



Academic information needs and information seeking behaviour of grade 11 learners of Eastwood Secondary School

BY

SUNITHA RICHARD

Learners number: 215081576

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Supervisor: Ms Monyela M.J.

Declaration

I, Sunitha Richard declare following:

- (i) The research reported in this dissertation, except where otherwise indicated, and is my original work.
- (ii) This dissertation/thesis has not been submitted for any degree or examination at any other university.
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Signature:

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Date: 6 September 2017

Dedication

All praise is due to God, the lord of the worlds. The beneficent, the merciful.

This study is dedicated to my sons Kaylib and Luke Richard and my beloved mom Poolmathie Bhugavathie: for their love, support, patience and understanding. My mom whom has been with me and my children from the beginning of time without you my continuous professional education would not have been possible. I am who I am because of your hard work, thank you.

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Eastwood Library Staff

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Abstract

Information is considered an important resource that is essentially needed in all human endeavours. Information is a message that changes an individual's knowledge by adding to existing knowledge or filling in the gap, hence information significantly enhances the existing knowledge of the user. For a learners to excel academically, it is necessary for the learners to make use of relevant and pertinent information to ensure his or her success. Learners are expected to build their knowledge through engaging with a wide range of resources and the emphasis in assessment learning is on projects and portfolios of work instead of rote memorizing of textbooks and teacher's notes. Learners purposively seek information to satisfy their school work related needs.

Aim: This study examines the academic information needs and information seeking behaviour of grade 11 learners at Eastwood Secondary School.

Methodology: The research employed a quantitative methodology in the form of a survey. The questionnaire was used as a data collection instrument to collect data from 169 grade 11 learners, which produced a response rate of 100%.

Findings: The findings revealed that that the learners were most in need of information that dealt with the subjects of mathematics, physical science and English. The information sources that were most sought after included the Internet, textbooks and study guides. Learners revealed that they preferred printed material followed by online material. English was the most preferred language when searching for information. It was found that academic needs influenced their searching behaviour on the Internet and in books. Learners were found to be most satisfied with the use of the Internet and cell phone when searching for information. The learners were faced with various challenges; the major challenges was the poor staff attitude of the community /public library, the school being without a functioning library and the lack of time to seek needed information.

Recommendations: The study recommends the following: collaboration between community/public library and the school, school library policy, functioning school library,

increase in public funding to schools for information resources, computers with internet connectivity at schools and for a teacher librarian to teach information literacy.

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Background and outline of research problem

Information is considered an important resource that is essential in all human activities. Information as a resource is indispensable in human life therefore considered a basic need. Kaniki (2001:191) defines information as “ideas, facts, and imaginative works of the mind and data of value potentially useful in decision making, question answering and problem solving. It leads to a state of knowing”. The term “information need” is related to the term information “use”. Use implies a response to a need which Dervin (1980) sees as a state that arises for a person suggesting some kind of “gap” that requires filling. Human needs may be psychological, physiological, social and economic. Kempson (1990) states that when there is a need for information some behavioural act is consciously or unconsciously triggered to look for appropriate information in order for the need to be fulfilled. Ikoja-Odongo and Mostert (2006:149) argue that “information can be any stimulus that reduces uncertainty”. This need for information becomes a motive for information seeking. Wilson (1999) states that information needs are deeply set within individuals and in their behaviour or patterns of searching and using information.

Information seeking is a broad term that describes the means individuals look for, evaluate, select and use selected information to fulfil his or her information needs. Ikoja-Odongo and Mostert (2006:148) state that “information seeking is seen as a process in which humans engage to purposefully change their state of knowledge”, and cite Wilson in Case (2002) describing information seeking as the intentional search for information in order to fulfil certain goals. “Studies in information-seeking behaviour stem from concerns surrounding how people use information in their work environments” (Ikoja- Odongo and Mostert, 2006:148). “Information seeking-behaviour arises as a consequence of a need perceived by the information user, who in order to satisfy that need, makes use of formal or informal information sources therefore resulting in either success or failure” (Wilson, 1999:251). Abdoulaye (2002) stated that individuals seek information from different sources and in various formats for performing a variety of responsibilities and tasks.

For learners to excel academically it is necessary for him or her to make use of appropriate information that will secure his or her success. “Children who read once a week have an advantage of about five points in the literacy test over those who do no reading at home;

when reading is done three times a week the advantage is increased to 10 points, and those who read more than three times a week are likely to be about 12 points ahead” (Taylor, 2007). Boon (1992) emphasizes that information is a mighty tool in any problem solving and decision making situation if utilised efficaciously, hence utilisation of information can ameliorate the academic performance of learners. Information is a message that changes the individual’s knowledge by adding to existing knowledge or filling a gap, hence information significantly enhances the existing knowledge of the individual. The youth are recognised as valuable assets as the successors of a country’s development.

Hart (2006) explains that the international literature on educational change over the past twenty years shows a shift away from teaching-centred approaches towards a more constructivist approach which is evident in South Africa. Hart (2006) further elaborates that learners are expected to build their own erudition through engaging with a wide range of resources and the accentuation in the assessment of learning is on projects and portfolios of work rather than on remote memorising from textbooks and teacher’s notes.

The 2001 Revised National Curriculum Statement drawn up by the South African Department of Education in 2002 as cited in Hart (2004:3) lists the following attributes of the learner, as an outcome of the curriculum objectives, which reflect, it is claimed, the values and ethos of the South African constitution. The learner:

- has linguistic skills needed for a multi-lingual and multicultural South Africa;
- is curious and ready for scientific and artistic discovery;
- can adapt to an ever changing environment;
- has a problem-solving frame of mind;
- can gather, analyse, organise, evaluate and communicate information;
- is able to take decisions in a complex technological society; and
- is equipped for the social, political and economic demands of South Africa in our local and global context.

Hart (2004) further elaborates that these attributes are echoed in the categorical outcomes spelled out for each learning area of the incipient curriculum as shown by Zinn (2002) in her research study on information literacy skills: a national perspective. The general aims of the South African curriculum as laid out in the *National Curriculum Statement: curriculum and assessment policy statement grades R – 12* (South Africa: Department of Basic Education, 2011) lists the following aims: to produce learners that are able to:

- identify and solve problems and make decisions using critical and creative thinking;
- work successfully as learners and with others as individuals from a group;
- organise and manage themselves and their activities responsibly and effectively;
- collect, analyse, organise and critically evaluate information;
- communicate effectively using visual, symbolic and/or language skills in various modes;
- utilize science and innovation viably and basically indicating obligation towards the earth and the wellbeing of others; and
- to demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

The manner in which learners collect, analyse, organise and critically evaluate information and search for academic information is extremely important to their overall performance. Learners are given homework, assignments or projects and are required to study, therefore it is expected that they seek information from various and appropriate sources (print material and online sources) to meet their academic information needs. Walton and Donner (2012) emphasize that there are discrepancies between the South African school curriculum, which requires project-predicated learning and the inhibited availability of learning resources in state schools, such as computers, books and libraries. As a result, both schools and learners often rely on public libraries.

Eastwood Secondary School is situated in a suburb in Eastwood, Pietermaritzburg, KwaZulu-Natal. It is the only high school in the area that enrolls learners from the neighbouring wards of Glenwood, Thamboville, Cinderella Park, Albert falls, Mpolweni and Mqonqo. The school is presently without a functioning library and has no media centre. The researcher, as the Eastwood community/public librarian, was approached by the Eastwood Secondary School principal to step in and play an active role in providing a service to the Eastwood Secondary School learners. “In the educational field, learners need information for gaining more knowledge in the respective field and for preparing course assignments and project papers, using a wide variety of information sources and services” (Abdoulaye, 2002:191).

As noted, the researcher is a librarian at the Eastwood Public library which is situated close to Eastwood Secondary School. A preliminary investigation indicated that the school has many dropouts and a high failure rate; there is a non-functioning information centre and no media centre at the school. The majority of the learners come from poor socio-economic

backgrounds and some are living in child headed households, so these learners cannot afford to buy their own books or computers at home. Paton-Ash and Wilmot (2013) state that the Department of Basic Education in 2011 reported that only 21% of schools in South Africa have functioning libraries. Information needs differ from person to person according to their facts or conditions that surround them.

In order to be able to provide an effective service to the learners at Eastwood Secondary School, the study investigates the academic information needs and information seeking behaviour of grade 11 learners of Eastwood Secondary School. Knowing what type of information is needed, how this information is sought, the challenges learners experience when seeking information, the satisfaction arising from the information gathered and the factors that influence how learners seek the information – all fall under the umbrella of a user study. A user study is the means for examining the characteristics of information behaviour of users which in turn may assist in guiding school library and community/public library service provision.

1.2 Research objectives and questions

The broader objective of the study was to investigate the academic information needs and information seeking behaviour of grade 11 learners of Eastwood Secondary School. In order to understand the academic information needs and information seeking behaviour of grade 11 learners, this study was guided by the following research questions:

- What sources of information do grade 11 learners of Eastwood Secondary School need and prefer?
- What are the factors that influence grade 11 learners of Eastwood Secondary School information needs and information seeking behaviour?
- What are the barriers/challenges experienced by the grade 11 learners of Eastwood Secondary School during information seeking?
- How are the information needs of the grade 11 learners of Eastwood Secondary School presently being satisfied?
- What are the academic information needs of grade 11 learners of Eastwood Secondary School?

1.3 Significance of the study

In terms of Waithaka's (2013) description of the discipline of information science, this current study is located in the sub-field of user studies. User studies are research studies in

which members of a specific user community are selected and identified to ascertain their information needs and information seeking behaviour. The grade 11 learners at Eastwood Secondary School need information to perform school tasks (homework, projects, and assignments), for vocational purposes and learners need recreational reading matter. Learners need information to enrich their knowledge. As noted, the school presently has a non-functioning library hence this study was significant in the following ways:

- it will lead to a better understanding of the grade 11 learners' academic information needs and seeking behaviour;
- although user studies often substantiate what we already know, they are consequential in that they provide insights into how libraries can better serve the library users in their particular communities (Tenopir, 2003). The results may therefore help the school library and Eastwood community/public library to improve the information services and collections;
- the current study found that limited information was available on studies about high school learners and information behaviour. Thus this study would also add to the present literature on the subject of the academic information needs and information seeking behaviour of high school learners.

1.4 Broader issues

Hoskins (2006:238) claimed that "the school library is the heart of the school and can play a vital role in helping the education system to achieve its goals". Bolan, Erikson and Markuson as cited in Paton-Ash and Wilmot (2015:1) said "the library needs to be the centre of the school, a dynamic and inviting place that is flexible, multifunctional space in which small or big groups can work, more than one class can be accommodated at the same time, digital media can be used and created, formal teaching can occur and where the librarian can work collaboratively with teachers". "Children who come from print rich environment where they were given the time and encouragement to read did far better at school when compared to children who did not have the same advantage" (Paton-Ash and Wilmot, 2015: 2). The librarian plays an integral role in the knowledge environment which includes understanding how learning takes place and working collaboratively with teachers and learners to create an environment conducive to and provide appropriate resources for learning as well as encouraging the habit of learning (Paton-Ash and Wilmot, 2015).

In South Africa, Zinn (2012) states that since the first large-scale study by Lance in 1993 in Colorado which examined the relationship between the school library and academic achievement, thereafter replica studies have been conducted over no less than 14 states in the

USA, in Ontario, in Canada, in Queensland, in Victoria, and in Australia with the similar constructive outcomes. Zinn (2012:53) further states that these investigations,

“show an unequivocal and positive correlation between school libraries and learners standardized test scores. Using regression analysis to exclude variables such as socio-economic levels, these studies pinpoint the finding that learners, at schools where there is a team of school library personnel headed by a credentialed, fulltime school librarian, a library collection which is large and current, a well-funded library programme, networked online resources, where access to the library is flexible, and where learners frequently receive information literacy instruction, test performances are consistently higher than at schools with no or inadequate library”.

It can thus be noted that the provision of school libraries is a need not a luxury and this study needs to be seen in the content of the important role that the school library can play in the education of learners.

1.5 Delimitations of the study

Du Plooy-Cilliers (2014) states that limitations are any potential problems one may foresee when conducting research; so anything that can possibly threaten the validity of the research can be considered a limitation. The study focused on the grade 11 learners of Eastwood Secondary School, Pietermaritzburg. While a study of information seeking behaviour of all grade 11 learners in all secondary schools in Pietermaritzburg would be advantageous this was not possible for reasons of population size and data collection time. The amount of data from a larger area would have been too large to manage in the time available. The researcher did not have financial resources as she did not receive any financial assistance for travelling and other expenses. Eastwood Secondary School is the only high school in Eastwood, Pietermaritzburg and the researcher works within walking distance of the school hence making the study site easily accessible. The study was also confined to grade 11 learners due to poor pass rates and the large number of learners who have to repeat the grade and the fact that the following year will be the exit or final year at school. They were best suited for the study as the grade 11 learners are in a crucial stage in their education. They would be writing their exit exams in the following year hence the study would assist in establishing their academic information needs and how best to fulfil them. The field work for the study took place during a morning registration, so as not to disrupt the daily school schedule at Eastwood Secondary School.

A major challenge was getting parents to fill out the consent forms as some learners were

living in boarding houses whilst some were in child headed homes however learners were disposed to participate in the study. Another challenge experienced was when some learners refused to fill in their names and surnames on the consent form, as it would no longer be confidential. Learners did fill out their signatures however did not want to reveal their names and surnames.

1.6 Definition of terms and concepts used in the study

This section outlines brief definitions of terms used in this thesis. These terms and concepts are elaborated on in Chapter Two.

1.6.1 Information

Krikelas (1983:6) regards information as being “any stimulus that reduces uncertainty”. Kaniki (2001:191) notes that “data, information and knowledge are often used interchangeably but they are in fact not the same. Information is an awareness of facts or organised data which can lead a person to a state of knowing, while knowledge is the transformed information assimilated by a person and used in appropriate situations”. Bates (2010) states that the term information is utilized in a broader sense as well as in the world of information behaviour research; the term is generally surmised to cover all instances where people interact with their environment in any way that leaves some impression on them, that is, it integrates to or transmutes their state of knowledge.

1.6.2 Information need

Bawden and Robinson (2012) state that there is no universally accepted definition for information need however many authors have made suggestions. Ikoja-Odongo and Mostert (2006:147) opine that “an information need is a requirement that drives people into information seeking”. The term information need is related to the term “use”. Use implies response to a need which Dervin (1980) sees as a state that arises within a person thereby suggesting some kind of gap that requires filling.

1.6.3 Information seeking

Kuhlthau as cited in Ikoga-Odongo and Mostert (2006:148) states that “information seeking as a user’s constructive effort to derive meaning from information in order to extend their state of knowledge on a particular issue or topic therefore finding information as an engagement an individual gets involved in to try and rectify uncertainty in the process of moving through space and time. It is a process and form of problem solving”.

1.6.4 Information behaviour

Ingwersen and Jarvelin (2005: 259) refer to information behaviour “as generation, acquisition, management, use and communication of information, and information seeking”. Wilson (2000:49) used the term information behaviour to “describe those activities a person may engage in when identifying his or her needs for information, searching for such information in any way and using or transferring that information, and subsequently described information behaviour as the ‘totality of human behaviour’ in relation to sources and channel of information including both active and passive information seeking and information use”. Fisher and Julien (2009:317) note that “information behaviour focuses on people’s information needs; particularly how they seek, manage, give and use information, purposefully and/or passively, in their varied roles in their everyday lives”.

1.6.5 Information seeking behaviour

Information seeking behaviour results from the apperception of some need and is defined by Krikelas (1983:6-7) “as any activity of an individual that is undertaken to identify a message that satisfies a perceived need”. Wilson (1999) opines that information seeking behaviour is an information seeking activity a person may engage in when identifying his or her own needs for information, searching for such information in any way and using or transferring the information.

1.6.6 Information sources

“Information sources can be defined as the physical entities in a variety of media providing potential information” (Ingwersen and Javelin 2005:378). There are two types of information sources: informal and formal information sources. Formal sources include print or electronic whilst informal sources include communication with family, friends, educators or the librarian (Wilson, 1999).

1.6.7 Learners

According to the Hornby (2012:1484) a learners is defined as a “person who is studying at university or college, a graduate/postgraduate or a person who is studying at school, especially a secondary/high school”. “Secondary school learners should be seen as individuals who are a certain stage of physical, cognitive and affective development, all of which contribute to their information needs” (Fourie and Kruger, 1995: 230). The grade 11 learners at Eastwood Secondary School are generally between the ages of 16 and 18 years.

Some grade 11 learners fall between the range of 16 and 17 years. Some are 18 years and older due to for example some learners having repeated a grade.

1.6.8 Young adults

The International Federation of Library Associations (1996) defines young adults as a group of individuals in between childhood and adulthood. Generally, the years between twelve and eighteen are frequently used as the age range when catering for young adult library services. Fourie and Kruger (1995: 227) state that adolescence is characterised by the integration of biological, psychological and social growth which is a transitional period during which an individual transcends childhood and is prepared for adult functioning. Thornburg, as cited in Fourie and Kruger (1995: 227), “divides this stage into early, middle and late adolescence further explaining that early adolescence ranges from ages 11 to 13 years, middle adolescence ranges from ages 14 to 16 years and late to adolescents ranges from ages 17 to 18 years whilst young adulthood begins at 18 years of age and lasts until 25 years of age”. Grade 11 learners are adolescents/young adults.

1.7 Preliminary literature review

“An information need is a requirement that drives people into information seeking” (Ikoja-Odongo and Mostert, 2006: 147). The term information need does not denote that people are in desideratum of information as such but that the utilization of information can lead to the gratification of a more fundamental need (Wilson, 1981). One prevalent approach to the study of young adult information behaviour involves the identification of categories of their information needs (Agosto, 2011). Several categories of information needs are common and these includes information relating to: peers, family, other relationships, popular culture, emotional needs, physical health and safety, sexuality, consumer needs, academics, leisure activities and interests, careers and college. In Africa, Markwei and Rasmussen (2015) conducted a study of homeless youth in Ghana and found that information needs related to the basic needs in Maslow’s hierarchy of needs. In South Africa, Stillwel and Bell (2003) conducted a study at Emzaweni high school, Inandi, South Africa and found that the youth had a need for skills in decision making and problem solving.

Dresang as cited in Elliot (2006:1) opines that, “the environment for youth has changed drastically in the digital age, but to date, our paradigm for studying their information seeking behaviour has not. We must seek out ‘with new eyes’ information seeking behaviour of the youth population”. In Europe Shenton and Dixon (2004:36) conducted research on the

development of young people's information seeking behaviour amongst high schoolers in England and found an increase in the use of Internet and information channels associated with school, monographs, parents, newspapers, magazines and libraries as key sources of information for the youth. In South Africa, Fourie (1995) conducted a study of secondary school pupils as curricular information seekers and the role of the public library in Pretoria municipality in the locality of Pretoria-Verwoerdburg, and found that pupils consulted non-fiction works and reference works. The study conducted by Fourie occurred prior to the radical changes in the education system in South Africa. Although the study that was conducted by Shenton and Dixon was associated with the high schoolers it did not provide information on the learner's curriculum information needs or seeking behaviour. Over the past years, no studies have been conducted about grade 11 learner's information needs and information-seeking behaviour. Each researcher above made similar contributions however some differed due to "the context". No research has been done on the information needs and seeking behaviour of the Eastwood Secondary School grade 11 learners therefore it is expected that the findings of this study will help to improve the services of the school library and address the information seeking skills of learners.

1.8 Principal theory

Wilson's 1996 model was chosen to underpin the study. Wilson (1999) explains that his 1996 model was a major revision of that of 1981 and was an elaboration of 'person in context'. The basic framework of the 1981 model persists, in that the person in context which was the information user remains the focus of the information needs. The model shows a need leading to information seeking. It also shows factors that may affect information seeking, grouped under the headings of "activating mechanisms" and "intervening variables". If information needs are to be satisfied the activating mechanism involves the following theories:

- Stress/coping theory explains why some needs result in information seeking and others do not, for example, why a learner may seek or avoid teenage pregnancy related information;
- Risk/reward theory - that is a learner may be motivated to search for information if the risk of not having it seems high, such as when a project is accounted for in the final exam.
- Social learning theory, which includes self-efficacy or a learner's belief in his/her capabilities to search the Internet or not.

The intervening variables may support information use or hinder information seeking behaviour. An example is the learner who is given a project to perform, however his

information seeking is hindered as the school does not have a library. He is thus motivated to use the public library or other sources. Wilson explains how needs prompt people's information seeking behaviour, source preference, and why some pursue a goal more successfully than others. This model seeks to explain the role played by various motivating mechanisms or motivators influencing the 'what', 'how' and extent of a search. Wilson also identifies four types of information seeking behaviour to explain how information is acquired:

- passive attention is the unintentional acquisition of information such as the learner is listening to the radio;
- passive search, when gathering information, the learner unintentionally finds relevant information;
- active search, the learner actively seeks out information;
- ongoing search, the learner continues to search for information to broaden his or her knowledge in lifelong learning.

The information processing and use is part of the necessary "feedback loop" that creates a new cycle of information behaviour.

Clearly, this framework links with the object of the current study which is to investigate the academic information needs and seeking behaviour of grade 11 learners, specifically, what are their information needs and what sources do they prefer, what are the factors that influence information needs and seeking behaviour, how are their information needs presently being satisfied and what barriers are experienced during information seeking?.

1.9 Research methodology and methods

For this study the researcher adopted a survey design. De Leeuw, Hox and Dillman (2008:2) define a "survey as a research strategy in which quantitative information is systematically collected from a relatively large sample taken from a population". The results of the survey can be generalized to the group/s represented by learners in the school as they are likely to have similar characteristics. The positivist paradigm was adopted. Du Plooy-Cilliers (2014:27) claims that a positivist paradigm shows "positivist value objective and value-free research that is not tainted by personal bias". The researcher remained objective and detached in order to draw unbiased conclusions. A quantitative approach was used to collect data in hope of being able to generalize from a sample of learners to the larger population. Quantitative research includes the use of statistical analysis. According to Kaniki (2001) in a study of information needs, the use of quantitative methods has been common. The total population in the current study was 300 grade 11 learners in Eastwood Secondary School.

The sample size for the study was 169 learners. Krejcie and Morgan (1970) indicate that for a population of 300, the sample size could be 169. Simple Random Sampling was used to select 169 participants from the total population of 300. Simple random sampling is an unbiased technique where every unit of the population has an equal chance of being selected. The researcher used the class register and every pupil's name was written on a piece of paper, folded and placed into a bowl. Randomly the researcher selected 169 pupils. In this way every learner had an equal chance of being selected. This study used the questionnaire as an instrument to collect data with closed ended questions and a few open ended questions. According to Du Plooy-Cilliers and Cronje (2014) closed ended questions provide uniformity of response and are easily quantified. Microsoft Excel was utilised to analyse the data. The data was organized and presented as frequency and percentages. The questionnaire was pre-tested with 20 grade 11 learners from Sobantu Secondary School, Pietermaritzburg. The questionnaire was also reviewed by lecturers in the Information Studies Programme at the University of KwaZulu-Natal because of their knowledge and expertise.

1.10 Ethical considerations

According to Bertram and Christiansen (2014) three ethical principles must be taken into consideration and be resolved by the researcher in any research context. These are autonomy, non-maleficence and beneficence. In this study, the researcher ensured that the dignity and well-being of the learners was at all times maintained. The learners as respondents to the questionnaire were made aware of the purpose of the study and were assured that all their responses would be treated anonymously and no individual would be identified. This study complied with all principles relating to access, harm, power and confidentiality. The research was approved by the University of KwaZulu-Natal Ethical Research Committee. The research was also approved by the KwaZulu-Natal Department of Education and the principal of Eastwood Secondary School to be able to conduct the research at the Eastwood Secondary School. Some parents approved learner's participation by signing the consent form and all learners signed consent forms.

1.11 Structure of research study

Chapter one:

This chapter introduces the study by way of background, statement of the problem, research objectives and questions, significance of the study, delimitations of the study, definition of terms and concepts, a preliminary literature review, the principal theory, research methodology and methods and summary of the chapter.

Chapter two

This chapter will focus on the relevant literature review and the theoretical framework.

Literature Review: A selected analysis of prior research on the academic information needs and information seeking behaviour of grade 11 high school learners which was relevant to the investigation.

Theoretical Framework: This study is underpinned by Wilson's 1996 model supported by Kuhlthau's Information Search Process model and will cover literature on information seeking behaviour models.

Chapter three

This chapter presents the research methodology and focuses on the research design, paradigm, process and methods that are used. This study will be guided by a survey design within a positivist paradigm using self-administered questionnaires.

Chapter four: Research results and analysis of results

This chapter will use tables, figures and graphic representations and descriptive statistics to summarise data. Key findings will be based on overall results.

Chapter Five: Discussions of the results in the light of the literature review and the theoretical framework will be presented.

Chapter six: Conclusion and recommendations

A narrative summary of key findings and key findings to be tied to recommendations will be provided. General conclusions will be based on these findings and recommendations.

1.12 Summary

Chapter one served as the thesis introduction and provided the background to the study, in particular the objectives for the study, the research questions that guided the study and the significance of the study. It also outlined the delimitation of the study and broader issues to be investigated and working definitions. It briefly discussed the literature review, theoretical framework, research design and method and included ethical considerations that were adopted. Finally, the chapter presented the structure and content of subsequent chapters of the study. Chapter two presents the literature review which was guided by the research questions

and secondly the theoretical framework that underpins the study.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter presents the theoretical framework that underpins the study and then reviews the relevant literature. The theoretical framework adopted for the study is that of Wilson's 1996 model (Wilson, 1999) which was complemented by Kuhlthau's Information Search Process model (Kuhlthau, 2005). The literature reviewed focuses on a wide range of studies on the information seeking behaviour of secondary school learners and undergraduate learners. Some undergraduate studies (university learners) were also included as they are also considered as young adults. The purpose of this study was to investigate the academic information needs and information seeking behaviour of grade 11 learners of Eastwood Secondary School.

2.2 Theoretical framework

Kaniki (2006:20) states that "refining a research problem involves identifying a theoretical framework upon which to base research". According to Bless, Higson-Smith and Sithole, (2013:14) "theory serves as a basis for the gathering of facts since it specifies the factors to be systematically observed further explaining that this is so because the variables of a theory are logically interrelated, and, if all relevant theory exists, hypotheses or research questions can be deduced based upon particular relationships between these elements". A theoretical framework is a viewpoint that the researcher is using as a systematic guide for the research questions, design, implementation and interpretation of the study.

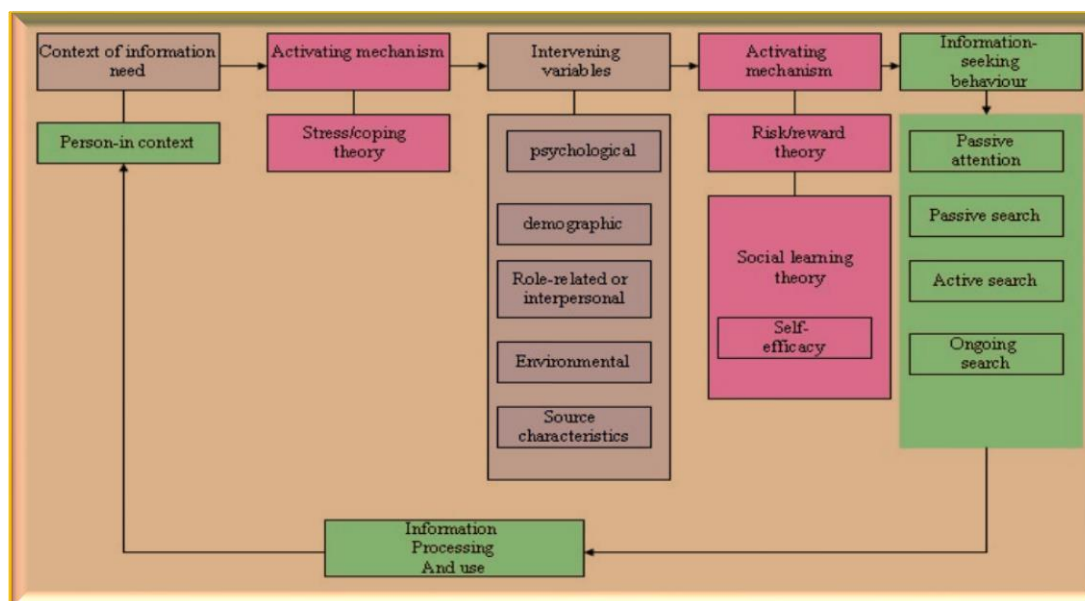
Wilson (1999: 250) describes a model as "a framework for thinking about a problem which may evolve into a statement of the relationships among theoretical propositions. Models are in the form of diagrams that attempt to describe information seeking activity, the causes and consequences of that activity, or the relationships among stages in information seeking behaviour". Bates (2010) states that models are most valuable at the portrayal and expectation phases of understanding a reality or fact in society. Wilson's models have been developed to describe information behaviour. Spink and Cole (2006) state that the information seeking approach, based on a problem solving perspective of human behaviour, has been the dominant approach within the field of information science. This study will

adopt the approach which concentrates on the information seeker's (learners) needs, personal factors such as demographics, and the context of the information-seeking activity, the process of information searching, the sources used and the barriers to information seeking.

This study used Wilson's 1996 model supported by Kuhlthau's Information Search Process model.

2.2.1 Wilson's 1996 model

Figure 2.1: Wilson's 1996 information-seeking behaviour model



Source: Wilson (1999).

Wilson's major revision to his 1981 model appears in his 1996 model. For the 1996 model, Wilson (1999) drew from a variety of other information science fields. The basic framework of the 1981 model persists, in that the person in context remains the focus of the information needs. Barriers are represented by intervening variables and information seeking-behaviour is identified.

Niedzwiedzka (2003) states that the recognition of a need is influenced by the context which can be the person or the role the person plays in work and life or the environment. According to Wilson (1999) human needs can be divided into three contexts which can be the individual or the social context, and the individual's environment which may also affect or inhibit information seeking also referred to by Wilson as barriers. Wilson (1999) states that a user's information need is not a primary need but rather a secondary need, which arises out of needs of a more basic type. In order to meet these needs the user is more likely to meet with different barriers. The basic need generates the information need which may arise from the

role of the person in an environment, a lifestyle or a course of work. The recognition of the need is influenced by the context. An individual's information seeking behaviour is related to one's information need.

In his 1981 model, Wilson identified three categories of basic human needs, and suggested that these drive information seeking behaviour:

- physiological needs, e.g. for food and shelter.
- affective or emotional needs, such as the need for achievement; and
- cognitive needs which arise as an attempt to make sense of the world (Niedzwiedzka, 2003) e.g. to learn a skill.

Information seeking behaviour involves activities that one undertakes to satisfy one's need. Individuals needs prompt people's information seeking behaviour, source preference, and why some pursue a goal more successfully than others. The grade 11 learners are secondary school learners and are individuals who are at a certain stage of physical, cognitive and affective development all of which contribute to their information needs (Fourie and Kruger, 1995:230).

Factors that may affect information seeking are grouped under the headings "activating mechanisms" and "intervening mechanisms" (Figure 1). To understand what motivates information seeking, Wilson turned to psychology (Niedzwiedzka, 2003). In his model, (Figure 1) there are two groups of "activating mechanism" theories namely: stress/coping, risk/reward, social learning theory and self-efficacy which are mechanisms that motivate information behaviour:

- the 'stress/coping theory' could explain why some needs result in information seeking but others don't, for example when some learners may seek or avoid health-related information;
- the risk/reward theory activating mechanism is also activated as the learner is motivated to seek information if the risk of not having it is high, such as deciding on a major project where-by results contribute to the final examinations or why some learners have preferences for using some sources of information rather than others;
- the social learning theory includes the concept of self-efficacy. Another motivator drawn from social learning theory is searching for information sources, the act of finding that one can successfully execute the behaviour required to produce the desired outcomes (Wilson, 1999).

Information needs relate to individual characteristics that are linked with satisfying the physiological, affective and cognitive factors. Wilson (1999) argues that the use of the term “intervening variables” serves to suggest that their impact may be supportive of information use as well as preventive. The ‘intervening variables’ which represent the information seeking barriers are as follows:

- the psychological factors are “outlook on life and system of values, emotional variables, and self- perceptions style of learning, interests, knowledge of the subject, task, information or search system” (Neidzwiedzka, 2003:13);
- demographic factors relate to sex, age, educational and knowledge level of learners when seeking information. Demographic characteristics and socioeconomic status may also affect the methods learners use to find information;
- role related or interpersonal factors relate to interpersonal hindrances that may occur during information seeking. An example is a librarian who may send the learners in the wrong direction when seeking for information due to a miscommunication or learners do not have enough time to carry out research at the library as library hours are limited;
- environmental factors are the actual situations when the information seeking takes place in the learners learning environment that is the economic situation, the availability of resources.
- characteristics of information sources relates to factors such as the availability, currency, credibility of information sources and channels.

All of the above factors are important to information needs and the way learners go about seeking information as well as likely barriers to encounter when using information sources or channels.

The last element of the model is information seeking behaviour and this can take one of several forms: passive attention, passive search, active search and ongoing search.

- Passive attention: is acquiring information unintentionally for example whilst watching television or listening to the radio, absorbing the information without the learners intention to seek information;
- passive search: when an individual is seeking information but may unintentionally find relevant information such as browsing through a book where a learners may come across relevant information;
- active search: when a need, such as a school project, causes the learners

actively/intentionally seeks out information;

- ongoing search: the learners continuously searches to find information to update or increase his/her knowledge.

The handling and utilisation of information by the learners once processed becomes part of the learners knowledge, and is used directly or indirectly, to impact the environment and as an outcome creates new information needs (Niedzwiedzka, 2003), and is an essential part of the feedback loop, if information needs are to be fulfilled. Wilson (1997) states that information processing is as subjective as information need, along these lines it can't be specifically seen as it happens in the brain of the person. Foster, Goldbold and Niedzwiedzka as cited in Robson and Robinson (2013) stated that this model of Wilson's has been criticised because it indicates a logical, sequential process whereas information behaviour in fact may be back and forth, a non-sequential process. Robson and Robinson (2013) notes that Wilson's 1996 model is extra complex than its diagrammatic illustrations suggests, it subsumes the earlier models without showing all the details. Wilson (1999) states that the strength of his models is that they are connected and one can still provide the element that underlies the factors in another thus no one model stands alone, in the utilisation of the model to guide improvement of research ideas. Therefore it is necessary to examine and reflect upon all of the diagrams for the 1981 model as well as the 1996 model.

Wilson's models have been cited by many well-known authors who have contributed to the information science fields, namely Belkin, Bergman, Choo, Dervin, Cole, Ellis, Kuhlthau, Fidel, Ingwersen, Pettigrew, Savolainen, Vakkari and Wersig (Wilson, 2007).

2.2.2 Kuhlthau's Information Search Process model

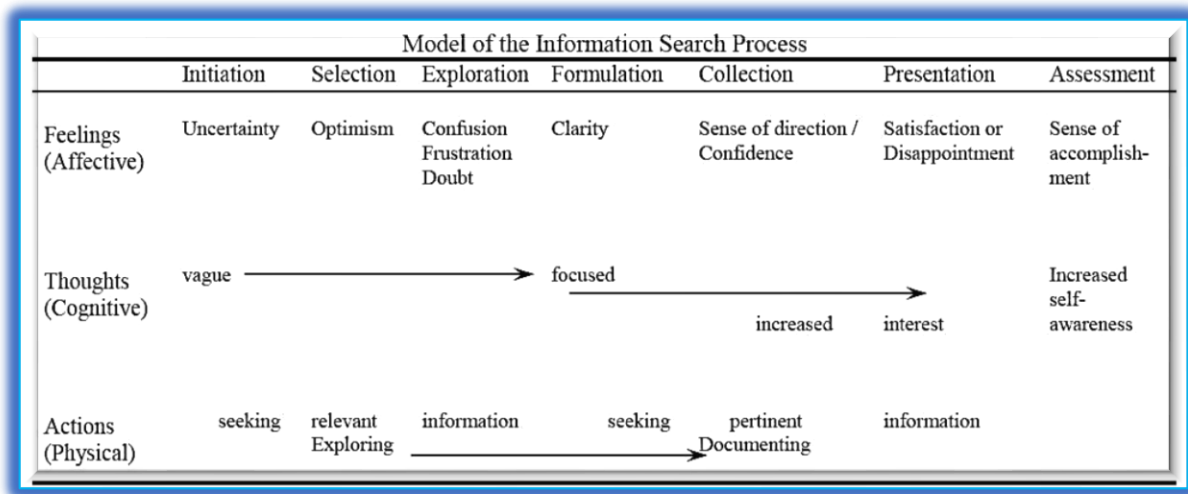


Figure 2.2: Kuhlthau’s Information Search Process model (Kuhlthau, 2005:231)

Kuhlthau (2005) states that the development of the Information Search Process as a conceptual framework were the result of two decades of empirical research that began with a qualitative study of secondary school learners and the development of the first model in 1983. Robson and Robinson (2013) state that this model has since been used in many other studies of children (Hyldegard, 2006, 2009; Kuhlthau et al., 2008). Kuhlthau’s model is based on George Kelly’s personal construct theory, therefore depicts information seeking as a process of construction (Kuhlthau, 2005) which describes common patterns in the user’s experiences in the process of information seeking for a complex task which has a discrete beginning and ending, and that requires construction and learning to be accomplished. Kuhlthau (1993: 348) describes the Information Search Process as a “process of construction, which involves the whole experience of a person’s feelings, as well as thoughts and actions”. Patterns of feelings, thinking and acting are described in seven stages:

- 1) Initiation – the learners becomes aware of an information need and there is an understanding of the need to solve a problem or to satisfy a need in order to accomplish a class project, assignment or homework. Feelings of uncertainty, doubt and apprehension are common at this initial stage. These feelings of uncertainty drive learners to seek information.
- 2) Selection – The learners identifies the topic or problem area to be investigated. The learner’s feelings of uncertainty are changed to a brief sense of optimism and readiness to begin the search for information and select one that is suitable to offer success. The learner’s needs to consider possible topics, and weigh predicted outcomes. At this point encyclopaedias and dictionaries are good sources for defining the topic and getting an understanding of the general subject chosen by the learners

before continuing with the ISP process (Fainburg, 2009).

- 3) Prefocus exploration - This stage involves seeking and investigation of information on the topic. Feelings of confusion, frustration and doubt increase in order to gain personal understanding. The learners needs to investigate information about a general problem to get a personal understanding.
- 4) Focus formulation – At this stage a focused perspective on the topic is formed and the learner’s feelings of uncertainty diminish, as thoughts become clear and understanding increases.
- 5) Collection – Pertinent information on the focused topic is gathered and uncertainty subsides. The learners knows where and how to conduct electronic or manual searches to retrieve relevant information.
- 6) Search closure or presentation – The learners search is completed enabling the learners to make notes, organise and report on his or her findings.
- 7) Assessment- The learners feels a sense of accomplishment and has a sense of increased self-awareness.

Kuhlthau’s model accepts and confirms by empirical research that the search process is an active process, engaging the cognitive processes of the information seeker. Wilson (1999) states that the fundamental proposition is that feelings of uncertainty associated with the need to search for information give rise to feelings of doubt, confusion and frustration. As the search process continues and becomes increasingly successful, then those feelings subside; as relevant information is collected learner’s confidence builds and is associated with feelings of relief, satisfaction and a sense of direction. A research study conducted by Kuhlthau, Heinstom and Todd (2008) revealed that the Information Search Process model is valuable as a research tool, based on actual research with school learners, adopting qualitative and quantitative methods. The researchers concluded that the model continues to be applicable for explaining learner’s information behaviour in information seeking tasks that requires knowledge construction.

2.2.3 Summary of theories

Kuhlthau’s Information Search Process model links the stages of the seeking process to user’s feelings and experiences whilst Wilson’s 1996 model was based on theories, behaviours and variables. Wilson (1999) states that Kuhlthau’s model relates to the active search mode of information seeking behaviour and provides, in effect, an expansion of his information seeking behaviour in Figure 1 above. Kuhlthau’s model was important as it drew attention to learners and how they search, what they do and how they feel about searching for

information. Wilson’s 1996 model helps one to understand information seeking behaviours in general from the time when a need arises until the individual satisfies the need with information. Wilson’s 1996 model is very general which makes it a suitable theory that might assist in explaining aspects of human behaviour as well as various approaches to information seeking behaviour. This study used Wilson’s Information Behaviour model as the main model that was complemented by Kuhlthau’s Information Search Process model as a framework to establish the information needs and information seeking behaviour of Eastwood Secondary School grade 11 learners. A major criterion for the selection of Wilson’s model as the main model was that it depicts and explains a sequence of behaviour with reference to relevant variables.

2.2.4 The mapping of the research questions and variables of the models used in the study

The table below shows how the questions are linked to the models.

Table1: Table of variables

Research questions	Construct	Model
What are the academic information needs of grade 11 learners of Eastwood Secondary School?	Academic information need	Wilson’s 1996 model and Kuhlthau’s Information search process model
What are the factors that influence grade 11 learners of Eastwood Secondary School information needs and information seeking behaviour?	Factors that influence information needs and seeking behaviour	Wilson’s 1996 model
How are the information needs of the grade 11 learners of Eastwood Secondary School being presently satisfied?	Satisfaction of information need	Wilson’s 1996 model
What are the challenges/barriers experienced by the grade 11 learners of Eastwood Secondary School during information seeking?	Information seeking challenges/barriers	Wilson 1996 model and Kuhlthau’s Information search process model
What sources of information do grade 11 learners of Eastwood Secondary School need and	Information sources	Wilson’s 1996 model

2. 3 Literature review

Conducting the literature review is the most important step of the research process because it is the most effective means of becoming acquainted with previous findings and research methodologies used by researchers in relation to a topic. Howard (2014:100) explains that “a literature review involves searching for, reading, analysing, evaluating and summarizing as much as possible of the available literature that relates both directly and indirectly to your research topic”. Bless, Higson-Smith and Sithole (2013:20) state that “the researcher will acquire knowledge of current theory and research in the field therefore necessary variables will be identified and both conceptual and operational definitions will be developed”.

The main purpose of this literature review was to find previous studies conducted on academic information needs and information seeking behaviour of grade 11 or equivalent learners in order to situate the existing research. In locating the relevant information on this topic, different sources were searched. These included print books, and journals; bibliographical tools, abstracts, dissertations and the online catalogue of the University of KwaZulu-Natal library holdings. Electronic resources, such as the Internet, databases such as Education Research Information Centre (ERIC) Indexes, Jstor, Emerald, ProQuest, Wilson Web, Google Scholar, and Google sources were also examined to obtain current information on the topic. After reviewing the resources available about information needs and information seeking behaviour of secondary school learners equivalent to grade 11 learners of Eastwood Secondary School, it was apparent that the literature is limited as regards grade 11 learners’ academic information needs and information seeking behaviour. To date most information seeking behaviour research has focused on young adults or children and undergraduates with limited attention to grade 11 or equivalent learners.

The findings from the literature are summarized under the following headings: information, information needs, information seeking behaviour, factors influencing information seeking behaviour, information sources, electronic media as information sources, information needs satisfaction and challenges/barriers to information seeking.

2.3.1 Information

Bates (2010) explains that when the term ‘information’ is used in the world of information behaviour research it is generally assumed to cover all instances where individuals interact with their environment in such ways that it leaves some impact on the individual which adds to existing knowledge or adjusts one’s knowledge store. The modifications occur where information is added to present knowledge to make new understandings, or permits the individual to deduce or induce new thoughts and ideas. Information use can also have a negative effect which one may ignore or dismiss. At instances one may also find that nothing has changed. Bates (2010) in addition states that likely the biggest amount of all information to be absorbed by individuals is that which is obtained passively. Therefore, when we observe individuals we do so with the motive of understanding information creation, seeking, and use, and do not just study people in general.

“The word ‘information’ is used, in the context of user-studies research to denote a physical entity or phenomenon (as in the case of questions relating to the number of books read in a period of time, the number of journals subscribed to, etc.); the channel of communication through which messages are transferred (as oral versus written information), or the factual data, empirically determined and presented in a document or transmitted orally” (Wilson, 2006: 659).

In school situations educators expect learners to use information for learning purposes. The South African curriculum as laid out by the South African Department of Basic Education (2011) which states that it aims to produce learners that are able to collect, analyse, organise and critically evaluate information. “For a learners to perform well and be competent in the field of study, it is important that the learners make use of relevant and pertinent information that will enhance their performance” (Aderanti and Amuda, 2015:1346). Information plays a critical role in any improvement process especially through improving the overall wellbeing of learners who need information to excel academically. For that reason, it can be noted that the dearth of information can hinder developmental procedures.

Equal Education (2010) reported on the following studies conducted on school libraries and learners performances: a) Baughman conducted a study in Massachusetts where the findings discovered that test scores were higher in schools with library programmes and that the highest achieving learners were learners who attended schools with excellent libraries; and b) research undertaken by Taylor (2008) into literacy among South African learners, found that the benefits of reading are extremely valuable. Children who read once a week had an

advantage of approximately five percent in the literacy test over those who did no reading at home. Children that read three times a week had an advantage of 10%, whilst those who read more than three times a week were likely to be about 12 % ahead. Thus, it can be said that information is an essential human resource and it can improve the academic performance of learners.

2.3.2 Information needs

The need for information among secondary school learners is one of the cognitive needs of childhood which enable them to understand matters, the environment, the society, the family, school and the future (Fourie and Kruger, 1995). To make decisions and aid in reducing the uncertainty, information performs a critical role in learners' day to day lives. Information is a treasured resource that enables learners to fulfil their learning and research needs (Otoide, 2015). Morgan and King (1991) suggest that needs emerge from three kinds of motives: physiological motives, unlearned motives, and social motives. The need for cognition is the need to find order and meaning in the environment, which is also expressed as the need to know, curiosity and the desire to be informed (Wilson, 1997). In the educational context learners are adolescents passing through to adulthood and their development needs are tied up with their curricular needs (Fourie and Kruger, 1995).

Agosto (2011) opines that one common approach to the study of young adult's information behaviour involves identification of their categories of information needs. Several categories of information needs are common across various studies and these include information relating to: peers, family, other relationships, popular culture, emotional needs, physical health and safety, emerging sexuality, consumer needs, academics, leisure activities and interests, careers and college. Several studies have been conducted to examine the information needs of learners. Silvio (2006) conducted a study on the information needs and information seeking behaviour of immigrant southern Sudanese youth in Canada in the city of London, Ontario. The study found that the youth's information needs were focused on education (40%), racism (25%), employment (20%), political information (10%) and health (5%). This study did not address the barriers to seeking information hence it will be difficult to improve on service delivery.

Sugihartati and Harisanty (2014) explored information seeking behaviour of senior high school learners in Surabaya, Indonesia, and found that senior high school learner's information needs were centred on entertainment and further education as well as information

on jobs and research. Otoide (2015) conducted research on the information needs of secondary school learners in selected schools in Abaraka, Nigeria community using a questionnaire to collect data. The study found that the learner's information needs related to academic, health, entertainment, friendship, religious, family care, societal values and future career issues. There were constraints such as inadequate information resources, poor library skills, poor information literacy skills, and lack of awareness of information needs.

Nadzir, Wahab and Othman (2015) conducted a study on the undergraduate's information needs and seeking behaviour at the University of Utara, Malaysia. The study revealed that information about development tools was the most important information needed by learners for finishing projects. Ahmad, Shaifuddin and Mokhtar (2010) investigated the rural youth's perceptions of information sources and rural library services in Malaysia. The study found that rural youth identified a significant need for information on continuing education and information related to computers and the Internet. The education needs were expressed as information about scholarships, study opportunities in colleges and universities as well as information on vocational training. The need for information about computers and the Internet focused on how to develop knowledge and skills on computer and Internet usage.

Fasola and Olabode (2013) examined the information seeking behaviour of learners at Ajayi Crowther University, Oyo, Nigeria. The survey research method was used and a questionnaire administered. The investigation revealed that the majority of learners sought information to meet their academic needs to supplement what was being learnt in class for further studies and exams. Some 66% of respondents sought information for academic needs. Kakai, Ikoja-Odongo and Kigongo-Bukenya (2004) conducted research on the information seeking behaviour of undergraduate learners of Makerere University, Uganda. This study was largely quantitative undertaken with the use of self-administered questionnaires. The findings revealed that the main information demands that led to undergraduate learners seeking information included: coursework and assignments (86%), preparation for examinations and tests (68%), general reading to enhance lecture notes (55%), and class group discussions (44%). Markwei and Rasmussen (2015) investigated the everyday information-seeking behaviour of marginalized urban homeless youth in Ghana, Africa and found that the information needs of homeless youth were related to basic needs as reflected in Maslow's hierarchy of needs. Information needs topics included social activities, creative performance, academics, emotional health, personal finance, relationships, college, health, sexual identity, sexual safety, emotional safety, self-image, job responsibilities and self-actualization.

Hart (2012) undertook a study of everyday information needs of youth in 1998 who visited the KwaZulu-Natal Ethekwini Public Library, South Africa. The results showed that the needs for information were on topics such as: anger, grieving, stigma, health risks, gangs, date rape, sexual identity, cross cultural and interracial relationships, dysfunctional families, family violence, suicide and drugs. Rubushe (2000) conducted a study of 111 Eastern Cape young people and found a widespread ignorance of HIV/Aids, sex, drugs and alcohol. The study also found that youth would like to obtain information on subjects such as careers, school work, rights, family life, child abuse, health, money matters, alcohol, sex, violence, fashion, politics, and rape. Homosexuality, drugs and peer pressure were not highly rated. Bell and Stilwell (2003) investigated the information needs of learners at Emzameni High School, Inandi, South Africa. The learners were found to be in urgent need of skills for decision making, problem solving and an obvious need was for library provision. Fourie (1995) conducted a study of pupils as curricular information seekers and the role of the public library in Pretoria and Verwoerdburg, South Africa in 1992. Information was collected by means of a structured questionnaire. The study found that English, Afrikaans and science subjects accounted for most information requests.

The above research studies show that the information needs of individuals may similar but also differ according to the “context” of the individual’s situation. Information needs can be difficult to quantify, they can however, best be measured through information seeking or information use situations. The concept of ‘information need’ can be used to answer the query why learners seek, gather and use information. This study addresses the academic information needs of grade 11 learners.

2.3.3 Information seeking behaviour

Wilson (2000) gave a short historical backdrop on the field of human information behaviour. The origins of human information seeking behaviour are obtained in work with the users of libraries and in readership studies in general. The Royal Society Scientific Conference in 1948 marked the start of the contemporary study of human information seeking behaviour, although Wilson (2000) states that McDiarmid (1940) mentioned diverse varieties of surveys dating as far back as 1916 which includes Ayres and Mckinnie. The 1916 surveys were accompanied through other studies in the 1920s and 1930s. These studies were about library use and at that time were concerned less about the needs that led people to the library as a source of information and more about the social class make-up of the users. Wilson (2000)

further elaborates that the Royal Society Scientific Conference in 1948 was the true beginning of a concern with understanding how people used information in relation to their work and how they used it in science and technology. The major documented studies between 1948 and 1965 were followed by attempts to study information needs. Wilson (2000) notes that a major study carried out in 1973 on the information needs of ordinary citizens by Warner, et al. was the bench mark for more studies to be carried out. Wilson (2000) reports that since the 1980s there has been a shift towards a “person centred” approach, as opposed to a “system centred” approach. Several investigators are linked with this shift such as Ellis, Dervin, Kuhlthau, and Wilson.

“Disciplines concerned with understanding how people seek and make use of information, the channels they use to get information and factors that inhibit or encourage information use include: the study of personality in psychology, consumer behaviour, innovation, research, health communication studies, and organisational decision-making and information requirements in information system design” (Wilson 1997:551). Anjchun (2011) notes that Wilson might be viewed as the principal researcher to present the idea of information seeking behaviour from a user perspective. It was Wilson’s experience of information seeking in this practical context that guided him to create a series of models of information behaviour

Bates (2010) states that "information behaviour" is presently the desired term used to explain the numerous ways in which human beings engage with information, mainly, the ways in which people seek and utilize information. Information behaviour is also the term used in library and information science to refer to a sub-discipline that engages in a huge variety of research conducted so as to understand the human relationship to information. Godbold (2006: 6) states that “Wilson described information behaviour as those activities a person may engage in when identifying his or her own needs for information, searching for such information in any way using or transferring that information, but subsequently described information behaviour as the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and information use”.

Learners are given homework, assignments or projects and are also required to study therefore a need for academic information arises within the learners prompting the learners to go out and seek for information to solve the information problem or close that gap which lacks information therefore leading to information seeking behaviour.

2.3.4 Factors influencing information seeking behaviour

Robson and Robinson (2013:177) note that in the model of interactive information seeking, retrieval and behavioural process by Jarvelin and Ingwersen, “the important factors affecting information behaviour are perceptions of an individual group, and how these are affected by organisational, cultural and social contexts. A scholar seeking information is influenced not just by existing knowledge, but also by the prevailing beliefs and traditions in the field and by colleagues.”

Robson and Robinson (2013:184-185) opine that

“a number of factors affect information behaviour which have emerged from the models of information behaviour: context: the environment in which an information actor operates. This included location, social influences, culture, activity related and work role related factors, finances and technology. As an umbrella term, context may also be taken to include personal factors: demographics, expertise and psychological factors which are defined as follows: a) demographics: an information actor’s age, sex, ethnicity, socio-economic status etc. b) Expertise: an information actor’s knowledge, education, training and experience relevant to a subject area, task or use of information sources. c) Psychological factors: an information actor’s personality and mental processes including: self- perception and self- efficacy; perceptions of other; perception of the knowledge gap; d) Cognitive dissonance or cognitive avoidance; e) perception of risk; f) ability to cope with stress; and g) thought and feelings while searching for information. An information user’s needs, wants and goals, prompt the user to seek information. This may be internally or externally prompted, recognised or unrecognised, anticipated or unexpected, cognitive or affective. An information provider’s needs, wants and goals, prompt the provider to communicate information. Motivating and inhibiting factors are factors that encourage or discourage information behaviour. Features of the information seeking process are activities, feelings and thoughts experienced by an individual when looking for information”.

Robson and Robinson (2013) states that none of the existing models of information behaviour explicitly includes all of the above factors.

Sugihartati and Harisanty (2014) examined the information seeking behaviour of senior high school learners in Indonesia and found that several factors could strengthen or weaken learners' information seeking. These were: psychological, demographic, role related/interpersonal, environmental and situational factors and the characteristics of the information source. As for independent assignments, a majority of the learners preferred using the Internet. Teacher roles were an important factor influencing the use of school libraries, by recommending learners to use information channels. The most teacher-recommended channel was the Internet. Changthong, Manmart and Vongprasert (2014) explored learning styles in terms of factors affecting the information behaviour of Thai youth. The study found that learners' different learning styles affect their information seeking behaviours; but learning styles affect information behaviour only slightly. Learners with collaborative learning styles divide tasks and work individually, whilst learners with dependent learning styles prefer to ask experts when seeking information.

Otoide (2015) investigated the information needs of secondary school learners in selected schools in Abaraka community. The study revealed that learners seek information for the purposes of learning, research, academic excellence/success, knowledge acquisition, and recreation/entertainment and to broaden horizon. Ogba (2015) explored barriers to information seeking by secondary school learners in Ado-Ekiti, Nigeria. The study found that learners were motivated by the urge to be successful in life and to do well in exams. Teachers also motivated learners to use the library. The schools also have a period apportioned to each class as a library period. Ajiboye and Tella (2007) conducted a study on the university undergraduate learner's information seeking behaviour and its implications for quality in higher education in Africa. Learners were selected from six faculties at the University of Botswana, Gaborone, Botswana. The study found that the level of study was a key factor in information seeking behaviour of higher education institution learners.

The above literature revealed that the major factors that influence learners information seeking was related to their learning needs and teachers also play an integral role in influencing learners.

2.3.5 Information sources

Krikelas (1983) explains that an individual sees a need within the context of his or her environment. Krikelas's 1983 model suggested the steps of information seeking to be the following: (a) understands a need, (b) the search itself, (c) gathering the information, and (d)

using the information which results in either satisfaction or dissatisfaction. The individual recognises a lack of knowledge which requires filling to solve a problem. This problem solving leads the user on a search for information using a variety of information sources. This could be sources in the form of people, information systems, or any other information resources. This may result in success or failure. In the case of failure, the search process is repeated.

“To use information to learn meaningfully, today’s learners are expected to engage, often independently, in environments that contain a variety of sources” (Chung and Neuman, 2007:1504). “Learners need to become lifelong learners, who can not only find but also sort and critically use large amounts of information from print and electronic sources” (Paton-Ash and Wilmot, 2015: 2). Asking questions is an important means through which secondary school learners obtain information from sources such as their parents, teachers, friends and peer groups (Otoide, 2015). “Information sources may be information products or the providers of those products. The information providers are individuals, groups and organisations who produce, supply or communicate information or who facilitate or control access to it. Some examples of information providers are: authors of information, reviewers, publishers, colleague’s experts, opinion leaders, libraries and information centres, computerised information sources etcetera. Information products include: literature, databases, websites, blogs, presentations, educational materials, and television and radio programs” (Robson and Robinson, 2013: 185).

Leckie, Pettigrew and Sylvain (1996) note that the individual’s direction taken in seeking information and the information sources rely on the particular function and associated tasks. The individual’s awareness of information sources also affects the course that information seeking takes. Leckie, Pettigrew and Sylvain (1996) recommended the following characteristics of information sources as vital elements in this regard: familiarity with the prior success in the usage of a source; trustworthiness, or notion that a source will supply accurate information; packaging (format in which the information is supplied and convenience); timeliness; cost; quality (this links accuracy and level of detail); and accessibility (ease of use and proximity- this links to packaging).

Silvio (2006) conducted a study on the information needs and information seeking behaviour of immigrant southern Sudanese youth in Canada in the city of, London, Ontario. The study found that the youth’s chief sources of information include colleagues, friends, neighbours

and relatives, indicating a preference for informal information sources over formal information sources. The literate youth used the local public library in the city for obtaining information. Gunn and Hepburn (2003) explored the seeking of information for school purposes on the Internet. The study was undertaken in four Nova Scotia public schools of twelfth grade learners, exploring their information seeking strategies when they used the Internet. The study revealed that learners used few strategies related to effective Internet searching and learners depended on keyword searching. The search engine of preference was Google (66%). Most learners were ignorant of the advanced features of search engines. Learners without Internet at home in this study were far more likely to describe their ability to locate information on Internet for school purposes as poor or fair than learners who had home Internet access. The study found that learners taught themselves how to search the Internet through trial and error. Learners also relied on friends and classmates more frequently than teachers to teach them how to find information on the Internet for school assignments.

Agosto and Hughes-Hassell (2005) examined the information seeking behaviour of young adults in Philadelphia. The study revealed that young adults turned to resources such as telephones, televisions, radio, computers and then people for needed information. The most frequently consulted people included friends, family, and school employees. The researchers concluded that when learners have information needs, they turn to television, telephones, computers and videos before turning to print resources such as newspapers, books, and magazines. Shenton and Dixon (2004) explored the development of young people's information seeking behaviour at Northumbria University, England and found that high schoolers between the age of thirteen and eighteen years showed an increasing use of the Internet for school assignments but were also critical of the Internet's weaknesses. Those without Internet at home frequently depended on their friends and free access at school or were frequent users of the public library. Reference books offered a good starting point for initial investigation on a topic, newspapers and magazine were also considered as important sources of material on specialist interest. Leaflets and catalogues were used for school purpose whilst television proved to be less important as an information source. The school library was used for curriculum information. People also played a vital role in providing information. Teachers were approached for information on option choices at school and to clarify what they required in the academic work they set. Secondary school learners realised that the information they required for in-depth school work was unlikely to be found in one source so they exploited a multiplicity of materials.

Madden, Ford and Miller (2007) investigated the information resources used by learners at an English secondary school in the United Kingdom and found the Internet to be most important. Learner's choice of information resource was affected by the subject of the homework on which he or she might have been working on. It was also discovered that learners made greater use of sources appropriate to their increasingly specialised needs, with books and teachers being consulted greater than friends and relatives. The range of sources used for different topics showed that maths was exceptionally extensive. Grenina (2011) explored the information seeking and learning habits of elementary school learners in Latvia. The learners were aged 14 to 16 years old, so considered teenagers. The learners revealed that the Internet was the most common and often the only source of information search. Preferable formats when choosing information include the video format followed by text, audio and picture formats. Learners preferred videos and pictures as it is more interesting to watch something instead of reading. Learners opined that print resources were more suitable for learning needs. Learners placed emphasis on the significance of textbooks in acquisition of information about certain subjects (Literature, History, Physics and Chemistry). The use of print format was influenced by school subjects, related tests and teachers. Learners pointed out that for the purpose of reading fiction, they preferred print resources.

Ahmad, Shaifuddin and Mokhtar (2010) examined rural youth's perceptions of information sources and rural library services in Malaysia. The study found that the information channels most frequently used were the Internet (36%), followed by family and friends (31%) and library (11%). The data revealed a preference for the Internet as the most frequently used source of information. The researcher notes that youth are being exposed to the computer during their school time and therefore most of them are technology 'savvy'. Aderanti and Amuda (2015) conducted a study on perceived influence of information sources availability on the academic performance of secondary school learners in a Nigerian Metropolitan city. The study revealed that lesson notes, teachers, and textbooks were most influential on the academic performance of secondary school learners, which is followed by their influence of friends on their academic performance. For learners to be informed and equipped for academic endeavours, necessary information sources need to be made available to them.

Fasola and Olabode (2013) investigated the information seeking behaviour of undergraduates at Ajayi Crowther University, Oyo, Nigeria. The investigation revealed that most of the learners preferred consulting textbooks (55.4%), Internet (29.9%) and newspapers (9.5%) as

information sources as well as using the university library (62.8%). Emmanuel and Jegede (2011) explored information needs and information seeking behaviour and use of information resources by MBA students at the Nigerian University in Western Nigeria. The primary method of data collection was a questionnaire survey. The study revealed that the following information sources were relied upon: lecturers (92.8%), Internet (99.9%), management journals (98.5%), library facilities (96%), textbooks (99.5%) and newspapers (28.9%).

Kakai, Ikoja-Odongo and Kigongo-Bukenya (2004) examined the information seeking behaviour of undergraduate learners of Makerere University, Uganda. The findings revealed that textbooks were the most heavily used sources followed by theses/dissertations, reference material, newspapers and the Internet. Ajiboye and Tella (2007) conducted a study on the university undergraduate learner's information seeking behaviour and its implications for quality in higher education in Africa. Learners were selected from six faculties in the University of Botswana, Gaborone, Botswana. The study found the Internet was the most consulted source by learners (54%) thereafter learners lecture notes (15.6%), the school library (6.4%), textbooks (4.3%), newspapers (4%), electronic resources (3.4%), consulting/photocopying of colleagues notes (2.5%), CD-ROMs and database (2.1%) and print journals (1%). Maloto (2015) explored information behaviour of final year learners of Mzuza University in Malawi. The study showed that 55.6% of learners searched the Internet first, 16% browsed the shelves, 13.6% consulted the recommended books, 13% consulted the course lecturer, 6.2% searched library website, 2.5% consulted a friend, and 1.2% consulted a reference list at the end of an article or a book.

Bell and Stilwell (2003) examined the information needs of learners at Emzameni High School, Inandi, South Africa. The information channels used by the learners to seek information were as follows: teachers (25%), radio and television (20%), friend or neighbour (17%), relative (15%), newspaper (9%), books (5%), ward councillors (4%), church; women or HIV awareness group (3%), own experiences (1%), police (1%) and religious leaders (1%). None of the learners mentioned using a library. Fourie (1995) investigated pupils as curricular information seekers and the role of the public library in Pretoria and Verwoerdburg, South Africa in 1992. The study revealed that learners consulted reference collections, non-fiction and fiction collections and periodical newspapers and pamphlet collections. Encyclopaedias were the most frequently used reference sources accounting for 83.3% of all responses.

The above research revealed that learners used formal and informal sources when locating information. Print sources were sought out when reading or doing school work whilst in the new information age the Internet was also well used due to currency of information and ease of use with some accessing the Internet via cell phones due to convenience. It can be noted that learners' choice of sources varied according to their needs: personal, work related and environmental context.

2.3.5.1 Electronic media

Michael, Makarfi, Goshie and Jimada (2014) emphasize that technological advancements have unfolded new avenues for the creation, storage, access, distribution and presentation of information. Electronic information resources provide the following benefits consisting of: ease of use, the potential to search multiple files at the same time, potential to save, print and repeat searches, frequent updating, the potential to get access from outside the library and the access speed as compared to print material. In the new information society use of the Internet to support learning and teaching is growing rapidly, as more educational establishments are recognizing the remarkable potential that it offers.

The online digital environment presents an infinite and powerful arena for youth to attain information to take part in global learning communities (Dresang 1999). New technology, like the Internet and cell phones, play a vital role in adolescent's lives today, globally. Formal education, via computers or mobile phones, is recognised globally to have huge potential to extend learning opportunities, permitting easier access to information directly relevant to the curriculum and also in helping give learners a voice to explore their place in the world (Van der Merwe, 2013).

Some young adults particularly in South Africa have rarely been touched by new technology. This could be ascribed to a lack of interest, understanding or opportunity (Van der Merwe, 2013). Chae and Kim as cited in Chigona, Kamkwenda and Manjoo (2008) describes mobile Internet as a method of wireless access to the digitized contents of the Internet through mobile phones. The International Telecommunication Union said that many people see mobile Internet as a way of providing for individuals who cannot manage to pay for the traditional means of accessing the Internet Chigona, Kamkwenda and Manjoo (2008). The utilisation of mobile phones by young adults has grown across sub-Saharan Africa over the last decade in both urban and rural contexts (Porter et al., 2015). Personal mobile phone use can promote personal development and assist in adaptation to social and technological

change. Both teachers and learners alike who have Internet access could benefit from direct advice regarding potentially valuable sites, especially where this can be related to the national curriculum, as with South Africa's Mo Math and M4Girls projects (Van der Merwe, 2013).

Porter et al. (2012) emphasize that the growing literature shows how an uptake in mobile phones in Africa is producing economic growth and offers many potential developmental opportunities in numerous contexts from job search, trade networks, mobile banking and remittance oversight to health management, e-learning, community development and election tracking, all having capacity implications for young lives. Van der Merwe (2013) states that whilst South Africa is recognised as part of the technologically advanced western First World, however it is still part of the developing Third World and regularly referred to as digitally divided. Landa, Conradie and Roberts as cited in Van der Merwe (2013) state that the term 'digital divide' is used to refer to differences in access to the different types of digital media such as computers and especially the Internet and cell phones. Access to computers and the Internet, and the use of cell phones are not evenly spread throughout South Africa as there is a significant urban-rural digital divide in the country regarding accessing and using technologies. The Internet is not a common medium in low income households in South Africa. Hardware is expensive due to import duties and lack of domestic manufacturing whilst the cell phone coverage is good but data be it via terrestrial DSL or wireless GPRS/3G connections, remains relatively expensive. In 2010, South Africa had over 100% mobile penetration that is 50 million subscriptions but only 743 000 fixed broadband subscribers. The South African Advertising Research Foundation as cited in Van der Merwe (2013) explains that race features prominently in all types of digital divide. Coloured and Black South Africans have significant lower computer access, Internet access and Internet use than their white and Indian counterparts.

Van der Merwe (2013) further states that the Internet has an impact on the matric and tertiary education degrees, half of the youth who have a post-matric education use the Internet. The percentage drops appreciably through the other education levels (matric, secondary education, primary education/none), until almost not one of the people who only had primary education said they were capable of using the Internet. Meyers, and Eisenberg (2008) note that earlier research has investigated information seeking behaviour at secondary schools and how learners seek and use information for classroom assignments (Fidel et al. 1999; Heinström 2006; Herring, 2006; Julien, 1999; Kuhlthau, 1991; Williamson et al., 2007). These studies revealed that learners faced challenges in resolving their academic information

needs. These challenges were grouped into two categories: (a) challenges related to information system designs, specifically information retrieval tools; and (b) challenges related to information seeker's skills and attitudes, including cognitive, meta cognitive and affective capacities for addressing problems. Category (a) documented learners struggle with search tools, including web-based search engines which do not support learners search behaviours and knowledge structures. Category (b) documented learner's ability to manage, compose and evaluate information sources for quality and relevance when searching for information.

Changthong, Manmart and Vongprasert (2014) explored learning styles and factors affecting the information behaviour of Thai youth. The study found that learners' main information resource was the Internet. The reason was that the learners felt confident with the Internet and depended on it to contain beneficial information that they needed. Most of the learners had computers and Internet access at home and at school while the Internet café and computer systems made Internet access available.

Nadzir, Wahab and Othman (2015) conducted research on "undergraduates' information needs and seeking behaviour in a higher learning institute in Malaysia". A survey was conducted using self-administered questionnaires. The findings of the study concluded that a majority of the learners preferred to use Google as the main search engine (19%) followed by Yahoo (10%). The most challenging situation for the learners when searching for information for a research project was when information sources were not available. Some 95% of learners favoured the use electronic information sources because of their ease of use and availability of comprehensive current information. Waithaka (2013) explored "Internet use among university learners at the University of Nairobi" applying a quantitative case study method. A questionnaire based survey was applied with face to face interviews. The research found that learners levels of knowledge about the Internet services provided at the university were extensive. It was discovered that 24.6% of learners accessed the Internet via their cell phones. The learners had sound basic computer skills and Internet skills, however fell short with advanced skills and this challenge affected their use of the Internet resources. It was recommended that formal Internet training take place. The Internet was used for different functions such as to study, teach, research, communicate, and social interaction.

Porter, et al. (2015) investigated "young people's mobile phone use and its impacts across Ghana, Malawi and South Africa". Field research was undertaken in 24 sites which included

urban and rural areas since 2012. The age focus was nine to twenty five year olds. The study found that reactions to general inquiries in the survey about the positive effect of cell phones on scholastic exercises looked moderately good in South Africa and to a lesser degree in Ghana and Malawi. The study additionally found that learners had utilised their cell phones to retrieve information related to school work in the previous week. Positive reactions in the use of cell phones were low in Ghana and Malawi with 16.3% and 11.6%; 49.7% were reported to use cell phones in South Africa. Greater part of the reactions demonstrated was that information was found through Google.

Porter, et al. (2012) investigated “youth mobility and mobile phones in three countries in Africa. The study addressed young adults aged nine to eighteen years”. The study found that mobile phone usage in Ghana was 16.7%, in Malawi 9.3% and in South Africa 55.8%. The predominant factor for utilising cell phones in all three countries was for social/chatting to family and friends while other factors accounted for were emergencies, playing games and school work related matters. Chigona, Kamkwenda and Manjoo (2008) analysed “uses and gratification of mobile Internet among South African learners”. The investigation demonstrated that mobility, convenience and immediacy were primary inspirations for the utilisation of mobile Internet. The most acknowledged utilisation of mobile Internet for educational purposes was downloading lecture notes and other scholastic information. The utilisation and gratification for learners of the traditional Internet related to searching, surfing, education, research and chatting whilst with the mobile Internet was related to financial, escape, mobility, dependency, immediacy and information.

Van der Merwe’s (2013) research on ‘South Africa’s adolescents in a wired world’ highlights that secondary school level presents a good opportunity to help learners grasp a range of high technological competencies or expand digital media literacy in order to expand the habits of inquiry and skills of expression they need to be critical thinkers, effective communicators and active citizens in a global society. Teaching digital media literacy is one way of ensuring all learners, not just the more privileged, are able to use new media meaningfully, this would also assist in closing the digital divide. The Internet has big potential to have a positive effect on South Africa in lots of different ways. Despite the fact not many adolescents currently have Internet access, this could change over the years increasingly computers and Internet connections are introduced into most schools in South Africa. Van der Merwe (2013) elaborates that as majority of South African adolescents attend school, the impact of the Internet can become tremendous if every school has access to it.

Van der Merwe (2013) reported that the Film and Publications Board conducted exploratory research on new media use among adolescents aged 13 to 18 years. The study showed that 85% of participants had access to the Internet in 2009 and it was discovered that the most popular activities on the Internet were accessing information (68.7%), downloading content like music and ringtones (50.2%), and acquiring information for school assignments (39.8%). According to Van der Merwe (2013), South Africa remains a country with a huge gap between the rich and the poor therefore the Internet is largely the domain of those who can afford it. However there is an increase in movement towards getting people online who cannot afford it. For example the Department of Arts and Culture has installed Internet cafés throughout public/community libraries in South Africa. Community members can use the Internet for 45 minutes without cost. These libraries additionally offer free computer training courses.

Donner and Walton (2013) undertook a study called “Your phone has Internet: why are you at a library pc?” The study focused on teenage users of public Internet access venues in low-income neighbourhoods of Cape Town. The study revealed that 90% of teens reported owning a cell phone and cell phones support elements like social networking, media sharing and chatting. Some 86% of learners reported accessing the Internet via cell phones. Libraries were utilised by teenagers to get the most current information that they could not obtain from a book, and stating that the Internet at the public library is free. Cell phones played a central role in participation in network based peer interaction. Kreutzer (2008) explored a pilot study investigating cell phone usage in a South African township school. The study employed a qualitative methodology using a self-assessment questionnaire that was distributed to two grade 11 classes at a high school located in Samora Machel, a black township east of Cape Town. The study discovered that 75% of the learners owned a cell phone whilst 25% used a cell phone but did not own one. The study did not reveal if a learners sought information from a cell phone for school purposes but it was reported that 91% of use was for communication.

It is evident from past research that South African learners have embraced technology and are seeking information for personal and academic needs. My personal opinion and observation as a librarian is that books are very important for assignments, projects and school related work, the Internet adds value as a major resource when learners cannot find current information in books.

2.3.6 Information needs satisfaction

Locke as cited in Bergersen (1997:7) defined satisfaction as "an emotional response or affect toward an object" whilst Bailey and Pearson (1983: 531) defined satisfaction as "the sum of feelings or attitudes, both positive and negative affecting the specific situation". Ehikhamenor as cited in Emmanuel and Jegede (2011) noted that an information need could be alluded to as the degree to which information is obtained to solve problems, in addition the degree of expressed satisfaction or dissatisfaction with the information found. Porat as cited in Angchun (2011:14) noted that "research on user satisfaction with library services and resources typically contains two components: (a) satisfaction with system and services, such as the degree of user friendliness and speed of retrieval, and (b) satisfaction with the content and quality of information obtained". Applegate as cited in Kuruppu (1999: 60-61) stated that in Wilson's three models of user satisfaction,

"the performance of the information 'product' in terms of relevance, recall and precision, is believed to lead to 'use', which is a measure of 'material satisfaction'. Material satisfaction is seen to lead to 'emotional satisfaction', which in turn leads to either repeated use and/or complaint about lack of satisfaction. The most complex of the three models is the one in which emotional satisfaction depends upon material satisfaction, the 'product setting' and 'disconfirmation' is the extent to which user's expectations are confirmed or not confirmed".

Prabha et al. (2007) conducted a research study called "What is enough? Satisficing information needs of undergraduate and graduate learners in Ohio, America". A quantitative and qualitative study was carried out. The findings revealed that once learners exhausted their search and collected the required amount of information they stopped their search. Some learners reported that time constraints of assignments were another factor that made them stop searching. It was also found that for quick searches, a number of learners turned to the Internet for quick answers. They valued the Internet for being able to find information quickly and conveniently. Human sources of information for undergraduates were parents or friends. Saikia and Gohain (2013) examined use and user's satisfaction with library resources and services and the information seeking behaviour of the learners and research scholars of Tezpur University, India. The study used a questionnaire for data collection. The study found that 39.6% of respondents were extremely satisfied with online journals, 34.74% of respondents with the collection of books, 35.22% were satisfied with newspaper or

magazines, 30.82% satisfied with reference sources and 24.53% were satisfied with compact discs.

In the current study satisfaction was investigated in terms of how the grade 11 learner's needs were being fulfilled in terms of services and sources of information.

2.3.7 Challenges/barriers of information seeking

Chen and Hernon (1982) state that individuals as information seekers move through their environment toward those information services/providers that they believe are most helpful in meeting their needs. The progress made by individuals in using these information providers/services such as libraries, is in large measure a function of the presence or absence of restrictions or limitations on access that make certain information services unavailable. The factors that comprise the information seeking environment of individuals is the individual information seeker; individual's information needs; available information services/providers; and possible resolution to the individual's information need.

“Dervin has classified barriers as follows: (a) societal barriers (are those that hinder the availability of resources necessary to satisfy needs); (b) institutional barriers (viewed as the unwillingness of a service provider to deliver information to a certain type of seeker); (c) physical barriers (impose themselves when the individual is unable to make contact with the service provider due to physical concerns such as absence of handicapped pathway); and (d) intellectual barriers (are present when individuals lack necessary training and expertise to acquire information)” (Chen and Hernon, 1982:19).

Wilson's 1981 model highlights three sets of “barriers” to information seeking behaviour. These are identified with the circumstance in which the individual discovers him or herself: personal barriers, social or role-related barriers and environmental barriers. In Wilson's 1996 model, an intervening variable as a barrier may go about obstructing/preventing the acquisition of information and its use. Intervening variables are characterised as demographic barriers, social/interpersonal variables, environmental variables, economic variables and source characteristics.

Agosto (2011:2) opines that

“other studies identified barriers that prevent young adults from successful information seeking and use. Common barriers identified across studies include:

lack of source knowledge, background and contextual knowledge deficiencies, negative perceptions of libraries and librarians, information avoidance, embarrassment and social unease, use restrictions by parents/guardians, schools, or libraries, access issues, and information overload”.

Silvio (2006) examined “the information needs and information seeking behaviour of immigrant southern Sudanese youth in Canada in the city of London, Ontario”. The outcome demonstrated that insufficient awareness about where to find information on education and apprenticeship training was the most widely recognised challenge of the southern Sudanese youth in their endeavour to seek information.

Shenton (2008) conducted a study on the information-seeking problems of English high schoolers responding to academic information needs in the United Kingdom. The methodology used to collect data was by means of an online questionnaire. The study discovered that pupils were unable to retrieve the needed information. All the problems identified by the pupils involved information-seeking in which the Web was being used. The findings revealed that learners were not aware of the abundance of resources available to them on the Internet, hence only one search engine, Google was used. Some learners did not understand the difference between Google and the Internet. Meyer, Nathan and Saxton’s (2006) study was titled “Barriers to information seeking in school libraries: conflicts in perception and practice in Washington, America”. The study discovered that challenges to learners information seeking incorporated an absence of cooperation, learner’s absence of self-governance, constrained access to resources, devaluation of interpersonal sharing for academic purposes, lack of effective support and inability to approve a learner’s previous experience in seeking information.

Otoide (2015) investigated the information needs of secondary school learners in selected schools in Abraka community, Nigeria. The study revealed that barriers to information needs were inadequate information resources, poor library skills, poor information literacy skills, lack of awareness of information needs and unfamiliarity with the school library. Changthong, Manmart and Vongprasert (2014) examined the effect of learning styles on the information behaviour of Thai youth. The study found that learners had challenges in accessing the library were due to restricted access to the library during working hours and the requirement for a membership card and finger scans. Nadzir, Wahab and Othman (2015) conducted research on the undergraduate’s needs and seeking behaviour at the University of Utara, Malaysia. The study revealed that learners faced challenges when searching for

information for research projects, when searching for the information sources, they were not available at the University library. Another challenge was the learner's limited knowledge on how to utilise available information sources.

Kakai, Ikoja-Odongo and Kigongo–Bukenya (2004) explored the information seeking behaviour of undergraduate learners at Makerere University, Uganda. The findings revealed the subsequent information seeking challenges encountered by learners were that closed access systems hinder use of textbooks outside the library, there were not many books for all the learners to use, the circulation procedures were time consuming, short loan periods, outdated information resources, scarcity of computers, the restricted time to use the Internet and lack of directions on how to use the catalogue. A critical barrier was found that learners' were computer illiterate and had poor catalogue searching skills. Ogba (2015) investigated the barriers to information seeking by secondary school learners in Ado-Ekiti, Nigeria. The investigation found that learners were met with diverse challenges ranging from restrictions of access to the library and library resources, absence of a permanent teacher librarian addition to noise making and unmannerly attitudes of library users, untidiness of the library, out dated materials inside the library and sloppiness of library materials. In addition there were no computers or internet resources in the school.

Emmanuel and Jegede (2011) explored the information needs and information seeking behaviour and use of information resources of Mba Learners at the Nigerian University. The investigation revealed that 73.5% of learners had challenges in accessing both print and online resources in relation to academic work. 58.2% of learners stated lack of time and 54.1% of learners confirmed inadequate current information. 90% of learners revealed dissatisfaction with the library service. Fasola and Olabode (2013) conducted a study on the information seeking behaviour of learners at Ajayi Crowther University, Oyo, Nigeria. The study revealed that the challenges faced by 31.6% of learners were unavailability of Internet facility, 15.6% of learners said the non-supportive behaviour of library staff, 9.7% of learners said lack of awareness of availability of resources, 8.2% of learners said unavailability of materials, 27.1% of learners said information scattered in too many sources and 7.8% of learners said outdated information materials.

In South Africa, Adams (2010) conducted research into the uncertainty in information seeking behaviour in the virtual playground of Generation Y learners at Stellenbosch University. This study was based on Kuhlthau's Information Search Process model (2004).

Uncertainty motivates human judgement in information seeking. The study indicated that the participants experienced uncertainty during their individual information seeking and in writing academic assignment activities. Uncertainty was apparent in the first three stages of the Information Search Process, feelings of doubt and frustration were more apparent during the Exploration stage. Most participants had problems in searching for information and confirmed the view in the research literature about Generation Y learners lacking critical thinking skills. Adams (2010) further concluded that uncertainty is not threatening to information seeking but is rather the complexity factor present in information seeking that causes the feelings of anxiety and threat.

The literature reviewed has shown that there was a multiplicity of barriers that learners experienced depending on the situations that they were faced with. This study investigates the challenges/barriers that grade 11 learners are faced with when searching for academic information needs at Eastwood Secondary School.

2.4 Summary

The literature review focused on research findings reported in the literature on information, information needs, information sources, barriers/challenges to information seeking, information needs satisfaction, factors influencing information seeking behaviour and information seeking behaviour of high school learners, undergraduates and youth. There was considerable literature on the information seeking behaviour of undergraduate learners and only a few studies on secondary school learners which have been reviewed by the researcher. The studies cited above do indicate that considerable work has been done on information seeking behaviour. Chapter three focuses on the research process and procedures that were utilised to conduct the research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used to guide this study. Babbie and Mouton (2001:56) state that “research methodology focuses on the research process and the

kind of tools and procedure to be used, as well as individual steps in the research process and the most objective procedures to be employed”. Fouche and Delport (2005:71) state that “a research methodology is a term that simply means the way in which to solve problems that is the research process”.

This research study was undertaken to investigate the information needs and information seeking behaviour of Eastwood Secondary School grade 11 learners. Thus this chapter presents details of the following: research paradigm, research design, research approach, population and sample, data collection instrument, analysis of data, validity and reliability, pre-test and ethical considerations. These items are discussed below giving insight into the methodology of the study.

3.2 Research paradigm

Du Plooy-Cilliers (2014 a) explains that the historian Thomas Kuhn was responsible for coining the term ‘paradigm’. Bryman as cited in Du Plooy-Cilliers (2014a:19) states that “paradigm describes a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, and how results should be interpreted”. Bertram and Christiansen (2014:22) explain that “a research paradigm represents a particular worldview that defines, for the researcher who holds this view, what is acceptable to research and how this should be done. Working within a particular paradigm determines choices such as:

- what kind of questions are supposed to be asked,
- what can be observed and investigated,
- how to collect data and
- how to interpret the findings”.

Blanche and Durrheim (2006) state that there are three paradigms, positivist, interpretive and constructionist. This study will adopt the positivist paradigm. The definition of positivism is a “view of science which emphasizes that scientific knowledge comes from observing things as they are (‘phenomenalism’), and that theory is important only in classifying facts and making them more intelligible (‘nominalism’). Positivist social science concerns itself only with facts, not opinions or beliefs or wishful thinking (‘it is value free’), and it claims to model its procedures on the example of the natural sciences” (Buckingham and Saunders 2004: 294). “Positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond” (Bryman, 2004:11). “The

positivist paradigm researchers believe there is an external reality, there are patterns and a sense of order in the world that can be discovered” (Bertram and Christiansen, 2014:22). “Belief in a tangible social reality exists independently of those creating a reality. A social reality can exist just as a natural reality exists (water remains water whether someone is swimming in it or not)” (Pickard, 2007:7). “Positivist research values honesty and personal integrity more than anything else, as these values have the function of creating trust. To further objectivity and precision, positivist favour recoding ‘facts’ in terms of quantities, or numbers that can be processed by using statistical techniques therefore quantitative research is seen as a research strategy” (Du Plooy-Cilliers, 2014a:24).

The researcher systematically collected information from the grade 11 learners at Eastwood Secondary School using questionnaires, therefore data collected were based on facts not observations. The positivist paradigm was selected as information was acquired through the gathering of facts objectively through a questionnaire

3.3 Research design

Research design is defined as “a strategy for collecting and analysing data. It must be appropriate for answering questions which the project is seeking to address, and it must take into account the practical constraints which the project is likely to encounter” (Buckingham and Saunders, 2004: 294). Bless, Higson-Smith and Sithole (2013:40) explain that “the research design is the plan of how to proceed in determining the nature of the relationship between variables”. Bryman (2004) states that a research design reflects choices about the significance given to a scope of dimensions of the research process that is causality and generalization.

In survey studies, “the meaning of ‘survey’ means to inspect something carefully, however in the research context survey refers to the data collection tool that consist of a series of questions designed to gather information about a relatively large group of people” (Du Plooy-Cilliers and Cronje, 2014:148). Surveys gather data from a large number of participants at a particular moment in time to describe the nature of existing conditions. Surveys gather data as a ‘once off’ and are economical (Bertram and Christiansen, 2014). The motivation behind the overview was addressing people who were representative of the research population. The survey was a research technique used to structure the gathering and investigation of standardised information from the research population which may include utilising a represented sample of the population. The discoveries might be summed up to the whole

population. The survey method gathers quantitative information, and qualitative information if there are open-ended questions yet more often than not is overwhelmingly quantitative. The survey method can be used with the post positivist paradigm and as well as the interpretivist paradigm (Bertram and Christiansen, 2014; Pickard, 2007).

There are two types of surveys namely descriptive surveys and explanatory surveys. Explanatory surveys apply inferential statistical techniques to numerical data to establish relationships between variables. The descriptive survey sets out to describe a situation and look for patterns within the sample group that can be generalized to the defined population of the research study. The data gathered is a combination of measurements, counts and brief narratives which are then analysed using descriptive statistics (Pickard, 2007).

For the purposes of this research the descriptive survey method within a positivist paradigm was considered the most suitable method of research design. This method allowed the researcher to visit Eastwood Secondary School on a once off basis and gather information on the academic information needs and information seeking behaviour of grade 11 learners by using a questionnaire. This was the most economical method to use. The survey method also allowed for questionnaires to be used with a representative population sample and for the findings to be generalized to the entire population.

Survey research has been adopted by a number of researchers. Fasola and Olabode (2013) used the survey research method to explore the information seeking behaviour of learners of Ajayi Crowther University in Nigeria. A questionnaire was used to administer to learners using simple random sampling technique. Baro, Onyenania and Osahen (2010) used the descriptive survey method to establish the information needs, sources and the information searching strategies of undergraduate learners in humanities in three universities in Nigeria. Fourie and Kruger (1995) used the cross sectional survey method on pupils as curricular information seekers and the role of the public library in the Pretoria municipal areas. Self-administered questionnaires were used to collect data. In the study of information needs the use of quantitative methods has been common (Kaniki, 2001).

3.4 Research approach

The research approach is how the researcher goes about collecting information for research purposes which can be qualitative, quantitative or a mixed method research approach. Qualitative researchers want to study human actions from the insider's perspective Babbie

and Mouton (2001). The qualitative research approach is defined by Pickard (2007: 297) as “an empirical research in which the researcher explores relationships using textual, descriptive narrative rather than numerical data and the results are often transferable”. The qualitative research approach explores the processes that underlie human behaviour by using techniques such as interviews, observations and case studies. In qualitative research, the natural setting is the immediate source of information and the researcher is the key instrument and information is gathered in the form of words or pictures as opposed to numbers (Lawal , 2009). “The researcher collects information in the form of written or spoken language or in the form of observations that are recorded in language, and analyses the data by identifying categorising themes” Durrheim (2006:47). Qualitative researcher look to be open and subjective to the setting and their plans develop as they learn more about the subject and the settings (Lawal, 2009).

The “quantitative research approach usually emphasises quantification in the collection and analysis of data. As a research strategy, it is deductivist and objectivist and incorporates a natural science model of the research process that is influenced by positivism however quantitative researchers don’t necessarily subscribe to all three of these features” (Bryman, 2004: 542). “In quantitative research approach the research tends to follow what natural scientists do: that is collect data according to a very specific set of steps, in so doing attempt to remain as objective and neutral as possible, relies upon measurement, counting, and the use of various scales to obtain information about the world” (Bless, Higson-Smith and Sithole, 2013:16). “Quantitative methods begin with a series of predetermined categories usually embodied in standardised quantitative measures, and use this data to make broad and generalizable comparisons” (Durrheim, 2006:47).

“Mixed method research approach combines methods associated with both quantitative and qualitative research and the aim is for the quantitative and qualitative methods to supplement each other” (Du Plooy-Cilliers, 2014a:33). The researcher has to discuss the process of quantitative and qualitative research. The advantage of the mixed method is to strengthen credibility of the research.

This research was positivistic in nature hence adopted a quantitative research approach and utilised a questionnaire as the most appropriate instrument for the gathering of information. This was done as the research was conducted in the school setting. In order not to disrupt the

learning setting this was the most suitable approach. The questionnaire required the least amount of time to complete.

3.5 Population

Bless, Higson-Smith and Sithole (2013: 394) define “the population as the complete set of events, people or things to which the research findings are to be applied”. “The research term for a population is the entire community under investigation” (Pickard, 2007:296). In quantitative research, it is important to draw a representative sample that offers the qualities of the bigger population so their response to the research should be closely related to what the response would have been if the whole population were incorporated (Pascoe, 2014). The population was the grade 11 learners of Eastwood High School, in Eastwood, Pietermaritzburg which consisted of 300 learners.

The reason for choosing Eastwood Secondary School learners was that to the researcher’s knowledge, no previous studies have been conducted at this school. This encouraged the researcher to investigate the grade 11 learners’ academic information needs and seeking behaviour. The researcher also chose Eastwood Secondary School because she works at the Eastwood public/community library and was aware that the school does not have a functioning library. To be of assistance to the learners it was vital to understand what their academic information needs and seeking behaviour are. The grade 11 learners were selected for the study as they have passed through most of the grades, are aware of the curriculum needs and are in a critical year, that is, they will be moving to grade 12 the exit level of schooling so they were the obvious choice for the study.

3.6 Sampling

“Sampling is the process of selecting observations” (Babbie and Mouton, 2001: 164). “Sampling is a technical accounting device to rationalise the collection of information, to choose an appropriate way in which to restrict the set of objects, persons or events from which the actual information is drawn” (Bless, Higson- Smith and Sithole, 2013:161). “Sampling involves making decisions about which people, settings, events or behaviours to include in the study. Sampling is used to get a representative sample or a small population from a much larger population so that the researcher can study the smaller population and produce accurate generalisations about the larger population” (Bertram and Christiansen, 2014:59).

3.6.1 Sampling frame

The sampling frame is the people that the researcher wishes to investigate; “The listings of all units in the population from which a sample is selected” (Bryman, 2004:543). The sampling frame was 300 learners in grade 11 of Eastwood Secondary School.

3.6.2 Sample Size

The sample size needs to be large enough to result in accurate estimation of the population. Powell and Connaway (2004) state that the general guideline for the size of the sample is, the bigger the better. This study used the table by Krejcie and Morgan (1970) for determining sample size from a given population. Their table shows that a population of 300 is represented by a sample of 169. A sample group of 169 were systematically selected from the larger group of 300 to make inferences about the larger group. This process of selecting a representative part of a population is called sampling (Lawal, 2009). Powell and Connaway (2004) explain that a proportional allocation formula which is based on the assumption that a characteristic occurred 50% of the time was used by Krejcie and Morgan (1970) to develop a table of sample sizes for given population sizes. The table did not require any calculations. To avoid the challenge of a possible low response rate associated with a questionnaire based survey, the researcher contacted the principal of the school and arranged an appropriate date to distribute the questionnaire.

3.6.3 Sampling Method

There are two main methods of sampling, probability sampling and non-probability sampling.

“Non-probability sampling is used when it is nearly impossible to determine who the entire population is or when it is difficult to gain access to the entire population” (Pascoe, 2014:137). “In this case it is not possible to determine the likelihood of the inclusion of all representative elements of the population into the sample; therefore some elements might even have no chance of being included, hence making it difficult to estimate how well the sample represents the population and this makes generalisation highly questionable” (Bless, Higson-Smith and Sithole, 2013:166). “Non-probability sampling can be useful for testing theories” (Durrheim and Painter, 2006:139). With non-probability sampling, generalisation is not the goal for the study; hence this sampling strategy cannot be used for the purposes of this research.

“Probability sampling lends itself to those research situations where we want to draw a sample that: fits with the parameters (shared characteristics) of the research; is drawn

randomly from the population; requires little influence from the researcher; and leads to generalizable findings” (Pascoe, 2014: 136). There are different probability sampling methods such as simple random sampling, systematic sampling, stratified sampling and multi-stage cluster sampling.

“Systematic sampling, in which units are selected from a sampling frame according to fixed intervals such as the fifth unit” (Bryman, 2004: 544). To ensure against human bias in this method the first element is selected randomly and every fifth unit systematically.

Stratified sampling is a procedure of selecting a sample population and dividing it into different groups called strata (Bryman, 2001; Pascoe, 2014). Stratified sampling may be used in instances where the population has multiple characteristics that are proportionately uneven (Pascoe, 2014).

Multi-stage cluster sampling is used when the population is spread over a wide geographic location (Pascoe, 2014). Cluster sampling can be used when it is not possible to compile exhaustive lists of the population (Babbie and Mouton, 2001).

Simple random sampling means that the probability of including each element of the population can be determined. “A sample in which each unit has been selected entirely by chance and each unit of the population is known and equal probability of inclusion in the sample” (Bryman; 2004:544). There are various techniques for selecting randomly; the most common is the lottery technique (Bless, Higson-Smith and Sithole, 2013).

Probability sampling cannot eliminate sampling error; however it stands a superior chance than non-probability sampling of keeping sampling error under control (Bryman, 2004). Probability sampling has two valid points: there is no room for human bias and the process is not dependent on the learners’ availability, the process of selection is performed without their knowledge. It is only when they are contacted by the researcher are they informed of the survey research (Bryman, 2004). Stratified and mixed stage cluster sampling methods did not fit the current study as the sample characteristics are the same and there was no need to place the sample into sub groups, a list of the learners was also available. Systematic sampling is similar to simple random sampling; however, the researcher chose the simple random sample as the population was relatively small and one group of grade 11 learners of Eastwood Secondary School. The simple random sampling method was chosen as it was an unbiased technique where every learner had an equal chance of being selected. The individual’s shared similar characteristics as all learners were in the same grade and attended

the same school therefore the results can be generalised. The class registers were used; learners' names were written on a piece of paper and placed in a bowl. Similarly to a lottery, every name that was picked up from the bowl represented a participant. By doing this it ensured that every individual in the population had been represented in the sample, removing researcher bias. This occurred 169 times.

3.7 Data collection

Information in the form of facts is one of the essential raw materials of research and these facts are called data which a researcher uses to understand the phenomenon of the world around him (Lawal, 2009). "Data refers to information that researchers collect in order to find answers to the particular questions they are asking" (Bertram and Christiansen, 2014:63). This study was a survey design with a quantitative approach and a questionnaire was utilised to collect information in November 2016.

A questionnaire is defined by Buckingham and Saunders (2004) as a prepared set of composed questions that is coordinated to the participants in a social survey, for the purposes of statistical compilation of the information obtained. A questionnaire can be completed by the participants or the interviewer. "A questionnaire is a list of questions which the participants answer; it can contain either closed-ended or open-ended questions where participant chooses answers from given particular possible answers to choose from" (Bertram and Christiansen, 2014:73). "Questionnaires often use checklists and rating scales as these devices are useful to simplify and quantify responses and people are more willing to tick boxes than they are to write or type out long answers" (Du Plooy-Cilliers and Cronje, 2014:152). Open ended questions allow for the participants to provide information on their views whilst "Closed-ended questions are very popular as they provide greater uniformity of responses and are more easily processed" (Babbie and Mouton, 2001:233-234). This research questionnaire contained mainly closed ended questions.

The advantages of a questionnaires is that it can be administered to a large number of participants within a short period of time; it is easily standardised; questions can be replied to within the same structure; responses can subsequently be better compared with each other; answers are easier to code and statistically analyse; and there are fewer irrelevant and confused answers to questions and replication is easier. A further advantage of questionnaires is that they can be filled out anonymously thus encouraging participation. The disadvantages of a questionnaire are as follows: it may be difficult to interpret participant's responses,

difficult to check that the participant understands the questions and there may be low response rate and high response bias (Bertram and Christiansen, 2015; Bless, Higson-Smith and Sithole, 2013).

The questionnaire was applied as a data collection instrument as information could be gathered within a brief timeframe without having to disrupt the learners at various points in time, as grade 11 is a crucial year for learners. The data collection instrument was divided into sections as follows. Section A was concerned with demographic characteristics of learners; section B asked questions about information needs of learners; section C was to understand the factors that influence the learners' information need; section D was intended to gain knowledge of the challenges the learners experience when seeking for information; section E was concerned with how the learners' information needs were presently being fulfilled and Section F dealt with the learners' information seeking behaviour at Eastwood community/public library.

The questionnaire included an introduction explaining who was doing the research, the purpose of the research, assuring learners of confidentiality and anonymity, informing learners that they may withdraw at any given time from the study as well as clear and simple instructions. The questionnaires were handed out by the educators to the selected learners at Eastwood Secondary School, and the educator went through the questions and remained in the class rooms to answer queries. The researcher remained in the background for clarification of the questions if needed. A total number of 169 questionnaires were distributed to the grade 11 learners who were selected by the simple random sample method. The learners had to choose an answer from a list of possible answers. In some instances, there was an 'other' option to accommodate possible answer options not included in the lists of answers. Learners had to mark their preferred choice from the list with a tick. There was a 100% response rate from the targeted sample, this could be due to the fact that the educator was present for clarification of queries and a specific time was set aside for respondents to answer.

3.8 Analysis of the data

“Analysis means the categorising, ordering, manipulating and summarising data to obtain answers to research questions therefore the purpose of analysis is to reduce data to an intelligible and interpretable form so that the relations of research problems can be studied, tested and conclusions drawn” (Kruger, De Vos, Fouche and Venter, 2005:218). The data

collected in this research was quantitative in nature, thus it was numeric. Statistics assist in making sense of numeric data (Leedy and Ormrod, 2005). Powell is cited in Bertram and Christiansen (2015:138) as saying that “statistics refer to procedures and rules for reducing large masses of data into manageable proportions. Statistical methods are used to analyse quantitative data, hence Durrheim (2006) states that statistics are an arrangement of mathematical methods that enable the researcher to make claims about the nature of the world utilising forms of principled statistical contentions. Statistical techniques used by researchers can be descriptive or inferential (Bertram and Christiansen, 2015). “Descriptive statistics summarises a set of data into a table or a graph, or into single numbers that summarise the data whilst, inferential statistics are used to make predictions about similarity of a sample to a population from which the sample is drawn, and to compare samples and test the significance of the findings” (Bertram and Christiansen, 2015:138-139). This study adopted descriptive statistics.

“Quantitative data in professional research can be analysed manually or by computer” (Kruger, De Vos, Fouche and Venter, 2005: 218). After the data was collected, it needed to be organized, processed and analysed. The returned questionnaires were numbered. Each completed questionnaire was evaluated and checked for missing data and ambiguity and errors in responses, known as data cleaning. The data was captured onto the computer via Microsoft Excel. The data was tabulated and analysis was conducted on the data for each question. Excel was used to develop charts and tables to illustrate the discussion of the result which will be presented in the next chapters. Quantitative statistical analysis was utilised to outline discoveries in a reasonable way by counting the total number of respondents and equivalent percentages.

3.9 Validity and reliability

Validity and reliability are used in quantitative research. Delport (2005) defines validity as the instrument that measures the concept in question and that the concept is measured accurately. Koonin (2014:253) refers to validity as “the extent to which the instruments that were selected actually reflected the reality of the constructs that were being measured, whether the findings reflect what is happening in the given situation”. Delport (2005) states that content validity is concerned with the representativeness or inspecting ampleness of the substance of an instrument whilst face validity refers to whether or not the instrument measures what it is supposed to measure. The face and content validity of this study’s research instrument were established by asking academic experts in the School of Social

Sciences, University of Kwa Zulu-Natal (Pietermaritzburg) to assess the questionnaire and provide feedback on improvements to the questions and format.

Koonin (2014:254) notes that “reliability is about the credibility of one’s research and demands consistency”. Babbie and Mouton (2001) state that reliability means that if someone else retests your data it should yield the same results. According to Durrheim and Painter (2006), reliability is tested by measuring individuals on the same instrument on different occasions and determining whether the results are similar under comparable conditions. Reliability is concerned not with what is being measured but how well it is being measured. Delpont (2005) states that the more reliable the instrument and observations are then the more consistent and dependable the results will be. Koonin (2014:254) explains that “reliability can be seen as the extent to which results can be generalised and similar results obtained if the research is conducted again”.

3.10 Pretest

Before proceeding with the data collection by means of the questionnaire, the questionnaire was tested for validity and reliability. The reason for the test was to confirm the clearness of the questions, ascertain whether the questions were being comprehended, to ensure that there were no mistakes, for example, poor wording, and equivocalness and after that change those in view of feedback received. A pre-test involves pre-testing the questionnaire with a small amount of people who are similar to the study participants in order to identify problems with the research instrument. The population of the consisted of 20 grade 11 learners from Sobantu secondary school as these learners share similar characteristics to those of the grade 11 learners of Eastwood Secondary School. The pre-testing of the instrument was carried out, minor editorial and grammatical changes were made. No issues were raised therefore it was concluded that the questions were a valid method of collecting data and could offer a valid approach to testing the research questions.

3.11 Ethical considerations

Ethics is an important issue in research. According to Stutchbury (2013) all research that involves groups of people interacting with each other has an ethical dimension; educational research is no exception therefore this research was guided by ethical principles. According to Bertram and Christiansen (2014:66-67) the three ethical principles are as follows:

- autonomy – respect all the people participating in the research, get consent from all the participants, all participants must voluntarily participate and have the freedom to

withdraw at any time. Participants were made fully aware of the purpose of the study and the nature of the questions;

- non-maleficence means “does no harm”. The researcher did no harm to the research participants or to any other people. No participants were physically or psychologically harmed. All information was kept confidential as participants were not required to write their names on the questionnaire;
- Beneficence means the research should be of benefit either directly to the research participants or more broadly to other researcher or to society at large. This research can benefit the school in improving the library services according to the learners needs.

The researcher received ethical clearance from the Humanities and Social Sciences Research Ethics Committee of the University of KwaZulu-Natal to conduct the study on the information needs and information seeking behaviour of grade 11 learners at Eastwood Secondary School. For the purposes of this study, the researcher also gained permission from the Department of Education KwaZulu-Natal and the principal of Eastwood Secondary School to conduct the survey study at the school. Written consent was requested and granted by parents/guardians, allowing their child/ward to participate in the study, as some learners that were in grade 11 were under the age of 18 years old, therefore considered to be minors. The questionnaires informed participants of confidentiality. Participants were informed that they may withdraw at any given time from the study. The design and the report of the findings were reported exactly and honestly.

3.12 Delimitations of the study

Delimitation are choices made by the researcher that describes boundaries set for the study. Borders are vital to focus on specific concepts, theories, literature and methods so one’s research has clear direction. The delimitations of a study informs who the population in the study was and why, and what geographic region the study covers (Enslin, 2014).

Limitations as constraints or limits in one’s study are those factors that are out of one’s control such as time, financial resources and access to information (Enslin, 2014).

“Limitations are often numerous even in the most carefully planned research study, it is important that they be listed, the researcher must consider the validity and reliability of all data collection instruments, the generalisability of the sample to the population from which it were drawn, access to data, ethical problems, and

the ability to control extraneous factors in the environment and in learners”
(Fouche, 2005:118).

In terms of geographical delimitation, the study was confined to the grade 11 learners of Eastwood Secondary. This school was selected due to the concerns raised by the principal with the school library. The researcher is a librarian at the Eastwood Public Library and would like to be of assistance to the learners, educators and principal. Eastwood Secondary School is the only high school in Eastwood, Pietermaritzburg. In terms of population delimitation, the study was confined to grade 11 learners. They were best suited for the study as the grade 11 learners are at a crucial level. They would be writing their exit exams in the following year hence the study would assist in determining their academic information needs and in fulfilling them.

A major challenge was getting parents to fill out the consent forms as some learners were living in boarding houses whilst others were in child headed homes. However, learners were willing to participate in the study. Another challenge experienced was learners refusing to fill out the consent forms as it required them to fill in their names and surnames, meaning it would no longer be anonymous. Learners did provide their signatures they did not reveal their names and surnames.

3.13 Summary

The chapter focused on the research methodology that was used to achieve the objectives of the study. The research paradigm adopted was presented. The research design and research methods were described. The population was identified and the sample size indicated. The research instrument, the questionnaire, was discussed and it was indicated how the data was collected and analysed. The pre-test was conducted to test the data collection instrument was also discussed. The next chapter presents a detailed discussion of the research results.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the data analysis and the presentation of results. Bless, Higson-Smith and Sithole (2013: 21) note that in terms of data analysis, “once data is collected it must be organised, checked for accuracy and completeness. When this process has been completed the researcher will use a range of arithmetic and statistical tests to describe the sample data and generalise from this data set to the population from which the sample were drawn”. The data collected were quantitative in nature therefore statistical techniques were utilised to comprehend the numerical data. Descriptive statistics were used to describe and summarize the information that was gathered through the research and presented both graphically and numerically. The purpose of the statistical analysis was to use the data to answer the research questions (Kruger, De Vos, Fouche and Venter, 2005).

The research questions that the data answered were as follows: what sources of information do grade 11 learners of Eastwood Secondary School need and prefer?; what are the factors that influence grade 11 learners of Eastwood Secondary School information needs and information seeking behaviour?; what are the challenges experienced by the grade 11 learners of Eastwood Secondary School during information seeking?; how are the information needs of the grade 11 learners of Eastwood Secondary School being presently satisfied?; what are the academic information needs of grade 11 learners of Eastwood Secondary School?, and what are the information seeking behaviours of grade 11 learners of Eastwood Secondary School?. Chapter four presents and reports on the data that were collected using self-administered questionnaires. The motivation behind the study was to investigate the academic information needs and seeking behaviour of grade 11 learners of Eastwood Secondary School.

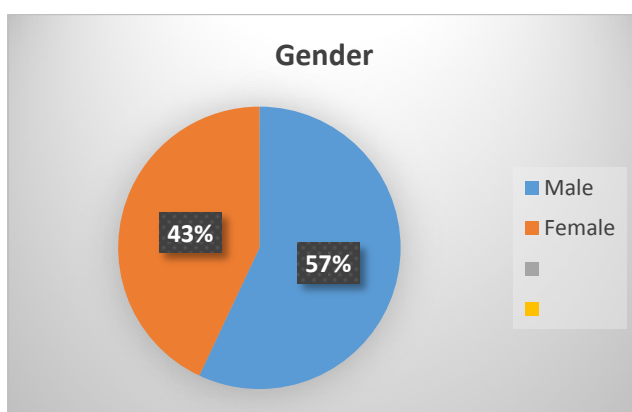
4.2 Response rate

“A response rate is a guide to the representativeness of the sample, if a high response rate is achieved, there is a less chance of significant response bias than in a low rate” (Babbie and Mouton, 2001: 261). According to Babbie and Mouton (2001:261) “a response rate of 50 % is satisfactory for analysis, 60% is good and 70% is very good”. The research population comprised 300 learners whilst the sample consisted of 169 learners. A self-administered questionnaire was handed out to 169 learners at the school. The number of responses received was 169, resulting in a response rate of 100%. The response rate for the study was “very good” for the following reasons: the school principal and educators encouraged the learners to participate in the study, data were collected in a normal classroom setting and the educators were present in the classroom to clarify queries and the researcher also remained in the background to deal with queries. Durrheim and Painter (2007) observe that quantitative research has two primary strengths: the findings are generalizable and the data are objective.

4.3 Gender

The participants were required to indicate their gender so that the researcher could establish the return rate of the questionnaires from male and female participants to ascertain if differences in gender affected information behaviour. Ninety six (57%) questionnaires were received from male participants and seventy three (43%) from female participants. Figure 3 below reflects the gender of participants and the results indicate that there were more males than female participants. There were more males because some were repeating the grade.

Figure 4.3: Gender (N=169)

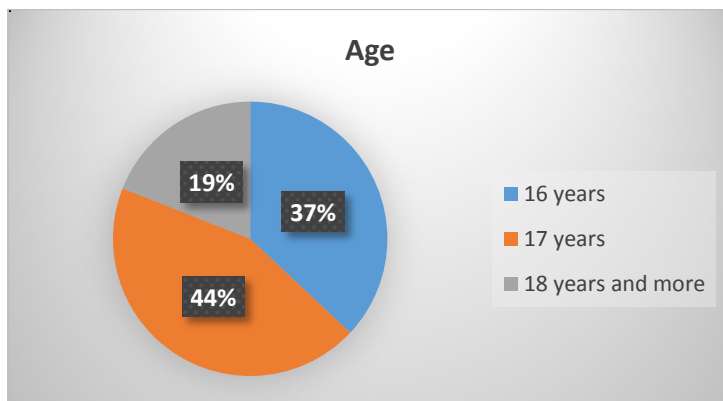


4.4 Age

The participants indicated their age group as displayed in Figure 4. The purpose of this question was to elicit information on learners’ age to determine if children fell within the age group norm for grade 11. Learners that are in grade 11 should be between the ages of 16 to 17 years. The findings reveal that those participants in the 16 year age group numbered sixty

three (37%) participants, in the 17 year age group there were seventy four (44%) participants and learners aged 18 years and above numbered thirty two (19%).

Figure 4.4: Age (N=169)

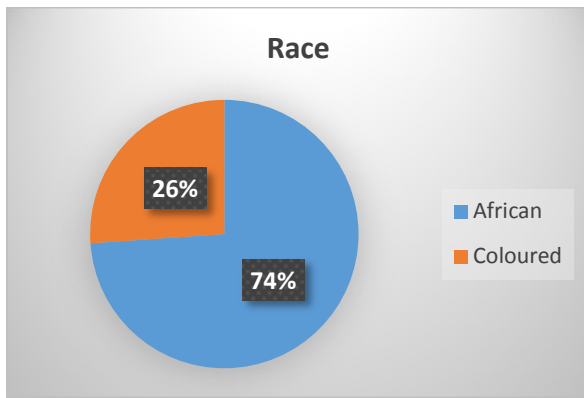


The majority of the respondents were aged 17 years, followed by those of 16 years which are the normal ages for the grade 11 learners. It can then be noted that the 19 % of the participants who were 18 years or older could be those who are repeating a grade. This result coincided with Nicolaides (2015) that in South Africa there were learning deficits and he pointed to the high rate of grade ten and eleven repetition.

4.5 Race

The participants were asked to indicate which race group they fell into as the school is situated in what used to be a predominantly Coloured community (prior to 1994). It can be seen that the African race group was the largest group with one hundred and twenty five (73.9%) participants whilst the Coloured race group accounted for only forty four (26.1%) of participants.

Figure 4.5: Race (N=169)

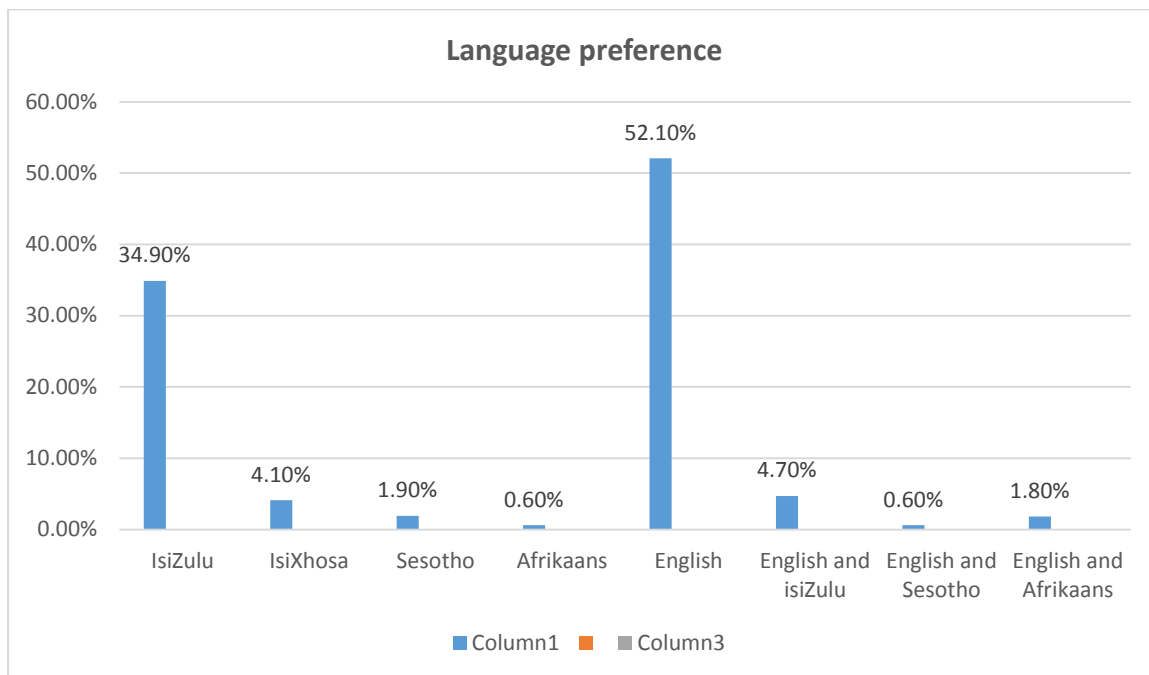


The findings clearly showed a demographic shift. Figure 5 indicates that there were no representatives for Indian or White race groups. This could indicate that up to the present time the effects of Apartheid's policy of racial segregation are still evident.

4.6 Language preference

The participants were asked to indicate their language of preference. The school takes in learners from surrounding areas and learners speak diverse languages. The aim was to determine what languages were preferred and if one language was more dominant than the others. The results are presented in Figure 6 which indicates that eighty eight (52.1%) participants preferred English, fifty nine (34.9%) participants preferred isiZulu, seven (4.1%) participants preferred isiXhosa, two (1.9%) participants preferred Sesotho, and one participant (0.6%) preferred Afrikaans. The language most preferred was English followed by isiZulu. The study also found that some participants preferred more than one language: eight participants (4.7%) preferred English and isiZulu, one (0.6%) participant preferred English and Sesotho, and one (0.6%) participant preferred English and Afrikaans.

Figure 4.6: Language Preference (N=169)



It can be noted that at Eastwood Secondary School English is the medium of instruction, probably accounting for the majority of the participants indicating that English was the dominant language of preference. However, a large number also indicated a preference for the isiZulu language which is expected as the majority of the learners fall into the African race group and isiZulu is the dominant language in the province. The findings also revealed that participants have a preference for their “mother tongue” language.

4.7 Sources of information needed when gathering information

Grade 11 learners are relied upon to be active information seekers to discover information for their academic requirements in completing their assignments, projects and homework. The participants were requested to indicate the sources needed when gathering information. As it was a question where multiple responses were permitted, respondents were free to make more than one choice. According to Figure 7, for the participants the most popular source of information needed was the Internet, by ninety four (55.6%) participants, followed by sixty one (36.1%) participants who needed study guides, and then fifty one (30.2%) participants who needed textbooks. Sources with a lower frequency needed by participants were as follows: dictionaries by eleven (6.5%) participants, encyclopaedias by seven (4.1%) participants, books by four (2.4%) participants; atlases and maps by four (2.4%) participants and the least needed being newspapers and magazines by one (0.6%) participant.

Figure 4.7: Sources of information (N=169)

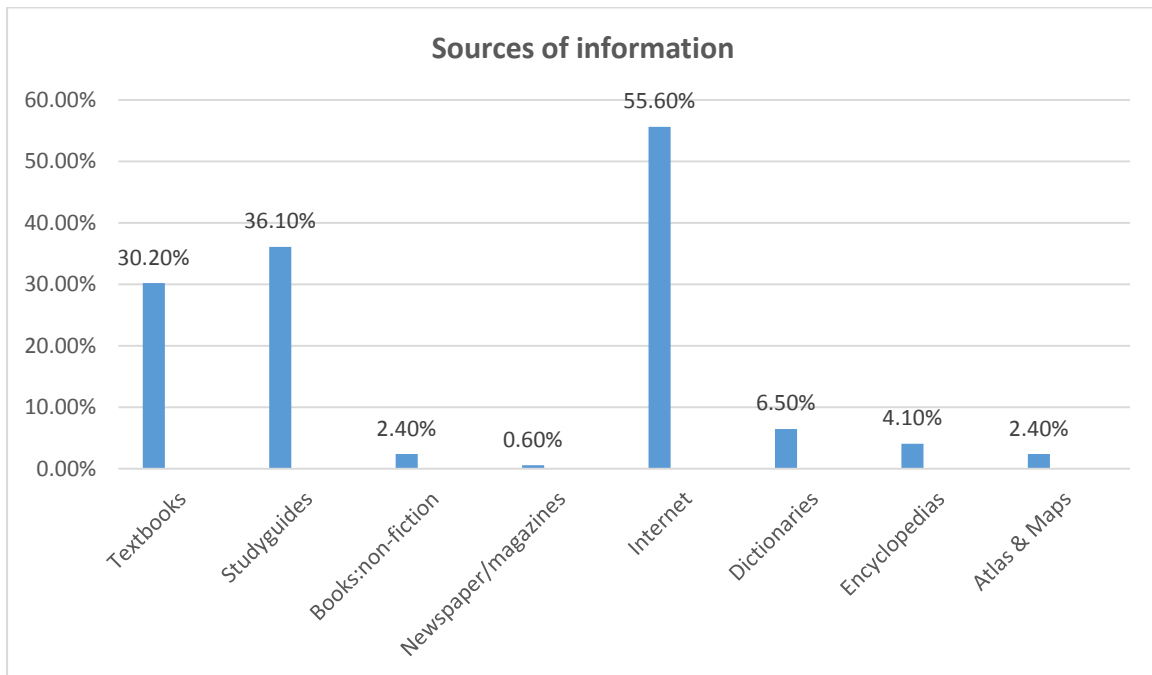
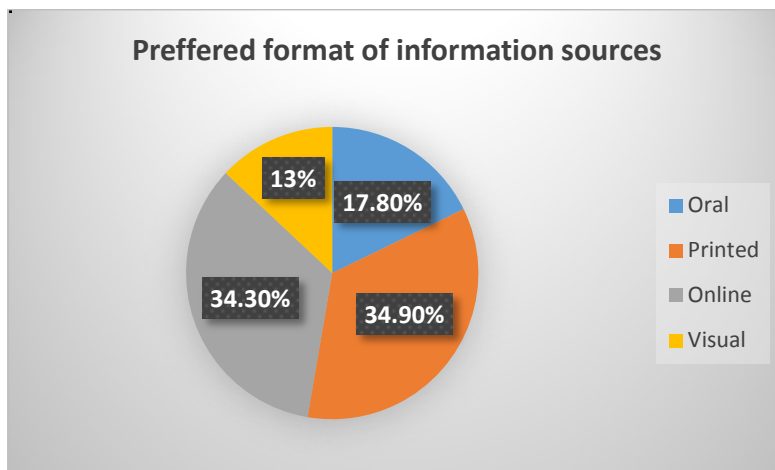


Figure 7 clearly indicates that the Internet was the most needed source when gathering information before turning to books. Print sources could be sought out when participants are reading or doing school work. In the new information age the Internet is also well used due to currency of information and ease of use whilst some participants access Internet via cell phones due to convenience. It was good to note that print material is still being used.

4.8 The format of information sources preferred by learners

The motivation behind this question was to establish the preferred format of information sources by the participants when carrying out information seeking. Figure 8 reveals that participants indicated on the questionnaires that the printed sources were highly preferred by fifty nine (34.9%) participants closely followed by fifty eight (34.3%) participants who had a preference for online sources. A lower number of thirty (17.8%) participants preferred oral sources and twenty two (13.0%) participants preferred visual sources.

Figure 4.8: Preferred format of information sources (N =169)

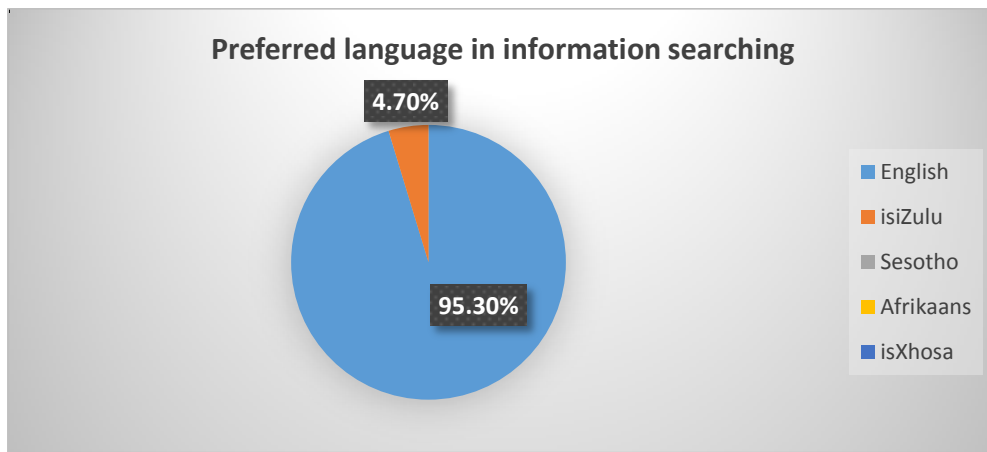


Printed sources and online sources are highly sought after and share almost equal popularity; this could be due to the fact that participants have school text books on hand and have access via their cell phones to the Internet to accomplish their school based tasks. Participants' preference for oral sources could mean that they turn to audio material, teachers, parents, friends or relatives for assistance.

4.9 The language preference of learners when searching for information in printed or online sources

The aim of this question was to find out what language preference of printed and online sources the participants preferred when searching for information. It is known that people generally prefer speaking in their mother tongue as this is the language that they understand from birth and are most comfortable with. So, the researcher wanted to establish if this was the same when searching for information. In Figure 9 below one hundred and sixty one (95.3%) participants indicated that they preferred the English language whilst eight (4.7%) participants preferred the isiZulu language when searching for information in printed or online form. None of the participants preferred isiXhosa, Sesotho or Afrikaans language when searching for information in printed or online form.

Figure 4.9: Preferred language in information searching (N=169)

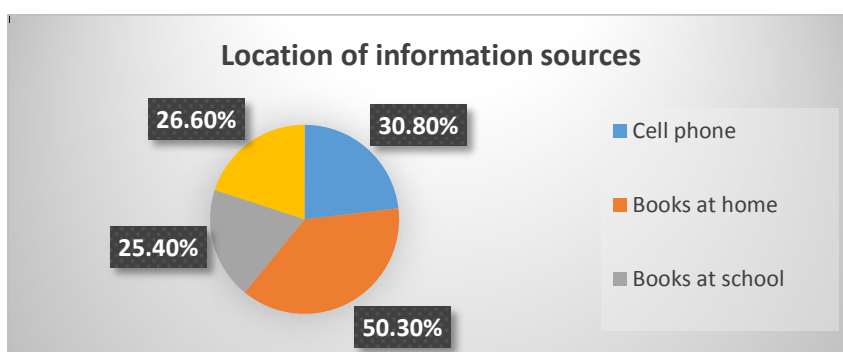


The study clearly reflects that the overwhelming majority of participants preferred the English language when searching for information as they are proficient and comfortable with the English language. This could be also due to the fact that the school medium is in English hence school work has to be performed and information seeking needs to be done in English. There are also not many information resources in the indigenous languages.

4.10 Learners' location of information sources

Participants were required to indicate where they get their information sources from in order to get a better understanding of the location for information searching behaviour. As it was a question where multiple responses were permitted, respondents were free to give more than one choice. Figure 10 below reveals that most common location of information sources were books at home; by eighty five (50.3%) participants, followed by cell phones; by fifty two (30.8%) participants, books from another school; by forty five (26.6%) participants and books from school; by forty three (25.4%) participants.

Figure 4.10: Location of information sources (N=169)



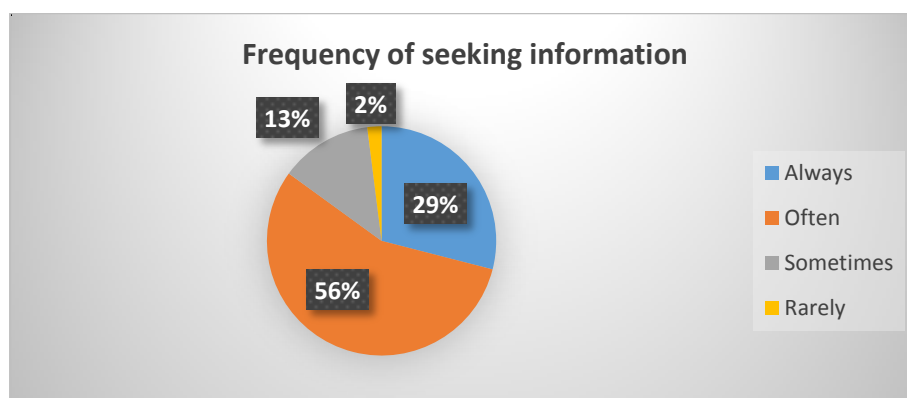
The results showed that participants use various locations for finding information. Participants are likely to use the information that they have at home due to the convenience and immediate need, whilst current information is searched on the Internet via their cell

phones. Some rely on the information from textbooks received from school. Those learners who do not own cell phones or books at home may borrow from another school possibly through relatives or friends. It was also not surprising that the use of cell phone was not very high as the price of cell phone data is high in South Africa

4.11 Frequency of seeking information

The aim of question 8 was to determine how often the participants sought information. The participants had to choose from a few options to indicate their frequency of seeking information. Figure 11 reveals that fifty two (29%) of the learners indicated that they always sought information for tasks. Ninety two (56%) of the participants sought information often, whereas twenty two (13%) participants sought information sometimes and three (2%) participants rarely sought information.

Figure 4.11: Frequency of seeking information (N=169)



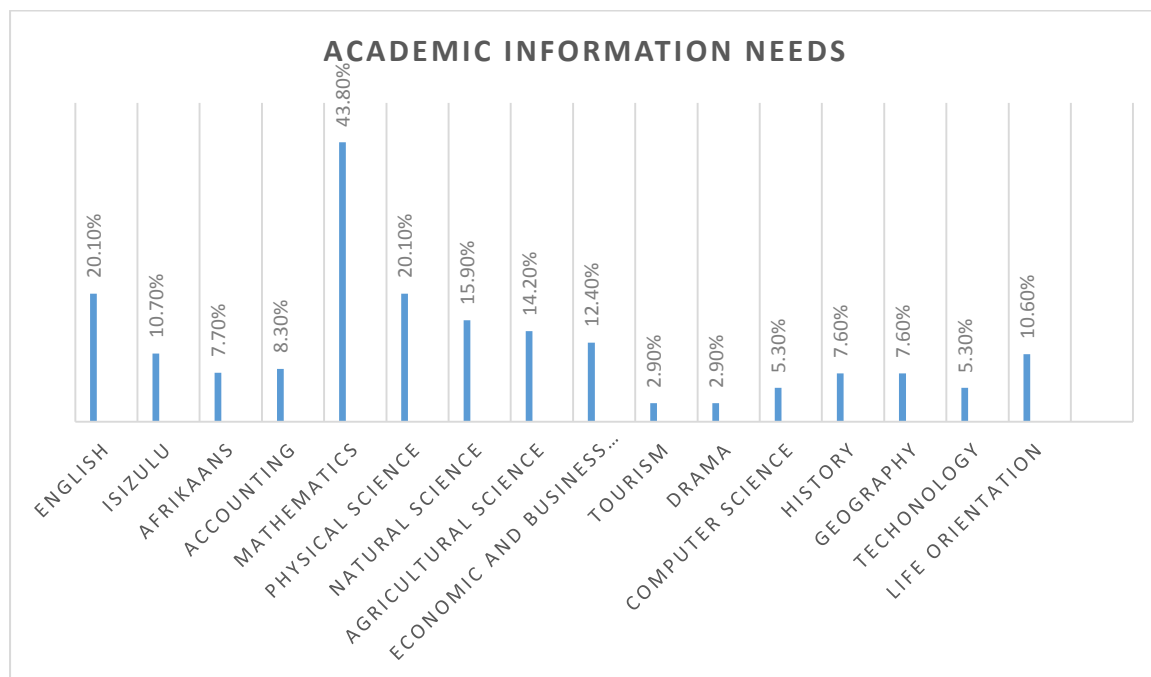
It was evident from the findings that most learners are ardent seekers of information and often seek information which is required for their daily life to excel academically. Further investigation needs to be done as to why those few participants sometimes or rarely seek information as grade 11 is a critical year in a learner's academic life as the following year grade 12 is their exit year from high school.

4.12 Academic information needs

Information plays an imperative part in any development procedure particularly in enhancing the general wellbeing of learners who need information to exceed expectations academically. The point of question 3 was to determine the academic information needs of participants in their day to day lives. According to Figure 12 the highest demand was by seventy four (43.8%) participants who cited subject information needed with mathematics followed by a demand for information on English and physical sciences by thirty four (20.1%) participants, natural/life science by twenty seven (15.9%) participants, agricultural science by twenty four (14.2%) participants, economics and business management by twenty one (12.4%)

participants, isiZulu and life orientation by eighteen (10.6%) participants, accounting by fourteen (8.3%) participants, Afrikaans; history and geography by thirteen (7.6%), technology and computer science by nine (5.3%) participants and tourism and drama by five (2.9%) participants.

Figure 4.12: Academic information needs (N=169)



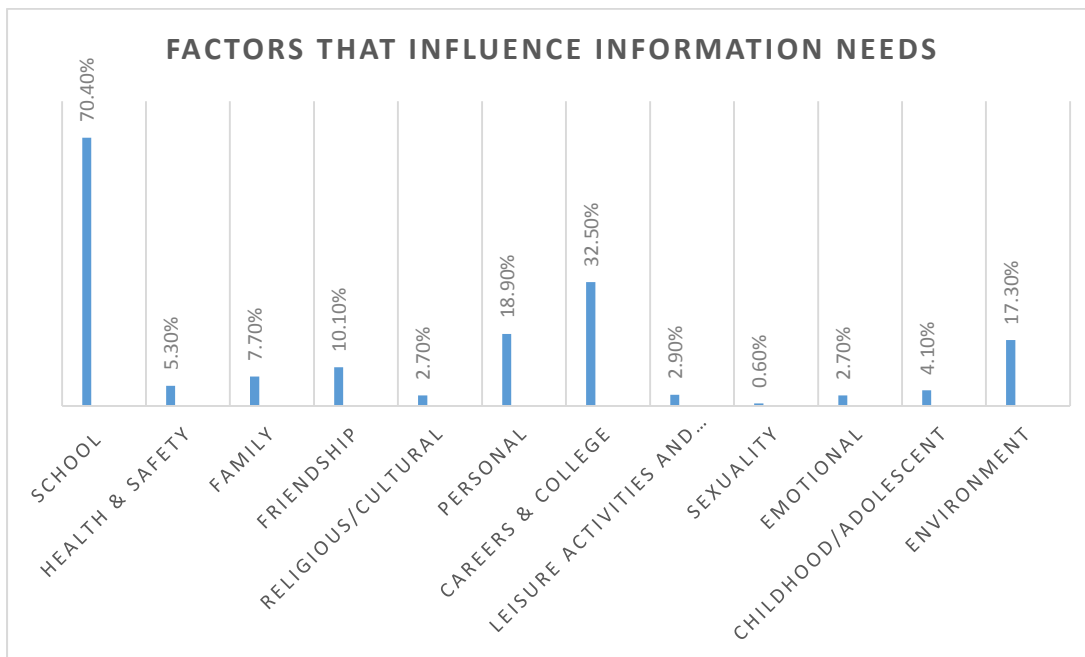
The results clearly showed that participants require information on all school subjects. There was a greater need for information in the science fields. Learners also indicated that information in mathematics was in high demand. The participants' high need for information on subjects in the science fields and mathematics possibly suggests difficulties in these subject fields. It was surprising that whilst learners prefer to have sources of information in the English language, they seem to also require information on the subject English. This could suggest that they are not reading sufficiently or maybe they are not very fluent in reading and speaking the English language. It is the course of study that is subject related that influences the participants need for information and their information seeking behaviour.

4.13 Factors that influence learners' information needs

Factors that act as "activating mechanisms" motivate information seeking therefore the aim of the question 7 was to establish what factors influence learner's information needs. Figure 13 below clearly indicates the various factors influencing participants' information needs. As it was a question where multiple responses were permitted, participants were free to give more than one answer. According to the results the most frequently mentioned factors was

school information by one hundred and nineteen (70.4%) participants' whilst the second highest was related to careers and college information; by fifty five (32.5%) participants followed by environmental information; by twenty nine (17.25%) participants. A small number needed information for friendship; by seventeen (10.1%) participants, family information; by thirteen (7.7%) participants, health and safety information; by nine (2.7%) participants, childhood and adolescent information; by seven (4.1%) participants, leisure activities and interest information; by five (2.9%) participants, religious/cultural information and emotional needs; by four (2.7%) participants and sexuality information; by one (0.6%) participant.

Figure 4.13: Factors that influence learners' information needs (N=169)



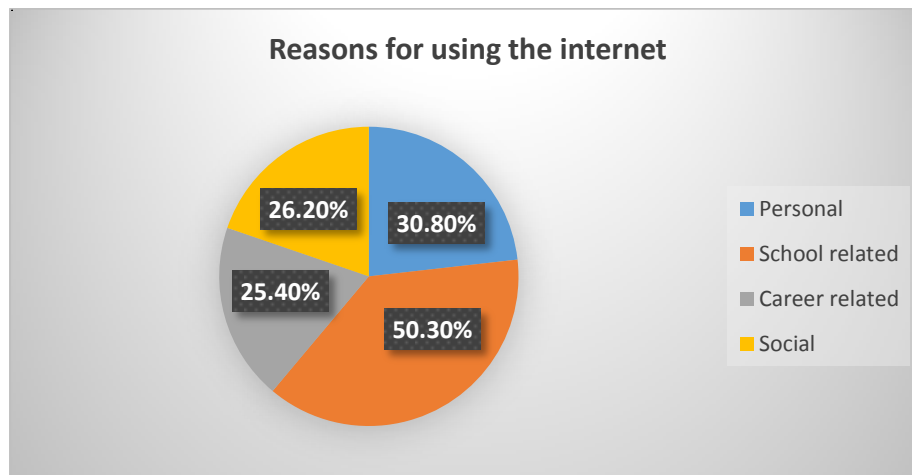
The grade 11 learners are secondary school learners and are seen as individuals who are at a certain stage of physical, cognitive and affective development, all of which contribute to their information needs (Fourie and Kruger, 1995). Therefore it can be established that their information needs are motivated by a variety of factors. The greatest motivator was school information, followed by information on careers and college. This possibly means that the learners have a desire to succeed academically with aspirations of furthering their tertiary studies; indicating that participants want to better their life situations.

4.14 Reasons for using the Internet

The reason for using the Internet, involved a question where multiple responses were permitted, therefore participants were free to give more than one answer. Figure 14 below

indicates that the highest demand for using the Internet was for school related information needs; by eighty five (50.3%) participants, followed by a demand for personal needs; by fifty two (30.8%) participants, thereafter career related information needs; by forty three (25.4%) participants and for social (communicating with friends); by forty five (26.2%) participants.

Figure 4.14: Reasons for using the Internet (N=169)



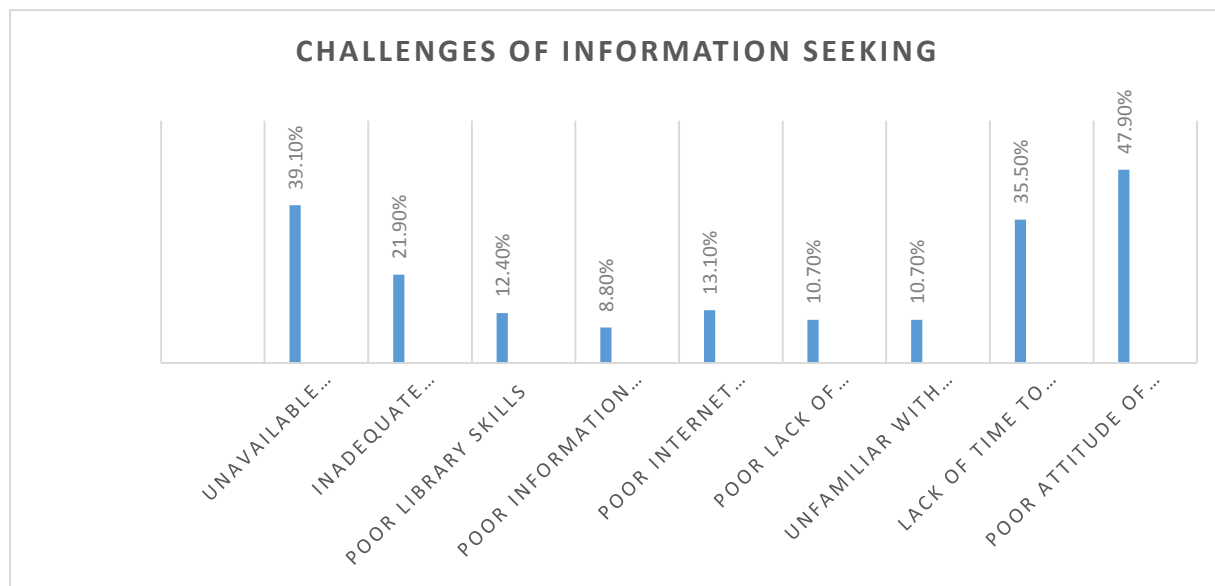
The results of this study coincided with earlier research by Chigona, Kamkwenda and Majoo, (2008), Donner and Walton (2013), Waithaka (2013) and Porter et al. (2016), that a major influence for using the Internet was a need for school related information due to ease of access and convenience of use.

4.15 Challenges of information seeking

Participants were asked to reveal their challenges when seeking for information. The researcher wanted to identify the problems that participants face when seeking information. Figure 15 below represents the difficulties/challenges that participants face when seeking for information. This was a question where multiple responses were permitted; therefore participants were free to give more than one answer. According to the analysis, poor attitude of the public/community library staff was perceived by eighty one (47.9%) participants as the major challenge. Unavailable school library was perceived by sixty six (39.1%) participants as the second highest ranked challenge followed by lack of time to seek needed information by sixty (35.5%) participants and inadequate information resources at the school by thirty seven (21.9%) participants. Poor Internet searching skills was considered a challenge by twenty two (13.1%) participants, whilst twenty one (12.4%) participants perceived their poor library skills as a challenge to information seeking. Eighteen (10.7) participants perceived a lack of awareness of information needs and being unfamiliar with the public/community library as a challenge. Another fifteen (8.8%) participants perceived poor information literacy

and non-availability of a school media facility as a challenge to information seeking.

Figure 4.15: Challenges of information seeking (N=169)



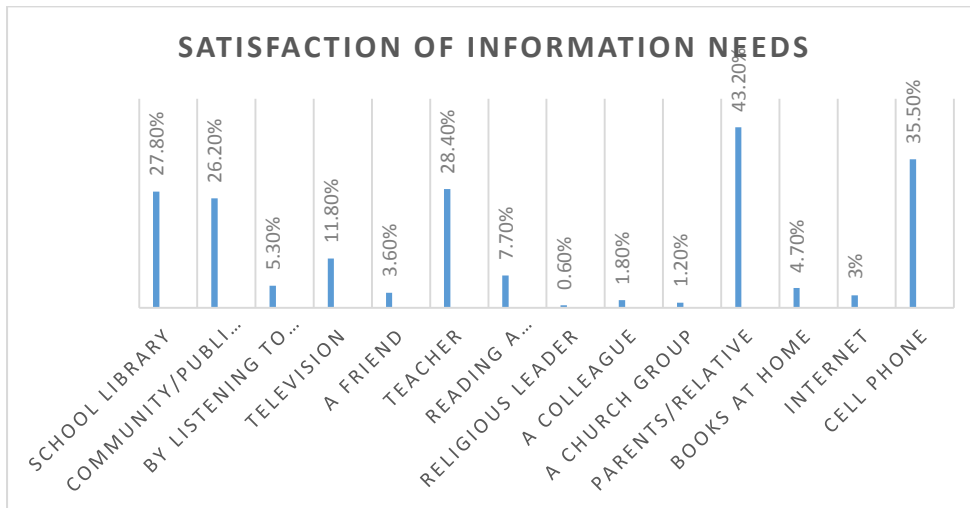
Challenges prevent participants from successful information seeking and use. It is obvious that participants are faced with many challenges that need to be addressed to improve information seeking and use. The poor library skills and information literacy skills could be due to the school not having a school librarian to teach these critical skills. The lack of Internet searching skills is possibly a result of the school being without a media centre to teach participants Internet searching skills. The lack of time to seek needed information could be due to the long school hours and then long travelling distances to their home leaves little time to seek information as it is known that Eastwood Secondary School takes in learners from beyond the immediate school location. Figure 15 clearly showed why participants seek information only sometimes or rarely, they seem to have a challenge with information literacy skills, Internet searching skills and poor library skills. This may mean that participants lack the confidence to search for information hence they sometimes or rarely seek out information.

4.16 Information needs fulfilled

The participants were required to indicate how their information needs were presently satisfied. Learners are more likely to re-use an information channel if they are satisfied with it. This was a question where multiple responses were permitted; therefore participants were free to give more than one answer. The analysis of data shown in Figure 16 indicates that the highest number, seventy three (43.5%) of participants cited that their needs were satisfied by using the Internet whilst sixty (35.5%) participants were satisfied by use of cell phones. The

information needs for another forty eight (28.4%) participants were fulfilled with the assistance of the teacher; forty seven (27.8%) by the school library, and forty five (26.2%) by the public/community library. The lowest ranked information sources that fulfilled the learners' information needs were as follows: reading a newspaper (thirteen (7.7%)), television (twenty (11.8%)), by listening to the radio (nine (5.3%)), parent/relative (eight (4.7%)), a friend (six (3.6%)), books at home (five (3%)), a colleague (three (1.8%)), a church group (two (1.2%)) and religious leader (one (0.6%)).

Figure 4.16: Information needs fulfilled (N=169)



The results revealed that participants were satisfied using formal and informal information sources but the highest number revealed that the Internet most fulfilled their information needs which can be attributed to ease of accessibility via cell phones, from Internet cafes or at home. Figure 15 revealed that a high number of participants found one of the challenges to information seeking to be the lack of a school library and community/public library. Figure 16 revealed that participants were still satisfied with using the school library. This could mean that participants have no other choice but to use these two facilities when searching for information.

4.17 Actions taken when information is hard to locate

The motivation behind this question was to understand the participants' information seeking behaviour when information was hard to find. The study revealed that sixty six (39.1%) participants seek the assistance of a teacher, followed by forty (23.7%) who seek the assistance of a librarian and thirty seven (21.9%) participants relied on their own thinking. Twenty two (13.1%) learners asked others in higher grades and four (2.4%) learners give up.

Figure 4.17 Actions taken when information is hard to locate (N=169)

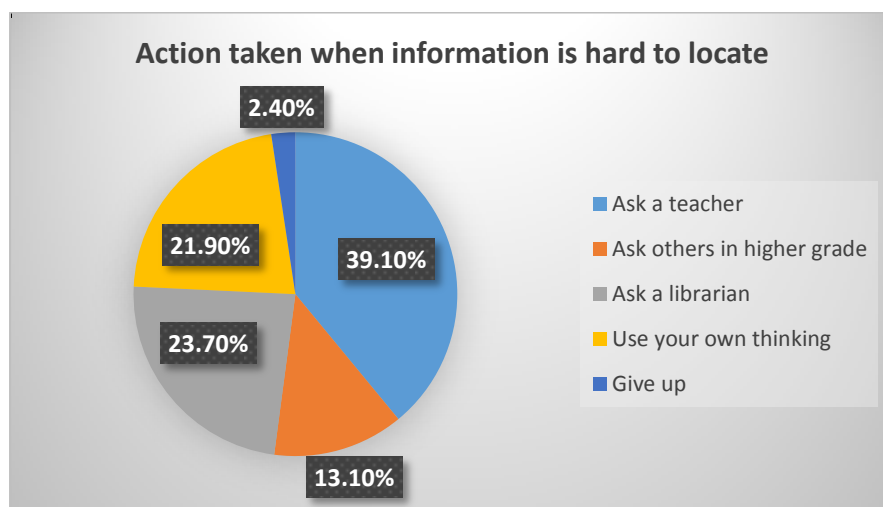
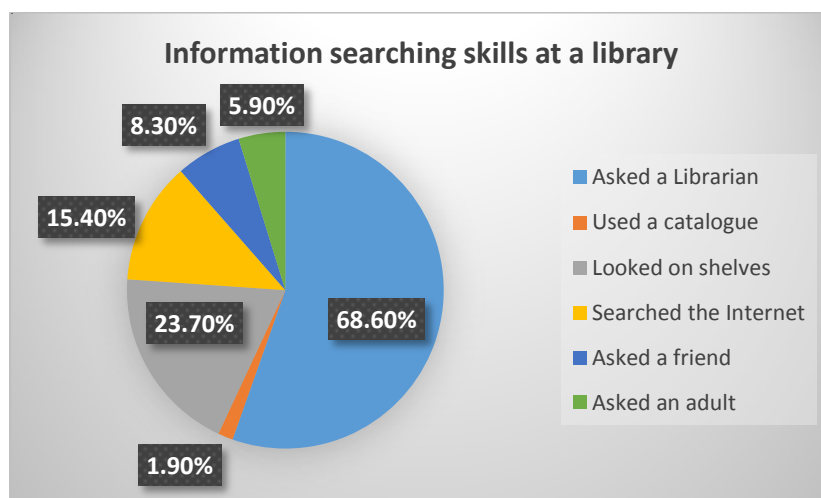


Figure 17 displayed the results to the question showing that 2.4 % of the participants gave up when they were faced with a difficult situation and this leads to failure. Impressively, 21.9% participants were able to use their own thinking when faced with a tough situation which means that this 21.9% are fortunate to have the skills and resources to aid them in locating information. It is possible that due to the poor library skills and poor information literacy skills participants turn to the teachers for assistance and others in higher grades.

4.18 Searching technique when using the library

The participants were required to indicate how they located information when using the library to find information. The survey revealed as displayed in Figure 18 that one hundred and sixteen (68.6%) participants asked the librarian for assistance, followed by fifty (29.6%) participants who searched the Internet and forty six (23.7%) participants looked on the shelves. Twenty six (15.4%) participants asked for help to search the Internet. Fourteen (8.3%) participants asked a friend for assistance, ten (5.9%) participants asked an adult. Only seven (1.9%) of participants used the catalogue to locate information.

Figure 4.18: Information searching skills at a library (N=169)



The findings complement those in figure 17 revealing that participants are in serious need of information literacy training to be capable to utilise the relevant searching skills. A larger percentage of participants (68.6%) asked a librarian for help.

4.19 Summary

This chapter presented and analysed data collected from grade 11 learners at Eastwood Secondary School. A descriptive analysis was done and data were presented in frequency and percentage charts and figures. The data of the participants in the survey with regards to their academic information needs and information seeking behaviour was analysed using Microsoft Word and Excel. The major findings of the research indicated that the most popular source needed was the Internet, although printed format sources proved popular, whilst information in the English language proved most favourable. A large number of learners located information sources at home. It was found that more learners often sought information than rarely or only sometimes sought information. The greatest demand for academic information was on mathematics. School related information was a major factor that influenced learners' information needs and seeking behaviour. The largest factor that influenced the use of the Internet was the need for school related information. The biggest challenge to the learners' information seeking was found to be the poor attitude of the public/community library staff. It was found that a large number of learners' utilised the Internet to fulfil their information needs. A large number of learners when faced with difficulties in finding information turned to their teachers for assistance. This chapter

exhibited the results of the investigation according to the questionnaire. The next chapter discusses the findings in of this study.

CHAPTER FIVE

DISCUSSION OF RESEARCH FINDINGS

5.1 Introduction

This chapter discusses the findings from Chapter four, which depended upon the responses from the grade 11 learners about their academic information needs and information seeking behaviour. This chapter is organised according to the research questions as follows:

- What sources of information do grade 11 learners of Eastwood Secondary School need and prefer?
- What are the academic information needs of grade 11 learners of Eastwood Secondary School?
- What are the factors that influence grade 11 learners of Eastwood Secondary School information needs and information seeking behaviour?
- What are the challenges experienced by the grade 11 learners of Eastwood Secondary School during information seeking?
- How are the information needs of the grade 11 learners of Eastwood Secondary School being presently satisfied?

5.2 Sources of information learners need and prefer

The participants were requested to indicate their sources needed and preferred when gathering information. According to the results the most popular sources needed was the Internet as indicated by 55.6% of participants, followed by study guides by 36.1%, and then textbooks 30.2%. Sources less frequently needed by participants were: dictionaries by 6.5%, encyclopaedias by 4.1%) books: non-fiction by 2.4%; atlases and by 2.4% and the least needed being newspapers and magazines by 0.6% of participants.

The high use of the Internet was noted in other studies conducted by Madden, Ford, Miller (2007); Grenina (2001); Changthong, Manmart and Vongprasert (2014); Ahmed, Shaifuddin,

Mokhtar (2010); Waithaka (2013); Emmanuel and Jegede (2011); Ajiboye and Tella (2007) and Maloto (2015), all of whom revealed that the Internet is well used when gathering information. The reason for learners' preference for or use of the Internet was their belief that they do not have to think through their search strategy in advance and they find the needed information quickly; they were able to find any information on any subject on the Internet and it was simple to utilise the Internet to locate the needed information. In the studies conducted by Nadzir, Wahab and Othman (2015) it was found that learners' preference for the electronic information sources was because of its convenience and accessibility and of comprehensive current information.

Monyela (2013:116) conducted an investigation on the information seeking behaviour of postgraduate learners at Rhodes University and Fort Hare University in South Africa. The findings revealed that learners used various information sources with a majority (45.5%) using the Internet as their most preferred source of information, printed books was the second most selected sources of information by 28% of the participants whilst 17.5% used scientific databases. A minority of 9% revealed that they used academic and scholarly search engines. The study found that the learners preferred to use the Internet over other information sources.

Madden, Ford and Miller (2007) note that although the Internet was the most common source for information searching, learners' selection of information source was impacted by the subject of the homework on which the learners were working. This study is also in agreement with the studies carried out by Fasola and Olabode (2013); Emmanuel and Jegede (2011) which showed a strong preference for textbooks as an information source in schools. The newspaper was the least sought after information source. These findings are consistent with Emmanuel and Jegede (2011), Stilwell and Bell (2003) and Ajiboye and Tella (2007).

This study found that 34.9% of learners preferred printed format sources and almost the same number, 34.3%, preferred the online format of information source. The high number of learners who preferred print material was similar to that which was found in the study conducted by Grenina (2011) where the learners reported that print resources were more suitable for their learning needs although the Internet source was the most common and often the only source for an information search. In contrast to this study, Ahmad, Shaifuddin and Mokhtar (2010) conducted an investigation on rural youth's perception of information sources and rural library services in Malaysia. The study revealed that the online sources were the most preferred format by 62% of youth and the preferred format of printed sources

by 38% of the youth. These findings show that learners need a variety of formats when searching for information.

The learners were required to indicate their frequency of information seeking. Some 29% sought information always, 56% of the participants sought information often, whereas 13% participants sought information sometimes and 2% participants sought information rarely. These results were like those of the investigation led by Otoide (2015) where 35.4% learners indicated that very frequently they sought information, 69.3% indicated seeking information frequently whilst 5.3% indicated seeking information occasionally. The fact that the majority of learners always and often sought information is probably a reflection of the demands of the curriculum.

It could be said that grade 11 learners at Eastwood Secondary School learners have a strong preference for the Internet as the main source of information given the 55.6% who responded positively to this question. A large number of participants, 50.3%, accessed books from home, whilst 30.8% of participants utilised cell phones to access the Internet, and have a preference for online sources due to their immediacy and convenience for problem-solving. Although 73.9% of the participants belong to the African race group, when searching for information they prefer to search in the English language. The study showed that 34.9% of participants prefer the printed format of sources; this could be due to the ease of use when studying or the availability of textbooks and their direct relevance to the curriculum; however online sources came a close second being preferred by 34.3% of participants. It is pleasing to note that books in the 21st century are still relevant. Secondary school learners' primary purpose at school is to learn hence the 29% who revealed that they always seek information and 56% who revealed that they often seek information. Their need to meet academic demands and excel academically is their main goal.

5.3 Academic information needs

An information need propels the learners to utilise information that may arise from a need to perform homework, assignments or projects which leads to a desire to be informed. The information needed may likely to be required for subject knowledge in the case of the school learners. The types of information needed may be diverse. Therefore this researcher wanted to know what categories of academic information were needed by the Eastwood Secondary School grade 11 learners in their day to day school life. According to the results (displayed in Figure 12) information was needed in the following subjects: mathematics, English, physical

science, natural/life science, agricultural science, economics and business management, isiZulu life orientation, accounting, Afrikaans, history, geography, technology, computer science, tourism and drama which are all school subjects.

Ajiboye and Tella (2007) explored the university undergraduate learner's information seeking behaviour and its implications for quality in higher education in Botswana. Learners were selected from six faculties in the University of Botswana, Gaborone. The dominant information required by learners was academic information. Other information that was required by learners but was not considered as vital as academic information was information for personal development, health information, employment information and global information.

The above findings are consistent with studies conducted by researchers such as Otoide (2015), Silvio (2006), Fasola and Olabode (2013), Kakai, Ikoja-Odongo and Digongo-Bukenya (2004), and Rubushe (2000), on the information needs of learners that revealed that academic information needs were of high importance. Fourie (1995) conducted a study on pupils as curricular information seekers and found that English, Afrikaans and science subjects accounted for the most requests. Learners are given assignments or projects and required to study therefore it is expected that they would need information according to their coursework. Weights et al. as cited in Wilson (1997) opines that the categories of information need are a need for new information, need to elucidate the information held and need to confirm the information held. Kamba, Ugnagha and Samuel as cited in Aderanti and Amuda (2015) note that information assumes an imperative part in any improvement procedure particularly the general wellbeing of those that use it so the role of learners demonstrates particular academic information needs.

5.4 Factors that influence learners information needs and information seeking behaviour

Kruger (1995) states that secondary school learners are individuals who are at a certain stage of physical, cognitive and affective development, all of which contribute to their information needs; they are in a transitional period during which the individual transcends childhood and is prepared for adult functioning hence it is expected that different factors will influence learners information needs and information seeking behaviour. This study found that the factors that influence learners' information needs were those concerned with school related needs; careers and college information; environmental information; friendship; family; health

and safety; childhood and adolescent; leisure activities; personal interest information; religious/cultural information; emotional needs; and sexuality information. This study coincides with the study carried out by Sugihartati and Harisanty (2014) the information seeking behaviour of senior high school learners in Indonesia and found that several factors could strengthen or weaken learners' information seeking. These were: psychological, demographic, role related/interpersonal, environmental and situational factors and the characteristics of the information source. Fasola and Olabode (2013) conducted research on the information seeking behaviour of learners at Ajayi Crowther University, Oyo, Nigeria. The investigation revealed that then nature of a course of study was a factor for 47.6% of the learners while seeking information.

This study also found that the greatest motivation for using the Internet was for school related information needs expressed by 50.3% of participants followed by a demand for personal related information needs by 30.8%, thereafter career related information needs by 25.4% and for social (communicating with friends) needs by 26.2%. This study coincides with earlier research by Chigona, Kamkwenda and Majoo (2008), Donner and Walton (2013), Waithaka (2013) and Porter et al. (2016) who found that a major influence on using the Internet was for school related information. Matlala (2015) carried out an investigation on the use of the Internet by grade 11 learners from selected schools in the Sekhukhune district, Limpopo province. The study revealed that 78% of the learners used the Internet for learning purposes, 46.5% used it to communicate with friends and family, 41% used the Internet to update their knowledge, 18% used the Internet for entertainment and 11% of learners used the Internet to get current news.

The dominant factors influencing the learner's information needs were concerned with school related information needs. This study thus concurs with earlier studies such as Otoide (2015), Ogba (2015), Fasola and Olabode (2013), and Ajiboye and Tella (2007) that learners were influenced by academic needs to seek information. It can be assumed that as learners go through changes in their lives they are bound to be influenced by various factors to improve their lifestyle and to have the know-how of the world around them. Their school related need is a major need due to their role of being learners and their drive to succeed in finding jobs or furthering their studies.

5.5 Challenges of information seeking

Even in the most information rich environments individuals are bound to experience

challenges to information seeking. Learners are required to explore a world of knowledge (Paton-Ash and Wilmot, 2011) and become lifelong learners. Information seeking can be hindered in many ways. The study discovered that the learners experienced many challenges when seeking for information such as poor attitude of the public/community library staff was perceived by 47.9% of learners; unavailable school library by 39.1% of learners; lack of time to seek needed information by 35.5% of learners; inadequate information resources at the school library by 21.9% of learners; poor Internet searching skills was by 13.1%, poor library skills by 12.4% of learners; a lack of awareness of information needs by 10.7% and being unfamiliar with the public/community library as a challenge by 10.7%; poor information literacy by 8.8% of learners and non-availability of a school media facility by 8.8% of learners.

These findings are also supported by Otoide (2015) where learners faced challenges such as inadequate information resources, poor library skills, poor information literacy skills, lack of awareness of information needs and unfamiliarity with the school library. Similar to investigation carried out by Kaki, Ikoja-Odongo and Kigongo-Bukenya (2004) that learners' computer illiteracy levels restrict them from utilising the Internet. Earlier studies by Emmanuel and Jegede (2011) and Changthong, Manmart and Vongprasert (2014) found that learner's difficulties in accessing the library were due to limited access during working hours.

This study coincides with Agosto (2011) who identified common challenges that prevent young adults from successful information seeking and use. These common challenges were identified as lack of source knowledge, background and contextual knowledge deficiencies, negative perceptions of libraries and librarians, information avoidance, embarrassment and social unease, use restrictions by parents/guardians, schools, or libraries, access issues, and information overload.

Meyers and Eisenberg (2008) note that earlier research carried out by Williamson et al. (2007), Heinstrom (2006), Herring (2006), Fidel et al. (1999), Gordon (1999), Julien, (1999), Limberg (1999); Todd (1999) and Kuhlthau (1991) has addressed information seeking at secondary schools, i.e. how learners seek and use information for classroom assignments. These studies revealed that learners faced challenges in resolving their academic information needs.

A study was carried out in Canada by Julien and Barker (2009) on how high school learners

find and evaluate scientific information as a basis for information literacy skills development. The study was undertaken to investigate the relationship between curricula in secondary level science classrooms that supports development of information literacy skills and learner's actual skills. The findings revealed that a lack of information literacy skills was evident.

It is evident that most learners do not have the knowledge or skills for seeking information in the library, thus need the assistance of the librarian. Librarians should play a more strategic role in guiding learners on information searching and retrieval. Van der Merve (2013) highlights that at secondary school it is important to offer learners an opportunity to master technological skills such as digital media literacy education to assist learners to develop the ability of inquiry and skills of expression that they require to be critical thinkers. This was further reiterated by the Australian Library and Information Association as cited in Mahwereane and Mudzielwanan (2016); one of the aims is to ensure that by creating proficiency in literacy in young adults the library can make a continuous young adult reader and user of the library. Thus imparting a positive perspective of libraries all through adulthood, in this manner the library is viewed as a noteworthy supporter of the advancement of literacy.

The librarian ought to ensure that training and instruction is given to the user to ensure successful use of the library and information sources (Mahwereane and Mudzielwana, 2016). Through collaboration with teachers, librarians can ensure that information literacy forms part of the curriculum and is coordinated with other basic skills in each classroom (Jones, 2007). In 2011 the South African Department of Basic Education revealed that only 21% of schools had libraries whilst only 7% had libraries that were adequately stocked. Eastwood Secondary School falls within the statistics of existence of a library which is not functioning; therefore learners face challenges in accessing materials in the library. It can also be assumed that there is no designated librarian and a teacher could possibly be playing the role of a librarian. Not having a librarian at the school could also be a reason for the learners' poor library skills, and poor information literacy skills. It is common knowledge that librarians play a strategic role in the knowledge environment (Paton-Ash and Wilmot, 2011).

Learners are expected to use their analytical and critical thinking skills, solve problems and be innovative for the present and the future. This study also found that when information was hard to locate 39.1% of learners sought the assistance of a teacher, 23.7% of learners sought the assistance of a librarian and 21.9% of learners relied on their own thinking; 13.1% of

learners asked others in higher grades and 2.4% learners gave up. These findings tally with Otoide (2015) that teachers help learners to seek information; as learners search for information they move through a period of uncertainty mixed with affective, cognitive and physical actions. This study's findings were also supported by research findings of KaKai, Ikoja-Odongo and Kigongo-Bukenya (2004), that learners consult lecturers when seeking for information.

Adams (2010) carried out a study at Stellenbosch University library on the information seeking behaviour of Generation Y learners. The study found that learners felt frustrated when they were unable to find the needed information. Some of the learners expressed that they even thought of giving up or lost confidence in searching. The findings of Adams (2010) support that of Kuhlthau's (2004) model, that learners feel frustrated when they do not find the needed information. Learners feel frustrated when looking for information when they lack the information searching skills and they expect to find information easily. For university learners to have difficulty in finding information is proof that information seeking and retrieval skills should be taught in secondary schools.

It can be noted that learners are faced with many challenges that needs to be addressed. The IFLA/UNESCO Public Library Manifesto (1996) states that the mission of the library concerning young adult service is to help the individual in accomplishing an effective progress from childhood to adulthood by giving access to resources and an environment that meets the particular needs of young adults for intellectual, emotional and social development. In order for learners to excel in the present competitive South African economy, these challenges have to be addressed especially if we want learners to succeed and for South Africa to succeed economically and politically.

5.6 Information needs satisfaction

This investigation revealed that learners information needs were satisfied with the following sources: the internet by 43.5% of learners; cell phones by 35.5% of learners; the assistance of the teacher by 28.4% of learners; with the school library by 27.8% of learners; with the public/community library by 26.2% of learners; reading a newspaper by 7.7% of learners , television by 11.8% of learners, by listening to the radio by 5.3% of learners, parent/relative by 4.7% of learners , a friend by 3.6% of learners , books at home by 3% of learners , a colleague by 1.8% of learners , a church group by 1.2% of learners and religious leader by 0.6% of learners.

Earlier studies by Chigona, Kwamkwena and Majoo (2008) explored uses and gratification of mobile Internet among South African learners and found that mobility, convenience and immediacy were fundamental motivators for the utilisation of mobile Internet further revealing that the majority of the learners utilised mobile Internet for investigative purposes. This finding is further supported by Porter et al. (2016) that learners used their cell phones to access information for school work. The study by Changthong, Manmart and Vongprasert (2014) found that learners felt confident with the Internet and believed it to contain all the helpful information that they required. In this study, it can be noted that a high number of learners are satisfied with the Internet due to the enormous amount of learning opportunities and easy access to information that is important to the curriculum thus prompting the satisfaction in the utilisation of the Internet. A study undertaken by Agosto and Hughes-Hassell (2005) reveals a preference for people resources especially that of family and friends; learners are more satisfied interacting with people than with computers to find needed information.

Wilson (1999) described two types of information sources/channels that is formal sources such as books, journals dictionaries et cetera, whilst informal sources or channels include communication with family and friends, educators or the librarian. The study revealed that in comparison to formal channels or sources of information, only a small percentage were satisfied with informal channels or sources of information. The results from this study differed to that of Stilwell and Bell (2003) whereby teachers were the highly sought after source followed by radio and television.

5.7 Interpretation of the results in relation to Wilson's (1996) model

This section focuses on interpreting the results based on the model that underpinned the study which is Wilson's 1996 model, (Wilson, 1996) as presented in Figure 1 in Chapter 2 in section 2.2.1. There are various components to Wilson's (1996) model which include the person in context, activating mechanism, intervening variables, information seeking and acquisition and information processing and use. These will be presented with the findings.

5.7.1 The person-in context

Wilson (1999) states that the recognition of the need is influenced by the "context which can be the individual or social roles and the environment". The information needs of grade 11 learners must be understood in the context of their school environment. The particular context

that learners operate in indicates specific needs. The grade 11 learners at the Eastwood Secondary School require information to reduce uncertainty in their school role, to broaden their knowledge, to solve problems when doing homework, projects, assignments or preparing for study purposes. As individuals, they are expected to ‘collect, analyse and critically evaluate information as well as identify and solve problems and make decisions using their critical and creative thinking’ which is crucial to their overall performance as expected by the South African Department of Basic Education (2011).

5.7.2 Activating mechanism (motivators to seeking information)

The activating mechanisms are mechanisms that motivate information behaviour. The stress/coping theory in the learners role, Niedwiedzka (2003) explains, means the bigger the stress connected to decision-making or problem solving, the greater the motivation to seek information. The stress/coping theory may also describe why some needs result in information seeking whilst others may not. According to the findings, learners revealed their academic needs were subjects that related to mathematics; English; physical science; natural/life science; agricultural science; economics and business management; isiZulu and life orientation; accounting; Afrikaans, history and geography; technology and computer science; and tourism and drama. This reveals that when learners are motivated to fulfil their academic needs they seek out the above subject information to assist them. In a stressful situation when information was hard to locate participants turned to a teacher for help and asked a librarian. It is interesting to see that some were able to use their own thinking; whilst some learners turned to others in higher grades and a few revealed that they had given up.

The risk and reward theory helps to describe which sources of information may be utilised more than others by learners. The learners are persuaded to search for information if the danger of not having it is high. Thus learners reflected that the most popular sources needed was the Internet; study guides; textbooks; dictionaries; encyclopaedias; atlas and maps; newspaper and magazines. Amongst these sources of information the Internet was proven to be the most popular this possibly could be accounted to the fact the Internet access through a cell phone or a computer is perceived worldwide to have a huge potential to create and grow learning opportunities and to provide current information that is in line with the schooling curriculum. To support the above point learners also indicated an equally strong preference for printed sources and online sources whilst oral and visual sources were also of preference to a few learners. It can be noted that whilst learners may use printed sources for home work or study purposes however in the event of not being able to find current information in

textbooks or study guides they may turn to the Internet for assistance as the risk of not having the information could jeopardize their class marks. When searching for information the language preferred by learners was found to be English as this was the language that teachers used as a medium of instruction and isiZulu was possibly indicated as this is their mother tongue language as it could be easier to comprehend and perform their school work in their own language. The learners reveal that when performing academic work they accessed information from books at home, via the use of a cell phone, books from another school and books from school. This shows that learners will ensure that they complete their school work to succeed hence will make use of information wherever it is accessible to them

The social learning theory includes the concept of self-efficacy. This involves the learner's belief in his or her own self to successfully accomplish his or her homework by searching for information.

5.7.3 Intervening variables

The intervening variables are personal and psychological factors that may encourage or inhibit information seeking. These are as follows:

- Psychological characteristics of learners: this includes the “style of learning, knowledge of the subject, task, information or search system” (Neiedzwiedzka, 2003:13);
- Demographic background: demographic background such as age and educational level of learners influence information seeking. The learners were in grade 11 the majority 57% were male and 43% were female. The distribution of participants according to their age group revealed that 37% were 16 years old, 44% were 17 years old and 19% were in the 18 years and above age group. Of these participants, it was established that 73.9% were African and only 26.3% were Coloured.
- Role related or interpersonal: the respondents in this study play the role of grade 11 learners, who are required to fulfil their responsibility of studying and performing tasks such as homework, projects and assignments in order to pass and move onto to the next grade. These learners are also young adults who are developing into adults and possibly have a drive to make a success of their lives. It was found that factors that influence these learners' information needs were concerned with school related needs, to careers and college information, by environmental information by, for friendship information; family information; health and safety information; childhood and adolescent information; leisure activities and interest information;

religious/cultural information; and emotional needs and sexuality information. In the role that the learners play they were also found to be amidst challenges such as the poor attitude of the public/community library staff, poor Internet searching skills, poor library skills; perceived lack of awareness of information needs; poor information literacy and an unavailable school media facility which could possibly make their role as a learners and an adolescent difficult whilst trying to solve daily issues. If these learners are to succeed these challenges need to be addressed.

- Environmental variables: These include the economic situation and availability of resources at schools. Eastwood Secondary School is a state funded school and it can be noted Walton and Donner (2012) note there is an unevenness between the South African school educational programs, which requires project based learning and the constrained accessibility of learning resources in government schools, for example, computers, books and libraries. The study revealed that there was an unavailable school library was perceived as the second highest ranked challenge and thereafter an unavailable school media facility. Mahwereane and Mudzielwana (2016) notes that when library services rendered are effective then they will have the capacity to effectively address the issues of the user;
- Characteristic of information sources: Porat as cited in Angchun (2011:14) states that “research on user satisfaction with library services and resources contains two components: satisfaction with systems and services, such as the degree of user friendliness and speed of retrieval; and satisfaction with the content and quality of information obtained”. The study found that learners considered the Internet, the teacher, school library and community/public library as the most important information channels that satisfied their information needs.

5.7.4 Information seeking and acquisition

Wilson’s 1996 model illustrates four modes of information seeking:

- Passive attention: learners were likely to absorb information unintentionally about their school work or day to day lives from information received via television or radio;
- Passive search: whilst learners were searching for information related to academic information needs (mathematics; English; physical science; natural/life science; agricultural science; economics and business management; isiZulu; life orientation; accounting; Afrikaans; history; geography; technology and computer science; tourism

and drama) in utilising sources such as the Internet; study guides; textbooks; dictionaries; encyclopaedias; atlas; maps; newspaper and magazines they could have unintentionally found relevant information;

- Active search: the study shows that these learners are active seekers of information as majority of the learners revealed that they always or often sought information in order for them to accomplish their school based tasks by using sources such online or printed material.
- Ongoing search: the findings show that majority of the learners even when information was hard to locate they sought the assistance of a teacher, a librarian on their own thinking, asked others in higher grades. It shows that these learners carry on searching for information even when learners are faced with difficulties.

5.7.5 Information process and use

The information obtained by the learners whilst performing a school related task was processed, becoming a part of the learners knowledge and was utilised directly or indirectly to influence the school related task so creating new information needs. The learners' mental and physical information procedures form a cyclic process. This study reveals that learners have major challenges when searching for information therefore it is a concern for those 2.4% of participants who have revealed that they give up if they cannot find the needed information and for the 2% of participants who rarely sought information. It may mean that this process is eliminated by those learners who have difficulties in searching for information.

5.8 Kuhlthau's Information Search Process model

Wilson (1999) explains that Kuhlthau's Information Search Process model relates to the active search mode of information seeking behaviour in Wilson's 1996 model, it is an expansion of the Box in the diagram in Figure 2, Chapter 2, section 2.2.2. Kuhlthau's Information Search Process model, in accordance with Wilson's 1996 model, identifies the cognitive, physiological and affective needs that are present during the information seeking process. When learners experience challenges while busy with information seeking activities, these challenges may lead to uncertainty. Uncertainty is a cognitive condition that may lead to an affective state of anxiety and lack of confidence. Wilson's model shows that information behaviour as an individual action is related to the individual's information needs and fulfilled by the utilisation of formal and informal information sources. If the individual's need is not fulfilled, uncertainty will prevail until the need is fulfilled. Kuhlthau's Information Search Process model, as explained in Chapter 2, section 2.3, is relevant as it

suggests that the learners is an active participant in the information search process. The learner's knowledge increases as they interact with the information. Formal and informal communication channels are used for obtaining information and everyday life situations influence the decision making process. It can also be noted that the participants experienced many challenges when seeking for information such as: poor attitude of staff at public/community library, lack of time to seek needed information, poor library skills, poor information literacy skills, lack of awareness of information needs, poor Internet searching skills, unavailable school library and inadequate information resources at the school. Kuhlthau's Information Search Process model on information needs, seeking and use describes feelings, thoughts and actions in an information seeking task with a distinct beginning and end. In the initiation stage, the learners, when tasked with a topic is aware that he/she has an information gap and the learners face feelings of uncertainty and doubt at this point. In the selection stage, the general topic is identified the learners sets out to explore and search for information available on the given topic. Once the learners identifies with the topic of choice the uncertainty is changed to a period of brief optimism and readiness to go out and find the information. It is assumed at this first point of the search that the learners would look toward the school library to find relevant information, however the learners, faced with a challenge of the school being without resources and a without a functioning school library, is likely to be left frustrated. The learners seek assistance from the public/community library where they are confronted with the poor attitude of the staff. It is then assumed that for some of the learners who have poor library skills, poor Internet searching skills and lack of familiarity with public/community library, their search is further hindered, hence they are overwhelmed with feelings of uncertainty. At this stage, some of learners carry on with their search while others give up. The prefocus exploration stage involves the seeking and investigating of information, whilst the collection stage involves gathering information. Here their uncertainty should subside as the learners know how and where to search via electronic and manual means to retrieve relevant information. In the search closure stage, the learner's search is completed and information is collated ready to present a report. Learners are expected to use their analytical and critical thinking skills, solve problems and be innovative for the present and the future. The learners, when presented with a project see a need to find information. The learners perceive a deficiency in his or her knowledge which is required for taking care of problem. Learners were asked what they did when information was hard to locate, Question 12 and the study revealed that learners seek the assistance of a teacher, a librarian, relied on their own thinking or asked others in higher grades whilst some gave up.

5.9 Summary

This chapter provided a discussion of the study's findings as presented in Chapter 4. The findings were discussed according to the research questions. The discussion of the findings was premised on the review of the literature, as well as Wilson's 1996 model, which underpinned the study and was complemented by Kuhlthau's Information Search Process model. The following chapter presents an overall summary of the study's findings, the conclusions drawn, recommendations and suggestions for further research.

CHAPTER SIX

SUMMARY OF RESEARCH FINDINGS, RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

This final chapter presents a summary of the study, conclusions drawn from the findings, and recommendations and suggestions for further research. The study set out to investigate the academic information needs and information seeking behaviour of grade 11 learners of Eastwood Secondary School. A summary for each research question is provided, highlighting important findings. The broad objective of the study was to investigate the academic information needs and the information seeking behaviour of grade 11 learners of Eastwood Secondary School.

This chapter is organised into the following sections:

1. Summary of the research findings
2. Recommendations
3. Recommendations for further research
4. Conclusion.

6.2 Summary of findings

This section summarises the findings with respect to the objective of the study.

6.2.1 Academic information needs and information seeking behaviour

An information need triggers information searching and use that may arise from homework, assignments or projects which leads to a desire to be informed, thus the learners sets out to find and use information. The information that was sought was likely to take the form of subject knowledge. The types of subject information sought are numerous and diverse, subject information needed was concerned with English, Afrikaans, isiZulu, mathematics physical science natural/life science, agricultural science, economics and business management, life orientation, accounting, history, geography, technology and computer science, and tourism and drama -their school subjects.

Otoide (2015) opines that learners require information which is significant in making choices and helping to overcome uncertainty. The grade 11 learners are in a crucial year as they will be passing over to matric, their exit year. Learners are expected, according to the South African Department of Basic Education (2011), to be capable of identifying and solving problems and make decisions using critical and creative thinking and work independently and as individuals of a team. The dominant factor influencing the learner's information needs and information seeking behaviour were concerned with school related information needs and the Internet was the dominant source utilised for accessing school related needs. Whilst seeking for information needs it was discovered that learners were confronted with challenges, such as, poor attitude of the community/public library staff, unavailable school library, inadequate information resources at school, poor Internet searching skills, poor library skills, lack of awareness of information needs, being unfamiliar with community/public library, and poor information literacy. These challenges identified have implications for community/ public library librarians and for a school librarian to step in and play a more strategic role in addressing these challenges that the learner's information seeking behaviour.

6.2.2 Sources of information learners needed and preferred

Hart (2008) emphasized that learners are required to expand their own knowledge through drawing from a variety of resources and in order to perform their school related tasks, and emphasis is placed on the assessment of learning and not memorising from textbooks and educators notes. As information seekers the learners indicated a wide range of sources needed when gathering information were the Internet, textbooks, study guides, dictionaries, encyclopaedias, books: non-fiction, atlases and maps, and newspapers. The Internet was

revealed to be the most sought after information source whilst study guides and textbooks was close behind. The current study supports the studies carried out Fasola and Olabode (2013), and Emmanuel and Jegede (2011) which showed a strong preference for textbooks as information source by learners. This study most preferred format was found to be printed sources followed closely by online sources, whilst oral sources and visual sources fell behind. Grenina (2011) emphasizes the significance of textbooks in the school environment for the acquisition of certain subject information such as literature, history, physics and chemistry. The use of the print format is influenced by school subjects, related tests and teachers' recommendations.

The learners at Eastwood Secondary School mainly belong to the African and Coloured race groups therefore the researcher was curious to establish their language preference when searching information sources in print and online formats. It was found that a majority of 95.3% learners indicated that they preferred the English language whilst 4.7% learners preferred the isiZulu language when searching for information in printed or online form. The high number of learners preferring to search for information in the English language could be due to the school medium of instruction being English.

It can also be noted that learners utilised various locations in finding and using information sources when information is needed. The use of books at home was common and could be due to the immediacy of information need and satisfaction, whilst books borrowed from another school possibly reflects that learners borrow books from family or friends that are in other schools this shows a network of sharing information. Learners are possibly also making reference to the use of textbooks which are loaned to learners for a period of time.

The studies by Waithaka (2013), Donner and Walton (2013) and Porter, et al. (2012) also revealed that learners accessed the Internet via cell phones. The use of the cell phone in searching for information is supported by Chigona, Kankwenda and Majoo (2008), Porter et al., (2016) who found that mobility, convenience and immediacy was the main reason for the use of mobile Internet when searching for information. The learners were required to respond to which channels or sources were presently satisfying their information needs. It was found that the Internet, cell phones, teachers, school library, public/community library, newspapers, television, radio, parent/relative, a friend, books at home, a colleague, a church group, religious leader were all channels that played a role in fulfilling their information needs.

In the school situations educators expect learners to use information for learning purposes therefore it is expected that a high number of learners will often seek information that will enhance their performances. The study found that learners sought information often, always, sometimes and rarely. When learners found that information was hard to locate some learners sought the assistance of a teachers; a librarian; relied on their own thinking or asked other learners in higher grades whilst some gave up. The learners also revealed that when seeking information they were faced with many challenges that are they lacked confidence to search for information as they lacked the information literacy skills, library skills and without a functioning school library it is even more of a challenge to learn these skills.

6.3 Recommendations

On the premise of the survey findings of the study, the following recommendations are made:

(a) Sources of information

- This study found that the main source used when gathering information was the Internet, it is therefore recommended that the Department of Education should build a media centre in every school and a qualified teacher to offer guidance in computer education and Internet searching (Mahwereane and Mudzielwana, 2016).
- The findings also revealed that encyclopaedias, dictionaries, books: non-fiction, atlases and maps, and newspaper/magazines were underutilised hence a marketing strategy is required to ensure that maximum use of these sources.
- It is of vital importance for the school for have a functioning school library to empower their learners.

(b) Challenges in information seeking

- The Department of Education should play a more active role and take ownership of school libraries ensuring a functional library is operating under the supervision of a professional librarian (Mahwereane and Mudzielwana, 2016).
- The community/public library needs to conduct a user survey and assess behaviour and attitudes of library staff.

(c) Factors influencing the learners' information seeking behaviour

- School related information was the main factor influencing information needs and seeking behaviour therefore it is recommended that Eastwood community/public library continue to monitor and update project library services to ensure information materials are current and up to date.

(d) Satisfaction of information needs

- The findings revealed that a large number of learners' needs were being satisfied by the Internet. Concerns relevant about the type of information that learners are satisfied with and their capability to assess the information found on Internet. The recommendation is that learners need to be given information literacy training to help them be proficient searchers and to empower them to critically evaluate Internet information sources (Safahieh, 2007).
- The Internet should be promoted as a resource for research but it should not be replacing all traditional print resources as it is important that learners understand the advantages and disadvantages of the Internet and how it should be used together with other resources (Waithaka, 2013).

(e) Academic information needs

- The study found that the major academic information needs reflected the subject categories of mathematics, physical science and English thus the school should invest in more resources to supplement textbooks.

(f) Information seeking behaviour

- The Eastwood community/public library should step in and provide user education programmes to educate the learners' on the effective use of the library; user education involves both library training and information skills training.

6.4 Suggestions for further research

There are a small number of published studies on the academic information needs and seeking behaviour of secondary school learners in Pietermaritzburg, KwaZulu-Natal, South Africa. The finding of this investigation can provide a starting point for further investigations to gain a more profound comprehension of other aspects of learner's academic information needs, challenges of information seeking behaviour, factors affecting information needs and seeking behaviour, satisfaction of needs and information seeking behaviour. It is recommended that a study on a broader scale be done including other secondary school learners' academic information needs and information seeking behaviour, as this study only involved one school. As a result, this study cannot be generalised to those learners. Further investigation should also be conducted on the learner's information searching skills and information literacy skills to establish exactly what the learners are lacking in order to be of assistance to them.

6.5 Final conclusion

The study focused on investigating the academic information needs and information seeking

behaviour of grade 11 learners at Eastwood Secondary School. The most popular source needed was the Internet, although printed sources proved popular. A large number of learners located information sources at home. It was found that learners often sought information as opposed to occasionally sought information. The most sought after academic information was on mathematics. School related information was a major factor that influenced learner's information needs and seeking behaviour. The most common factor that influenced the use of the Internet was for school related information needs as learners feel that it is easy to locate all or any information that they need for their subjects via the Internet. The biggest challenge to the information seeking behaviour of learners was found to be the poor attitude of the public/community library staff, unavailability of a school library, lack of time to seek for information, poor Internet searching skills, poor library skills, lack of awareness of information needs and lack of familiarity with the community/public library. It was found that a large number of learners used cell phones to access the Internet and utilised the Internet to fulfil their information needs. It was found that learners lacked information literacy, searching and retrieval skills and they turned to teachers and librarians for help. A concern was the 2.4% learners who gave up when they could not find the needed information.

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UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

11 November 2016

Mrs Sunitha Richard 215081576
School of Social Sciences
Pietermaritzburg Campus

Dear Mrs Richard

Protocol reference number: HSS/1858/016M
Project Title: Academic information needs and information seeking behavior of Grade 11 learners of Eastwood Secondary School

Full Approval – Expedited Application

In response to your application received 25 October 2016, 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:

s

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr. Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Ms Mj Monyela
Cc Academic Leader Research: Professor Maheshvari Naidu
Cc School Administrator: Ms Nancy Mudau & Shulika Lukong Stella

take

letter

**Appendix 1:
University of
KwaZulu Natal clearance**

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8360/4567 Facsimile: +27 (0) 31 260 4609 Email: ximbap@ukzn.ac.za / snvmanm@ukzn.ac.za / mohunp@ukzn.ac.za

Website: www.ukzn.ac.za

Appendix 2: Department of Education approval letter



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Phindile Duma

Tel: 033 392 1004

Ref.:2/4/8/852

Mrs S Richard
4 Kalappa Road
Northdale
Pietermaritzburg
3201

Dear Mrs Richard

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: "INFORMATION NEEDS AND INFORMATION SEEKING BEHAVIOUR OF GRADE 11 LEARNERS AT EASTWOOD SECONDARY SCHOOL", in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the Intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 01 July 2016 to 01 December 2017.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Connie Kehologile at the contact numbers below
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report / dissertation / thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

Eastwood Secondary School

Adv. MB Masuku
Acting Head of Department: Education
Date: 26 July 2016

KWAZULU-NATAL DEPARTMENT OF EDUCATION

POSTAL: Private Bag X 9137, Pietermaritzburg, 3200, KwaZulu-Natal, Republic of South Africa ...dedicated to service and performance
PHYSICAL: 247 Burger Street, Anton Lembede House, Pietermaritzburg, 3201. Tel. 033 392 1004 beyond the call of duty
EMAIL ADDRESS: kehologile.connie@kzndoe.gov.za / Phindile.Duma@kzndoe.gov.za
CALL CENTRE: 0860 596 363; Fax: 033 392 1203 WEBSITE: www.kzneducation.gov.za

Appendix 3: Eastwood Secondary School approval letter

Eastwood Secondary School

99 Starling Road, Eastwood, Pietermaritzburg, 3201



P O Box 8642

Cumberwood

Pietermaritzburg

3235

Tel : (033) 390 3517

Fax : (033) 390 3517

e-mail: eastsec@webmail.co.za

30 August 2016

Attention: Ms S. Richards

Re: Proposal to Conduct Thesis Research at Eastwood Secondary

I have great pleasure in informing you that our School Management Team, Educators and School Governing Body have approved your application to conduct your Masters Degree Research at our School.

Please contact the school to finalize your arrangements.

Yours in education.


.....
GM Rampaul
Principal

Appendix 4: Parental consent letter



University of KwaZulu-Natal Library
Email: ayesuni@gmail.com
Date : 05-07-2016

Dear Parent/Guardian

Informed Consent Letter

Researcher:

Institution; University of KwaZulu-Natal
Telephone number: 076 3278656
Email address: ayesuni@gmail.com

Supervisor: Ms. M.J Monyela

Institution: University of KwaZulu-Natal
Telephone number: 033-260 5097
Email address: monyelam@ukzn.ac.za

I, Sunitha Richards kindly invite your child/ward to participate in the research project entitled Academic information need and information seeking behaviour of grade 11 learners of East wood secondary school. This research project is undertaken as part of the requirements of the, Masters in Information Studies which is undertaken through the University of KwaZulu-Natal, Information Studies Department.

The aim of this study is to find out the type of information that the grade 11 learners of Eastwood Secondary School need and also to investigate their information seeking behaviour. Participation in this research project is voluntary. Your child/ward may refuse to participate or withdraw from the research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying your child/ward as a participant will be maintained by the Department of Information Studies, at the University of KwaZulu-Natal.

If you have any questions or concerns about participating in this study, please feel free to contact myself or my supervisor at the numbers indicated above. The questionnaire will take about 20 Minutes to complete

Thank you for giving your child/ward consent to participate in this research project.

Signature _____

Date: 24 October 2016

I hereby give consent for my child/ward to participate in the above study.

Name: Date: Signature:

Supervisor's details

Ms. M.J Monyela
University of Kwa Zulu Natal

Learners' details

Mrs. S. Richards
University of Kwa Zulu Natal

Appendix 5: Learners consent letter



University of KwaZulu-Natal Library
Email: ayesuni@gmail.com
Date : 05-07-2016

Learners Assent Form

Learners Assent Form

I, Sunitha Richard kindly invite you to participate in the research project entitled Academic information need and information seeking behaviour of grade 11 learners of East wood secondary school. This research project is undertaken as part of the requirements of the, Masters in Information Studies which is undertaken through the University of KwaZulu-Natal, Information Studies Department.

If you agree to be in our study, we are going to ask you some questions about information needs and information seeking behaviour. You can ask questions about this study at any time. If you decide at any time not to finish, you can ask us to stop.

The questions require you to answer only about what you think. There are no right or wrong answers because this is not a test.

If you sign this paper, it means that you have read this and that you want to be in the study. If you don't want to be in the study, don't sign this paper. Being in the study is up to you, and no one will be upset if you don't sign this paper or if you change your mind later.

Your signature: _____ Date _____

Your printed name: _____ Date _____

Signature of person obtaining consent: _____ Date _____

Printed name of person obtaining consent: _____ Sunitha Richard _____

Supervisor's details

Ms. M.J Monyela
University of Kwa Zulu Natal
Tel 033 260 5097
Email: monyelam@ukzn.ac.za

Learners's details

Mrs. S. Richards
University of Kwa Zulu Natal
Cell 076 327 8656
Email: ayesuni@gmail.com

Appendix 6: Questionnaire

Questionnaire

Information needs and information seeking behaviour of grade 11 learners of Eastwood Secondary School.

Instructions

Please indicate your appropriate response by means of a cross or tick. Kindly note that all information provided will be confidential, you may withdraw at any point of time from this survey.

Section A

1. Background Information

1.1 What is your gender?

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female

1.2 What is your age?

<input type="checkbox"/>	16
<input type="checkbox"/>	17
<input type="checkbox"/>	18+

1.3 What is your race?

<input type="checkbox"/>	African
<input type="checkbox"/>	Coloured
<input type="checkbox"/>	Indian
<input type="checkbox"/>	White

1.4 What language do you prefer to use?

<input type="checkbox"/>	isi Zulu
<input type="checkbox"/>	isi Xhosa
<input type="checkbox"/>	Sesotho
<input type="checkbox"/>	Afrikaans
<input type="checkbox"/>	English

Section B: Sources of information preferred

2. What sources do you need when gathering information?

<input type="checkbox"/>	Textbooks
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	Study guides
	Books: non- fiction (factual)
	Newspapers/Magazines
	Internet
	Dictionaries
	Encyclopaedia
	Atlas & maps

3. What school subjects do you need information on?

	English
	Isi Zulu
	Afrikaans
	Accounting
	Mathematics
	Physical Science
	Natural Science
	Agricultural Sciences
	Economics and Business management
	Tourism
	Drama
	Computer Science
	History
	Geography
	Technology
	Life orientation

4. What form of information do you prefer?

	Oral Sources
	Printed Sources
	Online Sources
	Visual Sources

5. When looking for information on the Internet or in books/printed format which language would you prefer to find information?

	isi Zulu
	isi Xhosa
	Sesotho
	Afrikaans
	English

If other specify _____

6. Where do you get the information sources?

	Cell phone
	Books at home

	Books from school
	Books from another school

If other specify _____

Section C: Factors influence information need

7. What are the factors that influence your information need?

	School information
	Health and safety information
	Family information
	Friendship information
	Religious/Cultural information
	Personal information
	Careers and college information
	Leisure activities and interest information
	Sexuality information
	Emotional needs information
	Childhood/adolescent information
	Environment information

If other specify _____

8. How often do you seek information?

Always	Often	Sometimes	Rarely	Never

9. When using the internet do you use it for?

	Personal informational needs
	School related information needs
	Career related information needs
	Or only for social (communicating with friends)

Section D: Challenges of information seeking

10. What are the challenges that you experience in locating information?

	Unavailable school library
	Inadequate information resources at school
	Poor library skills
	Poor information literacy skills
	Unavailable school media facility

	Poor internet searching skills
	Lack of awareness of information needs
	Unfamiliar with public/community library
	Lack of time to seek needed information
	Poor attitude of the Public/Community Library staff

If other specify _____

Section E: Information need fulfilled

11. How is your information needs being presently satisfied?

	School library
	Public/community Library
	By listening to radio
	Television
	A friend
	Teacher
	Reading newspaper
	Religious leader
	A colleague
	Church group
	Internet
	Parent/ relative
	Books at home
	Cell phone

12. What actions do you take if information is hard to find?

	Ask a teacher
	Ask others in higher grades
	Ask librarian
	Use your own thinking
	Or give up

If other specify _____

13. If you used the library to find information, how did you find information?

	I asked the librarian for help
	I used the catalogue
	I looked on the shelves
	I searched the Internet
	I asked for help to search the internet
	I asked a friend
	I asked an adult

If other specify _____

Thank you....