Become familiar with different types of libraries **Specific objectives** – Expose students to different types of libraries: academic, school, public etc. **BOTSWANA COLLECTION (General objectives)** 1 Students will appreciate the purpose of Botswana collection **Specific objectives** – Introduce students to Botswana collection – Explain what it is – Describe materials found in this section – Explain the importance of having this section in the library **BIBLIGRAPHIC CITATION (General objectives)** 1 Students will learn how to cite bibliographies **Specific objectives** – Explain what it is – Describe different citation methods – Demonstrate citation styles **USE OF BOOLEAN SEARCHING (General objectives)** Students will learn how to broaden and widen searches for specific information **Specific objectives** Introduce Boolean searching Demonstrate the use of Boolean

Appendix 15: Information Literacy Skills: Westwood International School

IB LEARNER PROFILE

The International Baccalaureate (IB) aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the organisation works with schools, governments and international organisations to develop challenging programmes of international education and rigorous assessment. These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

The aim of all IB programmes is to develop internationally minded people who, recognising their common humanity and shared guardianship of the planet help to create a better and more peaceful world.

IB learners strive to be:

Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognise and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk-takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.

Reflective

They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

Appendix 16: Maru-a-Pula Information Literacy Skills Syllabi and Library Standards

INFORMATION LITERACY SKILLS

Maru a Pula School Library provides information and ideas that are fundamental to functioning successfully in today's information and knowledge-based society. It equips students with life-long learning skills and develops their imagination. The Library is a major resource centre for information, ideas and data. It is vital that students know how to use library resources to maximum effect. Information Literacy Skills are therefore developed in the Form One programme as a section of the English programme which is taught by the school librarian.

Course Content

1. Importance of the library, library personnel, policies and procedures
2. Physical layout of the library and the general concept of the Dewey Decimal Classification Scheme.
3. Online Public Access Catalogue. (OPAC). Searches by different catalogue entries:
    a. Author
    b. Title
    c. Subject etc
4. Differences between fiction and non-fiction books.
5. Knowledge of different information sources and their significance during the research process.
6. Proper handling of books.
7. Different columns covered by a newspaper.
8. Knowledge of magazine formats and coverage.
9. Effective use of the encyclopaedia.
10. The meaning of biography and autobiography and their importance as information sources.
11. Skimming and scanning as ways of identifying relevant information, especially in magazines and newspapers.
12. Cross referencing skills in research.
13. Effective use of the almanac and understanding kinds of information contained in almanacs.
14. The importance of the Botswana Collection
15. How to select and use dictionaries relevant to their needs effectively.
16. How to select the most appropriate references for specific information needs.
17. Developing the ability to synthesis information from a wide variety of sources.
18. Paraphrasing, outlining, generalising and summarising information.
19. The importance of expressing information in one's own words and abiding by copyright law.
20. Plagiarism and its consequences.
21. Online information sources.
22. Online Information Retrieval.
    The use of Boolean Operators
    Document and File management of electronic information.
    a. Creating Documents
    b. Creating Document backups.
23. The research process
    a. Defining the problem and asking good questions
    b. Information seeking strategies
    c. Selecting and evaluating resources
    d. Organizing and restructuring information
    e. Communicating the research results
    f. Evaluating the completed research project.

Number of periods per 6 days cycle: 1

Method of assessment

1. Hands on activities
2. Quizzes
3. Library Management System patron records. (I4U reports)
4. Book Reviews

Resources

All Library resource, including books, periodicals, audio-visuals, reference sources, Online Public Access Catalogue (OPAC), Online Encyclopaedia Britannica, the Internet, and the Library Weblog. Worksheets and PowerPoint presentations.

MARU-A-PULA SCHOOL SAMPLE LIBRARY STANDARDS

A A student should understand how information and resources are organized.
A student who meets the content standard should:

1) Recognize that libraries use classification systems to organize, store and provide access to information and resources;
2) Understand how information in print, non-print and electronic formats are organized and accessed;
3) Understand how library classification and subject heading systems work;
4) Search for information and resources by author, title, subject or keyword
1. as appropriate, and
5) Identify and use search strategies and terms that will produce appropriate results.

B A student should understand and use research processes necessary to locate, evaluate and communicate information and ideas.

A student who meets the content standard should:

1) State a problem, question or information need;
2) Consider the variety of available resources and determine the best ones to use;
3) Access information
4) Evaluate the validity, relevancy, currency and accuracy of information.
5) Organize and use information to create a product and
6) Evaluate the effectiveness of the product in conveying the intended message

C A student should recognize that being an independent reader, listener and reviewer of information in print, non-print and electronic formats will contribute to personal enjoyment and personal learning.

A student who meets the content standard should:

1) Read for pleasure and information;
2) Read, listen to, and view a wide variety of literature and other creative expressions and
3) Recognize and select materials appropriate to personal abilities and interests.

D student should be aware of the freedom and seek information and possess the confidence to pursue information needs beyond immediately available recourses.

A student who meets the content standard should:

1) Know how to access information through local, national and international sources in printed and electronic formats;
2) Recognize the importance of access to information and ideas in a democratic society.
3) Access information on local, state, national and world cultures and issues;
4) Evaluate information representing diverse views in order to make informed decisions, and;
5) Assimilate and understand how newly acquired information relates to oneself and others.

E A student should understand ethical, legal and social behavior with respect to information resources.

A student who meets the content standard should:

1) Use library materials and information resources responsibly;
2) Understand and respect for the principles of intellectual freedom;
3) Understand and respect for intellectual property rights and copyright laws; and
4) Develop and use citations and bibliographies.

Appendix 17: Principal's Letter Declining Teachers to Participate in the Study

Information literacy survey

From: XXXXXXX <XXXXXXXXXXXX> 28 July 2014 at 13:17
To: Margaret Onen <margaret.onen@gmail.com>

Good day,

Thank you for your letter. I will do my best to complete the Principal's questionnaire but at the moment we do not have a librarian and our teachers are in the midst of exams and recording. They will not be available for survey/research purposes. I do not think I will have time for a personal interview at this time.

Kind Regards,

Mrs. XXXXXXXXXXX

School Superintendent

XXXXXXXX School

Gaborone, Botswana

Jeremiah 32:17 "AH! Lord God, behold you have made the heavens and the earth by thy great power and outstretched arm and there is NOTHING too hard for you!"

Appendix 18: Principal's Letter Declining the Librarian to Participate in the Study

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Appointment

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16 October 2013 at 09:22

From: <XXXXXXXXXX>
To: Margaret Onen <margaret.onen@gmail.com>
Cc: XXXXXXX <XXXXXXXX>

Sorry, no the librarian is not available at that time. No one has quick access to all that you are asking within the time frame. Again, if you need to make an alternative appointment, please contact Mrs. XXXX at the above address.

Kind Regards,

Mrs. XXXXXXXX

School Superintendent

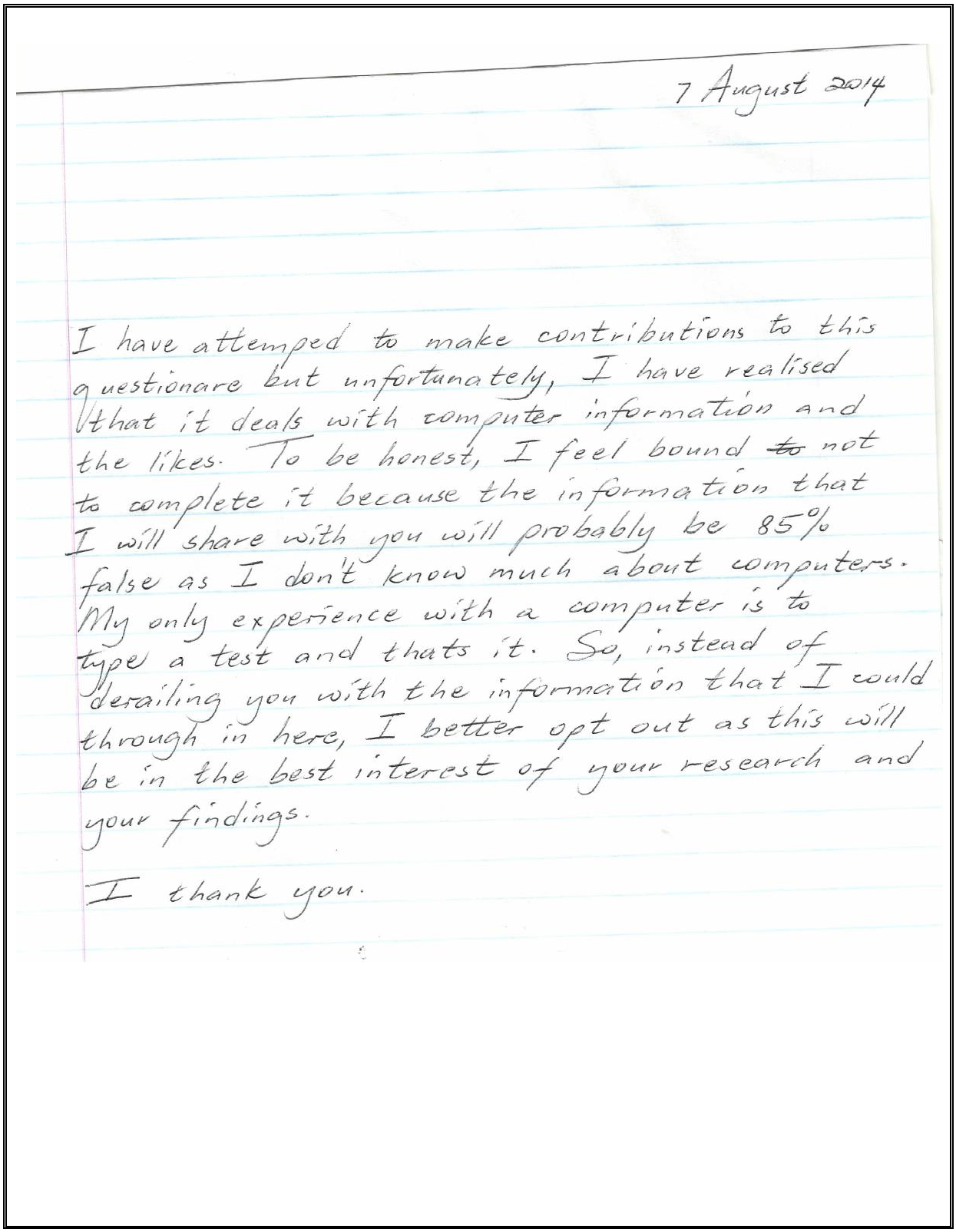
XXXXXXX School

Gaborone, Botswana

Jeremiah 32:17 "AH! Lord God, behold you have made the heavens and the earth by thy great power and outstretched arm and there is NOTHING too hard for you!"

Appendix 19: Teacher's Letter Declining to Respond to the Survey Questionnaire

TEACHER'S LETTER DECLINING TO PARTICIPATE IN THE RESEARCH



7 August 2014

I have attemped to make contributions to this questionare but unfortunately, I have realised that it deals with computer information and the likes. To be honest, I feel bound ~~to~~ not to complete it because the information that I will share with you will probably be 85% false as I don't know much about computers. My only experience with a computer is to type a test and thats it. So, instead of derailing you with the information that I could through in here, I better opt out as this will be in the best interest of your research and your findings.

I thank you.

Appendix 20: Documents Review Check List

DOCUMENTS REVIEW CHECK LIST

Item	Senior Secondary Schools Studied											
	PVT1	PVT2	PVT3	PVT4	PVT5	PVT6	PVT7	PVT8	PUB1	PUB2	PUB3	PUB4
School curriculum documents	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Admissions and selection procedures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brochures and Pamphlets	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
School bulletins and News Letter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vision and Mission statement of the school	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Library rules and regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Subjects options in the schools	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Appendix 21: Observation Schedule

RESEARCHER'S OBSERVATION PROTOCOL

How to use this guide:

The following points are to be noted during researcher's visits to the study sites.

General observation of the school libraries under study:

- General appearance of the Library lay out
- Size of the school library
- Library collection and resources
- Type of catalogue in use (manual or automated)
- Availability of Internet connectivity and Computers
- Book displays (include subjects or titles)
- Availability of ICT resources (TV, scanners, computers, digital whiteboards)
- Electronic digital resources such as CDs & CD-ROM, Videos & DVDs, Audio tapes.
- Availability of Internet in the library/school to locate information
- Electronic mobile gadgets (Kindles, Tablets, digital eBook reader, iPad)

Appendix 22: Interview Schedule

INTERVIEW SCHEDULE

School Librarian

A1 What are the goals of information literacy in your school library? Please explain

B1 Does your school have articulate information literacy curriculum content? Please explain briefly the response to your answer.

B2. What curriculum or information literacy content/syllabus do you use to teach students? Please provide a sample document.

B3. Are the contents of your information literacy program integrated into the school curriculum? Please explain.

B4. What resources do you have in the library to support learning and teaching of information literacy to students? Please explain.

B6. Are these resources adequate for teaching information literacy? Please explain.

B13 Does your library receive enough budgets to fund library resources for the school? What amount of school budget goes towards the school library per year, and how much of that is apportioned to information literacy programmes/projects? Please explain.

B14 How many of the following technology (IT/ICT) resources and facilities are available in the school library to help you teach information literacy? Please indicate number of computers, scanners, digital cameras, video recorders, whiteboards, projection equipment and TV. Please indicate.

B15 Are these technology (IT/ICT) resources adequate for teaching information literacy? Please explain:

B18 What factors affect implementation and /or integration of information literacy in your school and the country? Please explain.

C1 Does Botswana have a formal policy on Information Literacy?

D1 What role do you play as a librarian to promote information literacy in the school?

D3 What factors affect your role in promoting or integrating information literacy in your subject area? Please explain.

D4 Please provide any suggestions you have that would help promote information literacy integration into the school curriculum.

E2 What do you like most about being a school librarian? What do you like least about being a school librarian?

School Principals

B3 How do you support the development of the school library resource collection that is current and relevant to information literacy and the general curriculum needs of the school?

B4. How and where do you obtain funding for the school library?

B5 What proportion of the overall school budget do you allocate to the library? Please explain briefly:

B6 Are the resources in your school adequate to meet the needs of teaching information literacy? Please explain:

B7 Are Information Technology (IT) resources such as scanners, computers, digital whiteboards, projection equipment, large television screen and wireless connectivity readily available and adequate for teaching information literacy? Please explain:

B9 Teaching teams which engage in information literacy integration into the classroom are most likely to create constructivist learning environments when they act as mentors. Are your teachers involved in constructivist teaching and learning? What kind of support, if any, do you provide in this regard?

B10 What factors affect implementation and /or integration of information literacy in your school and the country? Please explain.

C1 Does Botswana have a formal policy on Information Literacy?
Please explain:

C2 What information literacy policy is in place at your school?

Director of Curriculum Development

A1 What are the goals of information literacy in your school library? Please explain.

B1 How is IL reflected in the secondary schools Curriculum? What syllabus content if any, is being offered to teach and impart IL knowledge to students in senior secondary school?

B2 In your view, are the contents of your information literacy program integrated into the school curriculum?

B6. Teaching teams which engage in information literacy integration into the classroom are most likely to create student-centered learning environments when they act as mentors/facilitators. Are your teachers involved in constructivist teaching and learning? What kind of support, if any, do you provide in this regard?

C1 Does Botswana have a formal policy on Information Literacy?

C2 Do we have a designated person or unit in the Ministry of Education & Skills Development, Secondary Department Section) responsible for coordinating school libraries issues and overseeing IL integration in Schools? Kindly explain

C3 What are the major obstacles you see impeding the development of Information Literacy policy and curriculum for secondary schools in Botswana?

D1 What role do you play as the director of curriculum development to promote information literacy in secondary schools? Please explain.

E1 Please indicate your attitude and perception towards information literacy

E2 Do you have any additional comments you would like to make about the state of Information Literacy curriculum secondary in the country? Please explain

Appendix 23: Semi-Structured Survey Questionnaire for Teachers

SEMI-STRUCTURED SURVEY QUESTIONNAIRE FOR TEACHERS

Your participation in this survey is voluntary and respondent anonymity is guaranteed. Kindly complete the questionnaire as honestly as possible and please answer all the questions.

DEMOGRAPHICS DATA

i. Name of the School:				
ii. Gender: Tick (√) the appropriate box 1 = M | 2 = F				
iii. Age of respondent:				
iv. Level of Education: (√) the appropriate box				
1 = Certificate	2 = Diploma	3 = Bachelor Degree	4 = Master's Degree	5 = PhD Degree
6 = Others (Please specify):				
v. Please indicate your areas of qualification (e.g. LIS, MA, BA, Bed):				
vi. Total number of years spent in this school:				
vii. What subject do you teach?				
viii. What level (form) do you teach?				
ix. What is the average class size that you teach?				

RESEARCH QUESTION 1: SECTION A.
THE GOALS OF IL IN SENIOR SECONDARY SCHOOLS

A1. Do you think the following statements constitute the goals of information literacy in senior secondary schools in Botswana? Please indicate your response by entering the appropriate figure in the Box provided next to the statements A1.1 – A1.8: ***(1 = Agree, 2 = Disagree, 3=I Don't know)***

	Information literacy programme in senior secondary schools	*Response*
A1.1	Provide learning experiences that make students and others to become discriminating consumers and skilled creators of information through comprehensive instruction in using a wide range of resources and technology equipment for accessing local and remote information to thrive economically in the information society an communication age.	[ ]
A1.2	To increase awareness of IL among librarians, administrators, teachers, and students of its benefits and importance in academic success that prepares students adequately for higher education and the labour market.	[ ]
A1.3	To give instructional framework through which librarians and teachers equip students with research skills, critical thinking, and writing competencies in schools.	[ ]
A1.4	To prepare students to become independent, lifelong learner and to have the ability to appreciate wide-range of information, gain new knowledge and fresh insights into the information society.	[ ]

A1.5	To equip students for the rapidly expanding world of ICT in the classroom and the outside world.	[ ]
A1.6	Provide leadership and encourage cooperative constructivist inquiry-based instruction, group project in which teachers are facilitators of creative and collaborative learning environment that is integrated into the curriculum to help all students achieve information literacy in teaching and learning.	[ ]
A1.7	Provide physical access to information through a carefully selected and systematically organized local collection of diverse learning resources that represent a broad range of subjects and formats.	[ ]
A1.8	Equip students and develop effective cognitive strategies for selecting, retrieving, analysing, evaluating, synthesizing, creating, and communicating information in all formats and all content areas of the curriculum.	[ ]

RESEARCH QUESTION 2: SECTION B.
IL CONTENT, RESOURCES, AND TEACHING STRATEGIES FOR IL

INFORMATION LITERACY CONTENT

B1 Do you think that the statements listed below in B1.1 – B1.13 form part of curriculum content being taught in your school/library? ***(1 = Agree, 2 = Disagree, 3= Don't know)***

	Information Literacy Curriculum Content	*Response*
B1.1	Use of dictionary, glossary, encyclopaedia, newspaper, almanac, Indexes, magazines and differences between fiction, non-fiction books and parts of a book.	[ ]
B1.2	Effective use of print and electronic sources	[ ]
B1.3	ICT skills related to effective use of Internet, websites and social media.	[ ]
B1.4	How to use library catalogue to search for library materials by author, title and subject entries.	[ ]
B1.5	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts) and how to evaluate quality of information from various sources.	[ ]
B1.6	Cite sources of information and write references or bibliography for assignments.	[ ]
B1.7	Creation, application and effective communication of information to others.	[ ]
B1.8	Basic knowledge of information laws (respect of intellectual freedom and property rights.)	[ ]
B1.9	Library orientation, (policies, rules, procedures for checking out books, and location of library materials).	[ ]
B1.10	Library physical layout, classification scheme, indexing, keywords, catalogue and call number of books in the library.	[ ]

B1.11	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts).	[ ]
B1.12	Information ethics related to plagiarism and its consequences.	[ ]
B1.13	Information and literacy appreciation, problem-solving and the research process.	[ ]

INFORMATION LITERACY RESOURCES

B2. In your teaching area, how frequently do you use the following library/school resources in preparation for your teaching? Please enter the appropriate figure in the Box next to the statements B2.1 – B2.8: ***(1 = Never, 2 = Occasionally, 3 = Regularly)***

	Information literacy resources used by teachers	*Response*
B2.1	Use Internet in the library/school to locate information.	[ ]
B2.2	Use mostly subscribed textbooks.	[ ]
B2.3	Use magazines, journals, newspapers.	[ ]
B2.4	Own personal resources.	[ ]
B2.5	Electronic digital resources (E.g., CDs & CD-ROM, Videos, DVDs and Audio tapes).	[ ]
B2.6	Subscribed and free online databases (E.g., Jstor.org, Ebsco, Questia)	[ ]
B2.7	E-mail, Chat, Website, and Blog.	[ ]
B2.8	Course curriculum related Computer Software Programs.	[ ]

B3 Are these resources you have indicated in (B2.1-B2.8) adequate for teaching information literacy? Please explain:

_____

_____

B4 Are Information Technology (IT) resources such as scanners, computers, digital whiteboards, projection equipment, large television screen and wireless connectivity readily available and adequate for teaching information literacy? Please explain:

_____

_____

STRATEGIES USED TO DELIVER IL

B5. In your role as a classroom teacher, how often do you use the following strategies for promoting information literacy delivery for senior secondary school students? Indicate your response to statements B5.1 – B5.17 by entering the appropriate number in the Box provided. ***(1 = Never, 2 = Sometimes, 3 = Always, 4= Don't know)***

	IL delivery strategies in the School	*Response*
B5.1	Give assignments that make students use the library	[ ]
B5.2	Rely only on prescribed textbooks for teaching	[ ]
B5.3	Provide students with notes always	[ ]
B5.4	Photocopy relevant materials to disseminate to students always as recipients of knowledge	[ ]
B5.5	Let students summarise and make own notes	[ ]
B5.6	Covering and completing the subject course content is the primary goal on my lesson plans.	[ ]
B5.7	Make students raise hands in class to talk, ask questions or give answers	[ ]
B5.8	Allow class activities to be student-centred	[ ]
B5.9	Classroom activities demonstrate multi-cultural diversity	[ ]
B5.10	Test students for comprehension of information presented in class	[ ]
B5.11	Always sit or stand in front of the class "Sage on the Stage" while teaching instead of moving around to interact with students	[ ]
B5.12	Foster motivation and allow students to monitor, construct their own knowledge and explore content of the topic being taught	[ ]
B5.13	Allow students access to both primary and secondary information to gather data through survey, observation, or test to write their assignment	[ ]
B5.14	Encourage students to engage in dialogue with teacher and with one another in the classroom	[ ]
B5.15	State facts and what is expected in a topic being learnt and remind students of what they should know	[ ]
B5.16	Encourage social negotiation and accepts students point of view as part of the learning process	[ ]
B5.17	Facilitate group interactions "guide on the side" to ensure students work in cooperative groups	[ ]

B6. In your opinion, what methods should be used to teach students information literacy skills? Check one:
1= modular course in their curriculum, 2= orientation programme, and library drop in when students come to the library to seek information. Please explain reasons for your answer in the space provided below:

B7. What factors affect implementation and /or integration of information literacy in your school and the country? Please explain your views in the space provided below:

RESEARCH QUESTION 3: SECTION C.
INFORMATION LITERACY IMPLEMENTED AT THE POLICY LEVEL

IL IMPLEMENTED AT THE POLICY LEVEL

C1. Does Botswana have a formal policy on Information Literacy?
Check one: (1=YES, 2=NO). Please explain:

C2. This section of the research instrument comprised statements on IL implementation at policy level. Indicate your response on the scale ranging from 1 - 3 by entering the appropriate number in the Box provided. ***(1 = Unimportant, 2 = Important, 3 = Very important)***.

	IL Implementation at Policy Level	*Response*
C2.1	The appropriate national policy on information literacy in senior secondary school curriculum should be developed for the country.	[ ]
C2.2	National information literacy standard, model and program are needed for teaching.	[ ]
C2.3	The librarian need continuous education and should be at the fore front to train teachers how to integrate information literacy into the classroom.	[ ]
C2.4	Availability of appropriate infrastructure, information technology facilities and a well-equipped stocked library is required to promote students achievements and improve grades.	[ ]
C2.5	Adoption of international IL standards such as American Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT) and IL Models such as the Big six and Information Search Process (ISP) will improve the teaching of IL in schools.	[ ]

RESEARCH QUESTION 4: SECTION D.

ROLES OF TEACHERS, LIBRARIANS, SCHOOL PRINCIPALS SCHOOL, AND DIRECTOR OF CURRICULUM DEVELOPMENT IN PROMOTING IL

THE ROLES OF TEACHERS

D1. What role do you play as a teacher to promote information literacy in the school? Please explain your views in the space provide below:

D2 Whose role should it be to teach information literacy to students how to access, evaluate and use information? Please give your response by entering the figure in the Box provided. Check one
1 = Both the teacher and the librarian, 2 = Only the Librarian's job, 3 = Teacher only. Please explain:

D3, What factors affect your role in promoting or integrating information literacy in your subject area? Please explain:

D4, Please provide any suggestions you have that would help promoting information literacy integration into the school curriculum.

RESEARCH QUESTION 5: SECTION E.
PERCEPTIONS AND ATTITUDES OF TEACHERS, LIBRARIANS, AND PRINCIPALS OF SCHOOL TOWARDS IL

PERCEPTIONS AND ATTITUDES OF TEACHERS TOWARDS IL

E.5 Please indicate your attitude and perception for each of these items listed (your actual experience performing these IL activities). ***(1 = Poor; 2 = Excellent)***

	Information Literacy Activities	*Response*
E5.1	I critically evaluate sources of information by examining, comparing, and critically analyzing information from various sources in order to evaluate and ascertain reliability, validity, accuracy, authority, and timeliness to present point of view or bias.	[ ]
E5.2	I always identify the purpose for which information is needed to solve problem for a research paper, lesson plan, oral presentation, class exercises or project as part of my regular classroom practices.	[ ]
F3.3	I am able to determine the extent of information needed and locate and access resources in the library from both print (i.e. books, periodicals, encyclopedias etc.) and electronic sources from the internet and library catalogue.	[ ]
E5.4	I can select and access the best sources of information and choose relevant content from a source to meet my information need effectively and efficiently.	[ ]
E5.5	I am able to organise information by using various processes such as saving and organizing information into files, folders, an accessible filing system, bibliographic management software such as Ref Works , EndNote and Google Docs; or use a photocopier, scanner, and other piece of audio/visual equipment to maintain, organize, and manage located resources to aid my teaching.	[ ]

E5.6	I can utilize software tools such as spreadsheets, databases, statistical software, as well as social networks, and multimedia equipment to investigate the interaction between pieces of information, materials, practices, ideas, documents, or other data.	[ ]
E5.7	I understand ethical, legal, and socio-economic issues surrounding information and information technology and/or problems arising from the creation, collection, recording, distribution, and processing of information	[ ]
E5.8	I always manage and incorporate selected information into my knowledge base.	[ ]
E5.9	I use information effectively to accomplish a specific purpose or create new understanding.	[ ]
E5.10	I use information with understanding and acknowledge of cultural, ethical, economic, legal and social issues surrounding the use of information.	[ ]

Thank you for taking your time to respond to this survey.

Appendix 24: Semi-Structured Questionnaire, Librarians

SEMI-STRUCTURED SURVEY QUESTIONNAIRE FOR THE INTERVIEW WITH SCHOOL LIBRARIANS

Your participation in this survey is voluntary and respondent anonymity is guaranteed.

DEMOGRAPHICS DATA

i. Name of the School:
ii. Gender: Tick (√) the appropriate box 1 = M | 2 = F
ii. Age of respondent:
iv. Level of Education: (√) the appropriate box 1 = Certificate | 2 = Diploma | 3 = Bachelor Degree | 4 = Master's Degree | 5=PhD Degree 6= Others (Please specify):
v Please indicate your areas of qualification (e.g. LIS, MA, BA, Bed):
vii. Work experience: total number of years you have been a Head Teacher
viii. Work experience: total number of years you have been a Head Teacher
ix. Length of service/number of years in this school
x. What subject do you teach?
xi. What level (form) do you teach?
xii. What is the average class size that you teach?

RESEARCH QUESTION 1: SECTION A
THE GOALS OF IL IN SENIOR SECONDARY SCHOOLS

GOALS OF INFORMATION LITERACY

A1. What are the goals of information literacy in your school library? Please explain in the space provided below:

SECTION B: RESEARCH QUESTION 2
IL CONTENT, RESOURCES, AND TEACHING STRATEGIES FOR IL

INFORMATION LITERACY CONTENT

B1. Does your school have articulated information literacy curriculum content? Check one: (1=YES, 2=NO). Please explain briefly the response to your answer:

B2. What curriculum or information literacy content/syllabus do you use to teach students? Was the adapted or developed? Please describe briefly below and attach a sample document:

B3. Are the contents of your information literacy program integrated into the school curriculum?
Check one: (1=YES, 2=NO). Please explain briefly the response to your answer:

INFORMATION LITERACY ESOURCES

B4. What resources do you have in the library to support learning and teaching of information literacy to students? Please explain below:

B5. How frequently do you use the following library/school resources in preparation for your teaching? Please enter the appropriate figure in the Box next to the statements ***(1 = Never, 2 = Occasionally, 3 = Regularly)***

	Information literacy resources used by librarians	*Response*
B5.1	Use Internet in the library/school to locate information.	[ ]
B5.2	Use mostly subscribed textbooks.	[ ]
B5.3	Use magazines, journals, newspapers.	[ ]
B5.4	Own personal resources.	[ ]
B5.5	Electronic digital resources (E.g., CDs & CD-ROM, Videos, DVDs and Audio tapes).	[ ]
B5.6	Subscribed and free online databases (E.g., Jstor.org, Ebsco, Questia)	[ ]
B5.7	E-mail, Chat, Website, and Blog.	[ ]
B5.8	Course curriculum related Computer Software Programs.	[ ]

B6. Are these resources you have indicated in (B5.1-B5.8) adequate for teaching information literacy? Please explain:

B7. How many books are students allowed to borrow out of the school library? Check one:

***(1=Two books, 2=Three books, 3 = Four books, 4=More than Five* [.....]**

B8. Does your library subscribe to any online databases? Check one: (1=YES, 2=NO). [….]

Please give name of which online databases your library subscribe to.

B9. Does your library have E-books resources to support the teaching and learning of information literacy? Please check one: (1=YES, 2=NO) [ ]

B10. Is your school library computerised to provide easy access to the available resource? Please check one: (1=YES, 2=NO) [ ]. Please give the name of the software you use to maintain your library database and your online catalogue

B11. Does your library have electronic resources and mobile gadgets (iPad, Kindle, Tablets, Digital eBook readers, Samsung Galaxy Tab and Kobo e-Reader) available for reading E-books to support the teaching and learning of information literacy? Please check one: (1=YES, 2=NO). Give the names of the electronic resources and mobile gadgets available:

B12. Does your school have wireless connectivity to facilitate access to online and Internet resources?
Please check one: (1=YES, 2=NO) […..].

B13. Does your library receive enough budgets to fund library resources for the school? Please check one: (1=YES, 2=NO) […..]. What amount of school budget goes towards the school library per year, and how much of that is apportioned to information literacy programmes/projects? Please explain.

B14. How many of the following technology (IT/ICT) resources and facilities are available in the school library to help you teach information literacy? Please indicate number of computers, scanners, digital cameras, video recorders, whiteboards, projection equipment and TV. Please state your response below:

B15. Are these technology (IT/ICT) resources you have indicated in B2.11 adequate for teaching information literacy? Please explain:

STRATEGIES USED TO DELIVER IL

B16. As a school librarian, how often do you use the following strategies for promoting information literacy delivery for senior secondary school students? Indicate your response to statements B3.1 – B3.17 by entering the appropriate number in the Box provided.
(1 = Never, 2 = Sometimes, 3 = Always, 4= Don't know)

	IL delivery strategies in the School	*Response*
B16.1	Give assignments that make students use the library	[ ]
B16.2	Rely only on prescribed textbooks for teaching	[ ]
B16.3	Provide students with notes always	[ ]
B16.4	Photocopy relevant materials to disseminate to students always as recipients of knowledge	[ ]
B16.5	Let students summarise and make own notes	[ ]
B16.6	Covering and completing the subject course content is the primary goal on my lesson plans. (*T)	[ ]
B16.7	Make students raise hands in class to talk, ask questions or give answers	[ ]
B16.8	Allow class activities to be student-centred	[ ]

B16.9	Classroom activities demonstrate multi-cultural diversity	[ ]
B16.10	Test students for comprehension of information presented in class	[ ]
B16.11	Always sit or stand in front of the class "Sage on the Stage" while teaching instead of moving around to interact with students	[ ]
B16.12	Foster motivation and allow students to monitor, construct their own knowledge and explore content of the topic being taught	[ ]
B16.13	Allow students access to both primary and secondary information to gather data through survey, observation, or test to write their assignment	[ ]
B16.14	Encourage students to engage in dialogue with teacher and with one another in the classroom	[ ]
B16.15	State facts and what is expected in a topic being learnt and remind students of what they should know	[ ]
B16.16	Encourage social negotiation and accepts students point of view as part of the learning process	[ ]
B16.17	Facilitate group interactions "guide on the side" to ensure students work in groups	[ ]

B17. In your opinion, what methods should be used to teach students information literacy skills? Check one:
1= modular course in their curriculum, 2= orientation programme, and library drop in when students come to the library to seek information.
Please explain reasons for your answer in the space provided below:

B18. What factors affect implementation and /or integration of information literacy in your school and the country? Please explain your views in the space provided below:

RESEARCH QUESTION 3: SECTION C

INFORMATION LITERACY IMPLEMENTED AT THE POLICY LEVEL

C1. Does Botswana have a formal policy on Information Literacy?
Check one: (1=YES, 2=NO). Please explain:

C2. This section of the research instrument comprised statements on IL implementation at policy level. Indicate your response on the scale ranging from 1 - 3 by entering the appropriate number in the Box provided.
(1 = Unimportant, 2 = Important, 3 = Very important).

	IL Policy implementation strategies	*Response*
C2.1	The appropriate national policy on information literacy in senior secondary school curriculum should be developed for the country.	[ ]

C2.2 National information literacy standard, model and program are needed for teaching. [ ]

C2.3 The librarian need continuous education and should be at the fore front to train teachers how to integrate information literacy into the classroom. [ ]

C2.4 Availability of appropriate infrastructure, information technology facilities and a well-equipped stocked library is required to promote students achievements and improve grades. [ ]

C2.5 Adoption of international IL standards such as American Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT) and IL Models such as the Big six and Information Search Process (ISP) will improve the teaching of IL in schools. [ ]

RESEARCH QUESTION 4

THE ROLES OF DIRECTOR OF CURRICULUM DEVELOPMENT PROMOTING IL

D1. What role do you play as a librarian to promote information literacy in the school? Please explain your views in the space provide below:

D2 Whose role or responsibility should it be to teach information literacy to students how to access, evaluate and use information? Please give your response by entering the figure in the Box provided. Check one *1 = Both teacher and the librarian, 2 = The Librarian, 3 = Teacher.* Please explain reasons for your response:

D3, What factors affect your role in promoting or integrating information literacy in your subject area? Please explain:

D4, Please provide any suggestions you have that would help promote information literacy integration into the school curriculum.

RESEARCH QUESTION 5: SECTION E
PERCEPTIONS AND ATTITUDES OF TEACHERS, LIBRARIANS, AND PRINCIPALS OF SCHOOL TOWARDS IL

PERCEPTIONS AND ATTITUDES OF THE LIBRARIANS

E1. Please indicate your attitude and perception for each of these items listed (your actual experience performing these IL activities). ***(1 = Poor; 2 = Excellent)***

	Information Literacy Activities	*Response*
E1.1	I critically evaluate sources of information by examining, comparing, and	[ ]

	critically analyzing information from various sources in order to evaluate and ascertain reliability, validity, accuracy, authority, and timeliness to present point of view or bias.	
E1.2	I always identify the purpose for which information is needed to solve problem for a research paper, lesson plan, oral presentation, class exercises or project as part of my regular classroom practices.	[ ]
E1.3	I am able to determine the extent of information needed and locate and access resources in the library from both print (i.e. books, periodicals, encyclopedias etc.) and electronic sources from the internet and library catalogue.	[ ]
E1.4	I can select and access the best sources of information and choose relevant content from a source to meet my information need effectively and efficiently.	[ ]
E1.5	I am able to organise information by using various processes such as saving and organizing information into files, folders, an accessible filing system, bibliographic management software such as Ref Works , EndNote and Google Docs; or use a photocopier, scanner, and other piece of audio/visual equipment to maintain, organize, and manage located resources to aid my teaching.	[ ]
E1.6	I can utilize software tools such as spreadsheets, databases, statistical software, as well as social networks, and multimedia equipment to investigate the interaction between pieces of information, materials, practices, ideas, documents, or other data.	[ ]
E1.7	I understand ethical, legal, and socio-economic issues surrounding information and information technology and/or problems arising from the creation, collection, recording, distribution, and processing of information	[ ]
E1.8	I always manage and incorporate selected information into my knowledge base.	[ ]
E1.9	I use information effectively to accomplish a specific purpose or create new understanding.	[ ]
E1.10	I use information with understanding and acknowledge of cultural, ethical, economic, legal and social issues surrounding the use of information.	[ ]

E2 What do you like most about being a school librarian? What do you like least about being a school librarian?

Thank you for taking your time to respond to this survey.

Appendix 25: Semi-Structured Questionnaire, Principals

SEMI-STRUCTURED SURVEY QUESTIONNAIRE FOR SCHOOL PRINCIPALS

Your participation in this survey is voluntary and respondent anonymity is guaranteed.

DEMOGRAPHICS DATA

i. Name of the School:
ii. Gender: 1 = M, 2 = F
iii. Age of respondent:
iv. Level of Education: (√) the appropriate box

1 = Certificate	2 = Diploma	3 = Bachelor Degree	4 = Master's Degree	5=PhD Degree

5 = Others (please specify):
vi. Please indicate your areas of qualification (e.g. LIS, MA, BA, Bed):
vii. Designation (e.g. teacher, senior teacher, HOD, principal etc.):
viii. Work experience: total number of years you have been a Head Teacher
ix. Length of service/number of years in this school
x. What subject do you teach?
xi. What level (form) do you teach?
xii. What is the average class size that you teach?

RESEARCH QUESTION 1: SECTION A
THE GOALS OF IL IN SENIOR SECONDARY SCHOOLS

A1. Do you think the following statements constitute the goals of information literacy in senior secondary schools in Botswana? Please indicate your response by entering the appropriate figure in the Box provided next to the statements A1.1 – A1.8: ***(1 = Agree, 2 = Disagree, 3=Don't know)***

	Information literacy programme in senior secondary schools	*Response*
A1.1	Provide learning experiences that make students and others to become discriminating consumers and skilled creators of information through comprehensive instruction in using a wide range of resources and technology equipment for accessing local and remote information to thrive economically in the information society an communication age.	[ ]
A1.2	To increase awareness of IL among librarians, administrators, teachers, and students of its benefits and importance in academic success that prepares students adequately for higher education and the labour market.	[ ]
A1.3	To give instructional framework through which librarians and teachers equip students with research skills, critical thinking, and writing competencies in schools.	[ ]
A1.4	To prepare students to become independent, lifelong learner and to have the ability to appreciate wide-range of information, gain new knowledge and fresh insights into the information society.	[ ]
A1.5	To equip students for the rapidly expanding world of ICT in the classroom and the outside world.	[ ]

A1.6	Provide leadership and encourage cooperative constructivist inquiry-based instruction, group project in which teachers are facilitators of creative and collaborative learning environment that is integrated into the curriculum to help all students achieve information literacy in teaching and learning.	[ ]
A1.7	Provide physical access to information through a carefully selected and systematically organized local collection of diverse learning resources that represent a broad range of subjects and formats.	[ ]
A1.8	Equip students and develop effective cognitive strategies for selecting, retrieving, analysing, evaluating, synthesizing, creating, and communicating information in all formats and all content areas of the curriculum.	[ ]

RESEARCH QUESTION 2: SECTION B:
IL CONTENT, RESOURCES, AND TEACHING STRATEGIES FOR IL

INFORMATION LITERACY CONTENT

B1 Do you think that the statements listed below in B1.1 – C1.13 form part of curriculum content being taught in your school/library? ***(1 = Agree, 2 = Disagree, 3= Don't know)***

	Information Literacy Curriculum Content	*Response*
B1.1	Use of dictionary, glossary, encyclopaedia, newspaper, almanac, Indexes, magazines and differences between fiction, non-fiction books and parts of a book.	[ ]
B1.2	Effective use of print and electronic sources	[ ]
B1.3	ICT skills related to effective use of Internet, websites and social media.	[ ]
B1.4	How to use library catalogue to search for library materials by author, title and subject entries.	[ ]
B1.5	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts) and how to evaluate quality of information from various sources.	[ ]
B1.6	Cite sources of information and write references or bibliography for assignments.	[ ]
B1.7	Creation, application and effective communication of information to others.	[ ]
B1.8	Basic knowledge of information laws (respect of intellectual freedom and property rights.)	[ ]
B1.9	Library orientation, (policies, rules, procedures for checking out books, and location of library materials).	[ ]
B1.10	Library physical layout, classification scheme, indexing, keywords, catalogue and call number of books in the library.	[ ]
B1.11	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts).	[ ]
B1.12	Information ethics related to plagiarism and its consequences.	[ ]

B1.13 Information and literacy appreciation, problem-solving and the research process. [ ]

B2 Other comments on information literacy curriculum contents instruction in the school?

IL RESOURCES

B3. How do you support the development of the school library resource collection that is current and relevant to information literacy and the general curriculum needs of the school?

B4. How and where do you obtain funding for the school library?

B5 What proportion of the overall school budget do you allocate to the library? Please explain briefly:

B6. Are the resources in your school adequate to meet the needs of teaching information literacy? Please explain:

B7 Are Information Technology (IT) resources such as scanners, computers, digital whiteboards, projection equipment, large television screen and wireless connectivity readily available and adequate for teaching information literacy? Please explain:

STRATEGIES USED TO DELIVER IL

B8. Are the strategies listed below followed in your school to deliver information literacy? Indicate your response to statements B8.1 – B8.17 by entering the appropriate number in the Box provided.
(1 = Never, 2 = Sometimes, 3 = Always, 4= Don't know)

	IL delivery strategies in the School	*Response*
B8.1	Give assignments that make students use the library	[ ]
B8.2	Rely only on prescribed textbooks for teaching	[ ]
B8.3	Provide students with notes always	[ ]
B8.4	Photocopy relevant materials to disseminate to students always as recipients of knowledge	[ ]
B8.5	Let students summarise and make own notes	[ ]
B8.6	Covering and completing the subject course content is the primary goal	[ ]

	on my lesson plans. (*T)	
B8.7	Make students raise hands in class to talk, ask questions or give answers	[ ]
B8.8	Allow class activities to be student-centred	[ ]
B8.9	Classroom activities demonstrate multi-cultural diversity	[ ]
B8.10	Test students for comprehension of information presented in class	[ ]
B8.11	Always sit or stand in front of the class "Sage on the Stage" while teaching instead of moving around to interact with students	[ ]
B8.12	Foster motivation and allow students to monitor, construct their own knowledge and explore content of the topic being taught	[ ]
B8.13	Allow students access to both primary and secondary information to gather data through survey, observation, or test to write their assignment	[ ]
B8.14	Encourage students to engage in dialogue with teacher and with one another in the classroom	[ ]
B8.15	State facts and what is expected in a topic being learnt and remind students of what they should know	[ ]
B8.16	Encourage social negotiation and accepts students point of view as part of the learning process	[ ]
B8.17	Facilitate group interactions "guide on the side" to ensure students work in cooperative groups	[ ]

B9. Teaching teams which engage in information literacy integration into the classroom are most likely to create constructivist learning environments when they act as mentors. Are your teachers involved in constructivist teaching and learning? What kind of support, if any, do you provide in this regard?

B10 What factors affect implementation and /or integration of information literacy in your school and the country? Please explain your views in the space provided below:

RESEARCH QUESTION 3: SECTION C
INFORMATION LITERACY IMPLEMENTED AT THE POLICY LEVEL

IL IMPLEMENTED AT THE POLICY LEVEL

C1. Does Botswana have a formal policy on Information Literacy?
Check one: (1=YES, 2=NO). Please explain:

C2. What information literacy policy is in place at your school?

C3. This section of the research instrument comprised statements on IL implementation at policy level. Indicate your response on the scale ranging from 1 - 3 by entering the appropriate number in the Box provided.
(1 = Unimportant, 2 = Important, 3 = Very important).

	Policy affecting the delivery and implementation of information literacy	*Response*
C3.1	The appropriate national policy on information literacy in senior secondary school curriculum should be developed for the country.	[ ]
C3.2	National information literacy standard, model and program are needed for teaching.	[ ]
C3.3	The librarian need continuous education and should be at the fore front to train teachers how to integrate information literacy into the classroom.	[ ]
C3.4	Availability of appropriate infrastructure, information technology facilities and a well-equipped stocked library is required to promote students achievements and improve grades.	[ ]
C3.5	Adoption of international IL standards such as American Association of School Librarians and Association for Educational Communication and Technology Standard (AASL/AECT) and IL Models such as the Big six and Information Search Process (ISP) will improve the teaching of IL in schools.	[ ]

RESEARCH QUESTION 4: SECTION D

ROLES OF TEACHERS, LIBRARIANS, SCHOOL PRINCIPALS SCHOOL, AND DIRECTOR OF CURRICULUM DEVELOPMENT IN PROMOTING IL

THE ROLES OF SCHOOL PRINCIPALS IN PROMOTING IL

D1. What role do you play as the school principal to promote information literacy in the school? Please explain your views in the space provide below:

D2. How often do you play the following to demonstrate your support in promoting information literacy in the school? Please indicate your response by entering the appropriate number in the Box provided.D2.1 – D2.28. ***(1 = Cannot Comment; 2 = Sometimes; 3 = Always)***

	Principal's role in promoting information literacy	*Response*
D2.1	Advocate and facilitate the development of an information literate school community.	[ ]
D2.2	Encourage and facilitate the professional development of staff.	[ ]
D2.3	Demonstrate support for collaboration between the school librarian and teachers	[ ]
D2.4	Ensure that the school library resource centre objectives reflect school goals.	[ ]

D2.5	Ensure that the school librarian has an appropriate allocation of support staff.	[ ]
D2.6	Allocate adequate, flexible time for the school librarian to administer the school library.	[ ]
D2.7	Support the development of a resource collection that is current and relevant to the curriculum needs of the school.	[ ]
D2.8	Ensure that significant funding is allocated to the school library budget.	[ ]
D2.9	Actively seek outside school funding possibilities that can be used to supplement the school library budget.	[ ]
D2.10	Engage in regular and timely communication with the school librarian and encourage the school librarian to debate and justify current practice of the library.	[ ]

RESEARCH QUESTION 5: SECTION E: PERCEPTIONS AND ATTITUDES OF TEACHERS, LIBRARIANS, AND PRINCIPALS OF SCHOOL TOWARDS IL

PERCEPTIONS AND ATTITUDES OF SCHOOL PRINCIPALS TOWARDS IL

E.5 Please indicate your attitude and perception for each of these items listed (your actual experience performing these IL activities). ***(1 = Poor; 2 = Excellent)***

	Information Literacy Activities *Response*	
E5.1	I critically evaluate sources of information by examining, comparing, and critically analyzing information from various sources in order to evaluate and ascertain reliability, validity, accuracy, authority, and timeliness to present point of view or bias.	[ ]
E5.2	I always identify the purpose for which information is needed to solve problem for a research paper, lesson plan, oral presentation, class exercises or project as part of my regular classroom practices.	[ ]
F3.3	I am able to determine the extent of information needed and locate and access resources in the library from both print (i.e. books, periodicals, encyclopedias etc.) and electronic sources from the internet and library catalogue.	[ ]
E5.4	I can select and access the best sources of information and choose relevant content from a source to meet my information need effectively and efficiently.	[ ]
E5.5	I am able to organise information by using various processes such as saving and organizing information into files, folders, an accessible filing system, bibliographic management software such as Ref Works , EndNote and Google Docs; or use a photocopier, scanner, and other piece of audio/visual equipment to maintain, organize, and manage located resources to aid my teaching.	[ ]
E5.6	I can utilize software tools such as spreadsheets, databases, statistical software, as well as social networks, and multimedia equipment to investigate the interaction between pieces of information, materials, practices, ideas, documents, or other data.	[ ]

E5.7	I understand ethical, legal, and socio-economic issues surrounding information and information technology and/or problems arising from the creation, collection, recording, distribution, and processing of information	[ ]
E5.8	I always manage and incorporate selected information into my knowledge base.	[ ]
E5.9	I use information effectively to accomplish a specific purpose or create new understanding.	[ ]
E5.10	I use information with understanding and acknowledge of cultural, ethical, economic, legal and social issues surrounding the use of information.	[ ]

Thank you for taking your time to respond to this survey.

Appendix 26: Semi-Structured Survey Questionnaire, Director of Curriculum Development

SEMI-STRUCTURED SURVEY QUESTIONNAIRE FOR THE DIRECTOR OF CURRICULUM DEVELOPMENT

Your participation in this survey is voluntary and respondent anonymity is guaranteed.

DEMOGRAPHICS DATA

Q1. Gender: 1 = M, 2 = F				
Q2. Age of respondent:				
Q3. Level of Education: (√) the appropriate box				
1 = Certificate	2 = Diploma	3 = Bachelor Degree	4 = Master's Degree	5 = PhD Degree
Q5. Length of service/number of years as Director of Curriculum Development				

RESEARCH QUESTION 1: SECTION A
THE GOALS OF IL IN SENIOR SECONDARY SCHOOLS

GOALS OF INFORMATION LITERACY

A1. What in your opinion are the goals of information literacy? Please explain:

RESEARCH QUESTION 2: SECTION B
IL CONTENT, RESOURCES, AND TEACHING STRATEGIES FOR IL

INFORMATION LITERACY CONTENT

B1. How is IL reflected in the secondary schools Curriculum? What syllabus content if any, is being offered to teach and impart IL knowledge to students in senior secondary school?

B2. In your view, are the contents of your information literacy program integrated into the school curriculum?
Check one: (1=YES, 2=NO). Please explain briefly the response to your answer:

B3. Do you think that the statements listed below in B3.1 – B3.13 form part of curriculum content being taught in your school/library? ***(1 = Agree, 2 = Disagree, 3= Don't know)***

	Information Literacy Curriculum Content	*Response*
B3.1	Use of dictionary, glossary, encyclopaedia, newspaper, almanac, Indexes, magazines and differences between fiction, non-fiction books and parts of a book.	[ ]
B3.2	Effective use of print and electronic sources	[ ]

B3.3	ICT skills related to effective use of Internet, websites and social media.	[ ]
B3.4	How to use library catalogue to search for library materials by author, title and subject entries.	[ ]
B3.5	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts) and how to evaluate quality of information from various sources.	[ ]
B3.6	Cite sources of information and write references or bibliography for assignments.	[ ]
B3.7	Creation, application and effective communication of information to others.	[ ]
B3.8	Basic knowledge of information laws (respect of intellectual freedom and property rights.)	[ ]
B3.9	Library orientation, (policies, rules, procedures for checking out books, and location of library materials).	[ ]
B3.10	Library physical layout, classification scheme, indexing, keywords, catalogue and call number of books in the library.	[ ]
B3.11	Critical thinking skills and independent learning (knowledge, comprehension, application, analysis, synthesis and evaluation of facts).	[ ]
B3.12	Information ethics related to plagiarism and its consequences.	[ ]
B3.13	Information and literacy appreciation, problem-solving and the research process.	[ ]

INFORMATION LITERACY RESOURCES

B4. What resources are there to support learning and teaching of information literacy to students in senior secondary school? Are these resources adequate for teaching information literacy?
Please explain:

B5. What is government doing to ensure that all school libraries are equipped with up-to-date resources in all formats? (For example, Internet, Print resources: text-books, encyclopedia, dictionary, almanac etc.).

STRATEGIES USED TO DELIVER IL

B6. Teaching teams which engage in information literacy integration into the classroom are most likely to create student-centered learning environments when they act as mentors/facilitators. Are your teachers involved in constructivist teaching and learning? What kind of support, if any, do you provide in this regard?

RESEARCH QUESTION 3: SECTION C

INFORMATION LITERACY IMPLEMENTED AT THE POLICY LEVEL

C1. Does Botswana have a formal policy on Information Literacy?
Check one: (1=YES, 2=NO). Please explain:

C2. Do we have a designated person or unit in the Ministry of Education & Skills Development, Secondary Department Section) responsible for coordinating school libraries issues and overseeing IL integration in Schools? Kindly explain:

C3. What are the major obstacles you see impeding the development of Information Literacy policy and curriculum for secondary schools in Botswana?

RESEARCH QUESTION 4: SECTION D.
ROLES OF TEACHERS, LIBRARIANS, SCHOOL PRINCIPALS, AND DIRECTOR OF CURRICULUM DEVELOPMENT IN PROMOTING IL

THE ROLES OF DIRECTOR OF CURRICULUM DEVELOPMENT IN PROMOTING IL

D1. What role do you play as the director of curriculum development to promote information literacy in secondary schools? Please explain:

RESEARCH QUESTION 5: SECTION E
PERCEPTIONS AND ATTITUDES OF TEACHERS, LIBRARIANS, AND PRINCIPALS OF SCHOOL TOWARDS IL

PERCEPTIONS AND ATTITUDES OF THE LIBRARIANS

E1. Please indicate your attitude and perception towards IL

E2. Do you have any additional comments you would like to make about the state of Information Literacy curriculum secondary in the country? Please explain:

Thank you for taking your time to respond to this survey.