



**UNIVERSITY OF  
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**INYUVESI  
YAKWAZULU-NATALI**

**The use of the Internet by grade 11 learners from selected schools in the Sekhukhune district, Makhuduthamaga local municipality in Limpopo Province.**

By

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Submitted in partial fulfilment of the requirement for the degree of Master of Information Studies (coursework 50%) in the Information Studies Programme, School of Social Sciences, College of Humanities, University of KwaZulu-Natal,  
Pietermaritzburg  
2015

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## **DECLARATION**

**I, Mpubane Emanuel Matlala**, declare that this research report is my own, unaided work and that all the sources that are used or quoted have been indicated and acknowledged by means of complete references. This research is being submitted in fulfilment of the requirements for the degree of Master of Information Studies in the University of KwaZulu-Natal, (Pietermaritzburg campus). It has not been submitted before for any degree or examination in any other university

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**Signature**

**Date**

## **Dedication**

This thesis is dedicated to my family for being the source of inspiration and my conscience, thereby inspiring in me confidence to pursue my dreams and instilling in me a sense of passion for success by their unwavering and relentless spirit in their belief in the power of education.

## Acknowledgements

First and foremost, I would like to honour and thank my greatest teacher of all: God. I know that I am here and that I am able to write all of this for a reason. I will do my best in never forgetting what great fortune I have had in just being here and that it comes with a lesson and a responsibility. I hope I am doing the work you have planned me to do.

The writing of this dissertation has been one of the most significant academic challenges I have ever had to face. Without the support, patience and guidance of the following people, this study would not have been completed. It is to them that I owe my deepest gratitude.

My supervisor Mr. Siyanda Kheswa. There are no proper words to convey my deep gratitude to you, Sir. You have inspired me to become an independent researcher and I would like to thank you for your unwavering dedication and commitment, scrutiny of the work and timeous feedback.

My parents: Mr. MP Matlala and Mrs. KV Matlala. Without your enduring love and support, I would not be the person I am today. Your selfless sacrifices have enabled me to have opportunities I never would have dreamed of, and I promise to make you proud in my future endeavours. My appreciation for you is endless and continues to grow with each passing day. I owe a deep sense of gratitude to you indeed you have been a source of inspiration and encouragement without your guidance I would have never had the courage to overcome the adversities I have faced. The only thing I aspire for is that wherever you go you will have a reason to celebrate and be happy in your lives. You would say, "We are proud of our son." *Thank you, thank you, and thank you.*

A journey indeed is easier when we travel together. Interdependence is certainly more valuable than independence. This thesis is the result of the help from the Information Studies Programme staff; Mr. Athol Leach, Mrs Fiona Bell, Dr Zawedde Nsibirwa, Prof Ruth Hoskins and Prof Stephen Mutula. They were always there when I really needed them. Thank you doesn't seem sufficient but it is said with appreciation and respect to your support, encouragement, care, understanding and an unforgettable experience for me.

Credit goes to Dr Rose Kuhn for her diligent and meticulous editing of this thesis by providing valuable suggestions. I would like to thank my Masters classmates that I have met in my new home far away from home called Pietermaritzburg. Specially Mr Ndoda Mdluli, Mr Andile

Kweyama, Namhla Marwexu, Gugu Vidima, Mbali Lunga and Sonti Mahlatsi for their love, care, support and creating a pleasant atmosphere for me here.

It's my fortune to gratefully acknowledge the support of some special individuals. Words fail me to express my appreciation to my friend, Dr Mathodi Motsamayi for his support and generous care. He was always beside me during the happy and hard moments to push me and motivate me. I can see the good shape of my thesis because of his help and suggestions in formatting the entire thesis. I am ever indebted to my uncle Mr Kotole Nkadimeng and I admire his distinguished helping nature, sincere encouragement and inspiration throughout my research work and lifting me up hill in this phase of life.

My gratitude also goes to the principals and grade 11 learners of the following schools: Bopedi Bapedi, Rebone, Masemola, Ngwanamatlang, Legare, Mmamokgokoloshi, and Rantobeng for allowing me to conduct this study in their schools and grade 11 learners for participating in this study by completing the questionnaires. This undertaking would not have been possible without their cooperation. They bared it all to a stranger only for the success of this project.

I am also extremely indebted to my uncle Mr Tseke George Nkadimeng for laying a foundation with the Department of Education by keeping them on their toes to process the granting application for the selected schools. I warmly thank you for that effort you provided which buttressed me to perform my data collection comfortably. I am highly indebted to my siblings (Mathabo, Mbali and Mahlogonolo) for their unstinted support throughout this long, torturous and lonely journey that could never have been completed if it was not for their support and spurring words.

I gratefully acknowledge Mr Mark Rieker for his assistance with SPSS analysis, encouragement and personal attention which have provided a good and smooth basis for this study. A very special acknowledgement goes to Basetsana Ramushu who supported me and made me feel like anything was possible. It is also my pleasure to acknowledge my following friends for their constant moral support: Nelly Mothupi, Martha Mokgehle, Mogale Stephen, Pretty Ndebelelo, Promise, Hamese Russel and Lethabo Ledwaba.

Finally, I would like to thank anyone whom I did not mention above who contributed in any fashion to this dissertation. *Ke leboga thekgo ya lena.*

## **Abstract**

ICTs are rapidly changing the ways of exchanging and receiving information and provide positive ways of learning and teaching. The sensational growth of internet usage is moving fast and has changed the lives of millions of people around the world. For learners, the usage of the internet is a crucial tool for educational progression.

The study is based on internet usage at seven high schools in Limpopo, undertaken to obtain learners' views regarding their use of the internet, their reasons for using the internet and the impact of internet use on educational activities. The study wanted to find out what learners used the internet for; what internet services were found to be most useful and relevant to learners and how often learners used the internet. The study further investigated whether learners had the necessary skills to utilize the internet and also identified challenges that learners experienced when using the internet. Conclusions were then drawn and a set of recommendations were provided based on the findings of the study.

The sample was drawn from schools in Makhuduthamaga where 264 learners were surveyed and results were analysed using SPSS. In the assessment process, frequency and percentage graphs were drawn to summarize the results. It can be noted that the use of the internet amongst these grade 11 learners was popular and they pointed out that the internet is a source of all information for them, that is convenient and reachable. The majority of the learners, 205 (78%) used the internet for learning purposes and it was discovered from the results that the internet services used by learners were mainly social networks, 151 (57.2%), followed by Google 216 (82%) and 25 (9.4%) respondents used email. The majority of the respondents 150 (56.8%) had problems with the cost of the internet. The most common problems of all were the slow speed of the internet and network problems.

Recommendations included the need for the South African government to better fund the public secondary schools in order to provide quality education. Provision of more funds by the Department of Education will assist in providing resources needed such as internet connectivity and better facilities (such as school library) in the schools. Internet access will enable learners to access online information sources for educational purposes since most learners use their smart-phones to access the internet in the absence of school library, public library and information centre in their community.

## **List of abbreviations and acronyms**

ALIWEB	Archie Like Indexing for the Web
ARPANET	Advanced Research Projects Agency Network
E-Mail	Electronic mail
GDP	Gross Domestic Product
ICT	Information and Communication Technology
PC	Personal Computer
SPSS	Statistical Program for Social Science
TCP/IP	Transmission Control Protocol and Internet Protocol
UKZN	University of KwaZulu-Natal
US	United States
USSR	Union of Soviet Socialist Republics
Wi-Fi	Wireless Fidelity
WWW	World Wide Web

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# Chapter One

## Introduction and background to the study

### 1.1 Introduction

This chapter focuses on the following: an introduction to the study, an in-depth discussion of internet use specifically in the academic environment, the statement of the problem, the research questions guiding the study, the rationale of the study and the conceptual framework. It also provides a brief history of the Sekhukhune district and the mission of the municipality. To conclude, the definitions of key terms are provided and the limitations of the study are discussed.

It is undeniable that currently we are living in the digital information era where the use of the internet is perceived as the key catalyst in the current and future social and learning environments because of the rapid emergence of information and communication technologies (ICTs) which brought about a revolutionary change in service and information provision in schools and education. Masrek, Abdul and Johare (2012: 129) argue that the use of the internet in education is practically inescapable because most universities incorporated the use of the internet in their teaching and learning methods. For example, the lecturers use the internet to give out the assignment to students and also receives the completed work through the internet. Therefore, looking on the student's part, the internet would arguably be the first resource to refer to whenever they want to start doing their tasks and assignments.

In the 21<sup>st</sup> century society, internet use has come to the fore-front of social change by helping teachers to tap into the digital learning styles of their learners. For example, the internet can facilitate collaborative learning and provide innovative ways for educators to involve learners in their subject matter and there is no doubt that the use of the internet has promoted the development and implementation of new innovative ways of sharing information as well as easily accessing it. Loan (2011: 431) argues that in 2011 the population of internet users worldwide was 1, 733, 993, 741, almost 25.6% of the total world population. The highest percentage of internet users are within the younger generations who opened their eyes in the full light of the internet age. "The high school learners are the main dominators of these services and sources as they are well versed with the new technologies and their applications in the present networked society" (Loan, 2011: 431).

Shivaraja (2014: 195) argued that internet access offers unimaginably vast amounts of information, knowledge and informative resources. The Internet is the largest source of information at the global level due to its powerful provision of dynamic means for communication. Used between educators and learners it effectively enhances their academic excellence by providing them with access to global information, the latest information, enhances the way people communicate with one another and provides learners with opportunities to effectively present their ideas, engage in online discussions and collaborate. Anah and Babatunde (2012: 601) are of the view that the utilization of the internet plays a crucial role in helping learners' access vast amount of materials from diverse parts of the globe and enhances learning which in turn improves lifelong learning skills of learners. The use of the internet around the world has been growing rapidly. Some people who use the internet and some can't manage without it, because it has become an essential and indispensable personal and educational tool. The use of the internet serves the role of change agent within the classroom environment and stimulates reflection, update and change. Ayub, Hamid and Nawawi (2014: 233) argued that the advances of ICTs have resulted in the enabling of the internet to be used to serve as a platform not merely to seek information but to enhance the exchange of ideas and knowledge among people and obtaining expert opinions via chatting, email and other avenues. However, the use of social networks has changed opinions about internet use from that associated with learning to that of a socializing environment and therefore website applications have resulted in the internet being used for both academic and non-academic endeavours.

The researcher concurs with Olatokun (2008: 138) when he asserted that the internet has opened countless new horizons for learners because using the internet has provided a very open approach to education where learners are no longer dependent on their teachers or textbooks only as their sources of information or limited only to what is in the school library, due to the internet being a functional tool which changes the way learners go about their studies. Batane (2013: 117) stated that "the use of the internet is an undeniably powerful tool in enhancing the quality of education". Indeed, the use of the internet has previously and is persistently assuming a pivotal role in changing people's lives especially learners as some depend primarily on the internet for their academic work. The internet provides instant access to vast amount of information for learners to source from and it also enhances communication and networking between the learners. Furthermore, the use of the internet provides current information on

different issues of learners' interests and also gives them a platform to share skills and information.

According to Anyanwu and Ossai-Onah (2013: 11) there is no doubt that technological innovations such as the internet has shifted the focus of the learners from physical use of the library to the usage of internet anywhere by ensuring innovative ways of sharing information and easily accessing it. In the 21<sup>st</sup> century society, internet use has come into the fore-front of social change and undoubtedly has been acclaimed to be the world reservoir of information and gateway to knowledge (Anyanwu and Ossai-Onah, 2013: 11). Ureigho, Oroke and Ekruyota (2006: 054) argued that "the internet provides ample opportunities for the academic endeavours and it is a mechanism for information dissemination and a medium for collaborative interaction between learners and their ICT tools without the regard for geographic limitation of space." The internet has become one of the most vital tools of communication and it provides learners with the opportunity to effectively present their ideas, lead online discussions and collaborate.

Lesame *et al* (2012: 59) outlined that there is no doubt that the use of internet is playing a major role in changing how people live, work, play and learn. The internet has revolutionised communication, access to information, education and entertainment. For instance, it was tough in the past during the 19<sup>th</sup> Century where one will post a letter and it would take some months to reach its destination, but now one can send an e-mail via the internet with documents attached which can reach its destination within a matter of seconds. The Internet is the greatest advancement in the realm of information technology and has become a valuable instrument that fosters the process of transforming the world into a global village.

## **1.2 Background to the research problem**

Today, the internet has an important role and great potential in the educational environment. The internet has an enormous impact in many areas, most notably on the basic and higher educational system. The academic community is increasingly dependent on the internet for educational purposes (Bashir, Mahmood and Shafique, 2008). Devi and Roy (2012: 183) argued that the internet is a multipurpose tool with varied potential as it enables learners to communicate with other learners, at home and abroad and share each other's ideas, knowledge, and experiences. Furthermore, it enhances the skills and capabilities of learners, which assist them in their studies and professional lives.

*The academic landscape in the education sector has been comprehensively transformed by the recent advances in Information and Communication Technologies (ICTs) and the teaching and learning processes along with educational programmes and pedagogy of instructions are being restricted, reformed to meet the expectations of a whole new breed of learners entering the Universities (Devi and Roy, 2012:183).*

According to Chhachhar *et al* (2013: 32), the internet allows learners to think and write critically and prove their capabilities within their societies because it gives them the opportunity and space to source the information, knowledge and skills for current information about the world and research. The internet can be used for many purposes, which include education, communication with each other and social networking. The internet may afford learners the benefit of undertaking various activities related to their academic studies and also be used for knowledge generation as well as personal development.

### **1.2.1 Background and context: Brief background of Makhuduthamaga Local Municipality**



**Figure 1: Map portraying Makhuduthamaga Municipality, Limpopo Province**  
Source: <http://www.localgovernment.co.za/locals/view/126/Makhuduthamaga-Local-Municipality#map>

Makhuduthamaga local Municipality falls under the Sekhukhune District and has been classified as one of the poorest regions in Limpopo. The Sekhukhune District is an area with a long and proud history. The integrated development plan of 2008/09 for the Greater Sekhukhune district Municipality states “Sekhukhune district is a place of majestic beauty with regal mountains, lush valleys and meandering rivers and today contains the largest reserves of platinum group metals in the world” (Greater Sekhukhune District, 2008: 13). It is a land blessed with natural beauty, unusual resource endowments and a compelling history dating back to the 16th Century. The Sekhukhune District Municipality was established in December 2000 and it consists of five (5) local municipalities, namely Elias Motsoaledi, Ephraim Mogale, Greater Tubatse, Fetakgomo and Makhuduthamaga.

This study is based in Makhuduthamaga local Municipality. To provide a brief overview of Makhuduthamaga, the name Makhuduthamaga was first used in the 1950s in recognition of the organization formed mainly by the migrants and the peasants who fought for democracy in Sekhukhuneland (Mashaba, 2014: 18). This organization was formed to unite the people of Sekhukhuneland against the colonial, apartheid and separate development regime of the previous white dominated minority in the Republic of South Africa. Nkadimeng (2006: iii) argued that Makhuduthamaga means ‘Resisters’ and Khuduthamaga literally means the Executive committee and it denoted those who joined the organization.

Under the Makhuduthamaga Municipality there were successful educational campaigns that have been embarked on over the years, with the collaborative efforts of the Department of Education in Sekhukhune District. The main thrust of the campaign was “bettering the matric results” for the area. In terms of the 2001 Stats SA census report Makhuduthamaga registered the highest population in the country of people without formal schooling and also registered the lowest population of people attending institutions of higher learning.

The standard of living in Makhuduthamaga Municipality region involves a complex combination of factors such as a lack of access to productive assets, financial resources and low cost of living due to lack of infrastructural access with ICTs and creating a digital divide in the area. In general, people living in the area experience high levels of illiteracy, inadequate limited access to social services amongst them and slow rates of access to telecommunication systems in the area.

### **1.3 Research problem**

The use of the internet in high schools is becoming more widespread and provides a boost to traditional teaching and learning methods of teachers and learners respectively which could be helpful if the learners can realize and use it to their advantage. Learners in secondary schools can benefit from the wealth of information available on the internet. The internet can be used, for example, in searching for relevant materials related to one's educational work and learning, and also in acquiring any information relevant for knowledge development. In this light, the study seeks to investigate the use of the internet by grade 11 learners from seven (7) secondary schools in the Sekhukhune district, Makhuduthamaga local Municipality in Limpopo province.

Most specifically, the study sought to understand for what purposes learners use the internet and what internet services are relevant and most important to them. Despite the fact that the use of the internet has positive outcome towards education, it has to be noted that the selected schools are situated in the rural areas where there is unavailability of public libraries and school libraries. This makes the study relevant in terms of proposing alternative ways of accessing information like the internet which could be used for positive reasons by different users depending on their needs and in this context for accessing learning materials. Today learners are referred to as the "net generation" and as such may always use the internet for various purposes. However, if it is put to good use, the internet can benefit learners academically.

The Makhuduthamaga local Municipality is absolutely rural in nature and dominated by "a weak economic base, poor infrastructure, major service delivery backlogs, dispersed human settlements and high poverty levels" (StatsSA, 2015). Therefore, the challenge faced by the schools within the Municipality is that the majority of its rural communities' still lack access to ICTs, telecommunications infrastructure and low connectivity. The issue of internet connectivity in where the schools are situated is deplorable. Magoro (2014: 1) argue that the reason why connectivity is low in rural areas is precisely manifested by the inadequacy of broadband and terrestrial infrastructure.

### **1.4 Purpose of the study**

This study seeks to investigate the use of the internet by grade 11 learners from selected schools within the Makhuduthamaga Municipality in Limpopo province, by seeking to understand what it is mostly used for.

## **1.5 Research questions**

- How do learners access the internet?
- What do learners use the internet for?
- To what extent do learners recognise and use the internet for educational endeavours?
- How often do learners use the internet?
- To investigate what are the internet sources that learners use the most
- Do learners have the necessary and sufficient skills to use the internet?
- What challenges do learners encounter when using the internet?
- What solutions can be employed to overcome these challenges?

## **1.6 Rationale of the study**

According to De Vos *et al* (2002:103) research should be useful in three broad respects which are: contribution to knowledge, the relevant policy arenas should find usefulness and meaning in the study and the study should be useful for practitioners. It is expected that the study will provide readers with a general knowledge as to why learners use the internet.

In terms of contribution to knowledge, this study intends to extend the existing knowledge regarding the use of the internet amongst secondary school learners. Since few studies have been done at this basic education level the study intends to fill the gap in the literature pertaining to the use of the internet. The recommendations of the study may help in bridging this gap. The study is also likely to form the basis for future research on the use of the internet for academic purposes in a different context.

In terms of informing practice, the study intends to contribute towards better and more effective use of the internet by high school learners. This study could be of benefit to learners as well as schools because valuable feedback could help learners realize the benefits of internet use in their education and the support it provides when doing their school work especially if they do not have alternative means to search for information such as a community library, school library, telecentres, etc. The use of the internet can shape the ways in which information is received and processed for scholarly activities. Schools can support learners in the use of the internet to enhance their performance to produce better results.

In terms of policy, this study might encourage teachers to integrate internet with their teaching methodology in a classroom environment and the findings of the study could assist in curriculum design which incorporates information and technology literacy. This study could provide an interesting general insight into the extent to which the internet is being used in South Africa rural secondary schools and the effect it has on learning.

## **1.7 Delimitations**

The study focused on seven (7) schools selected from a total of 11 schools. This research targeted only grade 11 learners from the seven schools within the Makhuduthamaga local Municipality. The researcher chose the schools within the Sekhukhune District on the basis of their meeting the selection criteria, namely; that they do not have school libraries and there are no community libraries where the schools are situated. The assumption underpinning the focus on grade 11 learners is that many of them will be in grade 12 the following year and they would use the internet for their studies. The exclusion of current grade 12 learners was informed by the assumption that by the time the researcher wanted to collect data they would be busy preparing for exams and were thus not to be disturbed since this will determine their future regarding tertiary education.

## **1.8 Broader issues to be investigated**

The study examined two broader issues. These are the issues related to the study that the researcher is aware of but will not be focusing on in the current study. The two issues are digital divide and information literacy.

### **1.8.1 Digital divide**

Lesame (2005:3) defined digital divide as

*the gap between the access of individuals, households, organisations, countries and regions at different socio-economic levels to ICTs and internet usage. Therefore, the digital divide not only refers to the gap between the affluent, urban 'haves' and the impoverished, rural 'have-nots', but also to the digital and ICT chasm between the African continent and the developed world.*

In other words, the digital divide includes the gap between people that do not know much about technological innovation and the group of people who know a considerable amount about it. The digital divide exists and is a major issue in some countries because most learners within

high schools do not have access to ICTs and some learners do not even know a little about the use of ICT tools, such as the internet. Therefore, the divide has also been manifested in the lack of access to those resources and that creates an imbalance between rural and urban learners. There is no denying the fact that while the younger generations are seen to be extremely tech-savvy, many are not computer literate. However, this digital divide is not only about the access to technology but also knowing why and how to use certain ICT tools to save time and learn more. For example, there is evidence that many learners who forward e-mails with a 10 M file video attachment, do not know that the same file is on YouTube and they could just send the link. Most of these learners have access to technology but do not have the knowledge of using it properly. The digital divide creates a situation where people that have a lack of ICT knowledge can easily be exploited.

Rayner, Wall and Kruger (2004: 18) noted that currently we live in an information-rich society. Many people see an imbalance within society between those who have access to information and those who do not. In general, learners belong to the former category, particularly when they have access to the internet and possess the skills and knowledge necessary to retrieve information from it. Such access has its downside however. So much information is currently accessible through the internet that it is very easy to suffer from an overload of information and data. It is essential for learners to learn how to be selective in gaining access to and retrieving information. Equally important is how to make the best use of the information obtained. This lead to the second broader issue, namely, information literacy.

### **1.8.2 Information literacy**

*Information literacy is the ability to recognize that accurate and complete information is the basis for intelligent decision making, recognize the need for information, formulate questions based on information needs, identify potential sources of information, develop successful search strategies, access sources of information including computer-based and other technologies, evaluate information, organize information for practical application, integrate new information into an existing body of knowledge and use the information in critical thinking and problem solving (Doyle, 1994:3).*

Salleh, Halim, Yacoob and Yusof (2011: 506) argued that information literacy is the ability to access, evaluate, and use information from a variety of information sources that existed as a

result of the advancement of technological innovation and it is considered as an ingrained instinctive skill in the current information age because information literate people know how to locate, assess, and use information viably in their assignments or projects from a computer and the internet instead of drowning in the plenitude of information that floods their lives with no success. From the intellectual point of view it is of common knowledge that learning which is active and integrated depends on the information resources of the real world. It has been noted, however, that teachers teach learners to regurgitate information from the textbooks and provide exactly as it is and therefore this does not create active learning environment.

Information literacy is thus a set of abilities enabling learners to be able to recognize when information is needed, and to locate, evaluate, and effectively use the needed information in their given assignments. It is also a necessary skill for all learning environments, and for all levels of education because it enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their learning (American Library Association, Presidential Committee on Information Literacy, Final Report, 1989).

## **1.9 Conceptual framework.**

The study has been informed by a conceptual framework in the form of the network literacy model, which is the ability to identify, access and use electronic information from the network. McClure (1994) as cited in Bawden (2001: 22) argued that the basic four cardinal pillars of network literacy are relevance, use, skills and knowledge. This study concentrated on the network literacy model from the user's perspective and it was chosen on the basis of its four cardinal pillars. For the purpose of this research, the working definition of network literacy is that:

*It is a critical skill for citizens in the future, who must be able "to identify, access, and use electronic information from the network if they wish to be productive and effective in both their personal and professional lives. The necessary knowledge includes awareness of the range and use of globally networked information resources and how to apply such resources in everyday problem solving and improving individual quality of life. Particular skills would include an understanding of how to search for, browse, and retrieve desired materials and how to manipulate networked information with other resources to add value (Kahin and Keller, 1995: 202).*

The Grade 11 learners from the selected schools were arguably judged according to the four cardinal pillars of network literacy, which are outlined by McClure (1994) as relevance, use, skills and knowledge. The cardinal pillars are applicable to the broader questions of information literacy covered above and to learners when they are accessing the internet.

#### *Relevance*

- The learners' ability to identify whether information obtained is suitable to their needs, ability to read, assimilate the information and to access information via electronic devices and locate and verify it for future usage.

#### *Use*

- Using the information in educational endeavours.

#### *Skills*

- The learner's competency of retrieving specific types of information from networks, manipulation and use of networked information to help make scholarly work-related and personal decisions.
- The ability to identify the location and select information via internet searching.

#### *Knowledge*

- Learners' awareness of the range and uses of networked resources with an understanding of their role and uses of networked information in problem solving and basic life activities
- An understanding of the system by which networked information is generated, managed and made available.

Adapted from McClure (1994).

## **1.10 Preliminary literature review**

The preliminary literature review discusses and explains the intellectual progression of major debates related to the subject. The literature review presents the historical overview of a subject at hand, initial development and the current situation, possibilities of new inventions, including problems and issues raised, arguments discussed, strengths and weaknesses. This enhances knowledge, sharpens understanding, stimulates new ideas and broadens researchers' perspectives on the topic. Chapter Two will outline studies on the use of the internet by learners

conducted internationally, in Africa and South Africa. The review will reveal that there is a fair amount of literature available on the use of the internet specifically in higher educational institutions, but no in depth study has been done on the use of the internet by grade 11 learners in Sekhukhune District.

## **1.11 Methodology**

This study used a quantitative research approach informed by the positivism paradigm. The survey research method was used to establish the use of the internet by grade 11 learners from selected schools in the Sekhukhune District, Makhuduthamaga local Municipality in Limpopo Province. In terms of data collection, the self-administered questionnaires were used because of the advantages they provide when compared to other data collection instruments. The questionnaire consisted of both open and closed questions. Questionnaires were distributed to all 264 learners from the seven selected high schools. The research method is further discussed in detail in Chapter Three.

## **1.12 Definitions of key terms**

**Information Communication Technology (ICT)** “the combination of computing hardware and software with the capabilities of communications networks that provide new opportunities for teaching, learning and training through the delivery of digital content” (Prytherch, 2000: 357).

**Internet** is the worldwide network of networks that all use TCP/IP communications protocol and share a common address space. It commonly support services such as e-mail, World Wide Web, file transfer and internet relay chat (Mthethwa, 2014: 1).

**Wi-Fi** the wireless fidelity is a technology that allows an electronic device to exchange data or connect to the internet wirelessly using radio waves (Paul and Sushmit, 2014: 130).

**WWW** the World Wide Web is a system of interlinked hypertext documents that are accessed via the internet. With a web browser, one can view web pages that may contain text images, videos and other multimedia and navigate between them via hyperlinks (Choudhury, 2014: 8096).

## **1.13 Structure of thesis**

The chapters will be as follows:

### **Chapter One: Introduction**

This chapter introduced the study, gave background to the problem, the significance of the study, research questions, rationale of the study, delimitations of the study, broader issues and the conceptual framework of the study.

### **Chapter Two: Literature review**

This chapter will review literature pertaining to the use of internet by secondary school learners.

### **Chapter Three: Research methodology**

This chapter of the study will provide a detailed discussion of the research methodology adopted. Relevant issues such as research paradigm, research approach, research design, population, sampling, data collection method, and matters of reliability and validity of instruments will be discussed.

### **Chapter Four: Results**

This chapter presents the results obtained from the analysis of the questionnaires.

### **Chapter Five: Discussion of the research results**

This chapter will discuss the findings presented in the previous chapter. The discussion will be structured around the key research questions of this study.

### **Chapter Six: Summary, conclusions and recommendations**

This chapter will highlight the conclusions of the study and put forward recommendations based on the findings. Suggestions for further research will be made.

## **1.14 Summary of the chapter**

This chapter introduced the study. The statement of the problem, purpose of the study, the research questions, and rationale for the study were discussed. Other issues covered included a brief history of the Municipality in the area of study. Key concepts were defined in order to acquaint the reader with their use in the research. The rationale for the study and delimitations of the study were presented. The structure of the thesis was provided.

## **Chapter Two:**

### **Literature review**

#### **2.1 Introduction**

This chapter reviews scholarly studies related to the use of the internet by learners from high schools. The researcher also explored relevant studies undertaken in the institutions of higher learning to highlight the significance of internet usage for academic purposes. The literature review chapter aims at examining how learners use the internet, for what purpose do they use it and what challenges they face when using the internet. This will enable the researcher to overview the research into internet use in schools, especially high schools.

#### **2.2 Overview**

According to Hart (1998: 07), a literature review is a body of text that aims to review the critical points of current knowledge, methodological approaches used and arguments made on a particular topic by showing major issues or problems, and in order to identify the gap existing in the current study and indicate the likelihood of research questions for qualitative research and hypotheses for quantitative research. Neuman (1997: 88) stressed that a literature review is based on the assumptions that knowledge is accumulated and as a result we learn from it and build on what others have done.

Based on the above account, it is an evident that a literature review provides evidence on what has been published previously by scholars on a particular subject of interest with details that are related to such subjects. Therefore, a literature review presents the historical overview of a subject and content of the current situation, these include problems, issues raised, arguments discussed, strengths and weaknesses. This information enhances knowledge, stimulates new ideas and broadens researchers' perspectives on the topic. In support of the importance of this section, De Vos *et al* (2011: 238) postulated that a literature review is important not only for the clear formulation of the problem studied, but also for executing the planning and actual implementation of the investigation of the problem.

Neuman (1997: 89) outlined the following in terms of the importance of the literature review in research:

- To demonstrate a familiarity with a body of knowledge already existing in order to establish credibility. This gives a reviewer background knowledge into the competence and ability of a researcher.
- The literature review in research aims to show the path of prior research done and relation to the current project.
- To integrate and summarize what is already known in the area of research. A review identifies various studies done in different places and synthesizes different results.
- The literature review highlights key areas where prior studies correlate, differ where possible, where major questions were raised and indicates the direction for future research.
- The literature review stimulates new ideas and suggests hypotheses for replication.

In the context of this study, the available literature reveals that much has been written regarding the use of the internet in higher education institutions. However, not much has been written on the use of internet in high schools. The researcher found that there was no published study on the use of the internet by high school learners from the Sekhukhune District in Makhuduthamaga Municipality of the Limpopo Province. For this reason, the researcher found it necessary to conduct this research to address this issue.

According to Lesame, Mbatha and Sindane (2012: 9), “The internet constitutes the electronic network of networks that links people and information through other digital media technologies and allows both interpersonal communication and information retrieval”. This supports the claim by Muniandy (2010: 172) who postulated that the internet offers benefits which are communication and information. Ani *et al* (2010: 535) argued that ICTs are a “commonly used tool for information gathering, processing, storage and retrieval and dissemination in the emerging knowledge economy particularly in the advanced information societies”. Internet use has the potential to improve the quality of education and it also increases understanding of theoretical and critical concepts.

One may argue that the rapid growth of technological innovation has led to widespread use of the internet and people are, as a consequence, able to search and use information from various sources. Internet use has infused all facets of society, with some of the most significant changes

occurring in the field of learning and teaching. For example, the manner in which learners and teachers conduct themselves at schools is invariably affected by technological innovations. Kobayashi (2008: 202) argued that the internet holds the greatest potential for learners to develop profound knowledge and execute reflective thoughts within particular tasks that they generally will not have access to without internet use, and furthermore, it provides capabilities to supplement learners' learning styles and multiple intelligences.

The internet being a global medium with a standout possibility to reach everybody on the globe, it is evident that its use allows for instantaneous sharing of information to and from any part of the globe. Through its electronic chat facilities or instant messaging, the use of the internet makes it feasible for people to communicate with others both at the interpersonal, educational and socialization levels of communication. It also permits learners to access vast amounts of information. This is supported by Adedayo (2002: 4) who outlined that the enormous growth of internet use is in association with the development of other electronic communication technologies have resulted in changes in many spheres of learning and education. The internet has become a key element in what is seen as the globalization of education due to the fact that the internet is found in every nation, providing information and contact instantaneously to those who have access at any point on the globe. The recent advancement of the internet is its social networks, for example, Facebook, Twitter, LinkedIn, WhatsApp and My-Space are efficient in enhancing the interactional and socialization dimensions of learners.

Interacting through the use of ICT tools, especially the asynchronous sort, for example, online discussion makes it feasible for learners to communicate with their schoolmates and teachers, to provide useful engagements during interaction and share helpful information, and to accommodate collective critical thinking without space and time constraints. The asynchronous communication forum, for example, the discussion group gives more structure to exchange and engages reflective thinking. The asynchronicity offers learners an impressive point of preference to think, process information, reflect, and build meaning at one's own pace, and respond when they wish to send a written message in a clear and concise way. Moreover, an asynchronous text-based online environment reduces the learners' cognitive load and the need to depend on memory to process vast amount of facts and ideas (Lesame *et al*, 2012: 53).

## 2.3 Historical background of the internet

Leiner *et al* (2009: 23) argued that the use of the internet today is as a widespread information infrastructure, the first prototype of what is called the global information infrastructure. Its history involves many aspects, for instance, innovation, organization and community and its influence on the use of online activities to accomplish electronic communications, information acquisition and community operations. For example, the rise of the internet has changed the reach of the world making it what is called the global village. Alongside the internet being a fast medium for accessing and exchanging information, it ensures its usefulness and it has demonstrated enormous potential in the educational environment, where learners utilize the internet to supplement their schoolwork by sourcing vital information for their given projects (Buami, 2013: 134).

De Beer (2011: 475) describes the internet as a gigantic network of small and large computer networks which is used by millions of people from virtually anywhere. Tella (2007: 162) suggests that the internet was a result of some visionary thinking by people in the early 1960s who saw great potential value in allowing computers to share information on research and development in scientific and military fields. In a nutshell it can be concluded that the first development of what we know today as the internet was made by the United States military in the 1960s. According to Lesame *et al* (2012: 3) in 1969, the US Department of Defence commissioned the military to establish a computer network between that department and various other government departments which would be able to function including in the event of a nuclear war. This was undertaken against the background of the Cold War between the US and the USSR.

De Beer (2011: 475) states that the US military subsequently developed the Advanced Research Projects Agency Network (ARPRANET) which was a system that ensured effective and efficient communication between different command centres by using a large and decentralised telephone system in the US. ARPANET was based on packet-switching technology and was first demonstrated at an international conference in Washington DC.

The US Defence Department's ARPANET was commissioned to establish a secure network linking centres working on military research in such a way that the communications would remain intact even if some of the centres were knocked out, for example, due to an enemy attack. Thus the ARPANET was more than a communications system. It was an experimental

network which functioned as a laboratory in which experiments in computer communications were conducted. It became a tangible domain of reality that computer scientists explored and created knowledge about since a major initial motivation for both the ARPANET and the internet was resource sharing. For example, allowing users on the packet radio networks to access the time sharing systems attached to the ARPANET (Leiner *et al*, 2009: 24).

The original ARPANET grew into the internet because the internet was focused on the idea that there would be multiple independent networks of arbitrary design, starting with the ARPANET as the pioneering packet switching network, which later on included packet satellite networks, ground based packet radio networks and other networks (De Beer, 2011: 475). During the early stage there was only one general method for federating networks, which was the traditional circuit switching method where networks would interconnect at the circuit level, passing individual bits on a synchronous basis along a portion of an end to end circuit between a pair of end locations. However, in 1961 packet switching showed that it was a more efficient switching method with special purpose interconnection arrangements between networks with one another (De Beer, 2011: 475).

According to Lesame *et al* (2012: 37) during the middle of the 1970s, a communication technique called transmission control protocol (TCP) was developed which allowed many networks to understand one another and to exchange information over the internet. This evolved into the Internet Protocol (IP). All computers and networks have to use this communications protocol to connect to the internet. A key concept of the internet is that it was not designed for just one application, but a general infrastructure on which new applications could be conceived. This was illustrated by the emergence of the World Wide Web because interacting over the internet was a complex process until the advent of the first graphical user interface, which evolved into web browsers, and then the term World Wide Web (WWW) was coined.

Shahin (2006: 687) in support outlined that the World Wide Web emerged as a key application of the internet technology when Netscape Communications Corporation was established in 1994 and the world of commerce began to look towards that new information and communications medium as a tool for exchanging information and sharing ideas. O'Brien and Helleiner (1980) as quoted by Shahin (2006: 687) noted that the potential of the World Wide Web was tremendous for commercial interest since it provided for a commercial utopia, which is the biggest bazaar in the universe. The World Wide Web is claimed as a European invention,

which was developed by the researchers at CERN in Switzerland around 1989 to 1990, which then grew to be the World Wide Web Consortium in later years (Shahin, 2006: 678).

De Beer (2011: 475) believes that while file transfer and remote login (Telnet) were very important applications, electronic mail (email) had proved to have the most significant impact of the innovations from that era. Email provided a new model of how people could communicate with each other, and changed the nature of collaboration and also in the building of the internet itself. As noticed by Lesame *et al* (2012: 3) in its early days the internet was used by computer experts, engineers, scientists and librarians for interacting and collaborating email. In the 1970s and early 1980s, the academic and research community started taking an interest in the internet. Email was also used for the first time for communication within and between university departments. In the 1980s computer enthusiasts discovered that the internet could not only be used for research and academic purposes. In the 1990s the rest of the world started taking notice of the internet and since then it has grown phenomenally.

### **2.3.1 Key Internet milestones**

A brief milestone chart of how the internet came into being, adapted from Lesame *et al* (2012: 40) is as follows:

- **1969** The internet was born under the banner of Arpanet
- **1972** Email was brought to the Arpanet network
- **1982** The term “Internet” was coined
- **1986** Software was released enabling news transmission, posting and reading
- **1987** The first known Internet worm (virus) crippled thousands of computers
- **1991** World Wide Web software was invented to make easier to publish and access information on the internet
- **1992** The first audio and video broadcasts took place
- **1993** the first search engine, ALIWEB, was launched and Mosaic, the first web browser to combine graphics and text on a single page, was launched.
- **1994** the first commercial web browser, Netscape, was launched
- **1995** Amazon.com and eBay were launched to enable Internet users to trade over the Internet
- **1996** E-commerce transactions exceeded US\$1 billion, and Internet related stocks began to soar.

- **1998** Google was launched
- **1999** Napster launched software to enable Internet users to swap MP3 music files online, and blogger, a user friendly, free blogging platform, was launched
- **2000** The dotcom crash occurred suddenly and e-commerce slid into decline
- **2003** The first public version of Skype (a VoIP program) allowed users to make free phone calls over the internet
- **2004** The social networking website Facebook was launched and so was the photo-sharing website Flickr
- **2005** YouTube was launched, enabling individuals to publish videos online, and Skype launched internet-based video telephony.
- **2006** Twitter was created, allowing blog messages of up to 140 characters
- **2008** The mobile web reached critical mass for advertising
- **2009** Actor Ashton Kutcher became the first person on Twitter to have a million followers subscribing to his tweets.

## **2.4 Access to the internet**

Lesame *et al* (2012: 68) asserted that there is an overwhelming amount of information accessible on the internet and most of the information resources can be accessed free of charge. The internet can provide information on almost any topic that the user might be keen on. It has turned out to be one of the most capable research tools for teachers, researchers and learners alike. Through the search engine, for instance, Google, one has the ability to recognize and discover the information one is searching for, provided one has used good search terms.

Internet access refers to the methods by which potential users connect to the internet (Tella, 2007: 165). Olatokun (2008: 138) defined internet access as “the availability and the process by which an effort to use the internet through an electronic communications system is carried out”. According to Ravi (2011: 1) internet access falls within two general categories: dedicated access and dialup access. With dedicated access, the personal computer (PC) is directly connected to the internet by means of a router or the PC is part of a network connected to the internet. With dialup access, a PC connects to the internet with a temporary connection over a telephone line utilizing a modem that converts the electrical signals from a PC into signals that can be transmitted over conventional telephone lines. Furthermore, LaBonte (2006: 15) outlined that common methods of internet access include dial-up, landline broadband, Wi-Fi, satellite and cell phones. Public places to use the internet include libraries, telecentres and

internet cafes, where computers with internet connections are available and also places for brief use while standing are called public internet kiosks or public access terminals (LaBonte, 2006: 15). In Africa currently, the rate at which people particularly the learners are gaining access to the internet is progressing.

According to Lesame *et al* (2012:41) internet access became commercially available in South Africa in 1993 with the emergence of the first Internet Service Providers (ISPs). ISPs provided dial up internet connectivity and in the mid-90s they started offering website development, routers, firewalls, e-commerce and managed networks.

<b>WORLD INTERNET USAGE AND POPULATION STATISTICS (2015)</b>						
<b>World Regions</b>	<b>Population ( 2015 Est.)</b>	<b>Internet Users Dec. 31, 2000</b>	<b>Internet Users Latest Data</b>	<b>Penetration (% Population)</b>	<b>Growth 2000-2015</b>	<b>Users % of Table</b>
<b><u>Africa</u></b>	1,158,353,014	4,514,400	<b>318,633,889</b>	27.5 %	6,958.2 %	10.3 %
<b><u>Asia</u></b>	4,032,654,624	114,304,000	<b>1,405,121,036</b>	34.8 %	1,129.3 %	45.6 %
<b><u>Europe</u></b>	827,566,464	105,096,093	<b>582,441,059</b>	70.4 %	454.2 %	18.9 %
<b><u>Middle East</u></b>	236,137,235	3,284,800	<b>113,609,510</b>	48.1 %	3,358.6 %	3.7 %
<b><u>North America</u></b>	357,172,209	108,096,800	<b>310,322,257</b>	86.9 %	187.1 %	10.1 %
<b><u>Latin America / Caribbean</u></b>	615,583,127	18,068,919	<b>322,422,164</b>	52.4 %	1,684.4 %	10.5 %
<b><u>Oceania / Australia</u></b>	37,157,120	7,620,480	<b>26,789,942</b>	72.1 %	251.6 %	0.9 %
<b><u>WORLD TOTAL</u></b>	<b>7,264,623,793</b>	<b>360,985,492</b>	<b>3,079,339,857</b>	<b>42.4 %</b>	<b>753.0 %</b>	<b>100.0 %</b>

**Table 1: World internet usage adapted from the Internet World Statistics (2015)**

The growth and development of the internet in terms of the variety of information disseminated by means of the World Wide Web has implications for how it is used in education. The internet's development would be meaningless if it is not used properly in education. We already know that learners are among the most enthusiastic and avid users of information from the internet. Therefore, it is imperative to establish to what extent learners use the internet and what for.

Based on the internet usage trends shown in Table 1 above, Africa still has a challenge in terms of providing access to the internet. Hopefully the mobile access will help improve the internet usage stats in coming years since Africa is the second largest continent after Asia in size and population. Ukpebor and Emwanta (2012: 18) argued that access to internet use in Africa as a whole is low. Not that the internet is not accessible or available crosswise over Africa but access is limited due to expense and unavailability in remote and clumsy regions making it

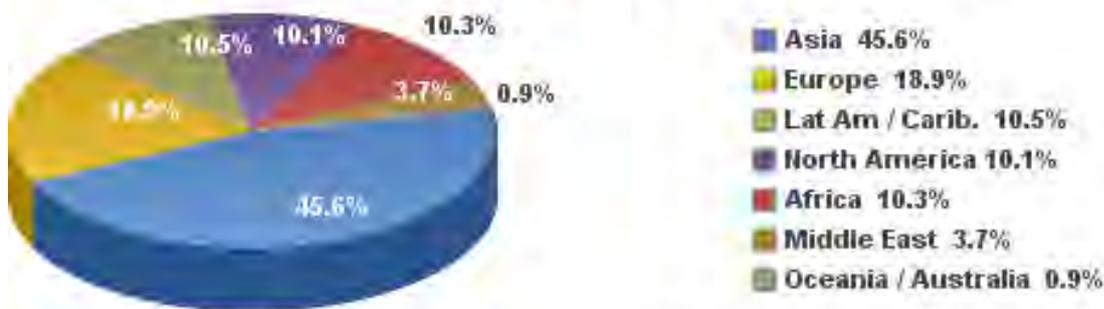
non-existent in large areas of Africa. The main consideration that facilitates internet access in schools, is the need to ensure that the internet bolsters the educational endeavours of learners. For example, the learning objectives ought to drive internet use by learners provided access is facilitated by a variety of factors, which include the availability of internet connections in schools and at home, sufficient number of computers, the level of information literacy on the part of the learners, speed of access, expenses and steadiness of the network and power supply and fulfilment of information needs (Ukpebor and Emwanta, 2012: 18).

In this regard learners and teachers are urged to utilize the internet even at their most inconvenient times. Sarfo and Gyimah (2011: 217) stated that since internet use is financially expensive in developing countries, access to and use of the internet in schools and institutions might be problematic. Access to and use of the internet in terms of ratio of teachers and learners might differ significantly among developing countries. Aladeniyi and Fasae (2013: 5) note that one of the inhibiting factors to internet access in academic endeavours by students in developing countries, such as Nigeria, is their inability to possess a personal computer of their own which will provide them with ample opportunity to access information required with ease on the internet.

According to the latest statistics (last updated 21 August 2015) shown by Internet World Statistics (2015) there are approximately 3 billion internet users worldwide. In South Africa, currently the number of internet users is around 23, 655 million. In 2012, worldwide around 1.58 billion users used their mobile phones to access the internet, which equates with 67% of internet users. The number of persons accessing internet via mobile phones grew by 21% to 1.91 billion users which represents 74% of internet users. This number continues to increase, 17% in 20 14 to 2.23 billion users which is 79% of total internet users.

Currently in 2015 there are 3 billion internet users and it can be argued that in the near future, mobile phones will become the primary way of connecting to the internet and smartphone users will access major applications and data from their mobile devices. Lesame (2005: 80) noted that South Africa has witnessed massive technological development in recent years. The country has undoubtedly been part of the global information technology revolution. Lesame further stated that the use of mobile phones in South Africa has increased tremendously, since mobile phones are getting cheaper and the numbers of subscribers are growing.

## Internet Users in the World Distribution by World Regions - 2014 Q4



Source: Internet World Stats - [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm)  
Basis: 3,079,339,857 Internet users on Dec 31, 2014  
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**Figure 2: Internet users in the world**

The use of the internet in Asia is high because of economic growth and high population. This leads to improvement in literacy, whereas in Africa internet usage is low because of poor education systems and instability and the lack of industrialization which means that many learners are studying in areas where they don't have access at all.

Lesame *et al* (2012: 69) noted that the world has become smaller as a result of the internet breaking down geographical limits by connecting users across the globe because communicating via the internet is fairly cheap when compared to the costs of other technological message delivery systems. Through the internet, people are able to talk and collaborate through a wide range of forums. Most electronic news sites have a facility for user comments at the end of each article so that readers can express their perspectives on the subject they read.

### 2.5 Internet in education

According to Muniandy (2010: 177) "the internet provides a plethora of information across various disciplines, including education and the amount of educational resources available to learners are voluminous and continues to grow every day exponentially". This is supported by Deore (2012: 111) who postulated that the internet is a valuable source of information used by learners in projects and assignments. It provides learners with vast amounts of information and also helps in communicating via social networks. It could be argued that the use of the internet

helps learners develop thinking skills because they are faced with more information than they could ever use or need and this requires that they apply their minds in evaluating which information is best and relevant for their use.

Bankole (2012: 16) argued that the use of the internet for academic purposes ensures that learners are actively involving in teaching and learning processes and their greater access to education is assured because the internet provides opportunities for the development of a better educated and literate society. For example, internet use is user friendly, fast and enables easy access to information from anywhere around the globe within seconds. Apart from using the internet to access academic information, it also allows learners to socialize with their friends. Nowadays, the use of the internet has become a tool that learners cannot do school work without; hence, they can read, listen to news, watch videos, send messages, chat and do many things (Otunla, 2013: 1).

Yilmaz and Orhana (2010: 2144) conducted a study on the use of internet by high school students for educational purposes in respect to their learning approaches in Turkey. It was discovered that the main technology used at school for educational purposes is the internet. Moreover, they stated that internet is a powerful teaching tool, which can be used by schools and universities across the world. For example, the company called Sakai has entered into partnerships with a number of South African and Australian universities and offers educational services via the internet (Lesame *et al*, 2012: 65). Therefore, students are effectively able to submit assignments online through this efficient service and this allows them to participate in discussion forums, blog about their studies, assess themselves, and use other online tools. Online learning is particularly useful in reducing learners' isolation in distance education, but can also be used to great effect at contact institutions (Lesame *et al*, 2012: 65). Additionally, there is a growing body of qualitative material available on the internet which can be used, like books and other related library resources as a source of information. To benefit from the vast amount of information that exists on the internet, learners must have a high level of information technology skills (Yilmaz and Orhan, 2010: 2144).

The value of the internet for educational purposes is further outlined by Devi and Roy (2012: 183), who state that the internet plays a very crucial role in educational activities and the use of the internet in the educational sector has contributed immensely to enhance the quality of education. Devi and Roy (2012: 183) further state that the internet offers an interactive environment for exchanging information in a wide, diverse range of subjects and it has become

very popular among students. Many people and students are educated through using this tool. In addition, it is a powerful tool in the world of information technology because it has fostered the process of making the world a global village.

Bankole (2013: 16) has alluded that the use of the internet has enabled equitable access to data, information and services by most schools in Nigeria. Hence, the use of the internet in education inspires learners to move away from passive learning to become more active learners. It also serves to bring the outside world into the school and in general it induces changes in the way education is provided because these technologies are potential agents for change and innovation which leads the future of education and learning connected with educational technologies (Skutil, Maněnova and Čermaková, 2013: 285). The use of the internet increases learners' access to a variety of information, it empowers forms of communication and serves as an arena for online activities in the circles of education, culture and amusement. Today, many of those who participate in the arena of internet culture are youth who are experiencing their growth in the digital society of the late 21 centuries.

Devi (2013: 145) noted that the internet has immense potential for the information society because it helps learners to get immediate information for their varied purposes. Oriogu, Ogbuiyi, Onyebuchi, and Ogbuiyi (2015: 211), posit the view that “since the internet is a gigantic information superhighway, it plays a crucial role in providing the information needs of users in an academic environment as to support teaching and learning”. Internet use is useful to learners' growth and the educational exchanging of ideas. Lesame *et al* (2012: 62) argued that the internet is a major technological advancement which has been the most outstanding innovation in the field of communication in the history of mankind, due to its myriad of uses, for instance, it provides the ability to download crucial information which is one of its most important features.

According to Lee *et al.* (2005: 20), web-based teaching offers great potential benefits for higher education, as it can be described as “interactive, collaborative, cumulative, exploratory, collective and evolving”. In addition, web-based teaching:

- is flexible (with regard to learners' rate of progress, learners choose when to interact with the material, and have a choice of optional material)

- is learner-centred (the learner has a measure of control over the pace and approach to learning and the success of learning depends to a large extent on how engaged and active the learner is)
- is highly suitable for teaching subjects that are visually oriented and allowing learners to effectively participate without necessarily increasing costs
- increases the levels of engagement between learners and teachers, and also between learners and other learners with an opportunity to be linked to other resources elsewhere in the world.

It is clear that the internet can have a significant impact on education which is not surprising when most teachers believe that the internet has the capacity to solve many problems associated with the societal change in the attitude and delivery of education. Considering the developing understanding of the potential use of the internet to connect learners with other learners and also with their teachers, and to effectively edify them with intuitive and engaged learning experiences, the transformation of teaching and learning in schools is inevitable. Lesame *et al* (2012: 51) asserted that internet use has changed the way teachers teach and students learn in different parts of the world because the role of the internet in education has been seen as an instructional providing for a wealthier and more exciting learning environment.

In the current situation, the internet savvy are the new generation of learners who have often taught themselves technical skills and digital literacy, since they frequently use the internet on their mobile phones, for instant messaging and social networks for socialisation and entertainment. They do not see the internet as something foreign because they consider the internet to be part of their lives. Therefore, it does not make sense to deprive learners of the internet use at school, they really need it because it is with their current status of learning and educators must accept it at schools (Lesame *et al*, 2012: 44). Access to and use of the internet are valuable assets in efficient education and learning, hence the potential of the internet in education can be realised if learners have access to computers, mobile phones and use them pedagogically. The push to bring the internet innovations into schools has been effective in recent years.

The internet continues to be regarded as a major information source that learners consult when doing their projects or other educational activities. The internet eliminates barriers for learners with disabilities who may have challenges getting into a physical library or accessing other information centres where available because it allows learners to have access to information at

any time of the day provided they have network connections. The internet also gives learners the opportunity to read the latest news of a certain subject they are studying and helps them to link what they are learning with what is happening in the real world. Sarfo and Gyimah (2011: 216) pointed out that the use of the internet constitutes an invaluable channel for knowledge sharing, dissemination and opportunities for learning, development and growth among learners in the world.

Ukpebor and Emwanta (2012: 18) believe that the significant use of the internet is quite evident from the educational viewpoint. In spite of the fact that the chalkboard, textbooks and films have been utilized for educational activities throughout the years, none has quite impacted on the educational activities like the use of the internet currently (Ukpebor and Emwanta, 2012: 18). (Ukpebor and Emwanta (2012: 18) further state that the principle motivation behind internet use lies in the advancement of human mental resources, which permit learners to successfully and effectively apply the existing information and knowledge and produce new knowledge. The value of the internet for educational purposes was further supported by Lesame *et al* (2012: 86), who stated that the use of the internet in schools contributes widely to the advancement of educational efficiency, adequacy, equity and access. For instance, many uses of the internet are designed to enhance the effectiveness or quality of education by providing better additional materials or interaction, to enhance learning for learners with few classroom resources.

Basically, with the rapid development of the internet, numerous schools began to utilize the internet as a new medium to help the teaching, learning and many other activities, and to make the communication between learners and teachers more convenient and fascinating. On account of the appealing attributes of the internet, some high school teachers are trying to use the internet to help with educating, teaching and learning. It is evident that the value the internet has been impressive over the past generation in education (Ukpebor and Emwanta, 2012: 18).

It can therefore, be argued that teachers who utilize this type of technology in their classrooms for academic and learning purposes have a better chance of improving learners' learning in their classrooms by gaining access to resources as compared to those who do not use any type of technology to access information for their studies (Vanwelsenaers, 2012:5). Muniandy (2010: 177) is of the opinion that learners should take advantage of the ability to use information from the internet for their learning purposes. Although learners use the internet extensively, they need to balance the nature of the use between social and academic uses. By

learning to use the learning-related facilities from the internet, learners will be able to complement the information contained in the resources (for example, textbooks used in their school learning). This will also enable them to be self-directed, self-paced and lifelong learners.

According to Odede (2013: 59) there are numerous advantages of educational usage of the internet. He outlines a few:

➤ ***Flexibility and variety***

The flexibility of the internet is considered the most remarkable advantage for online education, which ensures through interactive activities such as blogs, chat rooms and online education learners and their teachers can interact and share knowledge in various ways that are already known to them. This led to internet providing user friendly features.

➤ ***Ease and minimum cost of access***

It can be agreed that internet has closed the distance barrier for learning. Internet has become easy for everyone including rural school learners, through their phones they can get accurate and up to date information. This is efficient for the purpose of accessing information and gaining knowledge that is useful and helpful.

➤ ***Ease and reasonable cost of information online***

Exchanging information through social networks platforms and other means of interactive online sharing have become current ways of learning. The internet may make things simpler because most of the materials can found online including the previous exam question papers and their memos. Therefore, the internet makes records to be available for 24/7 to learners.

➤ ***Ease of updating information***

Information on the net can be updated regularly which makes it accurate, reliable and up to date for learners to source it. This ensures that new research or findings can become part of their syllabus instantly.

### ➤ *Information resources*

Since we are now living in the digital era, this makes access to information the biggest advantage that the internet offers. It can be argued that the internet is a virtual trove of information. This outlines that just about any topic of interest to learners is available on the internet. The search engines such as Google and Yahoo are at the service of users on the internet. Therefore, learners can surf the internet for their given projects and assignments. In the current sphere, it can be agreed that learners should use the internet for research or the purpose of gathering resources.

From the above discussion it can be concluded that the use of the internet in educational settings has empowered easy access to numerous resources, and also fundamentally increased information sharing. This sharing of information has brought significant benefits, for example, information resources can be utilized in any location at any time.

## **2.6 Internet in high schools**

The internet is an invented technology, which holds the greatest promise humanity has known for learning and universal access to quality education (Tella, 2007:161). The internet is a network of hundreds and thousands of computers across the world, connected in a way that lets other computers access information from them. It is also a computer mediated communication tool, providing the individual with access to a broad spectrum of information and unique communication technologies which allows learners to broaden their learning experiences, access important information and communicate to others within learning community (Odede, 2013: 57).

Internet use has great potential to revolutionise the process of learning in schools by enhancing the skills of learners because the internet has become a current requirement in the present academic order (Ali, 2014: 222). The use of the internet allows a wide range of resources to be accessed by learners across the globe irrespective of their location and age (Ogunla, 2013: 1). Bankole (2012: 16) argued that the use of the internet has had a profound influence on the educational sector as it is being used for diversifying activities in schools. For example, it has modernized information techniques used by teachers and their learners. It improves methodology used for learning and teaching purposes; the internet provides information and knowledge resources that allow access to a varied range of materials from around the globe to

a local community. It is also used as a publishing medium which allows access to a vast amount of information which was not possible in the past, by so doing it reduces the information gap between the learners in underdeveloped and developing regions (Otunla, 2013: 1).

Ukpebor and Emwanta (2012: 17) argued that internet use has become an efficient resource for school assignments in that learners and teachers trust and have confidence that the use of the internet is a good educational tool. As a result teachers need to incorporate the use of internet sites in classroom activities because the use of internet has the ability to supplement, reinforce and to upgrade the educational process. There is increasing research output on how the internet can be a vital component that will significantly expand student learning (Ukpebor and Emwanta, 2012: 18).

Odede (2013: 58) is of the view that the use of the internet is spreading rapidly into education particularly in high schools, with a huge impact in many areas and covering all the subjects that are taught. Learners are using it to support the attainment of learning outcomes. Outside school's daily activities, learners may use the internet to access and complete assignments and other school related tasks given by their teachers. Devi (2013: 139) suggests that since the internet is a multipurpose tool with numerous potentials, it enables learners to communicate, exchange and share ideas, knowledge and experiences with other learners thereby enhancing learners' skills and capabilities in relation to their studies. This makes the internet a very popular and effective tool used by learners for education as well as a variety of other activities including entertainment. The internet provides an interactive environment for sharing information on a wide variety of subjects; and it can also be used to support learners in their studies.

The internet is a valuable source of information which is frequently used by learners to supplement the traditional educational methods. For example, to complete a given task, teachers may ask learners to find specific web sites to gain more indepth knowledge about a particular topic which in turn highlights more information to the learners. Internet resources provide the flexibility to approach a concept from various angles. The use of the internet in schools gives learners opportunity to find information on almost anything in an efficient and effective way, and it also gives learners the advantage of connecting and interacting with their teachers quickly and cheaply. The use of the internet provides a vast amount of educational benefits to learners and it offers a host of ideas, a broad array of information and engaging, interactive opportunities to teachers and learners. Shezi (2005: 1) pointed out that the internet

enables people from all areas around the world to exchange information and also disseminate it. Internet offers students a golden opportunity of networking with others globally because the internet is the knowledge centre of the world (Shezi, 2005: 1).

## **2.7 The use of the internet in higher institutions of learning**

Ratliff (2009: 698), most universities have become dependent on the use of the internet to deliver and enhance course offerings and the growth of distance education classes has contributed immensely to the internet being infused more and more into traditionally-delivered classes as well. It is, therefore, fundamental for university students to have a certain amount of competency in computer and internet use from the very beginning of their university careers (Ratliff, 2009: 698). The reason being that the internet is one of the most vital information sources for students in higher institutions of learning throughout the world and it is also a popular medium for exchanging and delivering educational materials (Chudasama, Godara and Srivastava, 2007: 1). Otunla (2013: 2) noted that the use of the internet is popular amongst undergraduate students providing ample benefits, such as access to information 24/7 which was not possible before. It effectively enables one to work from any location, offers availability and accessibility of diverse resources that one cannot find in school and the library and provides current information, faster and more conveniently than a library. It is also a good supplement to school textbooks. Shezi (2005: 8) argued that with the use of the internet, students can learn educational independence and intellectual autonomy.

Murelli (2002: 62) posits the view that in any information society everyone needs learning in general and as a result to know their basic culture. The internet and the online environment is a powerful teaching and learning tool, and is used by higher institutions across the world. Many studies have found that the use of internet is beneficial to undergraduate students, including Devi and Roy (2012: 183) who investigated the use of the internet among Assam University Silchar students. The study was conducted to establish the purpose of internet usage among the students and the frequency of internet use. The findings outlined that the main purpose of using the internet amongst the students was for studying. There were some challenges which occurred due to power failures and these were recorded as major problems for students. On the other hand internet use was seen as having immense potential for the information society because it enables students to get immediate information from the net.

Tella (2007: 161) argued that the internet permits students to expand their academic experience, access critical information and communicate to others within the academic community. Supporters of education continue to believe that the use of the internet have a huge effect on academic achievement. The use of the internet serves as a useful tool for lecturers in helping to prepare lesson plans using a number of sites dedicated to providing educational materials.

Ngulube (2010: 46) pointed out that the use of the internet acts as a powerful supplement to the traditional way of accessing information, facilitating electronic exchange of ideas and collaboration amongst students. Using the internet in education allows learning to become more flexible than in the traditional academic system, and learning materials can be accessed cheaply. In addition, Ngulube (2010: 46) states that the use of the internet in education gives students an opportunity to interact easily with their study resources and lecturers via a wide range of communication tools. The internet is gradually defining how information is being used and shared at higher institutions of learning. Shahin (2006: 681) argued that the use of the internet has emerged as the driving technology of higher institutions because the internet has a myriad of websites to assist lecturers develop or improve their lesson plans, exchange ideas, obtain information and find simulation to enliven their lessons (Amenyedzi, 2011: 152). According to Deore (2012:113) the internet in higher education plays a crucial role in e-learning. For example, e-learning uses information materials that exist entirely on an internet because some institutions offer courses that are entirely e-learning based, meaning that all texts, assignments, quizzes and tests are accessible online and no face to face meetings are required. E-learning offers students with limited mobility or inflexible schedules to take courses and study at times that are convenient for them, and allows students to learn at different rates. Therefore, it can be concluded that the internet provides access to information from remote computers and a variety of tools to share and disseminate information and knowledge.

Odede (2013: 60) explored the attitude of undergraduates towards the educational use of the internet in Nigeria. The findings showed that most students had positive attitudes towards the educational usage of the internet, with a majority of the undergraduates seeing the internet as being an important tool to source information from. The respondents mentioned that they find using the internet easier than the library. Therefore, these positive remarks from the respondents towards educational usage of the internet showed that the internet is widely used by the students for their educational and research purposes and this means the internet was playing a crucial role in their searching for current information. Furthermore, Odede (2013:60)

argued that the internet provides a wealth of information on any subject, learners are using the internet increasingly, and it occupies an important place amongst various information sources.

## **2.8 The importance of the internet to learners**

It is common knowledge that the use of the internet plays a significant role in academic endeavours. Learners these days need the internet more and more because it has information on everything that they may desire. But still there is “a gap between the access to the internet by individuals, organizations, and households at different socio-economic levels. Access to ICTs and internet usage remains a problem in South Africa, though there are ICT projects that South Africa is trying to invest in but they are still not benefiting the “have-nots” of this country” (Lesame, 2005: 5).

Selinger *et al*'s (2013: 3) study showed that learners learn much by being actively engaged in relevant and authentic activities and technology makes this increasingly possible. Learners are now becoming more adept at using the technological innovations such as social networks, Youtube and Facebook to text messages and post videos and blogs to collaborate and socialize regardless of time or place. From this perspective, it is clear that the internet provides current and accurate information on events and the latest opinions **since** it is easily accessed to, fun, interesting and it exposes learners to a greater variety of materials and predisposes them to do more reading.

Islam and Hossain (2012:07) alluded that internet use has both advantages and disadvantages and therefore it depends upon the purpose of use. For example, if it is purposely used for sharing information and studying it will help learners to increase their knowledge and keep themselves abreast of the latest developments around the world. It is significant that at undergraduate level the purpose of using the internet for learning has been spreading. As an overall trend, it is evident that undergraduate students have different reasons for using internet and it depends on their necessity. As they use the internet for academic purposes at the same time they are using it for social networking and reading the news. It can be argued that the use of the internet for Facebook has become the top priority for some students.

Vanwelsenaers (2012: 5) explored internet usage as a way to evaluate students' learning environment in the classroom. The results of the study revealed that as time progresses students continued to learn better compared to the previous year by adopting new ways of learning. This

study also showed that the majority of learners own or have access to smart phones, iPads and other technological tools that enabled them to access the internet and other wireless communications. It was therefore concluded that teachers who utilize this type of technology in their classrooms for academic purposes have a better chance of improving learners' learning and their access to resources as compared to those who do not use any type of technology in their teaching. Using smart phone technologies in the classroom enhances student learning abilities and unlocks other available avenues for sourcing information besides classrooms. Correct usage of smart phone technologies, which are accessible to the majority of learners, may open important learning opportunities for many learners to improve their performance in the classroom (Ally, 2007: 2).

The Internet Society Global Internet Report (2015) suggests that the benefits of the internet emerged from the new innovative services based on mobile access to the internet, utilizing all the features embedded into the smart devices, such as phones, tablets, etc. and accessed through apps. These services empower social consideration and interaction with government among other applications. These innovations are in the process of driving a further advancement of the internet that has been in a state of steady change since its founding.

The use of the internet can help most teachers to encapsulate best practices in order to create an enhanced and collaborative learning environment, which enables learners' variety of learning styles, bolsters learning, makes education impartial and incorporates real challenges and authentic evaluations. This is due to the fact that internet has got the kind of capacities and capabilities for conveying instructions and designing empowering stimulating assessments (Lesame *et al*, 2012: 55). The internet provides for learning and amusement, by providing information which incorporates online content composed by some of the best experts in order to help the teachers to reach the learners through their subjects and even to those learners who need more detailed information.

## **2.9 Challenges faced by learners when using the internet**

Islam and Hossain (2012:09) outlined that internet use is not without its problems. Learners indicated that the problems they encountered when using e-resources were time wasting as a result of the "slowness" of the connection of the internet, inadequate knowledge of how to navigate on the internet, limited number of titles available, lack of access facilities from home and so on. It is also evident that slow download speed is a problem in using the internet. Lesame

*et al* (2012: 66.) investigated the universities in terms of the main challenges facing web-based teaching. These included the lack of technological skills among both lecturers and students, as well as a lack of access to computers and the internet, particularly in South Africa. Ratliff (2009: 699) argued that this is a problem for students nowadays as they seek more economical and convenient ways of earning degrees at universities. This also becomes challenging for online lecturers as they have to understand the implications of using the internet in education and teaching and also in developing cost effective learning materials for e-learning students.

Murelli (2002:62) argued that some specialists think that the internet and the new technological tools cannot solve the problem of illiteracy in developing countries. For example, Steve Jobs, co-founder of Apple Computers, in an interview quoted in the report by the Panos Institute declared:

*I've probably spearheaded giving away more computer equipment to schools than anybody else on the planet. But I've had to come to the inevitable conclusion that the problem is not one that technology can hope to solve. What's wrong with education cannot be fixed with technology.*

On the contrary, in many developing countries the potential of the internet in the area of education has already been discovered and has made it possible to put into practice some education projects that previously one could only think of. Lesame (2005: 44) argued that the internet is a priority for developing countries and schools can link to the internet with each other to share expertise and provide learning in all format. Selinger, Sepulveda and Buchan (2013: 7) argued that this makes it even more crucial that people should have access to the internet and that the information and digital divides between rural and urban people and between countries should be bridged.

Sarfo and Gyimah (2011: 216) examined internet use of Ghanaian senior high school learners. The results outlined that learners lack pragmatic skills to use to access the information and communication technologies tools effectively. Lack of access to the internet inhibits the use of ICT in teaching and learning. As indicated by Goldman *et al.* (1999) cited by Ukpebor and Emwanta (2012: 18), internet services are the most recent innovations in the educational system, therefore, there are still numerous factors that still obstruct internet access inside and outside the school premises. For example, software and hardware problems occur because of the lack of technical support and teachers lack time and the inspiration to learn how to use the

internet. Their lack of technological skills may hamper their interest in teaching learners' skills such as information literacy and searching skills. The lack of computers at secondary schools for equitable access, is due to the lack of technicians, lack of network infrastructure, slow or unstable wireless access, lack of bandwidth to support internet activities and inability to maintain funding for technological innovations (Ukpebor and Emwanta, 2012: 18).

The findings from a study done by Kheswa (2010) showed that most students experienced slow internet connection as a problem, while more than half the students, 165 (65%) outlined the restricted sites (for example social networks) as a further problem. More than half the students, 154 (60.6%), reported the limited number of computers with internet access available on campus were a problem while 141 (55.5%) students pointed out that little training in the use of internet facilities was offered on campus.

Sarfo and Gyimah (2011: 222) stated that learners are digital natives and mostly use the internet via their mobile phones accessing it for social communication purposes but not for learning or pedagogical purposes. Furthermore, they indicated that learners manage to access the internet at internet cafés where they also use it for social communication purposes and not for learning purposes. However, the authors found that learners mostly use computers at home and at school for acquiring computer skills rather than for learning or pedagogical purposes. Ratliff (2009: 698) believes that although learners today find themselves in a technological oriented world, they are not able to use technology in academic settings. Ratliff (2009: 698) argues that despite the fact that these learners are adept at using social networking communication tools such as Twitter, this does not necessarily prepare them for using Microsoft Word or provide them with the skills required for further study in a technological learning environment. This enhances the use of slang vocabulary in conversations with their teachers that is so popular in the social media.

Information overload is also a genuine concern in any information-based environment, particularly to users because an excessive amount of information is available on the internet in the form of facts, concepts, ideas and principles. For example, the fast changes in internet exhibit several challenges. Information literacy skills have become one of the most fundamentals skills which learners need to have in order to judge what information is vital and what content information is of interest and commendable to them. Therefore, this offer challenges teachers because they have to train their learners to know how to search, access, retrieve, interpret, synthesize, organize, and communicate information, as well as to become

independent, life-long learners. According to Subramanian (1998: 128) the information overload issue has been broadly recognized. Therefore, with the aggregate volume of available information escalating so sharply, it becomes a challenge even to those who are very acquainted with new trends of accessing information to keep abreast with the locating the materials.

## **2.10 Studies conducted on the use of internet**

This section outlines studies on the use of internet by learners as well as internationally and South Africa.

### **2.10.1 International studies on the use of internet by learners**

Yilmaz and Orhan (2010) explored the use of the internet by different high schools in Turkey with 921 learners for educational purposes in respect to their learning approaches. Some of the questions that guided the study were: “does the frequency of internet use by learners vary according to their learning approaches?: does internet use by learners for educational purposes vary according to their learning approaches? and does internet use by the learners for educational purposes vary with teachers asking for study assignments to be based on the internet?”. The results showed that majority of the respondents used the internet for educational endeavours and also said that their teachers were giving them online directed assignments and tasks. On the other hand.

It can be argued that the learners should be given assignments by their teachers which requires them to use the internet as this will enable them to develop searching and analysing skills from the vast amount of information which will be at their disposal. Thereby, enabling learners to think reflectively and achieve certain meta-cognitive skills.

Limaye and Fotwengel (2015: 27) conducted a study on the use of the internet among undergraduate students from Mumbai, India. The purpose was to discover for how many hours the students used the internet for non-academic activities and why students use the internet. The results indicated that most of the students spend 3 to 5 hours daily on the internet, using it for pure non-academic work. It can be argued that it is advisable for students to focus more on academic sites rather than non-academic because they need to understand how the use of the internet in their subjects can help them to improve their knowledge of academic performance (Limaye and Fotwengel, 2015: 27). The institution can educate students about the importance

and usefulness of using the internet through counselling, seminars and workshops. Lecturers can also play a pivotal role in allowing students to browse specific sites related to their class which can be beneficial to all the students. The students should use the internet to find a balance between social and academic activities because this will help them to improve their subject knowledge and quality of their work.

Koc and Tamer (2011: 2915) reported the results of a study of Turkish high school students' internet use profiles across their demographics. Turkey was reported as having the seventh largest internet user population in the world with 17 million users, and the first in terms of time spent online (average 32 hours per-week), and content consumed averaging 3044 pages per-week. The purpose of the study was to explore their frequency of the internet use and to check whether this usage differed across their demographics. The study was guided by the research questions such as how often do students use the internet and what is the main purposes of using it? The results indicated that the dominant purpose for internet use was found to be gendered due to the fact that males reported using the internet primarily for entertainment whereas females used it mostly for communication and educational sourcing of information. This was due to the fact that the leisure based online content was dominated by activities that were developed exclusively for men. In closing, the study showed that the frequency of internet use differed by gender, perceived socio-economic status, school type and perceived academic success and also the dominant purpose of the internet usage differed by the same factors except for socio-economic status in Turkey. Males dominated the internet usage in relation to the above mentioned factors because it was found that they felt comfortably and capable in using them than females due to the fact of having positive attitude towards ICTs and the place is largely influenced by masculine domination culture which consists of males mostly.

Kanlaya's (2013: 241) case study on the effect of internet use on high school students of Pattani Province in Thailand indicated that there was a positive relationship of internet use on some of Pattani high school learners even though the majority of high school students were using the internet preferably for playing sports games as their favourite hobby. It was noted that some students were using their periods lesson to play on the internet and it was discovered that the longer periods the students used the internet for, the less they did active activities. Furthermore, the greater the length of years the students had used the internet, the more their cognitive performances are improving.

### **2.10.2 Studies done in Africa**

Shiweda (2013) carried out a study on the web-based information behaviour of high school learners in Oshana region, Namibia. The study considered the challenges faced by learners when searching the Web for information. The study also wanted to address questions as to how, where and when grade 12 learners access the internet, the reasons why they search information on the internet, what sources of information on the internet the grade 12 learners use and how do these learners evaluate and use information found on the internet. The findings indicated that learners' web searching skills are inadequate and that grade 12 learners may lack information evaluation skills. 141 (86.25%) of learners indicated that they use internet and 22 (13.75%) of learners do not use it merely because they do not have access to ICT tools at all. 64 (46.4%) of the learners indicated that they used internet in their daily routines and this precisely point out the significance and importance of the technological tools. Therefore, it can be argued that the usage of internet in educational environment is useful. 103 (74.6%) of respondents used the internet for searching information, 81 (58.6%) learners indicated that they used it for social networking and 44 (31.8%) used for accessing emails.

Amenyedzi, Lartey and Dzomeku (2011) conducted a study in Tema Metropolis in Ghana to assess the computer and internet usage amongst learners as a supplement to educational material in order to enhance quality education. Which helps to improve educational management and planning, to determine how students use the computers and internet to facilitate their learning, how teachers in the Tema Senior High School use the computers and internet to teach and guide students. The findings showed that a significantly high percentage of respondent teachers were computer literate and a few of the respondent students also had a basic knowledge in computers. The challenges facing the schools was the lack of adequate computers and other ICT equipment systems, poor internet connectivity, and the of a lack of proper ICT policy framework.

Sarfo and Gyimah (2011: 221) carried out a study on Ghanaian senior high school learners' access to and experiences in the use of information and communication technology. The study surveyed 300 learners to explore their accessibility to and the use of the internet. The results showed that the learners have been using mobile phones and personal computers to access the internet and most of them have their own cell-phones. Most students use their personal computers and cell-phone for social communications and also to acquire computer skills. Few

students have access to internet at internet cafés. The overall findings indicated that the learners hardly used the ICT tools in their schools and it was noted that most of the teachers are digital immigrants and therefore wouldn't want to make any attempt to help learners to interact with internet in the classrooms. The challenges that deprived learners from using the internet at schools was reported as the learners were unable to use their mobiles phones appropriately and pedagogically and that's the reason why they were not encouraged to use mobile phones at school. Furthermore, the results showed that learners use computers at home and most of these learners use it for acquiring computer skills, few of them use a computer for acquiring knowledge and others use it for entertainment. Finally, the results of the study showed that all the learners used mobile phones outside school for social communication and entertainment and only a few used it for learning.

Tella (2007: 161) reported the results of a study at the University of Botswana on undergraduates' use of the internet including implications for academic performance. The study shows that the university invested a lot of resources in computing and internet facilities, therefore encouraging students to use the ICT facilities in their learning to enhance the quality of education. It has been noted that students who have taken part in the study, report that they perceived the use of internet in their studies as being convenient and flexible, offering a more noteworthy access to learning resources, expanding student motivation and self-esteem, enhancing student support and more significantly by enhancing the quality of learning. It is common knowledge that the University of Botswana believes that the advent of the internet has the potential to address a huge number of challenges they have, regarding the potential, quality and access to the delivery of education. The perception among lecturers has been that students ought to have a satisfactory level of computer skills upon entering university given their increased personal use of the internet.

### **2.10.3 Studies done in South Africa**

Mayayise (2008) conducted a study on the social impact of the internet using a sample of 50 learners from two high schools in Gauteng Province. The study was conducted to establish the kinds of activities that learners performed on the internet and the time they spent on the internet in order to evaluate the social impact that these activities may have in their lives. The motivation behind the study was to help in providing an indication as to whether the use of the internet by high school learners is common practice and also to determine the kind of

information that these learners search for through the internet, the websites that they often visit and the time they devote to 'surfing' the internet. The results indicated that there were both positive and negative social impacts of internet use on these learners. For example, a negative impact was that some learners engaged in the internet chat rooms and revealed their personal information to people they met online. A positive social impact of the internet was that it created an environment where learners seek information which was needed for their educational purposes.

The purpose of the study by Chigona, Kamkwenda and Manjoo (2008: 17) was to understand the mobile internet among South African learners and the use and gratifications framework was used to identify how and why learners used the mobile internet. The study was prompted by the fact that there has been a major increase in the diffusion of cell phones in South Africa (and much of the world). Cell phone use has increased rapidly and continues to become one of the most important communication, social, learning and entertainment tools of the 21st century. It was reported that the mobile cell phones was the preferred medium of access the internet and in some cases as it was the only medium available. This led to the thinking that the use of cell phones to access the internet is very likely a tool that can be used to bridge the digital divide in South Africa. This study showed that the mobile cell phones was being used and was the preferred internet access medium among respondents.

Shezi (2005) in a study on the use of the internet by students at St. Joseph's Theological Institute, KwaZulu-Natal reported that most students outlined that they had used the internet before their tertiary studies while a few had not. On addressing the reasons for not having used the internet it was observed that most students had no training and did not know how to use the internet, which gave the perception that some had no interest at all, including those who had no access. Similarly, Kader (2007) examined how university students in Durban, KwaZulu-Natal used the internet during their spare time. This study was undertaken to gain insight into how Durban students used the internet, what were the resources they used to access the internet sites and their ethical issues associated with internet usage. The research findings indicated that students do use the internet occasionally for educational purposes, such as research and communicating with their lecturers. However, the response revealed that students had little or no knowledge regarding the legal and ethical use of the internet and students used the internet mainly for leisure activities, such as social networking, accessing MySpace and Facebook, e-mail, playing network games and downloading music. The study also noted that the reasons for

using the internet included for educational purposes since students were able to access their lecture notes from the internet.

## **2.11 Summary of the chapter**

Various aspects of the subject of the study have been surveyed in this literature review. This chapter looked at related relevant studies conducted outside the African continent, some conducted in Africa and those that were conducted in South Africa. This chapter also provided a brief discussion on the historical background of the internet, key milestones, access to the internet and brief stat on the users of this network in the world. This chapter further reviewed related literature on the internet use by secondary schools and higher institutions and in doing so the challenges faced by learners in internet use were also tackled. The educational use and value of innovative technology such as the internet is significant and still growing.

## Chapter 3

### Research methodology

#### 3.1 Introduction

In this chapter, the main focus is on the research design and methodology underpinning the investigation into the use of the internet by grade 11 learners from selected schools in the Sekhukhune district, Makhuduthamaga local Municipality in Limpopo province. The chapter outlines the research paradigm, research approach, research design, population of the study, data collection methods, data analysis procedure and ethical issues that guided the study.

#### 3.2 Research paradigm

According to Killam (2013: 5) a research paradigm is a “way of thinking about or viewing the world and is a set of beliefs or worldview that used to guide a research or inquiry”. Lucienne, Blessing and Chkkrabarti (2009: 240) argue that paradigms express the fundamental assumptions whereupon the research is assembled and ought to be known when applying the related approach or its methods. Neuman (1997: 62), on the other hand, notes that a paradigm is an idea that is made to mean the basic assumptions of the research, the main questions to be answered, and the research techniques to be used. This paradigm enables the researcher to unpack some of the assumptions that are associated with the use of the internet by learners which were taken for granted such as using the internet for assignments and research activities. The following are the main paradigm classifications which the researcher used and a brief overview of each is provided.

##### 3.2.1 Positivism

In research, positivist researchers focus solely on describing and explaining in detail the external reality of their research, where specific concentration is on generalizing and thought is informed by explicitly stated theories and hypotheses (Carson, Gilmore, Perry, and Gronhaug, 2005: 5). In order to gather details of internet usage the researcher explored the current situation in which learners find themselves in their leaning environment based on the concepts of Network literacy. Therefore, the positivist relates to the facts or causes of social phenomenon in an attempt to explain causal relationships existing by means of providing

objective evidences. For example, they focus on trying to discover external reality rather than creating the object of the study (Carson *et al*, 2005: 5). With the positivism paradigm the researcher gathered data from learners on their views regarding the use of internet in schools. Furthermore, Levy (2006: 375) states that a positivist researcher finds hard and target information because positivist researchers concentrates and reflect to a more extensive context. The current study adopted the positivist paradigm due to the reason that it was measurement oriented.

Schinke and Hanrahan (2009: 63) stated that positivism is a philosophical stance that assumes the independent existence of objective reality that can be revealed through careful and bias-free observation. With this in mind, the positivist researcher sets out to discover reality while trying to maintain a value-free, objective stance. Positivism is the methodological underpinning of survey research and experimental approaches, through giving out information in details.

### **3.3 Research approach**

Research approaches involve quantitative and qualitative research. Holliday (2002: 5) outlines the difference between the two approaches: In quantitative research, the reality can be measured by the right research instruments which maintain that there is a normality that researchers can fathom and understand and be mastered by statistics and experiments while in qualitative research the reality of the research approach is that the research results are descriptive and people can be touched by the research that makes sense and interpret bits of reality. Quantitative research counts occurrences across a large population and uses statistics and replicability to validate generalization from survey samples and experiments and qualitative research locates the study within particular settings which provide opportunities for exploring all possible social variables and more informed exploration as themes and focuses emerge.

#### **3.3.1 Quantitative research**

For any study carried out, there is a need for the study to satisfy the two research approaches mentioned above by identifying the appropriate research methods to be used for it. This study was carried out using a quantitative research method, namely a survey (see below). The researcher adopted the quantitative approach because of its value of making it possible to obtain numerical data on the use of internet by grade 11 learners.

Fox and Bayat (2007:7) describe quantitative research as concerning things that can be counted. For example, the use of statistics to process and explain data and to summarize findings. In general, quantitative research is concerned with systematic measurement, statistical analysis and methods of experimentation. Quantitative methods collect quantifiable data. As noted, a quantitative method, namely the survey was employed in the present study.

With regard to internet usage, the quantitative research method was applied to determine how many learners were using internet, how many were aware of internet services, what was their motives behind using the internet and what was their views regarding internet use. Shiweda (2013) outlined that this approach was chosen for her study to ensure a more representative population which allows for a better generalization of the findings.

This approach was achieved through the use of a questionnaire comprising of open questions that generated qualitative data and closed questions which provided quantitative data. Open ended questions invited the expression of feelings and views, and opinions of the respondents with regard to the use of internet. While both types of questions were used the vast majority were closed in nature thereby underpinning the quantitative nature of the study.

### **3.4 Research design**

Terre-Blanche and Durrheim (2002:29) stated that a research design is a key structure for activity that serves as a bridge between research questions and the implementation or the execution of the research. It is the designed and arranged nature of observation that recognizes research from other forms of observation. Terre-Blanche and Durrheim (2002: 29) further outlined that a research design ought to provide an arrangement that determines how the research is going to be executed so that it is effectively answers the research questions. Research design is a plan or convention for a specific piece of research.

Kumar (2005: 84) suggested that a research design has two main functions:

- The development of procedures and logistical arrangements required to undertake a study.
- The importance of quality in these procedures to ensure their validity and accuracy.

The nature of this study was best served by the use of the survey research design. Oliver (2010:76) outlined that the survey research method aims to collect data from a relatively large

population. Survey research design involve the collection of information from a sample of individuals through their responses to questions and is an efficient method for systematically collecting data from a broad spectrum of individuals and settings. Survey methods lend themselves to probability sampling from large populations. Survey methods are the only means available for developing a representative picture of the attitudes and characteristics of a large population.

Survey research tools save time and money without sacrificing effectiveness, precision and information adequacy in the research process. The speed of gaining information and the fact that the survey allows for gathering data within a relatively short time span are other advantages.

### **3.5 Population**

According to Welman, Kruger and Mitchell (2005:52), the population in a study refers to the object which could consist of individuals, groups, organizations, human products and events, or the conditions to which they are exposed. The population upon which this study was based, were the registered grade 11 learners from seven (7) selected schools in Makhuduthamaga Municipality, Sekhukhune District 825 learners in total.

Wallen and Fraenkel (2013: 380) describe the target population as the group of persons (objects and institutions) that the study focuses on, and also considered as the entire group of people which the researcher is interested in to make conclusions.

#### **3.5.1 Size of the population**

The population of 825 grade 11 learners is reflected in Table 2 below.

**Table 2: Population of study (grade 11 learners)**

<b>Secondary schools</b>	<b>Grade 11 learners</b>
Bopedi Bapedi High School	153
Masemola High School	100
Rantobeng High School	150
Legare High School	164
Rebone High School	129
Ngwanamatlang High School	25
Mmamokgokoloshi High School	104
<b>Total</b>	<b>825</b>

### **3.5.2 Sampling**

It is often not feasible to survey the entire target population and a sample that is representative of the population is therefore selected. Based on the large number of learners in the present study it was concluded that there was a need for sampling. Fox and Bayat (2007:54) pointed out that sampling is the process by which elements are drawn from the population and sampling in survey research allows the researcher to generalize findings across the population from which the sample was taken.

#### **3.5.2.1 Sample unit**

Surveying the entire population can consume a large amount of time, money and effort so it is sometimes in the researcher's interest to survey only a sample, which is a subset of the population. The sample size in the present study was determined using the sample table by Krejcie and Morgan (1970). The table is applicable to any population of a defined size. According to Krejcie and Morgan's table a population of 825 has an acceptable sample size of 264 participants. The selected sample of 264 grade 11 learners is shown in Table 3 below.

**Table 3: Sample size of grade 11 learners**

<b>Secondary schools</b>	<b>Sample size</b>	<b>Percentage</b>
Legare High School	53	20%
Masemola High School	32	12%
Rantobeng High School	48	18%
Bopedi Bapedi High School	49	18.5%
Rebone High School	41	15.5%
Ngwanamatlang High School	8	3%
Mmamokgokoloshi High School	33	12.5%
<b>Total</b>	<b>264</b>	<b>100%</b>

Probability sampling was used for this study and in probability sampling, the size of the population under investigation is known to the researcher. Characteristics of probability sampling are, for example, every individual or unit has an equal chance of being sampled and the researcher can make generalizations to the larger population.

### **3.5.3 Proportional stratified random sampling**

Stratified sampling is used to establish a greater degree of representativeness in situations where populations consist of subgroups or strata (Terre-Blanche, Durrheim and Painter 2006: 136). Since the number of grade 11 learners are different in each of the schools, the researcher chose the sample in accordance with the proportions of each school's group. To ensure that a sample adequately represents relevant strata, the same proportion of learners from each school as there were in the population were selected to add to the 264, which is the sample of all learners (Leedy 2001: 216).

### **3.6 Data collection technique**

According to Bless, Higson-Smith, and Kagee (2008: 111), data collection is the precise, systematic gathering of information relevant to the research sub-problems, using methods such as conducting a survey. As noted, the survey method was employed to collect data as it was

the most cost effective way to reach the sample required. Hence the study adopted a quantitative approach, which lead to the questionnaire tool being used for the collection of data.

### **3.6.1 Questionnaire**

Fox and Bayat (2007:88) define a questionnaire “as a list of questions on a specific topic compiled by a researcher and to which answers and information are required. With questionnaires it is easy to reduce some bias” since there is uniform question presentation and no middleman bias. Questionnaires can be distributed to a large number of people at the same time. This has an advantage of saving time when collecting data. Leedy and Ormarod (2010: 189) argued that the questionnaire method does not require that the participants include their names, therefore this may increase the likelihood of the respondents being more truthful, especially when addressing the topic such as the use of the internet.

Wallen and Fraenkel (2013: 84) describe a questionnaire as a group of written questions used to gather information from respondents and it is regarded as one of the commonest tools for gathering data in research. Bawden and Robinson (2012: 308) stated that “questionnaires are regarded as being in the positivist style of research, since they assume that the researcher and those surveyed share a common perspective of the situation”. The questionnaire technique was chosen as the most appropriate tool for data collection as it is a rich and reliable source of research data. The present study wanted to collect quantifiable data and participants’ opinions and perceptions towards internet usage.

Pedhazur and Schmelkin (2013:132) emphasised the advantages of questionnaires:

- Questionnaires are generally cheaper and quicker to administer
- Questionnaires are less time consuming to complete
- Questionnaires are less demanding with respect to matters such as selection and supervision
- Questionnaires provide for wider coverage of the population of interest
- Questionnaires are able to reach respondents in remote locations or special populations.

The questions used were mainly closed with some open questions. The questionnaire used to collect the data was divided into two categories:

**Section one** sought to determine demographical information on the respondents, such as gender and age.

**Section two** dealt with internet use in general and tried to discover the details and perceptions from their learners regarding the internet use.

### **3.6.2 Forms of questions**

A disadvantage of the questionnaire is that since they are structured instruments, they allow little flexibility for the respondents in respect of providing in-depth information. To overcome this disadvantage, the researcher used a combination of both open and closed questions but as noted the latter were in the majority. The structured format of the questionnaire is important for obtaining valuable and quality results. Terre-Blanche and Durrheim (2002:294) asserted that open questions allow respondents to communicate their experiences or opinions about a specific issue in their own words, without any restriction. Respondents are expected to give a short written responses relating to the matter at hand. Open questions are thus flexible.

Terre-Blanche and Durrheim (2002: 295) argued that closed questions do not allow the respondents to provide answers in their own words, but force the respondent to select one or more choices from a fixed list of answers provided. Closed questions have the advantage of eliciting a standardized set of responses from all the respondents and therefore allowing for easier comparative data analysis. The most frequently used is the dichotomous item which offers two alternative answers only.

### **3.6.3 Pre-testing the questionnaires**

McCormack and Hill (1997:97) stated that pre-testing is a standardized step in questionnaire formation, where the goal is to check how well the questionnaire is working before beginning with the fieldwork and to make any required improvements for clarity of questions. In agreement with the above statement, Babbie and Mouton (2001: 244) elucidated that pre-testing is the most vital part in survey research design. When a researcher is developing a questionnaire there is always a likelihood of error. Therefore, pre-testing the questionnaire is important to reveal and correct any flaws in questions.

The purpose of a pre-test is to test the adequacy of a questionnaire on a predetermined number of people from the population of interest before the costs of a full-scale survey are incurred. This means that no survey should be conducted without the questionnaire first having been tested. As a result of this procedure, defects in the questionnaire will be discovered and these can be corrected before it is administered to the chosen sample.

Pre-testing enables the researcher to revise the methods of a research and logistics of data collection before starting the actual fieldwork. As a result a good deal of time, effort and money can be saved in the long run. In this study the questionnaires were pre-tested with ten (10) grade 11 learners from Ngwabe Technical High School, before the actual study was conducted. The researcher distributed 10 questionnaires to learners. The results provided that there were no unclear, imprecise and irrelevant questions that the learners identified and only minor changes were made to the questionnaire and were reviewed and incorporated into the final version of the research instrument. This allowed the researcher to conclude that all instructions and questions in the questionnaire were understood.

The nature of the comments from the pretest

### **In pre-testing these problems are eliminated**

- Unclear instructions
- Excessive length
- Ambiguity or lack of clarity in the question wording
- Leading questions
- Poor continuity
- Alternative answers to closed questions

### **3.7 Data analysis**

Since the purpose of data gathering is to solve a research problem, data collected should therefore be analyzed. Khumalo (2006: 46) outlined that after data has been obtained from the questionnaire it should be checked for completeness, comprehensiveness, consistency and reliability and this process is called data cleaning. Muhambe (2012:42) opines that quantitative data, sometimes called numerical data, is the data measured or identified on a numerical scale. Quantitative data is essentially analyzed using statistical methods, and results can be displayed using tables, charts, and graphs.

For this study, the data from the questionnaire was coded as a data file for analysis, using the programme called Statistical Package for Social Sciences (SPSS). Content analysis was used to interpret the responses of open questions. Weber (1990: 5) stressed that content analysis classifies textual material, reducing it to more relevant, manageable bits of data. A coding key was drawn up in which numerical values were assigned to all closed answer options in the questionnaire. The respondents to the open question were not coded but were reported on in subsequent chapter. The data were entered on a data matrix design using SPSS and subsequent presentation of the data was in the form of ratios, tables, percentages and other forms of graphic presentations such as charts.

### **3.8 Validity and Reliability**

Briggs and Coleman (2007:96) regard reliability, along with validity and relevance, as one of the key tests in judging the adequacy of research. Oliver (2010:73) argued that the validity of research is the extent to which the data collection instruments actually measure what they purport to measure.

According to Hudson (1981:113), cited in De Vos *et al* (1998:85) reliability is “the accuracy or precision of an instrument; as the degree of consistency or agreement between two independently derived sets of scores, and as the extent to which independent administrations of the same instrument yield the same results under comparable conditions.”

For the purpose of this study, to enhance reliability, the researcher recorded every step that was taken during data collection. This ensured that if other researchers wanted to replicate the study, they could do so and possibly to the same conclusions. Generally, to ensure validity and reliability, pre-testing of the data collection instruments is done. As noted above, this was done at Ngwabe Technical High School where 10 grade 11 learners were used to pre-test the questionnaire.

### **3.9 Ethical considerations**

Ethical issues describe the system of ethical protections that the contemporary social research establishment have created to try to protect better the rights of the research participants. Ethical issues are very sensitive matters as one embarks on social research. De Vos *et al* (2005: 58) underline the pertinence of ethical responsibility in social sciences as unique by the fact that

the objects of study are human beings. Ethical problems facing a social researcher are complex, as expressed in the following definitions:

*Ethics is a set of moral principles which is subsequently widely accepted and which offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, other researchers, assistants and students (De Vos et al, 2005: 57). Ethics is the inquiry into the nature and grounds of morality where morality means moral judgements, standards and rules of conduct (Taylor, 1975: 12).*

George (2005: 252) saw ethics as the study or discipline which concerns itself with judgements of approval and disapproval, judgement as to the rightness or wrongness, goodness or badness, virtue or vice of actions, dispositions or objects. For Martin (2011: 41) it is concerned with principles, which are universal and which are more than a fixed, a blind set of rules of behavior, so it entails reasoning about behavior and choices.

Ethics definition outlines the morally accepted principles between the researcher and people involved including other researchers and participants. The researcher is therefore accountable not only to respondents but to other researchers as well since ethics includes not only respecting and protecting the lives of the respondents but respecting and acknowledging the work of other researchers. Ethics is fundamentally characterized as principles or standards for representing the relations between people to benefit all concerned, with respect for the needs of all people involved in the experiment.

The University of KwaZulu-Natal requires an ethical agreement between the institution and the respondents before engaging in any social research that involves human beings. Hence, in conducting this study, the researcher was bound by the ethical agreement signed with the University of KwaZulu-Natal at the beginning of this journey.

One of the principles that was agreed upon was that the participation of each respondent was voluntary, no participant should feel obliged to participate if she/he is not willing. Before the respondents engaged with the questionnaire, the researcher explained precisely what the purpose of the study was before the participants filled in the questionnaires. It is with their consent that they gave their time to participate in the study and it was made clear that they could withdraw at any time during the process if necessary.

The respondents were also told that participating did not result in any rewards and no one would be coerced into participating in the study. Once this was done the participants signed a consent form agreeing to participate in the study. The ethical values require the researchers not to put participants in a situation where they might be at risk of harm as a result of their participation.

In ensuring the privacy of the participants it was noted from the researcher's perspective that the rights and privacy issues relating to the participants would not be compromised in any way. The names were not asked for in the questionnaire and no names were mentioned in the reporting and discussion of the results. Therefore, privacy and confidentiality were ensured. The researcher told the participants that this collection of data was for educational purposes and any type of misleading information will be avoided.

It was also agreed to respect the personal privacy and confidentiality of the information gathered from the respondents, to avoid any harm. When the researcher started analysing and interpreting data, the researcher resolved to maintain the anonymity of all the respondents as a sign of cooperation with confidentiality agreed upon in the ethical clearance.

### **3.10. Conducting the survey**

Letters requesting approval to carry out the survey were presented to the selected schools and the permission to conduct the study was obtained from the Department of Education in Limpopo. The letter was taken to the principals of the schools and most were not concerned with the content of the letter, once the researcher had provided a verbal summary of what was going to happen. Permission to conduct the research was granted by all principals.

The researcher visited each school to set up dates for learners to complete the questionnaires. The researcher informed the learners about the purpose of the research and also stressed that participation was voluntary and they should feel free to answer the questions as honestly as possible and that all responses would be treated with strict confidentiality.

The researcher was able to visit one school per day starting from 15 September to 25 September 2015. The researcher was able to conduct the data collection and a response rate of 100% was achieved due to self-distribution of the questionnaires and the fact that learners complete the questionnaires immediately.

### **3.11 Summary**

Chapter Three presented the research methodology, population for the study, data collection procedure, data analysis and ethical considerations. Pre-testing was carried out to eliminate any possible ambiguity, unclear choices and poorly worded questions. The data analysed through the use of SPSS and the results are presented in Chapter Four which follows.

## Chapter four

### Presentation of results

#### 4.1 Introduction

Chapter four presents the research findings. The research results were drawn from the self-administered questionnaire given to the grade 11 learners at Bopedi-Bapedi, Legare, Masemola, Rantobeng, Rebone, Mmamokgokoloshi and Ngwanamatlang High Schools. The findings are presented in the form of frequency tables, bar-charts and pie charts.

#### 4.2 Response rate

Two hundred and sixty-four questionnaires (264) were delivered to grade 11 learners in selected secondary schools in Sekhukhune district, Limpopo. Two hundred and sixty-four (264) questionnaires were returned, yielding an excellent response rate of 100%. This good response rate can be attributed to the fact that the questionnaires were hand delivered to the schools and the researcher waited for learners to complete them. The questionnaires were distributed between 15 and 25 September 2015. The questionnaire had 23 questions (20 closed questions and 3 open questions for clarification purposes). According to Babbie and Mouton (2001: 267), the consensus is that a response rate of 50% is adequate, 60% is considered good and 70% or more response rate is considered very good.

#### 4.3 Presentation of results

The questionnaire was designed to elicit a range of information. The questionnaire results are presented according to the sections covered in the questionnaire. These include demographics, background or general questions. The results of the questionnaire are presented by means of frequency tables and pie and bar-charts. Cross-tabulation of some variables was also done to check if age and level of information literacy have any effect on the level of their internet use.

**Note:**

- Percentages were rounded off to one decimal point
- Questions 5, 7, 12, 13, 16 and 18 allowed respondents to indicate more than one response and hence the percentages exceeded 100%
- N means number of respondents that answered a particular question.

#### 4.4 Part A: Background Information

This part on background information required the respondents to provide information related to their gender and age.

##### 4.4.1 Gender of respondents

The respondents were asked to specify their gender (question 1). The results are illustrated in Table 4 below. Out of 264 there were 63% (165) female and 37% (99) male respondents. From the results it is evident that there were more female respondents than male respondents and it must be borne in mind that female learners outnumbered male learners in the schools.

N=264

	Frequency	Percent
Female	165	63%
Male	99	37%
Total	264	100%

Table 4: Gender of respondents

##### 4.4.2 Age categories

In Question two respondents were asked to indicate their age. Table 5 below shows that out of the 264 learners the highest number of respondents (28%) were 18 years old. One respondents was 23 years of age (0,4%) and another respondents was 24 years of age (0,4%). Hence, the most common age group was 17-18 (56%) and the least common was 23-24 (0,4%).

N=264

Age ranges	Frequency	Percent
18	75	28%
17	73	28%
19	42	16%
16	33	13%
20	17	6%
21	13	5%
22	6	2.3%

15	3	1%
23	1	0,4%
24	1	0,4%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 5: Age of respondents**

#### **4.5 Part B: internet usage**

This part of the questionnaire assessed the respondents' general usage of the internet. Respondents were asked various questions relating to the use of internet services. The findings are listed below.

##### **4.5.1 Use of the internet**

Question three was asked to determine if the learners were using the internet or not. Table 6 and Figure 5 below clearly illustrates that out of 264 learners, a majority of 92% indicated that they used the internet and 8% said they don't use the internet. The learners who said they don't use the internet gave reasons why and they are discussed in the next chapter.

**N=264**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Yes	243	92%
No	21	8%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 6: Use of the internet**

##### **4.5.2 Benefits of using internet for academic purposes**

Question five, a multiple response question, asked learners about the benefits of using the internet for academic purposes. Here the learners were allowed to tick more than one option that applied to them. For this question, most learners indicated that the greatest benefit of using the internet was reliability of information 34% (139), followed by accuracy of information 33% (134) and the lowest being time saving 19% (76) and user friendly 14% (55).

N=264

Benefits	Frequency	Percent
Reliability of information	139	53%
Accuracy of information	134	51%
Time-saving	76	29%
User-friendly	55	21%
Other	0	0%
<b>Total</b>	<b>404</b>	<b>154%</b>

\*Multiple response received

**Table 7: Benefits of using internet for academic purposes**

### 4.5.3 Learning to use the internet

Question six was asked to find out how the learners learnt to use the internet. Table 8 below indicates that out of 264, a majority of 157 (59.5%) taught themselves how to use the internet, 48 (18.2%) learnt from reading books, 46 (17.4%) were taught by friends ,13 (4.9%) learnt from schools and 0 (0%) no other respond was given.

N=264

How learnt	Frequency	Percent
Self-taught	157	59.5%
Reading from books	48	18.2%
Taught by friends	46	17.4%
School	13	4.9%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 8: Learning to use the internet**

### 4.5.4 Method of accessing the internet

Respondents were asked to indicate what they used to access the internet. Table 9 below shows that the most frequently used facilities to access the internet were the smart-phone (87%), Tablet (17%) and laptop (14%). The least used facility was desktop the computer with only (11%) respondents indicating usage of the facility.

N=264

Method	Frequency	Percent
Smart-phone	226	87%
Tablet	46	17%
Laptop	37	14%
Desktop computer	28	11%
<b>Total</b>	<b>337</b>	<b>129%</b>
<b>*Multiple response received</b>		

**Table 9: Methods used to access the internet**

#### 4.5.5 Main method used to access the internet

The researcher wanted to find out what were the respondents' main method used to access the internet. Table 10 below indicates that the most common main method used was smart-phones by 195 (74%) respondents, 30 (11.3%) used a tablet as their main method to access the internet, followed by 25 (9.4%) respondents who used laptops as their main method to access the internet. The lowest was a desktop computer with 13 (4.9%) respondents using it to have access to the internet and 1 (0.4%) didn't respond. Therefore, this indicates that the use of smart phones is predominant amongst the respondents.

N=264

Method	Frequency	Percent
Smart-phone	195	74%
Tablet	30	11.3%
Laptop	25	9.4%
Desktop computer	13	4.9%
No response	1	0.4%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 10: The main methods of accessing the internet.**

#### 4.5.6 Where do you usually access the internet?

Respondents were asked to indicate from where they usually access the internet (question nine). Table 11 below shows that 244 (92%) respondents usually access the internet at home, followed by 20 (8%) who usually access the internet at an internet café.

N=264

Where access	Frequency	Percent
Home	244	92%
Internet café	20	8%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 11: Site of internet access**

#### 4.5.7 Internet access at home

This question was asked to investigate the main method respondents used to access the internet at home. There were two hundred and sixty-four (264) responses to the question. The majority of learners used data bundles at home to access the internet: 242 (91.7%), followed by 12 (4.5%) learners using Wi-Fi and the lowest being 7 (2.7%) respondents using a modem and 3 (1.1%) who presumably did not have internet access at home.

N=264

	Frequency	Percent
Data bundles	242	91.7%
Wi-Fi	12	4.5%
Modem	7	2.7%
None	3	1.1%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 12: Type of internet access at home**

**Table 12: Type of internet access at home**

#### 4.5.8 Frequency of internet use per week

Question 11 was asked to determine the frequency of the internet use for academic purposes. Out of the 264 learners, 135 (51%) respondents used the internet daily. This is probably the results of the majority of the respondents having access to smart-phones. They were followed by 95 (36%) who used the internet once a week and 22 (8.3%) who used the internet once a month. Only 11 (4.1%) used the internet once every two weeks and 1 (0.4%) never used the internet.

N=264

Frequency of use	Frequency	Percent
Daily	135	51%
Once a week	95	36%
Once a month	22	8.3%
Once every two weeks	11	4.1%
Never	1	0,4%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 13: Accessing internet for academic purposes weekly**

#### 4.5.9 Internet services students' use

Question 12 was asked to discover the internet service learners use. It was discovered from the results that a small of respondents used the search engine Google 216 (82%), social networks 151 (57%) and 25 (9%) respondents used email. The lowest being 13 (5%) respondents who used Microsoft networks.

N=264

Services	Frequency	Percent
Google	216	82%
Social networks	151	57%
E-mail	25	9%
Microsoft networks (MSN)	13	5%
<b>Total</b>	<b>405</b>	<b>153%</b>
<b>*Multiple response received</b>		

**Table 14: Internet service learners frequently use**

#### **4.5.10 The purpose of learners' internet use**

Respondents were asked about their purpose for using the internet. The results in Table 15 below indicate that a sizable majority of respondents 205 (78%) use the internet for learning purposes, followed by 123 (46.5%) respondents indicating that they used it for communicating with family and friends, 107 (41%) to update knowledge. The smallest number of respondents, indicated that they used it for the news 29 (11%) and 48 (18%) respondents used it for entertainment.

N=264

Purpose	Frequency	Percent
For learning purposes	205	78%
To communicate with family and friends	123	46.5%
To update knowledge	107	41%
For entertainment	48	18%
For the news	29	11%
<b>Total</b>	<b>512</b>	<b>194.5%</b>
<b>*Multiple response received</b>		

**Table 15: The purpose of learners' internet use**

#### 4.5.11 Duration of internet use

The researcher asked respondents how long they had used the internet for. From Table 14 below it is noted that out of 264 learners who were using the internet, a majority of 145 (54.9%) had used the internet for more than 18 months followed by 44 (16.7%) respondents who had used it for between 13 to 18 months, 40 (15.2%) respondents had used the internet for less than 6 months and just 35 (13.3%) had used the internet for between 7 and 12 months.

N=264

Duration	Frequency	Percent
More than 18 months	145	55%
13 to 18 months	44	17%
Less than 6 months	40	15%
7 to 12 months	35	13%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 16: Duration of the internet use**

#### 4.5.12 Amount of time spend on the internet per-browsing session.

Question 15 was asked to establish the amount of time spend on the internet by the respondents. Table 17 below indicates that out of 264 learners, a majority of 94 (35.6%) reported to have

been using the internet from 2-4 hours a week, 92 (34.8%) learners had used the internet for less than 1 hour a week, 40 (15.2%) learners had used the internet for about 5-6 hours a week, 22 (8.3%) learners had used the internet for 10-20 hours a week and only 14 (5.3%) respondents had used it for 7-9 hours a week and 2 (0.8%) did not respond to the question.

**N=264**

<b>Time spent</b>	<b>Frequency</b>	<b>Percent</b>
2-4 hours a week	94	35.6%
Less than 1 hour a week	92	34.8%
5-6 hours a week	40	15.2%
10-20 hours a week	22	8.3%
7-9 hours a week	14	5.3%
No response	2	0.8%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 17: Time spent on the internet per-browsing session**

#### 4.5.13 Social networking sites learners use

Question 16, a multiple response question, was asked to establish what social networking sites the learners used. Table 18 below indicates that all 264 learners responded to having used social networking and it indicates that a majority of 188 (71.2%) and 188 (43.7%) learners had used Facebook and WhatsApp respectively, followed by 32 (7.4%) respondents who had used Twitter, 13 (3.0%) respondents reported having used LinkedIn and the lowest being 9 (2.1%) learners who reported that they had used MySpace.

**N=264**

<b>Social networking sites</b>	<b>Frequency</b>	<b>Percent</b>
Facebook	188	71%
WhatsApp	188	71%
Twitter	32	12%
LinkedIn	13	5%
MySpace	9	3%
<b>Total</b>	<b>430</b>	<b>162%</b>
<b>*Multiple response received</b>		

**Table 18: Social networking sites learners use**

#### **4.5.14 Sufficient skills to use the internet**

Question 17 was asked to find out whether the learners had sufficient skills to browse through the internet. The results from Table 19 below indicate that the majority 206 (78%) of respondents considered themselves as having the skills to browse through the internet and 58 (22%) respondents reported that they did not have the necessary skills.

**N=264**

<b>Skills</b>	<b>Frequency</b>	<b>Percent</b>
Yes	206	78%
No	58	22%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 19: Skills to use the internet**

#### **4.5.15 Problems encountered when surfing the internet**

Question 18, a multiple response question, was asked to establish problems encountered by learners when surfing the internet. Table 20 below indicates that all 264 learners reported having had problems. Table 20 below indicates that a majority of 150 (56.8%) had problems with the cost of internet expenses, 126 (4.7%) learners reported to have had problems with slow access speed, 93 (35.2%) respondents had problems with network signals, 60 (22.7%) respondents encountered virus problems, 24 (9.1%) respondents had difficulties in locating information, 18 (6.8%) respondents had problems with inaccurate information, 17 (6.4%) respondents had problems with unreliable sources and 16 (6.1%) had problems logging in.

N=264

Problems	Frequency	Percent
Cost of internet expenses	150	56.8%
Slow access speed/Slow network connection	126	47.7%
Network signals	93	35.2%
Viruses	60	22.7%
Difficulty in locating info	24	9.1%
Inaccurate information	18	6.8%
Unreliability of sources	17	6.4%
Logging in	16	6.1%
<b>Total</b>	<b>504</b>	<b>191%</b>
<b>*Multiple responses received</b>		

**Table 20: Problems encountered when surfing the internet**

#### 4.5.16 Solutions to the internet problems as perceived by learners

Question 19, an open question, tried to establish what the learners' views were regarding solutions to the above mentioned problems. The results showed that out of 264 only 182 (68.9%) respondents provided their views. 51 (28%) respondents provided their views regarding network signals outlining that there should be a strong connection of networks by increasing the number of network poles and 33 (18%) respondents addressed the issue of internet expenses with the view of having Wi-Fi hotspots in each of their schools and Wi-Fi routers. The whole results are summarised in the below table stating their views.

<b>Solutions to the internet problems as perceived by learners with regard to cost of internet expenses</b>
<i>By getting free data bundles or using internet for free to research our project and assignment for free to get more information.</i>
<i>By having Wi-Fi hotspots in each and every schools.</i>
<i>By installing Wi-Fi routers at schools so that underprivileged students can get access to the internet</i>
<i>By trying to reduce the amount of data and to also offer Wi-Fi serials to most communities</i>
<i>Cancel the use of internet, I know is important but we have to do something about this</i>
<i>Decrease cost of internet expenses</i>
<i>Lower internet expenses and implement the nearby internet cafes with WI fi connections.</i>

<i>The government can produce sim card that can browse the internet free for only school learners to get more information they need even if they don't air time or data bundles.</i>
<i>There should be intentions of giving each and every individual bonus airtime, free data bundles, when he/she is recharging with a certain amount and they should expand the connection of network to a higher phase.</i>
<b>Solutions to the slow access speed of network</b>
<i>Antiviruses should be provided for people faster network connections should be established</i>
<i>Buy another phone like smartphone, tablet or maybe a laptop to reduce network signals and slow network connections</i>
<i>By increasing the network poles so the internet can run fast.</i>
<i>By making sure that there is no problems regarding to use internet, because when having problems when browsing an internet we cannot do school works or connect with friends</i>
<i>By providing good network signals because it takes time</i>
<i>By using the new phone which has 3G internet speed access.</i>
<i>By using Wi-Fi as it's not slow to access speed and as it doesn't cost any airtime or data bundles</i>
<i>Come up with a network which is not slow when browsing</i>
<i>Faster network connections, for faster access and less charges for data bundles</i>
<b>Solutions to the network signals</b>
<i>Government must ensure that it provides internet cafe for free Wi-Fi</i>
<i>We should access internet for free locate Wi-Fi network</i>
<i>Wi-Fi routers should be installed</i>
<i>Wi-Fi should be located.</i>
<i>They must increase the high level of network poles in the rural areas.</i>
<i>Use a computer to remove all viruses and make the sim card connected to check the settings</i>
<i>To put some networks ariels close to people who are lacking on GPRS</i>
<b>Viruses</b>
<i>Activation of anti-virus, install some security and save airtime by using data bundles</i>
<i>Antiviruses should be provided for people faster network connections should be established</i>
<i>By making anti-virus for all smart phones</i>
<i>By producing an anti-virus for the smart-phones</i>
<i>Updating powerful anti-virus and lowering data bundles price</i>
<i>Downloading antiviruses.</i>
<i>To have knowledge of how to solve the problem when it start to have virus</i>
<i>They must in the network dignals, and create strong software that can protect computer from infection of the viruses.</i>
<i>To redeem this virus problem by having anti-virus.</i>
<i>For the viruses there must be anti-viruses to stop this plague and for the slow networking there must be 3G employment of service providers, so that our network can be upgraded.</i>
<i>Use a computer to remove all viruses and make the sim card connected to check the settings</i>
<b>Inaccurate information</b>
<i>To update any information in the world and the job experiences, handwork, skills and trained jobs.</i>
<i>To receive training on using internet.</i>
<i>Those who upload the information should be accurate and antivirus programmes that are advanced many be introduced</i>
<i>They must publish more peer reviewed sources so they can be reliable</i>

*The internet CEO must double check if the information is reliable and relevant before it goes to public.*

*The internet cafe workers must come to our school and teach us more about internet and the access of it.*

*People should be instructed not to drop any information which is not reliable on the internet, e.g Wikipedia for example.*

#### **4.5.17 Received training on searching for information on the internet.**

Question 20, was asked to discover whether the learners had received the training on searching for information on the internet. Table 21 below shows that majority of 227 (86%) respondents indicated that they had not received any training on searching for information on the internet while 37 (14%) indicated that they did receive such training.

**N=264**

<b>Training</b>	<b>Frequency</b>	<b>Percent</b>
No	227	86%
Yes	37	14%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 21: Training on searching for information on the internet**

#### **4.5.19 Places where they received their training on the use of internet**

It was noted in this question that of those respondents who said they had received training, a majority of them indicated that they received training from Mphahlele Siyafunda Campaign at Mamone as well as some who were trained in their primary and secondary schools.

#### **4.5.20 Rating the level of information literacy**

In question 22, the respondents were asked to rate themselves in terms of level of information literacy. In Table 22 and Figure 7 below it is indicated that the highest percentage rated their level of information literacy as being 'good' (113 (42%)), followed by 'average' for 78 (29.5%) respondents and 62 (23.5%) rated themselves as 'very good'. The lowest number of respondents indicated 'poor', 10 (3.8%) and just 1 (0.4%) respondent indicated 'very poor'

N=264

Rating	Frequency	Percent
Good	113	43%
Average	78	30%
Very good	62	23%
Poor	10	3.8%
Very poor	1	0.4%
<b>Total</b>	<b>264</b>	<b>100%</b>

**Table 22: Level of information literacy**

#### **4.5.21 Respondents' comments and suggestions on the use of internet.**

Question 23 asked respondents to comment and suggest what they felt about the use of internet. Out of 264 respondents, 90 (34%) respondents did not have comments and suggestions. However, 174 (65.9%) responded to this question. Of these, the vast majority of respondents 158 (90.8%) stated that the internet is “good for them since they source information as learners” and 16 (9%) respondents viewed the internet as a bad thing as some learners use it to download pornographic videos.

#### **4.5.22 Summary of Chapter Four.**

This chapter presented the findings of the survey, a total of 264 questionnaires were distributed and all were completed and returned giving a 100% response rate. Findings were, in the main, presented in the form of tables. The next chapter, chapter Five, discusses the findings.

## **Chapter Five**

### **Discussion of the results**

#### **5.1 Introduction**

In this chapter, the findings of the study are discussed in terms of the research problem and the purpose of the study. Reference is made to other studies which were carried out previously and which have been documented in the literature review. The purpose of the study was to investigate the use of the internet by grade 11 learners from selected schools within the Makhuduthamaga Municipality in Limpopo Province.

The research questions which underpinned the study were:

- How do learners access the internet?
- What do learners use the internet for?
- To what extent do learners recognise and use the internet for educational endeavours?
- How often do learners use the internet?
- Do learners have the necessary and sufficient skills to use the internet?
- What challenges do learners encounter when using the internet?
- What solutions can be employed to overcome these challenges?

The discussion is based on the above research questions. The findings discussed in this study were based on a sample of 264 grade 11 learners from selected schools in Limpopo who responded to the questionnaire. In view of the (100%) response rate achieved in the survey, it is possible to make generalizations to all grade 11 learners in the seven schools.

#### **5.2 Demographic data of respondents**

This part discusses the profile of the learners with regard to their demographic characteristics which were gender and age.

##### **5.2.1 Age**

The ages of the respondents ranged from 15 to 24 years. Each of the age categories reflected a different number of respondents. The mean age for the learners was 18.01 while the median was 18 years. The age range with the highest number of respondents was 18. The eighty

learners who were aged 19 years and above were mature learners, since the normal accepted age for grade 11 learners is anything below the age of 18 years. However, one could argue that the sample, as a whole was of a “mature” age.

### **5.2.2 Gender**

From the findings it was established that 63% (165) were female and 37% (99) were male respondents. Thus it is evident that there were more female respondents than male respondents and again it must be borne in mind that female learners outnumbered male learners in the schools generally.

## **Part B: Internet usage**

### **5.3 Do learners use the internet?**

This question was asked to establish if the learners are using the internet or not. Results illustrated that out of 264 learners, a majority of 243 (92%) indicated that they used the internet and 21 (8%) said they don't use the internet. The learners (12.5%) who said they did not use the internet explained in question 4, that the reason why they did not do so was because they don't have smart phones, they only have phones that do not subscribe to the internet. One learner said that *“I don't have much knowledge of using internet and I have no full interest of using it”*. This one response was the only negative remark about the internet, reflecting disinterest in using it based largely on ignorance it would appear.

Most of the grade 11 learners had been using the internet. A study done by Mayayise (2008: 66) at two different high schools in Gauteng Province revealed that out of 50 respondents who completed the questionnaires, 46% of learners reported that they used the internet and spent more than eleven (11) hours and longer per week using it. Anyanwu and Ossai-Onah (2013: 12) concurred with the above results and it was revealed in their study that 35 (62.5%) of the students did use internet and 21 (37.5%) did not make use of the internet. The general findings therefore show that a majority of students do use the internet. Mingaine (2013: 227) corroborate with the above mentioned results when stating that the positive use of the internet has a positive effect on teaching and learning in schools. Mingaine (2013: 227) furthermore noted that the use of the internet enhances learning in the classroom, improves management of schools, and improves efficiency, accountability and effectiveness of activities. It is quite evident that the

internet can be used in schools to enhance school objectives such as communication, assessing and searching for information which are essential in preparation of learners for the knowledge society. Therefore, learners who use the internet for their school activities perceived it as useful for personal growth and learning and it is not surprising that they would continue using it due to its usefulness.

#### **5.4 How do learners access the internet?**

The findings of the present study revealed that most of the grade 11 learners accessed the internet through their cell-phones. Results showed that 195 (74%) respondents accessed it through cell-phones, 30 (11.3%) respondents through Tablets, 25 (9.4%) respondents through laptops and 13 (4.9%) respondents through desktop computers and no response 1 (0.4%). This indicates that cell-phones are the dominant tool amongst the respondents. Similarly, Poscia, Frisicale, Parente, La-Milia, de-Waure and Di Pietro (2015: 129) indicated that the use of cell phones is one of the most rapidly growing technologies in the world with more than 6 billion subscribers, as reported by the United Nations in 2013. Aoki and Downes (2003: 362) concluded that cell phones are a pervasive new communication technology, most specifically among the youth. Cell-phones with internet access and multimedia capabilities are becoming common to the youth nowadays.

Shiweda (2013: 83) investigated the web-based information behaviour of high school learners in Oshana region, Namibia. The results showed that 114 (82.6%) learners, a majority of the learners, used cell-phones to access the internet. From the current study it was noted that majority of the respondents accessed the internet from home namely, 244 (92.4%) and 20 (7.6%) accessed the internet at an internet café. The results of this study are similar to Shiweda's (2013) who found that many learners 105 (76.1%) access the internet at home.

#### **5.5 Benefits of using the internet for academic purposes.**

The current study asked a multiple response question, asking learners about the benefits of using the internet for academic purposes. Here the learners were allowed to tick more than one option that applied to them. For this question, the most mentioned benefit learners derived from the internet was reliability of information 53% (139), followed by accuracy of information 51% (134) and the lowest being time saving 29% (76) and user friendly 21% (55).

## 5.6 What do learners use the internet for?

- For learning purposes (78%)
- To communicate with family and friends (46.5%)
- To update knowledge (41%)
- For entertainment (18%)
- For the news (11%)

It is clear from the present findings that 78% of the learners stated that they use internet primarily for learning purposes, 46.5% for communicating with family and friends and 41% to update their knowledge. A small percentage of learners (18%) use the internet for entertainment as well as for the news (11%). The current results obtained are similar to those in the studies done in the same field by Kanlaya (2013: 252) which showed that the respondents namely, reported that they made use of the internet in their everyday life because they appreciated its speed, the variety of information it contains and the ease of access to source the information, and they were of the opinion that information obtained on the internet is more accurate and up to date than most of the books.

Another salient finding in the present study relates to the main reasons why learners use the internet. This is confirmed by Mayayise (2008: 66) who stated that 74% of the respondents namely, enjoy browsing through the internet while 12% enjoyed visiting chat rooms and 4% indicated that they enjoyed playing games on the internet. The majority of the respondents enjoyed browsing and this could be the result of not having explored the internet's capabilities to the maximum. Learners in the present study seem to be interested in using the internet to search for information that is school related. It is not surprising to see the grade 11 learners surfing the internet, locating and getting information especially for educational activities because it shows the lack of information resources such as libraries, available to them.

Islam and Hossain's (2012: 7) study supports the above mentioned results by stating that internet use has both advantages and disadvantages, it depends upon the purpose of use. If it is purposely used well, it helps to increase knowledge and keeps oneself abreast of the latest developments across the globe. Islam and Hossain (2012: 7) in their study revealed that 44.7% of the respondents had used the internet for Facebook, 43.7% used it for email, 35.8% used the internet for conducting school work, and 25.3% used the internet for both browsing websites and downloading self-fulfilling information, 20.5% used the internet for entertainment and

18.4% used the internet for chatting. As an overall trend, it is clear that the respondents have different reasons for using the internet and it depends on their need. For example, it is not surprising to see them using the internet for academic purposes and at the same time using it for other purposes such as socialization whereby the use of Facebook has become a top priority of the respondents.

Sarfo and Ansog-Gyimah (2011: 220) in their study on Ghanaian senior high school learners' access to and experiences in the use of information and communication technology, found that 11.8% learners used the internet for educational learning, for example doing their homework, acquiring knowledge and skills and accessing information related to their subjects. It was also found that 22.5% learners used the internet at home for entertainment, most of the learners 38.7% used the internet to acquire skills, 11.6% used the internet for entertainment, 21.8% used the internet for social communication (e.g. Facebook, chatting with friends) and 23.2% learners used the internet for learning purposes.

### **5.6.1 News**

The results of the current study shows that fewer respondents (5.7%) had used the internet for the news. Similarly, Anyanwu and Ossai-Onah (2013: 13) in their study revealed that 12 (34.3%) learners used the internet to access news. In the current study one would argue that the learners did not pay much attention to reading news on the internet and it shows that their attention was on other aspects such as school related activities and social networks.

### **5.6.2 Updating knowledge**

The results of the current study show that (7.9%) of the respondents had used internet to update themselves with knowledge. Similarly, Anyanwu and Ossai-Onah (2013: 13) found that 31 (88.6%) of the respondents in their study of internet use by Higher national diploma students of library and information science in Nigeria. The results outlined that they used the internet for educational and research information and the respondents saw the use of internet as making a pivotal contribution to their academic purposes.

### **5.6.3 Learning purposes**

The results of the current study show that the majority (78%) of the learners stated that they used the internet for learning purposes. This result corresponds with Limaye and Fotwengel's

(2015: 27) findings that showed the majority of the learners 90 (60%) accessed and used the internet for academic activities. according to 90 (60%) respondents. It shows that the internet is important to learners for learning purposes.

#### **5.6.4 Communicating with family and friends**

The results of the current study show that 47% of the respondents used the internet for communicating with family and friends which is similar to the findings by Limaye and Fotwengel (2015: 27) who also found that 30 (20%) learners used internet for chatting and making friends. Anyanwu and Ossai-Onah (2013: 13) are also in agreement with what has been established in the current study's results as in their study of the use of internet by Higher National Diploma students of library and information science in Federal Polytechnic. They found that 17 (48.6%) respondents used the internet for communication and chatting. Therefore, in the current study one can conclude that just under half the learners used the internet to chat and socialize with their friends and family.

#### **5.6.5 Entertainment**

The results of the current study shows that few (18%) respondents had used the internet for entertainment. Similarly, Limaye and Fotwengel (2015: 27) in their study of the use of internet among undergraduate students from Mumbai found that 10 (7%) learners used internet for playing games. One would have thought that entertainment would be highly ranked as entertainment is considered to be an integral part of lives of the young but with the current results it was not the case.

### **5.7 To what extent do learners recognise and use the internet for educational endeavours?**

In order to identify the extent to which learners recognise and use the internet for educational endeavours, From the results it was noted that learners indeed knew about the internet and understood its importance since majority, 158 (91%) of learners responded positively about using the internet for their studies. Similarly, Kanlaya (2013: 252) reported that learners mostly have positive perceptions about the quality of information they get from the internet. All learners felt that they could use the internet to learn at any time. The majority of learners felt that the quality of their work improved when using the internet and that their reading was up

to date through the use of the internet. Muniandy (2010: 177) indicated that the reason why learners are heavy users of the internet is because the internet provides a plethora of information across various subjects, including education. The amount of educational resources available to learners is voluminous and it continues to grow every day exponentially. It is of paramount importance for learners to search, identify, evaluate and use information from the internet for their educational activities.

The results of the current study indicated that a small majority of learners recognised the importance of the internet for their educational endeavours. Thus, for example 139 (53%) of the learners stated that they get reliable information from the internet followed by accuracy of information 134 (51%) and is also considered to be time saving 76 (29%) and also being user friendly with 53 (21%) respondents.

## **5.8 How often do learners use the internet?**

In order to assess the frequency of using internet services, the respondents were asked to indicate any one out of four time categories. The frequency of use among respondents ranged from daily use to never use. The researcher tackled how learners responded to the following question: How often do learners access the internet for academic purpose in a week? Regarding frequency of internet use by the respondents, Table 10 in Chapter four shows that out of the 264 learners, 135 (51%) respondents used the internet daily. This could be seen as a consequence of the majority of the respondents having access to smart-phones. They were followed by 95 (36%) who used the internet once a week and 22 (8.3%) who used the internet once a month. Only 11 (4.2%) used the internet once every two weeks and 1 (0.4%) never used the internet. One would argue that the learners used the internet whenever it was needed by them. The results reveal that the majority of the learners are active users of the internet. Table 16 in Chapter four indicated that out of 264 learners who were using the internet, the majority of 145 (54.9%) had used the internet for more than 18 months, followed by 44 (16.7%) respondents who had used internet for 13 to 18 months, 40 (15.2%) respondents had used the internet for over less than 6 months and therefore, just 35 (13.3%) had used the internet between 7 months to 12 months. This indicates that generally the learners are newcomers to the internet.

The above results generally correspond with Mohammed and Al-Karari (2008 :246) who found that 85% of the students used the internet 5 hours or less in the week, 11.2% used it 6-10 hours weekly, 2% used it for 11-15 hours weekly, and only 1.8% used it for more than 15 hours

weekly. Similarly, Kanlaya (2013: 252) reported that a large portion of the secondary school learners had utilized the internet for 1-3 years and it was found that more than fifty percent (50%) of the secondary school learners had eye strains, back pain and headache because of spending long hours in front of the computer screen.

Additionally, results by Islam and Hossain (2012: 6) in their study of access and use of the internet among undergraduate students in Bangladesh, asserted that the frequency of use among respondents clearly revealed that the respondents used the internet whenever it was needed by them. Almost 38% of respondents used the internet whenever it was needed by them, 31% used the internet on daily basis. Furthermore, 22.6% respondents were using it once a week and 7.9% used the internet infrequently. At the same time, experience of internet varied among respondents. The respondents were asked to indicate their experience of using the internet. It is shown that the largest proportion 46.8% was found among those with 1-2 years' experience of using or accessing the internet. Among other groups, 49 (25.8%) had less than 6 months of use, 37 (19.5%) had between 3-4 years' accessing it and 13 (6.8%) users had other lengths of internet experience.

### **5.9 Do learners have the necessary and sufficient skills to use the internet?**

In order to determine whether the learners have the necessary skills to use the internet, the researcher asked them whether they thought they had sufficient skills to browse through the internet?; did they receive any training on searching for information on the internet, and they were also asked to rate their level of information literacy. The responses to whether they have sufficient skills to browse through the internet were as follows: a majority of respondents 206 (78%) indicated that they had the sufficient skill to browse and 58 (22%) reported that they did not have the sufficient skills. These results agree with the various empirical findings from the literature. For instance, the results correspond with Kanlaya (2013: 252) who found that 50% of the learners in his study perceived themselves to have a high or very high level of internet usage skills and it was noted that most of those learners owned cell phones and laptops and also subscribed to various internet services. They also had access to Wi-Fi services in public places. Learners also tend to use internet facilities at internet cafes.

On the question of whether they received training in searching for information on the internet, a majority of 227 learners (86%) indicated that they had not received any training while 37 (14%) indicated that they had received the training. Those respondents who said they have

received the training indicated that they did received from social campaigns such as Mphahlele Siyafunda Campaign where they were trained on the aspects of ICT tools and how to efficiently use them. Aduwa-Ogiegbaen and Iyamu (2005: 109) outlined that lack of information literacy skills in secondary schools was a major problem. They gave an overview of Nigerian secondary schools that do not only lack information infrastructure but also lack skills and knowledge to fully use the internet in their secondary education. Aduwa-Ogiegbaen and Iyamu (2005: 109) further elaborated by stating that “in Nigeria, most secondary school teachers lack the skills to fully utilize internet in their curriculum hence the traditional chalk and duster approach still dominates in secondary pedagogy”

On the question of rating their level of information literacy, it was noted that the highest percentage of learners in the current study rated themselves as being good according to the results 42% (113), followed by average with 30% (78) and 24% (62), the lowest being 4% (10) and 4% (0) indicated very poor.

### **5.10 Which of the social networking sites do learners use?**

The internet is affecting daily life by reshaping social dynamics among young people. Social networking sites such as Facebook, WhatsApp and Twitter are growing at a phenomenal rate. These sites rely heavily on messages, photos, and music, which users post and other users view. Facebook is the most popular social network sites with more than 21 million worldwide members generating 1.6 billion page views daily and it enables users to search friends online and be able to view each other’s profiles (Ellison, Steinfield and Lampe, 2007: 1145). The current study indicates that all 264 learners responded as having used social networks. Table 18 in Chapter four indicates that a majority of 188 (43.7%) learners had used Facebook and WhatsApp, followed by 32 (7.4%) respondents who had used Twitter, 13 (3%) respondents who reported having used LinkedIn and the lowest being 9 (2.1%) learners reported that they had used MySpace. The internet has greatly levelled the playing field when it comes to learning, sharing, and discussing ideas. This was contrary to the study by Mayayise (2008: 66) which stressed that the use of social networking website amongst high school learners was in its infancy. In Mayayise’s (2008) study only 30% of the learners said they had used Facebook before whereas 54% had never used Facebook. As has been noted above, the usage of Facebook has increased tremendously since the time of Mayayise’s study. The internet provides the learners with an opportunity to supplement the things that they learn at schools and 28% of the

respondents indicated that they have acquired new skills through the internet, such as surfing the internet better, graphic designing, drawing and programming.

### **5.11 What challenges do learners encounter when using the internet?**

The respondents were asked to indicate the problems they encountered when accessing the internet and the findings revealed that they faced various problems. Table 20 indicated that all 264 learners reported to have had problems and it was noted from the results that a majority of 150 (56.8%) had problems with the cost of internet expenses. The top common problems of all are slow speed of the internet and network problems. The summarised results are as follows:

- 150 (56.8%) learners reported to have had problem with slow access speed,
- 93 (18.5%) respondents had problems with network signals,
- 60 (11.9%) respondents encountered virus problems,
- 24 (4.8%) respondents had difficulties in locating information,
- 18 (3.6%) respondents had problems with an inaccurate information,
- 17 (3.4%) respondents had problems with unreliable sources and
- 16 (3.2%) had problem in logging in.
- (45%) Network problems such as connectivity/electricity failure.

The slowness of the internet was a problem encountered by the higher number of 150 (56.8%) learners who searched the internet. Similarly, Shivaraja (2014: 201) expressed similar problems relating to the internet, such as slow access speed (67%), difficulty in finding relevant information (32%), overload of information on the internet (24%), and length of time to view/download webpages (29%). Shiweda (2013) also found that slow internet speed was a serious challenge to learners with 55 (53.9%) mentioning it as a problem.

### **5.12 What solutions can be employed to overcome these challenges?**

Question 19 tried to establish what were the learners' views regarding the solutions to the above mentioned problems. The results showed that out of 264 learners, only 182 learners gave their views regarding the solutions. Of the 182 respondents who gave their views, 51 (28%) stated that there should be a strong connection of networks by increasing the number of network poles, while 33 (18%) addressed the issue of internet expenses with the view of having Wi-Fi hotspots in each of their schools and Wi-Fi routers.

### 5.13 Learners' comments and recommendations

Out of 264 learners, a majority of 174 (65.9%) learners made comments and recommendations regarding internet use. These comments and recommendations can be grouped into two categories. The first category could be positive remarks from learners about the use of internet and the second category could be the negative remarks from learners. Learners responded positively about the internet with 158 (90.8%) doing so, while 16 (9.2%) viewed the internet negatively. Through observing the learners' level of engagement via the internet, it shows that indeed they have grown up with technology and multitasking and they are in the habit of processing information quickly. They thrive on interactive technology such as using their cell phones frequently and other forms of communication.

Some of the learners' positive view-point regarding the use of the internet are as follows:

- *I encourage the use of the internet because it updates us as school learners. It helps us to explore and see the world as a whole. We gain a lot of knowledge from the internet. It is therefore an important resource that is taken as a need and provides us with information.*
- *Use of internet help us to know how to create forums and websites. It also help us to get more information in school.*
- *The use of internet offers an accurate information to the learners. It is more helpful to do researches about anything all around.*
- *The internet is doing a good work in helping us as the school learners to research and get more knowledge in the life around us. The suggestion I could make is that the internet should have sites where we get our educational staff free of charge because sometimes we end up doing no research because we don't have money to buy the data as they cost much.*
- *Rural schools should encourage the use of internet and teach learners basic skills of using a computer like typing or using the internet to access it.*
- *It is very useful, it helps by getting easy access of information. The internet is also a great asset to society because it helps us interact with friends, family and or loved ones all around the world in a short period of time. The rates of the internet though. They should be cut in order for us pupils who don't receive any form of decent income to afford surfing in terms of educational purposes.*

- *Internet is very important to us. It gives us knowledge, skills, because it taught me so much, how I can communicate through Facebook. It is very important to have some computers in our school and even at home. At school we lack lot of information so that some of the tasks like research, assignment we get the information from internet.*
- *Internet accessing is a very good thing to do because it boost your knowledge and vocabulary. You get to explore lot of important things regarding life as a whole (future, intelligency, news world-wide). It updates us about what is happening world-wide. It connects us with long lost friends and things like job opportunities of far places you wished to go but not knowing when and how. Varsity applications and other sources of information about assignments and exploring life.*

Most learners have the belief that the use of internet is a better and convenient tool to source information than relying only on textbooks and general knowledge, hence they indicated that it has really helped and continues to help them to do their academic activities. It is also evident from the perspective of university students as noted by Kheswa (2010: 19) who outlined that the students utilized the internet in various ways to enhance their academic endeavours. Anyanwu and Ossai-Onah (2013: 9) are of the view that “the internet had been acclaimed to be the world reservoir of information and gateway to knowledge”. This is the reason why learners saw the internet as a technology that had brought them opportunity to access countless documents and send information to all parts of the world. In addition, learners indicated that the internet has brought a number of benefits to them such as social networking with friends, getting current information and getting exposure to the global view of any topical issue.

## **5. 14 Summary of the chapter**

The results of the study were discussed in this chapter. The research questions were reiterated at the beginning of the chapter and the results that answered research questions were presented and discussed in relation to the relevant literature. In chapter six, the final chapter, conclusion and recommendations are made.

## **Chapter Six**

### **Conclusion and Recommendations**

#### **6.1 Introduction**

In this chapter conclusions and recommendations will be provided. The recommendations will be made based on the information presented in the previous chapters. A brief summary of the study is also provided. The research questions underpinning the study are presented and the summary of the results are provided.

#### **6.2 Summary of the study**

In Chapter One the background to the study was provided. The statement of the problem, purpose of the study, the research questions, justification of the study and conceptual framework were discussed. Other issues discussed included a brief history of Makhuduthamaga Municipality. Definitions of terms used in the study were also provided.

The focus of Chapter Two was the literature review. The review traced the history of the development of the internet. Other areas included in the chapter were: key internet milestones, access to the internet, the internet in education, the internet in high schools, the use of the internet in higher institutions of learning, and challenges faced by learners in the use of internet. User studies from other parts of the world and from within Africa were reviewed.

The focus of Chapter Three was on the research methodology adopted in the study. Survey design was adopted and the instrument used to collect data was the questionnaire comprising of both closed and open questions. The validity and reliability of the study were established by the use of pre-testing the questionnaire with a sample population of grade 11 learners at Ngwabe High School. SPSS was used in analysing the quantitative data while thematic content was employed in analysing the qualitative results.

In Chapter Four the results of the survey of the 264 grade 11 learners from the seven schools in Limpopo were presented and analysed. The results were mainly presented using tables and were deemed to have adequately answered the research questions of the study.

Findings of the study were discussed in Chapter Five in the light of the relevant literature. The study found that a majority of grade 11 learners used the internet in order to have access to their academic information for their studies.

### **6.3 Conclusions**

There were significant results from the survey of 264 grade 11 learners from different high schools in Limpopo. The analyses of data revealed the following: the majority of the learners 243 (92%) were users of the internet, with usage ranging from 1 hour to 20 hours weekly. The majority of the learners, 244 (92%) accessed the internet at home, followed by 20 (8%) at internet cafes. Most, 205 (78%) of these learners used the internet for learning purposes, 123 (46.5%) for communication with friends and 107 (41%) to update knowledge, followed by a smaller percentage of (18%) using the internet for entertainment and (11%) for news. This shows that the youth are always excited and full of enthusiasm to explore whatever is new in the advancement of technology. The learners faced various problems while searching the internet. The most widely faced problem was the cost of internet access, followed by slow network connection.

The findings revealed that a large proportion of grade 11 learners had been using the internet in their everyday lives for quite some time and 135 (51%) of the learners used the internet daily. However, findings from this study revealed that the majority of respondents, 145 (54.9%), had used the internet for more than 1 year and 6 months and 94 (35.6%) have been using the internet from 2-4 hours a week.

The study found that learners were using various internet facilities, such as social networks 151 (57.1%), followed by learners using the search engine Google 216 (82%) and 25 (9.4%) respondents used email and 13 (4.9%) respondents using Microsoft networks. It was also discovered that all 264 learners were familiar with the various social networks and all of them used them. The results indicate that a majority of 188 (71%) of learners had used Facebook and WhatsApp, followed by 32 (12%) respondents had who used Twitter, 13 (5%) respondents reported having used LinkedIn and the lowest being 9 (3.4%) learners reporting that they had used MySpace.

Some learners (28%) were of the view regarding network signals that there should be a strong connection of networks. This can be achieved by increasing the number of network poles and

33 (18%) pointed out the issue of internet expenses with the view of having Wi-Fi hotspots in each of their schools and Wi-Fi routers. All of the mentioned challenges can be dealt with if government can equip schools with relevant infrastructure such as buildings and providing computers to the needy schools. Since the internet has come to the fore front in education, it could be of use to engage the teachers and principals in the technological environment through enhancement of their ICT skills so that they can move on the same path with digital learners. The government in power must engage in partnership programmes with the private sector and other useful stakeholders to work hand in hand in implementing the ICTs in schools especially secondary schools.

Most learners were of the opinion that they had sufficient skills to enable them to effectively browse, search and retrieve information on the internet. 206 (78%) of the learners rated themselves as having the skill to browse through the internet. However, a fairly large number 58 (22%) of learners said they did not have the skill to browse the internet. Concerning the level of information literacy, most 113 (42%) learners rated themselves as 'good' followed by 'average' 78 (30%) and 62 (24%) 'very good'. The lowest respondents indicated poor with only 10 (4%) and just 1 (0%) respondent indicating 'very poor'.

Based on the outcomes of the learners' views, it can be agreed that we are now in the world of technology where the use of the internet is growing exceptionally fast. Hence the use of the internet is a global phenomenon that is changing the face of schools and higher education institutions in remarkable and lucrative ways. Currently, South Africa is one of many countries that continues to enjoy much productivity with efficient internet usage. In the past five years, the use of the internet has become widespread in South Africa. It is estimated that mobile internet penetration is forecast to reach 71% by 2019. This is confirmed in the study report by Internet society global (2015) report which states that South African has reached 3 billion internet users in May 2015.

In addition to the above conclusion, the use of internet by grade 11 learners showed it was a positive contribution to their lives. An analysis of the comments indicated that learners viewed the internet in a positive manner as a useful tool to be used towards their academic works. It appears from the responses that these learners used internet mostly for educational tasks. It can be concluded that the use of the internet amongst these grade 11 learners was popular and they pointed out that internet is a source of all information for them and is more convenient and

reachable. This was evidently due to many of the learners having enhanced access to the internet in their homes via their smart phones.

The results reveal that the majority of the learners use internet via their cell phones. Lack of infrastructure is the major obstacle in internet access which needs immediate attention and the government needs to look at establishing browsing centres or computer labs in schools with internet connectivity because lack of access to the internet is a major problem hindering internet usage amongst the learners and the internet is the most essential educational tool for learners at all schools. Internet illiteracy is another area of concern among high school learners.

Given the above conclusion, the following recommendations are made.

#### **6.4 Recommendations**

Based on the findings of this study it is recommended that learners ought to look for alternative means of gaining access to internet such as going to internet cafes instead of being wholly depended on their smart phones.

The South African government should better fund the public secondary schools with a view to providing quality education and the resources needed such as internet connectivity and better funding will provide better facilities in the schools including internet access because this will assist learners in more reliable and stable access to the internet for educational activities since most learners use their smart-phones to access the internet.

The government should embark on the creation of telecentres and build public or school libraries with full internet access because this will increase use of internet among learners and thus school teachers ought to refer their learners to websites on the internet for additional information that will help them with their educational endeavours because the additional information will complement and widen the learners understanding of the topics they have learnt.

Encourage learners to visit some websites prior to their lessons to learn more about what they are going to be taught. Learners should be well equipped with information searching skills for

them to make effective use of the internet services in order to enhance learning. Efforts ought to be made to upgrade the infrastructure to improve internet access speed.

The authorities should take immediate steps to establish telecentres in all rural areas with fast internet connectivity. The adequate facilities in terms of space, staff and technology should be available for maximum utilisation of internet sources and services.

The rural schools shouldn't be ignored in any plans regarding the supply and usage of the internet as this can narrow the gap of the digital divide. The internet connectivity should be extended in schools as to increase access and usage. The teachers should take steps to make learners aware about the proper use of the internet and make their use focused and purposeful. Internet illiteracy is one of the major problems amongst the learners that needs immediate attention and the training programmes should be conducted to increase the internet skills of the learners. These programmes should focus on all aspects of the internet literacy.

## **6.5 Future research**

The following related studies should be conducted.

- A comparative study on the use of internet focusing on learners from other provinces should be carried out as to determine the level of internet usage amongst other schools.
- A similar study on the use of internet by grade 12 learners to check their viability regarding the internet usage. This will help to prepare them before they go to universities with required skills.
- The principals and teachers could be surveyed to obtain their opinions on how the lack of public libraries around schools affects the performance of learners. This will determine the possible need to check viability of implementing public libraries.
- The study need to be conducted assessing the learners' ability to locate the relevant information on the internet.
- A similar study on the use of the internet by the school staff.
- A similar study should be carried out amongst the same learners over a period of years to establish if there would be any developments in the use of internet over these years.

## **6.6 Summary of the chapter**

In this chapter major research findings and conclusions were presented. The original intentions of investigating the use of internet by grade 11 learners was achieved. The problems related to

the use of internet were identified. Based on the findings of the study the researcher has made recommendations which will benefit secondary schools which don't have school libraries and public libraries within where the schools are situated to promote and encourage the use of internet among high school learners. It can be summarised that the internet provides a vast amount of information to the learners, however it requires them to be captivated with skills and knowledge to be able to vet the information and its validity. Learners saw that the frequent utilization of the internet will empower and enable them with intelligence skills to browse. Therefore, learners will have more access to information and this will help them to utilize the information as well as by questioning it and giving input as to enhance the basic information with their own thoughts.

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## APPENDICES

### Appendix 1: Informed Consent Letter for Questionnaire



Dear Respondent

#### **Informed Consent Letter for Questionnaire**

I, Matlala Emanuel, a Masters student in Information Studies of the University of KwaZulu-Natal, kindly invite you to participate in the research project entitled. **The use of Internet by grade 11 learners from selected schools in the Sekhukhune district, Makhuduthamaga local municipality in Limpopo province.**

The research project is undertaken as part of the requirements of the Masters degree, which is undertaken through the University of KwaZulu-Natal, Information Studies Programme.

The purpose of this study is to investigate the use of internet by grade 11 learners from selected schools within the Makhuduthamaga Municipality in Limpopo province, by seeking the understanding of what it is mostly used for. The outcomes of this study will generate a new knowledge regarding the use of internet amongst the learners and also likely to form the basis for future research on use of internet. This will also ensure beneficial mode to learners as well as schools because valuable feedback could help learners realize the benefits of internet in their education and the support it provides when doing their school work and therefore gives teachers perception to integrate internet with their teaching methodology in a classroom environment. The findings of the study could assist in curriculum design which incorporates information literacy and technology.

#### **Before participating on the study take note of the following:**

- ☞ Participation in this study is based on volunteer basis. No financial rewards will accrue to participants for participating in this research.
- ☞ Ethical consideration is taken into consideration to the uttermost level as possible.
- ☞ You are free to withdraw from this study at any time without obligation.

This questionnaire will require approximately 10 minutes of your time to complete questions.

Thank you for taking your time to assist me in my educational endeavours. Your invaluable effort in completing this questionnaire will be greatly appreciated. If you choose to participate in this study, please answer all questions as honestly as possible and return the completed questionnaires.

**Supervisor:** Mr Kheswa Siyanda  
Institution: University of KwaZulu-Natal, PMB  
Telephone number: 0839475204  
Email address: [kheswas1@ukzn.ac.za](mailto:kheswas1@ukzn.ac.za)

**Researcher:** Matlala Emanuel

Institution: University of KwaZulu-Natal, PMB.

Contact details: 074 8873 247

Email address: [Matlalaemanuel@gmail.com](mailto:Matlalaemanuel@gmail.com)

**HSSREC Research Office:** Ms P Ximba

The Humanities and Social Sciences Research Ethics Committee

Institution: University of KwaZulu-Natal, Research Office,

Telephone number: +27 (0) 31 260 3587

Email address: [ximbap@ukzn.ac.za](mailto:ximbap@ukzn.ac.za)

**Please complete this form**

**Title of study: The use of Internet by grade 11 learners from selected schools in the Sekhukhune district, Makhuduthamaga local municipality in Limpopo province.**

I.....hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participate in the research project as outlined in the document about the study.

I acknowledge that I have been informed of the purpose of this survey. I am aware that participation in the study is voluntary and I understand that I am at liberty to withdraw from the project at any time, Should I so desire.

**Participant**

Signature:.....

Date:.....

Email:.....

**Researcher**

Signature:.....

Date:.....

Email:.....

## Appendix 2: Learners' questionnaire

### Learners' questionnaire

ID....

**Survey questionnaire for collecting data on the use of the internet by grade 11 learners from selected schools in the Sekhukhune district, Makhuduthamaga local municipality in Limpopo province.**

Please note: All the information collected in this study will be used strictly for writing an academic thesis. **Individual identification of participants is not important in this study.**

#### Instructions

Please indicate your appropriate response by means of a tick [√]. Where possible please elaborate in the space provided.

#### Section A: Demographic information

1. Gender (Please tick [√] to fill your answer)

What is your gender?

1.1 Male	
1.2 Female	

2. What is your age?

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#### Section B: Internet usage

3. Do you use the Internet?

3.1 Yes	
3.2 No	

4. If No, please explain why not

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5. What are the benefits of using the internet for academic purposes? (Choose one or more)

5.1 User friendly	
5.2 Time saving	
5.3 Accuracy of information	
5.4 Reliability of information	
5.5 Other (Specify...)	

6. How did you learn to use the internet? (choose one)

6.1 Reading from books	
6.2 Self-taught	

6.3 Taught by friends	
6.4 School	
6.5 Other (Specify...)	

7. What do you use to access the internet? (Choose one or more)

7.1 Desktop computer	
7.2 Laptop	
7.3 Smart phone	
7.4 Tablet	
7.5 Other (Specify...)	

8. What is your main method to access the internet? (Choose one)

8.1 Desktop computer	
8.2 Laptop	
8.3 Smart phone	
8.4 Tablet	
8.5 Other (Specify...)	

9. Where do you usually access the internet? (Choose one)

9.1 Home	
9.2 Internet café	
9.2 Other (Specify...)	

10. What kind of internet access do you use at home? (Choose one)

10.1 Wi-Fi	
10.2 Data bundles	
10.3 Modem	
10.4 None	
10.5 Other (Specify...)	

11. How often do you access the internet for academic purposes weekly? (Choose one)

11.1 Daily	
11.2 Once a week	
11.3 Once every two weeks	
11.4 Once a month	
11.5 Never	

12. What internet services do you normally use? (Choose one or more)

12.1 E-mail	
12.2 Google	
12.3 Microsoft network (MSN)	
12.4 Social networks (Facebook, Instagram, WhatsApp, Mxit, Twitter)	
12.5 Other (Specify...)	

13. What is the purpose of your Internet use? (Choose one or more)

13.1 For the news (i.e. Sowetanlive, Media24, Supersport, etc...)	
13.2 To update knowledge	
13.3 For learning purpose (i.e. To prepare for assignments, class, research, etc...)	
13.4 To communicate with family and friends (i.e. Social networking)	
13.5 For entertainment	
13.6 For other reasons (Specify...)	

14. For how long have you been using the internet?

14.1 Less than 6 months	
14.2 7 to 12 months	
14.3 13 to 18 months	
14.4 More than 18 months	

15. What amount of time do you spend on the internet per-browsing session?

15.1 Less than 1 hour a week	
15.2 2-4 hours a week	
15.3 5-6 hours a week	
15.4 7-9 hours a week	
15.5 10-20 hours a week	
15.6 Other (Specify...)	

16. Which of the following social networking sites do you use (Choose one or more)?

16.1 Facebook	
16.2 Twitter	
16.3 MySpace	
16.4 LinkedIn	
16.6 WhatsApp	
16.7 Other specify...	

17. Do you have sufficient skills to browse through the internet?

17.1 Yes	
17.2 No	

18. What problems do you encounter when surfing the internet? (Choose one or more)

18.1 Viruses	
18.2 Inaccurate information	
18.3 Unreliability of sources	
18.4 Slow access speed/slow network connections	
18.5 Network signals	
18.6 Difficulty in locating relevant information	
18.7 Cost of internet expenses (air time or Data bundles)	

18.8 Logging in	
18.9 Other (Specify...)	

19. What solutions can be employed to overcome these challenges?


20. Did you receive any training on searching for information on the internet?

20.1 Yes	
20.2 No	

21. If Yes, where?


22. How do you rate your level of information literacy? (Information literacy is the ability to access, evaluate, and use information from a variety of information sources)

22.1 Very good	
22.2 Good	
22.3 Average	
22.4 Poor	
22.5 Very poor	

23. Any comment, suggestion regarding the use of the internet?


**Thank you for your time and participation!!!!**

**Appendix 3: Permission letter to conduct the study**



**LIMPOPO**  
PROVINCIAL GOVERNMENT  
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF  
**EDUCATION**  
SEKHUKHUNE DISTRICT

Enq: Thoka R.P  
Tel: 015 633 7154  
Date: 22/07/2015

**To:** Mr Matlala E(Student: 215020245 University of KwaZulu-Natal)  
Education Management: University of KwaZulu-Natal

**From:** District Senior Manager  
Sekhukhune District

**SUBJECT: GRANTED PERMISSION TO CONDUCT A RESEARCH.**

1. The above matter refers.
2. Kindly be informed that your research application to conduct research in grade 11 learners from selected schools in the Sekhukhune District, Makhuduthamaga local Municipality as full time Pmb: Master of Information Studies is approved.
3. Please note you should conduct your research in line with research ethics as prescribed by your institution and international norms and standards for research.
4. The district wishes you well in your project and awaits your findings with great interest.

NKADIMENG T.G

DISTRICT SENIOR MANAGER

22. 07. 2015  
DATE