Teaching Information Literacy Skills in Community Junior Secondary Schools in Gaborone, Botswana

The teaching of information literacy skills in Botswana's Community Junior Secondary Schools is gradually becoming a national priority, but is not guided by research.

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INTRODUCTION

The past several years have witnessed a daily explosion of information resources and the consequent challenge of using these resources effectively and efficiently. This has also resulted in the rapid and growing importance of information literacy skills in the educational arena. The importance of information literacy skills is evidenced by the substantial professional literature that has been generated on the subject. 'Information literacy skills' refers to a set of abilities requiring individuals to recognize when information is needed and to have the ability to locate, evaluate and use effectively the needed information. Because the contemporary school environment is characterized by an over-abundance of information available in a variety of sources and media, students are continuously confronted with the challenge of developing a cluster of abilities necessary to use information effectively. In other words, information literacy skills are now a 'must competency' for 21st century students right across the globe, and to this end schools are expected to institute 'tried and true' strategies to integrate the teaching of information literacy skills into the curriculum.

Although there is a substantial body of research extolling the virtues of teaching information literacy skills, the vast majority of these studies focus on the developed country context and very few tackle developing country situations. Consequently, we know next to nothing about how librarians, teacher-librarians and subject teachers are doing to make information literacy skills an intrinsic feature of modern school curricula in developing countries. Clearly, this is a gap in the literature that needs to be filled. The objective of this study, therefore, is to investigate the extent to which information literacy skills are being integrated into the curriculum in Botswana's community secondary schools: i.e. the enquiry sought to establish the strategies that are being employed to institutionalize information literacy skills competencies within the secondary school curriculum.

RATIONALE FOR THE STUDY

The subject, 'information literacy skills', boasts an admirable four-decade history, during which it has attracted a great deal of interest from both researchers and practitioners seeking to better understand, among other things, the value, the mechanics and the effectiveness of information handling skills to students and to teaching and learning in general. The domain of information literacy has also been the subject of numerous theses and doctoral dissertations. However, although the impressive contributions of the extant literature are self-evident, this literature has two salient limitations. First, much of the research has focused on higher education students (e.g. university, college and high school students: Herring, 1996; Hepworth, 2000; Boekhorst, 2003; Virkus, 2003; Ojedokun and Lumande, 2005; Mutula et. al., 2006; Dadzie, 2007). Secondly, the literature is dominated by studies conducted in developed nations such as Australia, Canada, New Zealand, the United Kingdom and the United States of America, to name but a few. Considerable relevant research on business management in developing countries suggests that the developed country context and the developing country context are radically different (for a detailed discussion see, for example: Fubara, 1986; Mrema, 1987), but few studies were located which focus on a developing country context and none that address the Botswana context. As a result, we know very little about information literacy skills in developing country contexts. Thus this study sought to address this lacuna in the information literacy skills literature.

TEACHING INFORMATION LITERACY SKILLS

LITERATURE REVIEW

A thorough review of the literature on information literacy is beyond the scope of this paper, both for reasons of space and because of the huge amount of literature available on the topic. Instead, we provide a selective review of literature with the intent to contextualize our study.

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

The Council of Australian University Librarians (2001: 1) defines information literacy as an understanding and a set of abilities enabling individuals to "recognize when information is needed and have the capacity to locate, evaluate, and use effectively the needed information".

Webber and Johnston (2002) define information literacy as efficient and ethical information behaviour involving the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society (Webber and Johnston, 2002: 54).

Boekhorst (2003), from the Netherlands, finds that all definitions and descriptions of information literacy presented over the years can be summarized in three concepts:

1. The ICT concept: information literacy refers to the competence to use information and communication technologies (ICT) to retrieve and disseminate information.
2. The information (re)sources concept: information literacy refers to the competence to find and use information independently or with the aid of intermediaries.
3. The information process concept: information literacy refers to the process of recognizing information need, retrieving, evaluating, using and disseminating of information to acquire or extend knowledge. This concept includes both the ICT and the information (re)sources concept and persons are considered as information systems that retrieve, evaluate, process and disseminate information to make decisions to survive, for self-actualization and development.

From the foregoing, it is clear that while information literacy skills have assumed centre-stage status and even permeated strategic thinking at various levels in national governments, there is no agreed definition and a number of people have offered their views of what they think is information literacy. This state of affairs is illustrated by a plethora of terms that have been used by different authors: 'infoliteracy', 'informacy', 'information empowerment' 'information competence', 'information competency', 'information competencies', 'information literacy skills', 'information literacy and skills', 'skills of information literacy', 'information literacy competence', 'information literacy competencies', 'information competence skills', 'information handling skills', 'information problem solving', 'information problem solving skills', 'information fluency', 'information mediacy' and even 'information mastery' was proposed by Bill Nilsen, Director of the e-Institute of Strathclyde/Glasgow University, during the first conference on Information Technology and Information Literacy in Glasgow in 2002. A Finnish researcher, Reijo Savolainen, suggests the umbrella term 'information-related competences' that covers information literacy, media competence and library skills, and adds: "Because new labels describing specific kinds of illiteracies are continually introduced, reflecting the developments of ICTs, the attempts to develop an exact classification of information-related literacies seem to be futile" (Savolainen, 2002:213). However, despite continuous concern about the term since the 1990s, information literacy is still the most commonly used phrase to describe the concept (Bawden, 2001).

Among the many definitions in existence, perhaps the most widely accepted and cited is that provided by the authoritative American Library Association (ALA) Presidential Committee on Information Literacy: "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 1989: 1). Although alternative definitions of information literacy have been offered by several institutions, organizations

and individuals, there are strong similarities between the various statements and they are likely to stem from the definition offered by ALA.

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

Academic libraries have played an important role in information literacy developments, especially in Europe. Information literacy initiatives in higher education have taken a variety of forms: stand-alone courses or classes, web-based tutorials, course-related instruction, or course-integrated instruction. Most authors seem to agree that information literacy should be integrated into subject areas (see, for example: Kemp, 1999; Joint and Kemp, 2000; and others). Webber and Johnston (2000) differ from many other authors by advocating that information literacy can be treated as a stand-alone discipline of study in its own right, rather than favouring the curriculum integration model.

There is also a shift towards increasing emphasis on faculty-librarian partnership and the implementation of modern ICTs in delivering information literacy courses. There is considerable experimentation with using ICTs in European higher education institutions in general, sometimes to improve the on-campus learning experience, at other times to deliver distance learning. The general picture is that in most cases institutions are now transferring from a period of rich and mostly bottom-up experimentation to a phase in which institution-wide use of ICT is being encouraged (Collis and Van der Wende, 2002). While the new ICTs are having a variety of direct effects on teaching and learning in universities, there are also other important factors having major influences on higher education. The processes in implementing the Bologna Declaration are having an impact on the development of curriculum structures and quality control attitudes and procedures. The rise in lifelong learning and widening of access to higher education bring in new learners with different previous educational experiences.

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

According to Herring (1996), information literacy in the school sector in Europe has been derived from user education and library instruction as far back as the mid-1980s. Herring further notes that, in that period, there was a flurry of research projects and books on information skills in schools, culminating in Marland's (1981) taxonomy of information skills, which, despite its age, remains a standard text for those new to information skills and is applicable to a variety of settings. Spurred by the Marland ground-breaking study, developments in information literacy skills in schools continued to grow in the 1990s, albeit at a modest pace, (see, for example, Herring, 1996, for details). By the beginning of the 21st century, information and computer literacy skills started to be the focus of a range of curriculum innovations (Bundy, 2002), and the acquisition of information skills has been recognized as a part of the secondary school curriculum in the Netherlands since 1993.

While the picture of the evolution and development of information literacy skills painted above is peculiar to Europe, research evidence suggests that, in the United States and Australia – the leading countries in information literacy development – a similar pattern has characterized the development of information literacy skills (see, for example: Doyle, 1994; Breivik, 1998; Bruce and Candy, 2000) for detailed reviews for America and Australia respectively).

In summary, we highlight a few salient contemporary issues in the literature on information literacy skills: (1) the link between information literacy skills and academic achievement; (2) new roles for teacher-librarians; (3) the application of theoretical frameworks that guide educators and practitioners (e.g. the constructivist view); and (4) the extolling of the virtues of the student/child-centred approach to learning. One may conclude that while the past several decades have witnessed a substantial growth in the literature on information literacy skills, the vast majority of the research has been preoccupied with high income,

industrialized countries and has tended to bypass the so-called emerging economies. Furthermore, in contrast to the abundant research on tertiary education and high schools, relatively little attention has been devoted to studying information literacy skills in junior schools. As a result, there is a paucity of studies that address information literacy skills in junior schools in developing country contexts. This study endeavours to redress this imbalance. No studies on how information literacy skills are taught in Botswana were found in the literature. It was therefore considered timely to carry out this research in order to better understand how these crucial skills are delivered to students.

RESEARCH OBJECTIVES

The purpose of this study was to investigate the teaching of information literacy skills in selected community secondary schools in Botswana. Specifically, the study focused on the following research questions addressed to teachers:

1. What is your conception of information literacy?
2. What are the specific skills taught under information literacy skills?
3. Who is engaged in teaching information literacy skills at your school?
4. Which are the dominant approaches used in teaching information literacy skills at your school?
5. What are the major challenges you encounter in the teaching of information literacy skills?

RESEARCH SETTING

Botswana is centrally located in the heart of Southern Africa. It is a landlocked country about the size of France, Texas or Kenya. Since gaining independence from Britain in 1966, Botswana has undergone tremendous change. During the past three and a half decades, the country has been transformed from being one of the poorest countries in the world to a middle-income country with per capita Gross Domestic Product of USD 3000. The country's economic accomplishment can be attributed to the exploitation of mineral resources. Revenue from the abundant diamond resources, coupled with fiscal prudence, have resulted in Botswana recording successive budget surpluses, thereby enabling the country to achieve rapid economic growth and making it the fastest growing economy in the world.

Consequently, the country has used the proceeds from mineral wealth to develop the education and social sectors. In 1985, the Government of Botswana embarked upon a major programme to increase its basic education provision consistent with UNESCO goals towards universal access to education. A result of this was that government has built a network of community junior schools, the number increasing from 33 in 1985 to 146 in 1991. Presently, the number of community junior schools stands at 209. In 1993, the government launched a major educational reform exercise to further expand access to education, hereinafter called the Revised National Policy on Education (RNPE) (1994). The overall goal of the RNPE was to prepare Botswana for the transition from a traditional agro-based economy to the industrial economy that the country aspires to be (Revised National Policy on Education, 1994). Today, the RNPE's goal is complemented by Botswana's 'Vision 2016' (Botswana's development blueprint which articulates the country's long-term development aspirations and provides a broad framework for development), which states that:

> Botswana in 2016 should be an educated, informed society. All citizens should have the choice of continued education, whether in academic fields or in vocational and technical subjects.

In line with the recommendations made by the RNPE, each school has a purpose-built library which houses a variety of information materials, although the dominant types of materials are books. According to the RNPE, the library's mandate is not only to equip students with information literacy skills but also to impart students with lifelong learning skills and thereby complement Vision 2016. Each library should be managed by a teacher-librarian, i.e. a qualified subject teacher who also possesses a certificate in school library studies (CLS) or, lately, a Bachelor in Library Information Studies (BLIS). However, because of the shortage of trained teacher-librarians, the vast majority of the community school libraries are run by subject teachers without a library qualification; that is, a trained teacher in possession of a diploma in secondary education (DSE) only or a bachelor of arts plus postgraduate diploma in education (BA+PGDE) who is given extra responsibilities to oversee the school library. The library is seen as an integral component of the curriculum and a collaborator in delivering quality education. Since the vast majority of the country's primary schools do not have libraries, the community junior school library

plays a crucial role in introducing students to the world of libraries; i.e. the community junior secondary school library has the responsibility to initiate a library culture and also foster information literacy skills. This educational landscape makes these libraries a rich setting for the investigation of information literacy skills teaching in Botswana.

METHODOLOGY

Data Collection

Participants in the study were 30 teacher-librarians with responsibility for running the library in their respective schools located in the City of Gaborone and the immediate environs. Each school boasts a dedicated library facility with a dwindling small collection of both print and electronic materials. The library occupies a pivotal role in the school's academic life as the schools are involved in an intensely competitive race for good performance. Occasionally however, the libraries receive donations from local and international donors and this tends to enrich the collections in most of the city's school libraries. Interviewees were identified through telephone calls to the community schools using the *Botswana Telecommunication Directory*, which lists all government schools.

A review of the literature reveals that a variety of research approaches have been used to investigate information literacy skills in different environments. These range from surveys to observations. Following Yin (1994) and other scholars, a qualitative method involving face-to-face (personal) interviews was adopted as the most suitable approach to gather rich in-situ first-hand accounts of how information literacy skills are taught. Indeed, this method of data collection is thought to be better than traditional surveys in emerging economies because it offers a chance for researchers to clarify questions and to check and probe aspects of behaviour. To this end, an interview protocol comprising five questions was constructed and then internally pilot-tested with six teacher-librarians who were students at the Department of Library and Information Studies and taking the course, LIS 200: Organizing Information, taught by the lead investigator. This course had a modest number of students training to become teacher-librarians and was thus considered suitable to pilot test the instrument. Essentially, the students were asked to identify any ambiguities in the questions posed by the investigators. Pilot test results revealed the need for minor modifications. The final version of the schedule contained the following five questions, each addressing the study's research questions:

1. Briefly provide your interpretation of information literacy skills as practised in your school.
2. List the various skills/competencies taught under information literacy skills.
3. Who are engaged in the teaching information literacy skills at your school?
4. What approaches are used to teach information literacy skills at your school?
5. What challenges do you experience when teaching information literacy skills?

Personal interviews were arranged and conducted with 20 interviewees between February and early June 2007. Each interview session lasted approximately 30 minutes. All interviews were recorded and later transcribed. To conserve costs, and following advice from Dillman (2000), telephone interviews were conducted with the remaining 10 teacher-librarians whose schools were far from the city of Gaborone. Additional data were gathered via in-depth conversational interviews with three members of the newly formed Botswana Secondary School Library Association (BOSSLA), a national professional body for teacher-librarians.

PROFILE OF INTERVIEW RESPONDENTS

A preliminary section of the interview schedule included questions that collected background information on the teacher-librarians. The multivariate table (see Table 1) depicts the socio-demographic characteristics of the respondents: age group, gender, educational qualifications, experience as a subject teacher, and years as a teacher-librarian. In the sections that follow, we discuss each of these in turn.

Age Group

Respondents' ages ranged between 28–44, with the largest proportion (14 cases, or 47 percent) in the age range of 34–39. Almost three quarters (74 percent) of respondents were between 29 and 44 years of age.

Educational Qualifications

One third of the respondents (10 cases, or 33 percent) had only a diploma in secondary education (DSE) with

Age group	Frequency	Percentage
Below 28	4	13
29–33	8	27
34–39	14	47
40–44	4	13
Total	30	100
Gender		
Male	10	33
Female	20	67
Total	30	100
Educational qualifications		
DSE	10	33
DSE + CLS	13	43
DSE+CLS+BLIS	5	17
BA+ PGDE+ CLS	2	7
Total	30	100
Teaching experience (years)		
>5	3	10
6–9	5	17
10–13	16	53
14–16	6	20
Total	30	100
Years as teacher-librarian		
>2	6	20
3–6	10	33
7–9	9	30
10–13	5	17
Total	30	100

Table 1. Profile of respondents (N = 30).

Note on qualifications: All the qualifications cited above were conferred by the University of Botswana, Department of Library and Information Studies.

no library qualifications. The biggest group (13 cases, or 43 percent) had a diploma in secondary education plus a certificate in school library studies (CLS), while 7 respondents (17 percent) also had a bachelor's degree in Library Information Studies (BLIS) and 2 more (7 percent) had a bachelor of arts degree plus a postgraduate diploma in education (BA+PGDE) and a certificate in school library studies. In total, two thirds of the respondents (20 cases or 67 percent) had a certificate in school library studies, while 5 of these also had a BLIS degree.

Gender

The sample was predominantly female (20 cases, or 67 percent), a striking although unsurprising demographic characteristic that reflects the composition of the larger teaching work force nationwide. Consequently, only 10 (33 percent) of the sample were male.

Teaching Experience

Almost three quarters of the respondents (22 cases, or 73 percent) had more than 10 years' teaching experience, with more than half having been teaching for between 10 and 13 years.

Years as Teacher-Librarian

Most of the participants in the study were by no means newcomers to teacher-librarianship, the great majority (24 cases, or 80 percent) having worked as teacher-librarians for more than 3 years.

CONCEPTIONS OF INFORMATION LITERACY SKILLS

The first question on the interview schedule sought to gather the respondents' perspectives on what constitutes information literacy skills. The rationale behind this question was that the literature revealed many definitions or interpretations of information literacy skills that guide and determine the range of tasks performed under that rubric. Unsurprisingly, this question elicited a diverse range of definitions. Table 2 presents the respondents' views:

While there was consensus among all the respondents about some form of information literacy skills being provided in the sampled schools, there was no agreement regarding what exactly constitutes information literacy skills. Table 2 clearly demonstrates a variety of conceptions, which however, share some commonalities. Thus the interview results tend to confirm the prevalent view in the extant literature that indeed 'information literacy skills' is a multifaceted concept and is always defined broadly with no universal definition.

Definition	Frequency	Percentage
Library user instruction	7	23
Searching and locating information	4	13
Sorting and presenting information	4	13
Use of various library materials	4	13
Use of information in assignments	3	10
Library use and problem solving	3	10
User education	3	10
Recognizing the role information plays	2	7
Total	30	100

Table 2.   Conceptions of information literacy skills (N = 30).

Content	Frequency	Percentage
How to locate information	27	90
Explanation of library rules	27	90
How to search for information	26	87
How to use information to write	23	77
How to evaluate	15	50
How to use reference sources	15	50
How to conduct mini research	13	40
How to cite	10	30

Table 3.   The elements of information literacy skills (N = 30).

Who teaches information literacy skills?	Frequency	Percentage
Teacher librarian	30	100
Subject teacher	22	73
Library committee member	19	63
Library monitors	8	7

Table 4.   Participation in teaching information literacy skills (N = 30).

ELEMENTS OF INFORMATION LITERACY SKILLS PROGRAMMES

A second question in the interview schedule sought to uncover the specific bundle of information literacy skills that are provided in the sampled community schools. To this end, respondents were asked to vividly describe in their own words, what they considered to be the elements of the information literacy programmes in their schools. Table 3 presents a synthesis of the emerging themes.

The information literacy skills most widely taught in the sampled schools were the more basic skills of how to locate information (90 percent), understanding of the library rules (also 90 percent) how to search for information (87 percent), and how to use information to write (77 percent), which may be considered to be largely traditional skills that are congruent with the preponderate pre-automation library user education programmes (Herring, 1996). The skills of how to evaluate, use reference sources and conduct mini research, and how to cite, were taught in half or less of the sample schools.

PARTICIPATION IN TEACHING INFORMATION LITERACY SKILLS

The third interview question was designed to identify the individuals entrusted with the responsibility for teaching information literacy skills in the sampled schools. Table 4 presents the responses.

In all the sample schools, the teacher-librarians are the ones mainly involved with the teaching of information literacy skills. In fact, all teacher librarians indicated that they saw their responsibility as the ultimate integrators of information literacy skills in the schools' curricula. The following responses aptly capture this view:

> Since 2001, our job descriptions have been changed; with the creation of new position Senior Teacher Library, a resultant core function of the incumbent is the teaching of information skill.

> I was appointed acting Teacher-Librarian last year, and my appointment letter point out that among my chief responsibilities is promoting a library culture within the entire school.

What is also clearly evident from the interview data is that the teaching of information literacy skills is a joint partnership between four distinct groups: teacher-librarians, subject teachers – teachers who in most cases do not possess professional library skills but may have gone through some customized school library courses – library committee members (i.e. a select group made up of teachers, management representatives and sometimes members of parent-teachers' associations) and library monitors. These last are students selected largely

on the basis of good conduct and interest in library matters to assist teacher-librarians with day-to-day library chores. In some instances, library monitors undergo special training in library procedures in order to be able to successfully deliver information literacy skills to other students.

METHODS OF TEACHING INFORMATION LITERACY SKILLS

The vast body of literature on information literacy skills does not reveal a dominant method of teaching such skills in education in general. Instead, several methods seem to permeate the literature. Participants in this study were thus asked to list and describe the methods they employed to deliver information literacy skills in their schools. Table 5 depicts the answers to the question. We expound upon each of the methods in the sections that follow.

Library Instruction Lessons

All the interviewees indicated that they imparted information literacy skills principally through mandatory library orientation or instruction sessions offered for new students at the beginning of each year. Teacher-librarians, working in partnership with the subject teacher and the library committee, provide tutorials to each class about the place and function of the library in the school. Also included here are a range of subtopics such as 'library week', 'care for library materials' and 'information is power' designed to instil a library culture among new students.

Course Integrated Instruction

Likewise, all the respondents indicated that information literacy skills were taught in their schools through subject/course-integrated projects, which involve the execution of a project within a library environment.

Methods of teaching	Frequency	Percentage
Library instruction	30	100
Course integration	30	100
English language lesson	25	83
Ad hoc library visits	15	50

Table 5.   Methods of teaching information literacy skills (N = 30).

In short, subject teachers design projects that have to be executed in the library or with the aid of library materials and resources. Commenting on this method, interviewees stated that they considered this approach effective in embedding information literacy across a broad spectrum of subjects.

English Language Period

A large proportion (83 percent) of the respondents indicated that information literacy skills were taught during the English language period. In all the schools, English language is a compulsory subject taken by all students and it is also a requirement that one of the slots allocated to English language class should be used as a library period. Consequently, students pay a weekly visit to the library. During this time, a student is free to use his or her time to read anything in the library. Invariably, students use this time to read novels. To a certain extent, it can be argued that this arrangement indirectly contributes towards fostering reading skills and embedding a library culture, which are essential ingredients of information literacy skills.

Ad hoc Library Visits

Half of the respondents said that ad hoc, i.e. unscheduled, use of the library by a class was a common feature when a subject teacher was unable to deliver normal teaching in class due to unforeseen circumstances. In such cases, students would invariably be sent to the library for the duration of the entire lesson (40–80 minutes) to do anything productive (e.g. reading novels, magazines, viewing videos or finding information) in the library. While these activities do not have much to do with information literacy skills as defined above, they nonetheless help towards developing information literate students.

CHALLENGES ENCOUNTERED IN TEACHING INFORMATION LITERACY

The final question in the interview schedule was aimed at discovering some of the challenges that teacher-librarians encounter when they deliver information literacy skills teaching in schools. Table 6 presents the most frequently cited challenges.

The results presented in Table 6 clearly show that the teaching of information literacy skills in the sampled schools is bedevilled by several challenges. The most

Challenge	Frequency	Percentage
Lack of a supporting library office	30	100
Exam-oriented curriculum	28	93
Shrinking financial resources	22	73
Lack of support from teachers and administration	14	47
Resistance to collaboration	10	33
Lack of knowledge/understanding	8	27

Table 6.   Challenges encountered in the teaching of information literacy skills (N = 30).

frequently cited challenge is the absence of a central government office dedicated to supporting school libraries. All the respondents decried the lack of such an office, which they said was a big impediment to the teaching of information literacy skills in community secondary schools because there were no 'best practices' in the delivery of information literacy skills which could be emulated by teacher-librarians and other stakeholder groups who are striving to embed such skills in the students.

Another frequently cited challenge is that the school library is not seen as vital because the school curriculum is examination-oriented. A large proportion of the respondents (28 cases or 93 percent) indicated that the Junior Certificate (JC) curriculum was heavily oriented towards examinations; while espousing resource-based learning, it tended to over-emphasize the passing of the examinations by recommending specific textbooks from which exam answers would only be acceptable. In their view, this had the detrimental effect of discouraging the use of other sources of information and heavily encouraged sole dependence on the prescribed textbooks.

The third most frequently mentioned challenge is shrinking budgetary resources. A total of 22 respondents (73 percent) pointed out that, over the past few years, the education sector had consistently experienced reduced budgets and that this has severely impacted on the smooth functioning of the school library. An example cited was the 'book fee' (an amount allocated for each student for the purchase of library books) which has recently been reduced from BWP 30.00 to BWP 20.00, thereby affecting collection growth. A similar example proffered was the recent devaluation of the local currency (the Botswana pula, BWP) by 12.5 percent, which seriously eroded its purchasing power.

Other challenges mentioned by less than half of the respondents were: resistance to collaboration by subject teachers (47 percent); lack of support from teachers and administration (33 percent) and lack of knowledge/ understanding by teachers (27 percent).

DISCUSSION

The purpose of this research was to investigate the teaching of information literacy skills in selected community secondary schools in Botswana. What emerges from the data presented in this research? Not surprisingly, definitions about information literacy skills abound and a total of eight conceptions were identified by interviewees (see Table 2). This lends credence to the notion espoused by several scholars (e.g. Bawden, 2001) that 'information literacy skills' is a multifaceted concept. Notwithstanding the multiple interpretations prevalent amongst respondents, we discern a common thread, that the teaching of information literacy skills is subsumed under traditional library instruction or orientation. No mention was made by respondents of critical thinking skills or the use of information technology.

With respect to the contents or skills set of information literacy skills, the interview data reveal a wide array of tasks related to information literary skills, with the most frequently cited ones being: (1) how to locate information (90 percent); (2) explanation of library rules (90 percent), and (3) how to search for information (87 percent) (see Table 3). Taken as a whole, these tasks in turn demonstrate the multifaceted nature of information literacy skills. Furthermore, from the array of activities, we also discern a fusion of elements of the different information literacy skills frameworks that have guided practice in the broader educational landscape, e.g. the Eisenberg and Berkowitz Big6 Information Skills (Eisenberg and Berkowitz, 1999); Doyle's attributes of an information literate person (Doyle, 1994); and Bruce's Seven Faces of Information Literacy (Bruce, 1997).

Interview data showed that although there are in the main four groups of personnel engaged in teaching information literacy skills (see Table 4), teacher librarians were the ones upon whom information literacy skills mainly depended. While there is a paucity of comparative literature on this aspect of information literacy skills, Boekhorst (2003), in a Dutch study, provides very useful corroboration by singling out teacher-librarians as the pivotal players in imparting information literacy skills within the secondary school sector.

Turning to how information literacy skills are organized and delivered, participants in the study indicated that they deliver these skills via a variety of context-specific approaches (e.g. the dedicated library lesson, course integrated instruction incorporating project-based work, the English Language lesson and ad hoc library lessons). All the methods used take place either in the library or within a classroom setting (see Table 5). Three methods preponderate: dedicated library instruction lessons and course integrated instruction, each rated by 100 percent of the interviewees, and the English Language lesson, rated by 83 percent of the respondents.

Finally, all respondents identified several challenges which constrain the teaching of school-wide information literacy skills, chief among which were: (1) lack of a central support office for school libraries (100 percent); (2) an exam-oriented curriculum (93 percent); and (3) shrinking financial resources (73 percent) (see Table 6).

CONCLUSIONS

As the global information environment experiences high-velocity change and complexity, largely due to the ICT revolution, secondary schools and other stakeholder groups are confronted with the challenge to adapt, survive and prosper. To this end, the acquisition of information literacy skills has become a potent arsenal necessary for individuals to navigate the information landscape.

The teaching of information literacy skills in Botswana's secondary schools is gradually becoming a national priority, but is not guided by research. The sub-field of information literacy remains an unresearched domain with few or no scholars interested in the subject. While the study reported here remains exploratory in nature, it provides a starting point for further research on the subject within the Botswana environment, where information literacy skills are viewed as an integral component of the educational sector and critical to students in Community Junior Secondary Schools, who form the first building block of secondary education. As such, the study addresses an apparent lacuna in the empirical literature on information literacy skills and broadens and enriches our understanding of the complex subject of information literacy skills. This study makes the following conclusions:

1. Information literacy skills are strongly supported by the Revised National Policy on Education (1994), which advocates resource-based learning, and school libraries have been identified as key agents in imparting these skills.
2. Notwithstanding the above, there is no clear-cut official definition or interpretation of what constitutes information literacy skills and teacher-librarians in partnership with subject teachers tend to use their own interpretations in the absence of an information literacy skills curriculum.
3. Information literacy skills taught in the sampled schools gravitate towards traditional bibliographic instruction skills, i.e. they do not encompass the use of ICT.
4. Teacher-librarians, in tandem with subject teachers, are chiefly engaged in teaching information literacy skills.
5. Beyond the mandatory library orientation offered to first year students, there is variation to what is provided by schools as information literacy skills.
6. A variety of approaches are employed to deliver information literacy skills but there are no frameworks or models that underpin the delivery of these skills.
7. As a resource-heavy undertaking, teacher-librarians and subject teachers encounter some challenges in their endeavour to integrate information literacy skills. For example, budgetary cuts, resistance from teachers and lack of an effective library monitoring body in the Ministry of Education.

FUTURE RESEARCH

Notwithstanding the useful insights yielded by this study, this research has some limitations that future research should address. This study was based on a sample of schools too small to permit meaningful generalizations. A worthwhile research project could extend this study to all Community Junior Secondary Schools in the country so as to generate a composite picture of the teaching of information literacy skills. Also, our study relied solely on interviews. Future research should employ questionnaires or other research methods to gather comprehensive data. Finally, research should focus on the impact of information literacy skills on students. This would go a long way in developing a best practice approach on the teaching of information literacy skills

RECOMMENDATIONS

Cognizant of the complexity of the subject information literacy skills, it is recommended that further research be undertaken in various parts of the country, using larger samples so as to generate a composite picture (a Botswana model) of information literacy skills practice as it obtains in the country. Also, further inquiries need to be undertaken in developing country-contexts so as to unravel best practice in resource-poor socio-economic environments. Results from such contexts would go a long way in enriching the empirical literature on the information literacy skills domain.

From a practical standpoint, the Ministry of Education in Botswana needs to provide a syllabus of information literacy skills predicated on some existing frameworks. Furthermore, teacher-training institutions need to offer a compulsory module on information literacy skills as part of the certification process. This ensures the availability of a pool of trained human resources with the skills to teach information literacy skills.

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Abstract

Information literacy skills are fast becoming a global priority as society moves into the digital environment. However, although the subject has generated a vast body of literature, it remains an underdeveloped domain in sub-Saharan Africa, with few scholars demonstrating a keen interest in, and focus on, the subject. This has unfortunately limited a fuller understanding of how information literacy is conceptualized and delivered in developing country contexts. The study reported here investigated the teaching of information literacy skills in selected Community Junior Secondary Schools (CJSS) in the city of Gaborone, Botswana. Data were gathered from a sample of 30 teacher-librarians via face-to-face in-depth interviews with the aid of a five-question interview schedule. The key findings of the study were: (1) respondents had varying interpretations of what constituted information literacy skills, (2) a variety of skills were taught under the rubric information literacy skills; (3) by and large, the teaching of information literacy skills was done by teacher-librarians and subject teachers, (4) the main approaches in teaching information literacy skills involved library orientation and the use of the English Language Period, and (5) respondents cited three challenges, namely, the absence of an enabling environment or an office dedicated to school libraries, an exam-oriented curriculum and shrinking financial resources. Several recommendations are made for both future research and the Ministry of Education in Botswana.

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