

UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES

INFORMATION BEHAVIOUR OF TEACHERS IN SECOND CYCLE
INSTITUTIONS IN THE LOWER-MANYA KROBO MUNICIPALITY,
GHANA

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DECLARATION

I do hereby declare that except for references to other people's work, which have all been acknowledged, this study was done by me, for the award of a Master of Philosophy Degree in the Department of Information Studies, University of Ghana, Legon under the supervision of Professor Harry Akussah and Dr. E. Adjei.

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DEDICATION

I dedicate this work to the Almighty God for His protection and guidance throughout the period in school and making it possible for me to bring this work to a successful end. Also, to my supervisors and family and any other person I came into contact with as a result of this work, I say God bless you all.



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“Great things He has done and greater things He will do, Halleluyah”. I just want to say a very big thank you to the Almighty God for enabling me to successfully complete this work. This work would not have been successful without the help, guidance and direction of some special people. Therefore they need to be acknowledged.

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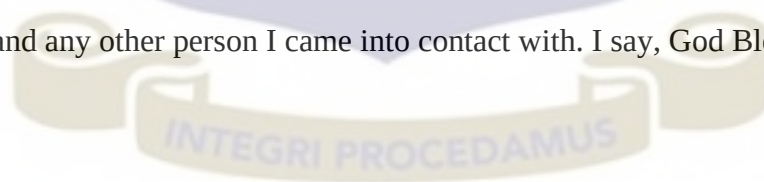


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ABSTRACT

Information plays a very vital role in every aspect of life activities. Information is used at all times irrespective of the situation and circumstance. The ability of teachers to teach depends on their ability to have access to information and use it to effect change in an individual. The study sought to examine the information needs of teachers in second cycle institution in the Lower Manya Krobo Municipality of Ghana, how they acquire and use information using Wilson's (1999) Information Behaviour Theory.

The study used the mixed method approach with a population of 303 respondents through total enumeration technique. Questionnaire and interview were the two instruments used for data collection. The quantitative data was analysed using SPSS and the qualitative data was analysed thematically. The study found that second cycle institution teachers needed information for teaching and learning and sometimes, for research. Also, the information sources mostly consulted by the teachers were; books and other monographs. In addition, teachers were found to be using the library. However, their visits were occasional and there was no acquisition policy guiding the acquisition of information resources as well as no dedicated budget to information materials. School libraries were manned by people who had no formal training in librarianship. Furthermore, ICT laboratories in the schools lacked ICT infrastructure. Teachers mostly used Google search engine for their online searches. Therefore, it was recommended that an acquisition policy be developed to guide acquisition of information materials to libraries, sufficient budgets be allocated to information materials, engagement of Information professionals, ICT infrastructure be provided to

schools and adequate supply of information materials to school libraries by Ministry of Education, Ghana Education Service and all other stakeholders.



CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Information plays a very vital role in every aspect of life. Information is used at all times irrespective of the situation and circumstance. Alemna and Skouby (2000) were of the view that information is very important to every aspect of society. Information is seen as a resource that is naturally needed in all human endeavours. One can readily infer that information is indispensable in human life, hence a basic human need which has an overriding significance to all and sundry (Olarongbe et al, 2013). Information is used mostly by people to create knowledge, “but not just in the sense of data and facts but in the form of representations that provide meaning and context for purposive action” (Choo, 2002). In general, information can be defined as knowledge given or received of some facts or circumstances (Alemna, 2000). This knowledge may consist of statements made by individuals or concepts that have been accepted by society; that is, concepts that have been formalised into societal networks.

Stressing on the importance of information, Alemna (2000) added that in the present era of civilization, information is regarded as a strategic resource that is equal in importance to land, capital, labour and entrepreneurship. To buttress this fact, he emphasised that information explosion or overabundance of information has resulted in the overabundance of literature and this presents problems to users, that is; professionals, scientists, researchers, teachers and students in trying to sift through several sources of information until the right information is obtained.

Information behaviour refers to the way people search for and utilize information. Wilson (1981) coined the term information behaviour on the grounds that the then

current 'information needs' was unhelpful as a basis for a research agenda, since 'need' could not be directly observed, while how people behaved in seeking information could be observed and investigated. Wilson (2000) described information behaviour as the totality of human behaviour in relation to sources and channels of information, including both active and passive information-seeking, and information use. He described information seeking behaviour as purposive seeking of information as a consequence of a need to satisfy some goal. Information seeking behaviour is the micro-level of behaviour employed by the searcher in interacting with information systems of all kinds, be it between the seeker and the system, or the pure method of creating and following up on a search.

Bates (2010) also described information behaviour as the ways in which people interact with information, especially the means through which people try to find and use information. Ingwersen and Jarvelin (2005) defined information behaviour as the 'human behaviour that deals with generation, communication and use of information and other activities concerned with information such as information-seeking and information retrieval'. For the purpose of this study information behaviour can be described as the many ways in which teachers try to look for information in order to use it to teach, conduct researches as well as make informed decisions concerning their students. The ways in which individuals including teachers go about searching for information can be formal or informal. That is, they can obtain information from books, journals, television, radio or contact their colleagues when they are in need of information.

Teachers are people who impart knowledge to students and they can be found at every level of the educational system in Ghana. There are teachers at the basic level,

secondary level as well as tertiary level and they all aim at imparting knowledge to students. Considering the role teachers play in the lives of students and the community as a whole, they need to be empowered with the right information. Information is considered as a very important resource to teachers. They do not need just any information but relevant information which must be timely, accurate and reliable. Teachers rely on information obtained from several sources like text books, the internet, observation, journals, radio, television and so on to prepare their teaching notes, re-structure their teaching methodologies as well as make decisions concerning their students. Relevant information obtained in the classroom helps the teacher enormously. For example, the technique of observation helps the teacher to gather data to enhance other assessment modes to declare the status of students' performance. Also oral questioning of students may reveal the need to review instructional packages. In other words, when a teacher questions students, their responses could reveal the extent to which the students have understood what has been taught. Further, information obtained from the classroom through assessment helps teachers to place students in correct curricula tracks and ability groups within courses.

In addition, teachers need to be well versed in the domains of knowledge as proposed by Schulman (1987). Teachers need to have the content knowledge of their various subject areas. That is, they need to have command over the subject matter that he/she teaches, have knowledge about the structure of the subject matter, the changes going on in the field of study as well as intellectual skills and attitudes needed to learn more about the subject. This can only be achieved when they have access to relevant information. If a teacher does not get hold of the right information, he/she is going deliver the wrong information to learners and once the students/learners have been fed

with the wrong information, it becomes very difficult to erase it from their minds. Furthermore, good teachers need to have information on the characteristics of their learners. That is their demographical and cultural background as well as psychological background. This is because learners come from different background and each person is unique in his/her own way. So it is up to the teacher to have information on the knowledge levels of their students in order to know where to start his or her teaching from in order to satisfy all learners. This can be done through the diagnostic assessment so that the teacher can make decisions on them as to the kind of attention to give to such students since they come from different backgrounds. Thus, in the absence of information or in a situation of inadequate information, inaccurate information or information with low integrity, the teacher at any level will be handicapped in the performance and discharge of his or her duties.

In addition, teachers must be aware of the fact that the digital age has changed the way information is created, collected, and communicated. Library services has now become automated and information services, electronic. All users of information including teachers must learn new knowledge and skills in order to be able to use ICT tools to satisfy their information needs. This is because with the advent of ICT, information could be accessed irrespective of the day, time and circumstance. Knowledge in ICT by teachers will go a long way to help them. This is because in a situation where the teacher's information need is not met at the library or an information center, he or she can fall on the internet to obtain the needed information for.

1.1.1 The Lower Manya Krobo Municipality

The Lower Manya Krobo Municipality forms part of the twenty six (26) municipalities and districts in the eastern region of Ghana. Its administrative capital is Odumase-Krobo. It was formerly a district which was established by a Legislative Instrument 1842 on November 1st, 2007. It however gained the Municipal status on 28th June, 2012. The Municipality covers an area of 591 square kilometres constituting about 3.28 percent of the total land area of the eastern region (on 183,10km). It is bounded at the North-West by Upper Manya Krobo, North-East by the Asuogyaman, South-East by the North Tongu and the South by the Yilo and the Dangme West districts respectively (T.C.B, 2012)

1.1.2 Second Cycle institutions

A second cycle institution in Ghana is an intermediary level educational institution between the basic and the tertiary levels. There are four (4) public second cycle schools in the Lower Manya Krobo Municipality and they are; Krobo Girls Senior High, Manya Krobo Senior High, Akro Secondary Technical Senior High and Akuse Methodist Senior High.

The Krobo Girls Senior High, which is a Presbyterian school, is situated at the western part of Odumase Krobo, about one kilometer off the Odumase-Asesewa road. The School initially started at Abokobi in the Greater Accra Region of the Republic of Ghana in 1923 by the Scottish Missionaries at the Presbyterian Mission House. In 1924, its increasing intake numbers made it impossible for the existing premises to accommodate future developments. It started as Krobo Girls Middle School, which was founded by few female Scottish Missionaries. Under the Accelerated Plan of the

government, a two-year Teacher Training College for women was added to the Girls School in 1944 on experimental basis. In September 1973, the Krobo Girls Middle School phased out while Krobo Training College (Presbyterian) was converted to a Girls' Secondary School under the Consolidation of Teacher Education Programme by the Ministry of Education. The school has been a Secondary School as a result of the new educational reforms by the Ministry of Education since January 1990 (KGPSHS, 2013).

The Manya Krobo Senior High School replaced the then Presbyterian Secondary School which was established at Odumase-Krobo but was relocated to Legon in 1968. It was initially a boys' educational institution with a dual academic programme, offering courses in teacher training and a secondary (grammar) school. On July 14, 1969, the Training College Department was scrapped and all thirty nine (39) students on admission at the time were transferred to the Adukrom Training College on the Akuapem Scarp. In September 1971, the school became co-educational and shifted to its present spacious premises at Nuaso (Bampoe, 2013).

The Akro Secondary Technical High School was established in 1934 by the late R. P Djanbanor an educationist. He noticed the lack of adequate schools in Manya Krobo was having diverse effects on all aspects of the development of the community. The school started as a day primary for boys and girls and was later upgraded to Akro experimental Junior Secondary school. In 1948, the school was taken over by government and was converted into a boy's school. In 1991, it was upgraded again to a secondary technical school. The school was given a boarding status in 2006, (A.S.H.T, 2013).

The Akuse Methodist was established in 1991 as a day school to serve the community by the Methodist Church. The school is situated at Akuse. It however attained a boarding status in the year 2006, (A.M.E.S.T, 2012).

1.2 Problem Statement

Information has a pragmatic value for teachers in the discharge of their duties. Teachers need to acquire Pedagogical Content Knowledge (PCK) and must also be knowledgeable in the taxonomy of education to enable them function effectively in their classroom discourses. This can only be achieved when they have access to relevant information. According to Karunarathna (2008), teaching and learning are linked to information handling. Effective teaching depends on the teachers' ability to access information and use it strategically to advance knowledge and skills (Anderson and Krathwohl, 2000). It is therefore mandatory on the part of stakeholders such as Government, Parents Teacher Association (PTA), and Non-Governmental Organisations (NGO'S), Ghana Education Trust Fund (GETFUND), and many others of second cycle institutions to put measures in place to ensure that these institutions are well resourced in terms of information provision to their teachers.

It has been observed that teachers in second cycle institutions in the Lower Manya Krobo Municipality are highly challenged because they have the responsibility of imparting knowledge onto students as well as preparing the students for tertiary education just like any other teacher in any second cycle institution. An informal interaction with some of the teachers revealed that they operated with limited information resources such as books and journals among others. As a result, they have difficulty in composing and constructing lesson/teaching notes. Also, they have difficulty in updating their teaching/lesson notes despite their responsibility of

preparing students for the future. All these are happening in an era of information explosion.

A study conducted by Ndeogo (2014) on information seeking behavior of faculty members of Methodist University College, Ghana revealed that academic staff of the Methodist University College faced the problem of lack of awareness of the existence of relevant information materials for teaching in the library as well as network failures and lack of needed e-resources. Also, a study by Ahenkorah-Marfo et. al (2011) on information seeking behaviour of faculty members of college of science of Kwame Nkrumah University of Science and Technology revealed that faculty members encountered three major problems when seeking information. These were unavailability of the needed information, abstract instead of full-text documents and too old information materials especially those related to textbooks.

This is an indication of challenges being faced by teachers in an attempt to obtain adequate information for teaching. The researcher intends to investigate the behaviour of teachers in relation to their search, and use of information in their work.

1.3 Purpose of the Study

The purpose of the study was to examine how teachers in second cycle schools in the Lower-Manya Krobo Municipality acquire and use information for teaching with a view to identifying possible problems and making suggestions for their resolution.

1.4 Objectives

The overall objectives for the study is to examine how second cycle school teachers in the Lower Manya-Krobo Municipality acquire and use information for teaching.

The specific objectives of the study were:

- To determine the information needs of teachers in second cycle institutions in the lower-Many Krobo Municipality.
- To determine the information sources that are available and accessible to teachers in second cycle institutions in Lower Many Krobo Municipality.
- To examine the role of libraries or information centers in meeting the needs of teachers in second cycle schools.
- To examine the use of Information Communication Technology facilities in information seeking by teachers.
- To examine the challenges encountered by the teachers in seeking information for teaching

1.5 Research Questions

- What are the information needs of teachers in the second cycle schools in the Lower-Many Krobo Municipality?
- Which information sources are available and accessible to teachers in second cycle institutions in the Lower-Many Krobo Municipality?
- Which information sources are mostly used by teachers in second cycle schools in the Lower-Many Krobo Municipality?
- Is there a role for libraries in information delivery in the second cycle schools?
- Which Information Communication Technology facilities are available and are used by the teachers?
- What problems do the teachers encounter while seeking information for teaching?

1.6 Scope/Limitation of the study

The study is limited to only public second cycle schools in the Lower Manya Krobo Municipality because the private second cycle schools are fairly new so the researcher decided to focus on the public second cycle schools which are older, better established and are government funded.

1.7 Theoretical Framework

According to Creswell (2009) a theoretical framework is any empirical theory of special and/or psychological process at a variety of levels that can be applied as ‘lens’ to the understanding of the phenomenon. A theoretical framework is a collection of theories and models from the literature which underpins a research study. It is a fundamental part of research as it explains the research questions. A theory is defined as a set of interrelated constructs of variables, definitions and propositions that presents a systematic view of a phenomenon by specifying relations among variables with the purpose of explaining natural phenomenon. Theories are answers to questions about why people behave the way they do in a particular social context, and how social life is organized in the way it is. The theoretical support for the study was Wilson’s (1999) Model of Information Behaviour.

1.7.1 Information behaviour models

According to Bates (2005), models are very important at the description and prediction stages of understanding a phenomenon. It is only when we develop an explanation for a phenomenon that, we can say we have a theory. Models are of great value in the development of a theory. They are a kind of proto theory, a tentatively proposed set of relationships which can then be tested for validity. Many models have

been developed that attempt to describe information behaviour. Some of these models are Wilson's (1981, 1996, 1999, 2000) model of information-seeking behaviour, Dervin's (1983) sense making theory, Ellis's (1989 and 1993) model of information seeking strategies, Kuhlthans (1991) model of the stages of information seeking behaviour and many more.

According to Niedzwiedzka (2003), information behaviour models present a certain section or a full sequence of activities which lead to obtaining information. Some of them concentrate on the phase when information need arises which is called 'problem recognition', 'problem identification', or 'verbalisation'. The study adopted the Wilson's (1999) model as the framework. This is because it encompasses information seeking process, information needs and preferences for information sources (Fisher and Julien, 2009).

1.7.2 Wilson's 1999 Model of Information Behaviour

Thomas Wilson (1999) proposed that information behaviour covers all aspects of human information behaviour, whether active or passive. This model is one of the most used theories when it comes to information use and users (Case, 2007). Information seeking behaviour is the act of actively seeking information in order to answer a specific query. This model according to Niedzwiedzka (2003) presents a full range of influencing factors and mechanism affecting information use. They are cognitive, social and environmental factors. Wilson's (1999) model thus provides a good framework for thinking about the processes of acquiring and use of information by the teachers in the second cycle schools in the Lower Manya Krobo Municipality. It therefore, forms the basis for my research study. Wilson's 1999 Information Behaviour Model is shown in Figure 1.1.

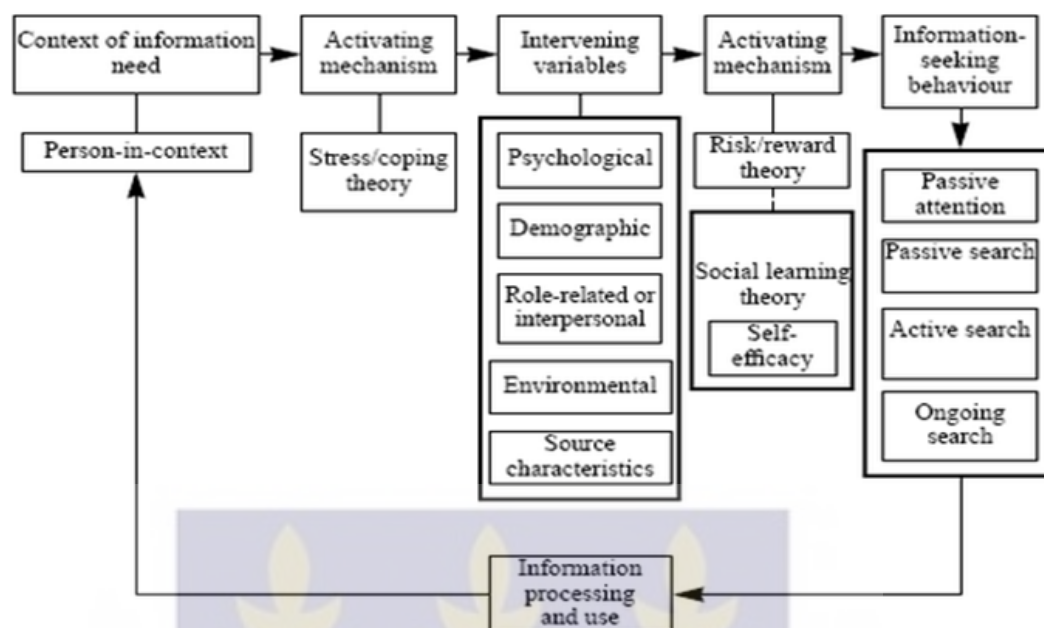


Fig. 1.1 Wilson (1999) model of information behaviour

1.7.3 Information Needs

According to Wilson (1996) information needs are situation or condition dependent. A particular need of a person is situated within a context and it is influenced by the role the person plays in the work and life or environment in which he/she finds himself or herself. The environmental factors could be social, political, cultural, economic, and technological.

Personal characteristics also have an impact on the choice and hierarchy of needs. Wilson (1999) posited that, information needs of an individual stems from the social role that person plays in society. We can therefore infer that, the information needs of a doctor, teacher, lawyer, engineer and many others will definitely be different from each other. This is because their position, job description as well as working environments are different. Literature indicates that among same jobs, there are variations in their information needs. According to Mardis (2009), teachers

information needs vary. Some wish to have information in order to gain mastery in the curriculum content as well as structured behaviour that is needed in their classrooms for a diverse range of learners. Hence, different user groups in a society would need information depending on their various activities.

Also, the environment within which the information user is, conditions the occurrence of certain needs. In analysing the users' environment, attention should be paid to the following factors:

- Socio-political and economic systems of the country or institution (macro-environment),
- the regional environment, local community, a particular city (meso-environment)
- single environment (micro-environment)

All these factors mentioned influence the information needs of the information user. In order to provide the information needs of any group of people, it is very important to identify their personal characteristics, such as background, educational level and the experience gained in their various organizations or institutions. It is also necessary to find out the functions they perform in their various workplaces and the factors that affect their work. It is therefore anticipated that the information needs, seeking behaviour, and information sources used by teachers in second cycle institutions Lower Manya Krobo Municipality will be influenced by these factors mentioned above.

1.7.4 Factors Affecting Information Needs

Niedzwiedzka (2003) was of the view that, contextual factors such as the individual, professional role of the person, and the environment do not only influence the occurrence and determine the kind of need but also affect the ways in which information need is satisfied. Wilson (1996) was also of the view that, factors conditioning information behaviour could be supportive or preventive. It is not all information needs that make people seek information. A person does not engage in information seeking if he or she is convinced that the possessed knowledge is sufficient to understand the situation and make decisions. In effect, if a person lacks the conviction of information seeking, the chances of the person making a mistake or not being able to meet the expectations of other people occur. Therefore when people are really in need of information, it is then that they are motivated to look for the information.

1.7.5 Phase of Information Seeking

Information-seeking is part of information behaviour (Wilson, 1999). Information seeking behavior is the act of actively looking for information in order to solve a specific problem. This is done through some processes. These processes vary in time and space and depends on the one looking for the information. Thus the pattern of information seeking is greatly influenced by the nature of information need. Information seeking pattern and pattern of use is situation dependent and cannot be separated from the conditions that created the need. Information seeking can be active or passive (Fourie, 2006). Passive information-seeking occurs when part of people's information behaviour is to decide that they do not want to seek information, or they may be unaware of the fact that they might need information. On the other hand,

active information-seeking takes place when people do everything in their power to seek information.

(Fouri, 2006) also was in support of Wilson (2000) as he differentiates passive information behavior, passive search, active search and ongoing search as modes of obtaining information. Firstly, passive attention occurs when the individual does not intend to seek for information. For example watching television or listening to a radio advertisement without any intention to act on the information given. It is not purposeful information behaviour. Secondly, passive search occurs when some kinds of behavior enables an individual to obtain information that is relevant to them. Thirdly, active search is the deliberate search for information to satisfy a particular information need. This is purposeful in that the information seeker does everything in their power to get the needed information. This can be exemplified when teachers are found searching for information to complete their lesson plans as well as their teaching notes. The fourth is the ongoing search which has to do with everyday search for information in order to broaden as well as update one's area of information.

1.7.6 Phase of Information Processing and Use

When individuals obtain information, it is processed, becomes an item of the person's knowledge, and is used. The use could be directly or indirectly to influence the environment and therefore new information needs are formed. Mental and physical information activities form a cyclic process, in which individual elements of the context determine a person's behavior at all stages and where information that is acquired becomes new element in a dynamic system (Niedwiedzka, 2003).

The need for accurate information is important to teachers considering the fact that they are people who impart knowledge to students. This need for accurate information induces a particular behaviour that will seek to satisfy that need. It is then that the information can be used. The study applied Wilson's 1999 Model of information behaviour because this theory outlines the processes involved in not only using information but also the factors that initiates an information need, the seeking behaviour as well as the sources.

1.8 Significance of the study

Knowledge of information seeking behaviour of teachers, the kind of information which is used by the teachers in teaching, how the teachers obtain the information they use to teach, the role of libraries in information delivery in the schools, the use of information technology facilities available and accessible to the teachers and the problems encountered by the teachers while seeking information for teaching would be of significant benefit to the teaching profession. This is because it will help information providers to improve upon existing information in order to meet the information needs of teachers.

This study would also be of enormous benefit to librarians and other information professionals because it would inform them of the type of information teachers need for teaching so as to repackage them appropriately and be made available as and when needed. Also, since this study is an inquiry into how information is sought, acquired, and used, it is not out of place to expect that the study will be of benefit to the Ghana Education Service (GES), national educational policy makers and other stakeholders who would want to know the type of information to provide to all second cycle

schools. Also, the study will be of benefit to other second cycle institutions in other parts of Ghana.

This study intends to fill a gap in research which would in turn provide a platform for further research. It would also add to the wealth of knowledge in the academic circles.

1.9 Organisation of the study

The study was organized into six chapters as follows:

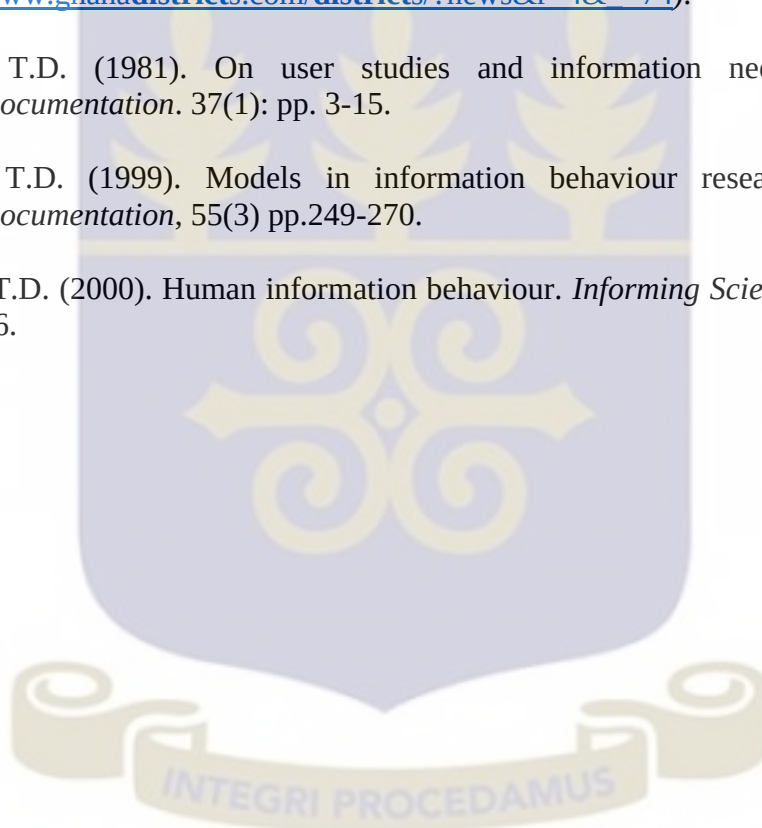
- ▶ Chapter one is the introductory chapter which contained background, statement of the problem, purpose of the study, objectives of the study, research questions, scope, theoretical framework, significance of the study and organisation of chapters.
- ▶ Chapter two is made up of the literature review.
- ▶ Chapter three is made up of the methodology which covers the research design, selection of case, population, sample size, data collection procedures, data collection instruments.
- ▶ Chapter four is the Analysis of Findings.
- ▶ Chapter five deals with Discussion of Findings.
- ▶ Chapter six is the Summary of Findings, Conclusions and Recommendations.

REFERENCES

- Alemna, A. A. (2000). *Libraries, Information and society*. Accra: Ghana. Universities Press, pp. 20.
- Alemna, A. A., Skouby, K. E. (2000), "An investigation into the information needs and information-seeking behaviour of members of Ghana's legislature", *Library Management*, 21(5): pp. 235 - 240 Retrieved from <http://dx.doi.org/10.1108/01435120010324815> on: 06 January 2015.
- A.M.E.S.T. (2012). History of Akuse Methodist Senior Technical. Retrieved from on November 21st, 2014. From www.coursesghana.com/.../1242-akuse-methodist-senior-high-technical-
- A.S.H.T. (2013). History of Akro Senior High Technical. Retrieved on November 21st, 2014, from www.ghanaschoolsnet.com/group/akroseniorhightechschoo
- Anderson, L.W. & Krathwohl, D.R. (Eds.). (2000). *A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives*. (Abridged ed.). Boston, MA: Allyn & Bacon.
- Bampoe, D. (2013). Manya Krobo Senior High at 45. Retrieved from www.newsgghana.com-gh/manya-krobo-senior-high-school-45 on November 20th, 2014.
- Bates, M. A. (2005). "An introduction to metatheories and models" In Fisher, K. E., Erdelez, S. and Mckechnie, L. (Eds), *Theories of Information Behaviour*, Information Today, Medford, NJ, pp. 1-24.
- Bates, M. J. (2010). Information Behavior In *Encyclopedia of Library and Information Sciences*, 3rd Ed. Marcia J. Bates and Mary Niles Maack, Eds. New York: CRC Press, vol. 3, pp. 2381-2391.
- Bitso, C. & Fourie, I. (2014). Information-seeking behaviour of prospective geography teachers at the National University of Lesotho *Information Research*, 19(3), paper 637. Retrieved from <http://InformationR.net/ir/19-3/paper637.html>
- Case, D.O. (2007). *Looking for information: A survey of research on information seeking, needs, and behaviour*. 2nd ed. Amsterdam: Elsevier.
- Choo, C. W. (2002). *Information Management for the Intelligent the Intelligent Organization: The Art of Scanning the Environment*. Medford, NJ: Information Today. Pp. 45.
- Cresswell, J.W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 3rd ed. CA: SAGE Publications, London.

- Dervin, B. (1983). *An overview of sense-making research: concepts, methods and results to date*. In International Communications Association Annual Meeting, Dallas, Texas.
- Dzandu, M. D., & Boateng, H. (2013). Unravelling the Dilemma of the Information Search process: The application of Wilson's model in a Ghanaian University setting. *International journal of Digital library services*, 3. Retrieved on July, 15, 2015. From www.ijodls.in
- Ellis, D. (1989). A behavioural approach to information retrieval design. *Journal of Documentation*, 46: pp. 318-338.
- Ellis, D., Cox, D. & Hall, K. (1993). A comparison of the information seeking patterns of researchers in the physical and social sciences. *Journal of Documentation*, 49: pp. 356-369.
- Fisher, K. E. and Julien, H. (2009). Information Behaviour. In: B. Cronn (ed) Annual Review of Information Science and Technology. Medford, NJ: *Information Today* 43: pp. 1-73.
- Fourie, I. (2006). *How Library and Information Science (LIS) professionals can use alerting services*. Chandos Publishing, Oxford.
- Ingwersen, P. & Järvelin, K. (2005). *The turn: integration of information seeking and retrieval in context*. Dordrecht: Springer.
- Karunaratna, A. (2008). Information seeking behaviour of university teachers in Sri-Lanka in the field of management studies. Retrieved on 21st October, 2014 from <http://hdl.handle.net/10760/12699>
- Kuhlthau, C. C. (1991). Inside the search process: information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42: pp.361-371.
- KPGPSH, (2013). Profile of Krobo Girls Presbyterian Senior High School. Retrieved on October 21st, 2014 from www.krobogirls.com/history.html.
- Lan, C. and Chang, Y. (2002). The advanced study of information behaviour of biology teachers in junior high school. *Journal of Library and Information Science*, 28(2): pp. 39-48.
- Mardis, M. A. (2009). Classroom information needs: Search analysis from a digital library for educators. *DLIB Magazine*, 15(1/2). Retrieved from www.dlib.org/dlib/january09/mardis/01mardis.html
- Moloi, F., Morobe, N. & Urwick, J. (2008). Free but inaccessible primary education: a critique of the pedagogy of English and mathematics in Lesotho. *International Journal of Educational Development*, 28(5): pp. 612-621.

- Niedzwiedzka, B. (2003). "A proposed General Model of Information Behaviour" *Information Research*, 9(1): pp. 1-17 paper 174.
- Olarongbe, S. A., Adepoju O. S., Akanbi-Ademolake H. B., and Pedro T. A. (2013). *An assessment of information needs and characteristics of users of Oyo State Public Library, Nigeria. Library Philosophy and Practice (e-journal)* Retrieved from <http://digitalcommons.unl.edu/libphilprac> on 21 October, 2014.
- Schulman, L. (1987). *Content Knowledge for Teaching: Innovations for the Next Generation of Teaching Assessments*. Stanford University.
- T.C.B. (2012). The Composite Budget of the Lower Manya Krobo Municipality Assembly for the 2012 Fiscal year. Retrieved on November 21st, 2014. From www.ghanadistricts.com/districts/?news&r=4&=74.
- Wilson, T.D. (1981). On user studies and information needs. *Journal of Documentation*. 37(1): pp. 3-15.
- Wilson, T.D. (1999). Models in information behaviour research. *Journal of Documentation*, 55(3) pp.249-270.
- Wilson, T.D. (2000). Human information behaviour. *Informing Science*, 3(2): pp. 49-56.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review is a summary of what is known about some issue or field on the basis of a study's evidence, and/or of what lines of argument there are in relation to that issue or field (Babbie, 2005). Simply put, literature review is an explanation of what has been published on a topic or a research area by qualified scholars and researchers. Literature review serves several important functions. According to Neuman (2007) the goals of literature review is to learn from others and stimulate new ideas, demonstrate a familiarity with a body of knowledge and establish credibility. Again, it shows the path of prior research and how a current project is linked to it by placing the research in a particular context and demonstrating its relevance by making connections to a body of knowledge. It is a way of sorting and assessing what researchers have written on a topic, and organized according to a guiding concept. Literature review thus aims at establishing the academic and research areas that are of interest to the present research (Mensah, 2013). The literature was reviewed under the following subheadings:

- The Concept of Information
- Information Needs of Teachers
- Information Seeking Behaviour of Teachers
- Information Sources available to Teachers
- Information Use by Teachers
- The Role of Libraries/Information Centres in Information Provision to Teachers

- Use of ICT by Teachers in Information Acquisition
- Challenges Encountered by Teachers in Information Seeking

2.1.1 Concept of Information

Information can be found everywhere in today's society. Though widely used, there is no consensus on its meaning. There is a continuing debate about its meaning and about its relationship to its correlates such as knowledge and expertise (Kaye, 1995). No one definition has adequately exhausted the meaning of information. It is a much more complex, rather than a neatly distinct phenomena. It has been used to denote several overlapping concepts and the adoption of the term by many disciplines is a contributory factor to the difficulty in defining the term (Lester and Koehler, 2007).

There seem to be some problems and complexities when dealing with the term information. Weller (2007), was of the view that, the concept information is too huge to examine, with the reason being that it is insubstantial and complicated. Case (2007) asserts that the central difficulty is that the word information has been used to denote several different concepts. Wilson (2000) acknowledges that the defining concepts of information is problematic because there is no single definition of the concept and moreover, explanations fail to differentiate among alternative, common-sense meanings of the word. Mutshewa (2007) was of the view that the problem is compounded by the fact that information has been studied by many different disciplines, such as information science, information systems, informatics, computer science and communication, each with a different focus.

Nonetheless, Ikoja-Odongo and Mostert (2006) argues that information can be seen as any stimulus that reduces uncertainty. Wilson (2000) indicated that information can be seen as a physical entity such as books or journals as well as a communication channel through which data can be transferred. Corroborating this with Zhang and Benjamin (2007), information is related to concepts such as facts, data, knowledge, intelligence, instructions, communication and many others. Case (2012) indicated that information is “whatever appears to be significant to a human being, whether originating from an external environment or an internal world (psychologically)”. International Standards Organisation (ISO) defines information as the “meaning that humans assign to data by means of the human conventions used in their representations” (Theiss, 1983 cited in Lester and Koehler., 2007). Information is an accumulated data which becomes information when processed by the human mind (Vickery, 2009). It is data which has been organised and communicated to make meaning to the listener.

According to Ivanceich (1994), the concept of information in information science is defined in many different ways. Information is defined as data that is organized to produce meaning and that which actively informs of some phenomenon of interest. This means that its value is largely dependent on the context and the user and it is the user who determines what information is. All information is transmitted by means of communication and is only useful if it is relevant, reliable and accurate. If information is not accurate, it is ineffective. Thus, information is “whatever appears to be significant to a human being, whether originating from an external environment or an internal world” (Case, 2012).

According to Zorkoczy (1981), information has to do with the meaning that human beings express by, extracts from, representation of facts and ideas, by means of the known conventions of the representations used. Information is data put into a meaningful and useful context and communicated to a recipient who uses it to make decision. Information involves the communication and reception of intelligence or knowledge. It appraises and notifies surprises and stimulates, reduces uncertainties, reveals additional alternatives or helps eliminate irrelevant or poor ones, and influences individuals and stimulates them to action (Babu et. al 2007).

Ajibero (1993) defined information as “data of value in planning, decision-making and evaluation of any programme”. Such data according to him are found in the technical reports, in house memoranda, reports of government appointed commission among others. Information can be considered either as an abstract concept (ideas) or as a commodity, usually in the form of letters and reports (Adeoti-Adekeye, 1997). Stonecash (1981) also defined information by stating that “information is simply symbols (data, text, images, voices, etc.) that convey meaning through their relative ordering, timing, shape, context, and many others. Information is the raw material for making decisions for creating knowledge and fuelling the modern organization”.

Alemna (2000) defined information as knowledge given or received of some facts or circumstances. This knowledge may consist of statements made by individuals or concepts that have been accepted by society; that is, concepts that have been formalised into our societal networks. Alemna (1992) described information as a vital resource, which plays a significant part in a nation’s development. Olarongbe et al, (2013) posits that information is indispensable in human life, hence a basic human need, which has an overriding significance to all and sundry. Ayipeku (1982)

concluded in his study of information utilisation by policy makers in Nigeria that, information is an indispensable tool in national planning just like personnel and funds. Information is therefore an important resource used by all individuals at one time or the other to carry out their functions. It equips a person with the power to choose from possible options. Good use of timely information could also enable one to take the right decisions. It could also enhance performance and productivity (Mabawonku, 2006).

However, the concept of information in an organisational sense is more complex and difficult than the frequent use of this common word would suggest. Every society is an information society just as every organisation is an information organisation. Therefore, information is considered a basic resource just like materials, money and personnel. Basically, information has become a critical resource, just like energy, both of which are vital to the wellbeing of individuals and organisations in the modern world (Adeoti-Adekeye, 1997).

Dervin (1992) identified three types of information; objective external information which describes reality; subjective internal information which represents our picture of reality; and sense-making information which shows the procedures and behaviours that allow us to move between external and internal information to understand the world and act on the understanding as well. Ruben (1992) cited in Case (2012) also conceptualises information in three forms; environmental artefacts and representations such as environmental data, stimuli, cues waiting to be acted on; internalised, individualised appropriations and representations such as images, rules, personal

constructs etc.; and the social context of information which are structured, socially constructed and privileged representations.

Information comes in many different forms and is expressed in many different ways. Information can take on any value in the context of an individual situation. This proves that, as a resource, information is different from most other resources. Information, according to Anderson and Krathwohl, 2000 is an effective tool whose adoption and use helps the teacher to advance in skills and knowledge and also teach effectively.

2.1.2 Information Needs of Teachers

The inflexible nature of information needs makes it difficult to deal with (Wilson, 1996). This is because there has always been difficulty in identifying the context in which information needs investigations are carried out. This difficulty is as a result of the subjective nature of information needs, which only occurs in the mind of the person in need of the information and cannot be seen by others. However, this can be made known to others through the actions or behaviours the person in need of the information exhibits. Information needs arise in all aspects of everyday life activities. There are information needs at home, office, school, market, relationships, and many others. It forms an integral part of life such that it cannot be done away with. It does not matter where an individual finds himself or herself, he or she needs to be equipped with the right information in order to be able to make correct, informed and accurate decisions since we make decisions in almost everything we do.

According to Case, (2007) an information need emerges when an individual notes a problematic situation or information gap, in which his or her own internal knowledge and beliefs, and model of the environment fail to suggest a path towards the satisfaction of his or her goals. Case (2012) further viewed information need as a recognition of the fact that one's knowledge is inadequate to satisfy a goal that he/she has. Need then arises when the present level of knowledge is incapable of dealing with a new situation. That is, an information need of an individual arises when they realise that they are handicapped with the right information to solve a particular problem or all attempts within their power to solving a particular problem proves futile.

According to Kuhlthau (2004), information need is an actual, but unexpressed need for information, or ill-defined area of indecision which may be expressed in an ambiguous, rambling statement. Ikoja-Odongo and Mostert (2006), posited that information need is the recognition of the existence of uncertainty in the personal or work related life of the individual. They added further that, information needs may be expressed, unexpressed or dormant, where dormant needs are those that the individual is unaware of, but may be potentially activated by an information service provider. Ingwerson and Jarvelin (2005) study asserted that information needs indicates a consciously identified gap in the knowledge available to an individual. Information needs may determine the seeking behaviour the individual has to adopt. This implies that, teachers may have some qualms that may grow to becoming information needs. These needs may either be seen or unseen. It is not out of place to say that there can be the possibility of facing some difficulties in an attempt to knowing the information needs of teachers that are invisible.

Wilson (1996) was also of the view that, information needs are situation or condition dependent. A particular need of a person is situated within a context and it is influenced by the role the person plays in the work and life or environment in which he/she finds himself or herself. The environmental factors could be social, political, cultural, economic, and technological. Personal characteristics also have an impact on the choice and hierarchy of needs. Wilson (1996) further stresses that, the information needs of an individual arises because of the social role that person plays in society. We can therefore say that, the information needs of a doctor, teacher, lawyer, engineer and many others will definitely be different from each other since they all have different roles to play in the society. This is because their position, job description as well as working environments are different. Even among same jobs, there are variations in their information needs.

Green (1990) cited in Case (2012) gave four general assumptions about the concept of need. He indicated that;

- Need is always instrumental in that it involves reaching a desired goal. This desire puts one at, or closer to, an end state that he/she wants to achieve.
- Needs are usually contestable which sets it apart from want.
- Need is related to the concept of necessity.
- Need is not necessarily a state of mind and it is possible to be unaware of one's true need.

Shulman, (1987) asserts that teachers transform understanding, skills and desired dispositions into pedagogical representations and actions. Therefore, at a minimum, a knowledge base required for teaching includes content knowledge, general pedagogical knowledge and curriculum knowledge, knowledge of educational

contexts and knowledge and characteristics of learners they teach. All these are considered to be very important information needs to teachers. The content knowledge has to do with knowledge about the subject matter to be taught. General pedagogy is about the knowledge on the teaching methodology for teaching the different subjects at the second cycle schools. Knowledge of educational contexts pertains to the goals and aims of education and the environment in which teaching and learning takes place as well as knowing the backgrounds of learners.

Tahir, et. al, (2008) studied the information needs and information-seeking behaviour of Humanities faculty and concluded that the information needs of Humanities faculty members were diverse and they relied heavily on books and older material and there was also the lack of availability of required material in libraries which was a major problem in information seeking.

Literature indicates that, among teachers there were variations in their information needs. Some had specific information needs that related to gaining mastery in the curriculum content and the structured behaviour required in their classrooms or pedagogy for different range of learners (Mardis 2009). In other words, there were variations in the information needs of teachers despite the fact that they all perform same function of imparting knowledge onto students. This means that, information needs are subjective because individuals who find themselves in the same jobs do not have same information needs but the particular need depends on the person who is in need of the information.

A study by Khan and Shafique (2011) on information needs and information-seeking behaviour of college faculty revealed that college teachers mostly seek information

for lecture preparation, improvement of their personal competencies and current awareness. In other words, college teachers' information needs are aimed at effective and efficient delivery of lessons. They mostly use books and monographs for seeking information. They also frequently consult their colleagues and friends in information seeking as an informal source of information. They further mentioned that they often acquire information resources from their institutional library as well as use their personal collection when they urgently need some information. De la Vega and Puente (2010) also indicated that teachers do not only require sources of information on the curricular areas they teach, on pedagogy, didactics and information technology, but also on issues students face. A study by Lan and Chang (2002) revealed that Biology teachers information needs pertained to students, subject matter and pedagogical content knowledge, as well as knowing more about the students they teach. That is, their information needs includes those that has to do with their students in addition to mastering the content of the subjects they teach. For example, the teachers' ability to help their students solve their academic and adjustment problems, and any other school related problems which would impede on their academic work.

According to Bitso and Fouri (2012) the information needed by geography teachers during their teaching practice includes; informative geography content and pedagogy (teaching methods), educational policies, learners' assessment, syllabus information, classroom management, knowledge of adolescent social problems and schools' performance in national examinations. Rakumako and Laugksch (2010) also pointed to the key role of teachers' pedagogical content knowledge and skills in their subject area, and indicated that knowledge and beliefs regarding to pedagogy, students, subject matter and curriculum are related to teacher effectiveness. So, in order for the

teacher to be able to function effectively, he/she must be empowered with the right information.

Perveen, (1976) studied the information needs of teachers and research staff working in the Social Sciences Department of the University of the Punjab, Lahore. The study showed that teachers required information mostly for teaching purposes and they used both formal and informal sources. In the analyses of the use of information and communication technologies by primary and secondary pupils, Passey (2006) pointed out that within the total arena of knowledge handling, teachers are basically interested in subject knowledge and the curriculum, which could be factors associated with teachers' information needs. That is teachers were very much interested in gaining knowledge or gaining mastery in the various subjects they teach in order to be able to effectively deliver.

Patuelli (2008) noted that teachers' information needs were related to pedagogy, national curriculum standards and the syllabus, including examinations and knowledge of the subject matter to be taught. That is, the information needs of some teachers relates to gaining knowledge in the teaching methods, understanding the curriculum and the syllabus, as well as the subjects to be taught. Similarly, Snyman and Heyns (2004) study on the information needs of Afrikaans language teachers and their findings were that their information needs pertained to classroom activities, curricula and supportive study material. They further revealed several factors that have an impact on teachers' information needs, such as a changing curriculum, the nature of the subject, a high workload, extracurricular activities and pressure regarding examination results. This includes informative geography content and pedagogy (teaching methods), educational policies, learners' assessment, syllabus

information, classroom management, knowledge of adolescent social problems and schools' performance in national examinations.

Rakumako and Laugksch (2010) pointed to the key role of teachers' pedagogical knowledge and skills in their subject area, and indicated that knowledge and beliefs regarding pedagogy, students, subject matter and curriculum are related to teacher effectiveness. Fiankor and Adams, (2004) saw information need as the amount of positive information an individual or group of people need to have for their work, recreation and many others like satisfaction. Similarly, Alemna and Skouby (2000) noted that, members of Ghana's legislature information needs arises when they were preparing for parliamentary debates, speeches and questions. That is, their information needs were stemmed from their work roles.

Similarly, Ahenkorah-Marfo et. al (2011) study on information seeking behaviour of faculty members of Kwame Nkrumah University of Science and Technology, Ghana revealed that faculty members sought for information for research work as well as for lecture preparation. Also, Dzandu and Boateng (2013) study on unravelling the dilemma of information search process revealed that the kind of information students of the University of Ghana needed most was academic (76.1%) with the least being entertainment (1.6%). Buadi (2014) study also found that traditional leaders information needs were on issues bordering community development, information on national issues, conflict resolution, information on security and leadership. Ndeogo's (2014) study also found that faculty members of the Methodist University College information needs were information for teaching, research and for learning. This implies that every needed information stems from the role that person is playing in society. This feeds into Prasad (2000) assumption that need is usually oriented

towards reality, practice and task and therefore the professional orientation and the individual characteristics of the user may inform their need. He further states that the purpose for the use of the information is a necessary condition for need. It is evident from the needs outlined above they stem from the work roles of the traditional leaders.

According to Tackie and Adams, (2007), literature on information needs and information seeking, acknowledges that work related information seeking is different from everyday information seeking. In their view, information influencers, such as accessibility, availability, and familiarity of source consumed determines the suitability of the information.

From the above reviewed literature, it is realised that teachers information needs relates mostly to gaining mastery in the content of the subjects they teach and the teaching method they need to adopt to make their classroom teaching interesting. Also, knowledge about their learners are also not left out because having an idea on their learners' background will determine what teaching methodology to adopt. Furthermore, it has been noted that information needs differ from individual to individual and from profession to profession. However, even among same jobs, information needs are not the same. This implies that, teachers information needs may not be the same.

2.1.3 Information Seeking Behaviour of Teachers

Information-seeking is not always initiated by information need, but sometimes by incidental encounters with information or through everyday life interactions with information to keep up with the advancements in one's field, which is called

unexpected information-seeking (Foster and Ford, 2003; Spink and Cole, 2006). Uhegbu (2007) describes information-seeking behaviour as the way in which information users conduct themselves when searching for information. He used the term "information-seeking behaviour" to identify those aspects of information-related activity that appears to be identifiable, observable, and, hence, researchable.

Kakai et al, (2004) also pointed out that, information seeking is a basic activity indulged in by all people and manifested through a particular behaviour. Information seeking is undertaken to identify a message that satisfies a perceived need (Wright and Guy, 1997). This activity of information seeking may be actively or passively done when taking steps to satisfy a felt need (Ikoja–Odongo, 2002). On the other hand, Andersen (2002) noted that research on information seeking has looked at how individuals go about finding the materials that they need in order to satisfy information needs.

According to Fairer–Wessels, (1990) information seeking behaviour refers to the ways in which people search for and utilize information. In other words, information seeking behavior is the act of actively looking for information in order to use that information to solve a specific problem. Information-seeking is a purposive acquisition of information from selected information carriers, including examining the ways in which people find the information they require (Johnson, 2003), such as how and where people look for solutions to information problems (Burke, 2007). This is because there is a purpose behind the reason why individuals search for the information. Information-seeking has been conceived as a process in which

information needs are pursued, or in which problem-solving takes place in a particular context (Foster, 2004).

Most of the time, the information seeking behaviour of teachers involves active or purposeful information seeking as a result of the need to impart knowledge onto students, prepare for class lessons, seminars, workshops, conferences and many more. For instance if a teacher needs to complete his or her lesson/teaching notes, this need will drive the teacher to do everything possible to obtain the right information that will satisfy that need. After the need is met he/she returns to a more passive state of information seeking regarding the “object of his/her earlier curiosity” making the demand for information an elastic one (Case, 2012).

Suriya, et. al (2004) carried out a research on information seeking behaviour of faculty members from Government Arts Colleges in Cuddalore District. The purpose of their study was to investigate, how faculty members sought information from the library. It was concluded that majority of the respondents 61 (38.12%) used to visit the library several times a week to meet their information needs. From this, one gathers that teachers saw the importance of a library in terms of meeting information needs. It was for this reason that faculty indicated that they visited the library several times a week.

Similarly, Lewin and Stokes, (2004) explored the information-seeking behaviour of a group of lecturers, based on one site, delivering a nursing and midwifery curriculum in the School of Health Studies of a higher educational institution. Findings showed that in order to access information, lecturers were most likely to access the institutional libraries, the Internet, advice from colleagues and their personal

collections. Refereed journals were the top ranked information resources with professional studies and research cited as the most sought after topics. Lecturers mentioned the role of library staff as integral to the information-seeking process.

Information seekers encounter various challenges. A study by Tahir et al. (2008) identified seventeen possible problems teachers face in acquiring information for teaching and research. Respondents were asked to rank these problems using a five-point Likert scale. “Unavailability of required materials” was ranked as the number one problem with a mean of 3.17, followed by “information scattered in too many sources” and “the expensive nature of information sources” with mean scores of 3.60 and 3.47 respectively. Other challenges on the list were; information sources located far away, lack of time, lack of training in information literacy skills, lack of knowledge in using the library, language barrier and incompetent or not well trained library staff. Nwokedi and Adah (2009) reported lack of transportation as a problem hindering the provision of information sources to teachers. This is because information resource centres, although available in some African countries, are in towns and teachers in the rural areas need transport to get to these information centres.

2.1.4 Information Sources Available to Teachers

Anything human beings interact with or observe can be a source of information’ (Bates, 2006). An information source is anything individuals come into contact with and provides them with information. According to Nikalanta and Scamell (1990), an information source is a medium in which knowledge and/or information is stored. Information can come from virtually anywhere. It can come from the media that is the print and the electronic, blogs, personal experiences, books, journal and magazine

articles, expert opinions, encyclopaedias, and web pages. The choice of source of information an individual needs depends on the information need question he/she is trying to answer. For example, if someone's information need relates to information or opinions about popular culture, he /she will consult the national geographic magazine. Also, if an individual wants to acquire information on current happenings of international, national and local events, find editorials, commentaries, expert or popular opinions, he/she will consult a newspaper. This means that, the type of information need will determine the source.

Leckie et al (1996) asserts that people seek information from sources that are relatively easily accessible, trustworthy, relatively cost effective, timely etc. Williams and Coles (2007) were of the view that, teachers tend to rely on readily available resources, particularly those available in the school. They frequently use information sources such as colleagues, in-service events, newspapers and reports available in the schools. Kirby and Bogotch (1996) and Williams and Coles (2007) indicated that, sources of information available in the school environment are among the most popular. Therefore, it seems that, to increase information use, teachers need a well-organized access point to information located within the school that would allow them to find the information that they want as quickly as possible.

Fazlul-Haq, (1976) conducted a study to know the information needs of teachers. Findings revealed that the teachers consulted text books for the preparation of class lectures. The main sources of obtaining new ideas or information were current journals, latest books, news magazines, research reports and conference proceedings. Similarly Sanchez and Valcarcel's (1999) study which found that teachers in general used students' textbooks as the main source of information. They further added that

they sometimes consulted magazines and other information resources when they felt the information obtained is inadequate.

Marouf and Anwar, (2010) researched on information-seeking behaviour of the social sciences faculty at Kuwait University and found that respondents heavily depended on books and journals for teaching and on a larger variety of materials for research purposes. Their use of informal sources is comparatively less than formal sources. Journals and books are considered as the most important sources to meet their needs. Among the informal sources were conferences, the subject experts and colleagues. These people were given higher importance than librarians and government officials. Journals and books were used more frequently than raw data, technical reports, manuscripts and primary materials.

Mundt et al (2006) mentioned that teachers use information sources such as; curriculum materials, followed by colleagues and personal files, and these are used mainly for lesson planning. For improving teaching methods, teachers often use their colleagues as well as workshops, seminars and meeting notes. For assessing students, teachers confer with students and consult their personal notes and files. And for keeping up to date with local and international affairs, mainly in the form of everyday life information-seeking, teachers use newspapers, magazines, television, educational journals and the Internet.

Merchant and Hepworth (2002) indicated that teachers used different sources to satisfy different information needs. Print sources, with the exception of newspapers and magazines, were viewed as sources of information with which to build a framework for the topic, the theory behind what is to be taught, or for factual

information. Alternatively, the Internet, television, subject journals, newspapers and magazines are considered to provide current and supplementary information to fill in the gaps in the textbooks and to increase interest, which would engage pupils in the subject matter.

A study by Khan and Shafique, (2011) on information needs and information-seeking behaviour of college faculty revealed that they mostly use books and monographs for seeking information. They also frequently consult their colleagues and friends in information seeking as an informal source. They further mentioned that they often acquire information resources from their institutional library as well as use their personal collection when they urgently need some information.

Nnadozie and Nnadozie, (2008) studied information needs of faculty Members in a Nigerian Private University and concluded that, there is no significant difference between the information needs of lecturers in Nigerian private universities and that of their colleagues in public universities. Monographs and journals were the main information sources that was used by faculty members in Nigeria. A study by Ahenkorah-Marfo et. al (2011) on Information seeking behaviour of faculty members of the College of science, Kwame Nkrumah University of Science and Technology revealed that, faculty members mostly consulted textbooks. Aforo and Lamptey, (2012) concluded that information needs of Law Lecturers were diverse but they relied heavily on law reports, law journals and textbooks.

2.1.5 Information Use by Teachers

Information is considered important because it plays a major role in almost every human activity. According to Savolainen (2009), information use is a comprehensive

term which refers to the ways in which people choose and approach information sources. Cole (2008) defined the use of information as the interpretation and coding of environmental stimuli, whereby the human organism creates new and adapted knowledge structures. In Maybee's (2006) study, some participants considered the use of information as building one's personal knowledge base for different purposes. Wilson (2000), also posited that information use consists of physical and mental actions when information that has been found is connected to the person's existing knowledge base. It may thus include physical acts such as marking text passages to help notice their importance or significance, as well as mental acts to which belongs, for example, comparing new information with one's existing knowledge.

Choo (2002) also viewed information use as “a dynamic, interactive social process of inquiry that may result in the making of meaning or the making of decisions”. This is because an individual who has an information need would exhibit a particular seeking behaviour which would enable him or her to obtain the needed information to meet his or her information need. This information which has been obtained is either used to solve a problem or make a decision. Information is used by many to create knowledge “but not just in the sense of data and facts but in the form of representations that provides meaning and context for purposive action” (Choo, 2002). Due to the importance of information, lack of it according to a number of authors such as Boon (1992), Camble (1994), Sturges and Neil (1998) will have a negative impact on development process.

Despite the importance of information as a development resource and looking at the fact that its absence impedes development process (Boon 1992), researchers in information science often fall short of looking at what people use the information for

after it has been obtained. In other words, information use has received less attention in research literature. Information use is most often linked to information need because information is needed for it to be used. Information use is the factor that motivates all other information behaviours such as information seeking, information sources and many others since it represents the final purpose for which information is needed and sought. Considering activities such as information seeking or information retrieval without emphasising its use is incomplete. This is because it is as a result of the usage which brings about all these information behaviours.

Kuhlthau (2001), views information use as any activity that involves the delivery, accessibility, collection, organization, or visualization of information. This might involve beginning a search for information, selection of information sources, the method of exploration for new or needed information, methods for formulating or focusing information requirements, the process of gathering information, viewing information, or presentation and delivery of information.

Previous studies by Menzel (1966) and Paisley (1968) on information needs and uses emphasised on information systems, as consisting primarily of paper-based library collections of books and journals at that time. In these studies, information use referred to the information packages (e.g., books, journals, indices, etc.) The concept of information use was therefore historically associated with the resource itself, rather than the information contained within. However, the emergence of the web has changed the way we now view the object of use from those physical items to the information chunks.

2.1.6 The Role of Libraries/Information Centres in Information Acquisition by Teachers

The world at large is now witnessing an era of information revolution. Powel (2003) established that in the United States, more than half of the workforce is now defined as information workers. It is therefore not out of place to say that the effectiveness of a teacher's delivery is judged by the quality of the existing information system. Libraries and information centres are the repositories in that pursuit.

A library is defined as an organized collection of sources of information and information resources that is made accessible to a defined community for reference or borrowing. It provides physical or digital access to material, and may be a physical building or room, or a virtual space, or both (en.wikipedia.org/wiki/Library). Libraries and information centres provide a much wider range of information services from within and outside the country to meet needs of its users such as teachers/lecturers, students, researchers and many others.

A school library, according to Edoka (2000) is a place that has been established in a primary or secondary school to provide information materials to students and teachers. Waite (1989), also defined a school library as a collection of a wide range of learning and teaching materials which are kept in a place and centrally organized by librarian and indexed to serve readers. Daniel (2004) was also of the view that the school remains the power house of the educational institution and that an education institution without a library is like a motor car without an engine and a body without a soul. Fayose (1995) was also of the view that, a school library is the part of the school

where books, periodicals, magazines, and newspapers, films, computers, filmstrip, videotapes, recording of all types and many more are kept for use by the students and teachers. Benard and Dulle (2014) defined libraries as social institutions created to safeguard knowledge, preserve the cultural heritage and provide information for education and research purposes to different users. Daniel (2004) concluded that the school library remains the power house of educational institution and that an education institution without a library is like a motor car without an engine and a body without a soul. The school library is therefore considered as one of the important sources of information to teachers and learners in achieving effective learning outcomes. The library has full potential to improve the quality of educational processes in the school (De la Vega and Puente, 2010). They are indispensable adjuncts to education as well as a base for generating innovative thinking, a stimulus culture, and an aid to individual self-development (Onal, 2009).

According to Singh and Nazim (2008), libraries play an important role by providing a good education and knowledge of high quality to individuals around the world, no matter how poor or rich they may be. That is, one can access whatever knowledge and information they need irrespective of their backgrounds by visiting libraries. Similarly, Krolak (2005) emphasised that, libraries are custodians of the local and national culture. That is, the library stores popular and academic knowledge and material for current and future generations as well as bridging the information gap by providing free access to information and communication technologies, particularly the Internet. This shows how important libraries are in a school since it provides knowledge and education of good quality to learners and teachers.

Broadbent (1982) was of the view that a library can be used interchangeably with an information center though an information center is not necessarily a library. A library by its function is an information centre. Library services are not completely divorced from information services, which are also provided by other agencies such as the mass media, and at times more effectively and competitively. Beckman (1982) explained that information centers are viewed as being more dynamic whereas a library has historically been known as repositories for books and journals. Beckman (1982) further added that, information centers are involved in analysis, synthesis, transmission and repackaging of data and information. But as new technologies allow libraries to become more involved in different types of activities performed by the so called information centers, distinction between libraries on one hand and information centers on the other hand is no longer valid. A library exists to offer a range of learning opportunities for all groups of people as well as individuals with a focus on intellectual content, information literacy, and the learner. In addition, the school library also serves as a place for students to do independent work, use computers, equipment and research materials; to host special events such as author visits and book clubs; and for tutoring and testing (Smith, 2010).

Abdullahi (1998) adds that, the usefulness of a library depends upon its proper organization which includes the accessibility and availability of information resources, their arrangement, the situation of the library, and many others. Moreover, Bhatt (2013) asserted that a successful library services depends mainly on the satisfaction level of its users with the relevant library information resources, user-centric library services and library staffs' supportive attitude. However, studies by Alemna and Skouby (2000) revealed that members of Ghana's legislature were not

satisfied with the services provided by their library and this resulted in the low patronage of the library.

Similarly, Dzandu and Boeateng (2013) study also revealed that students of the University of Ghana, Legon were not satisfied with the services provided by the library because the books were not current and could also not access the library's e-resources off-campus. Also, Naushad Ali et al., (2006) conducted a study to investigate teachers' attitude towards central library services at Aligarh Muslim University. The factors for promoting library services were considered. Majority of the teachers indicated that they were aware of the reference services, circulation and newspaper/periodical services of the library but were unaware of the inter library loan services. Most of the teachers (55.24%) indicated that they were not satisfied with the overall function of the library. From the literature reviewed on the satisfaction level of patrons of libraries so far, it can be said that the management of libraries should consider the level of satisfaction of its patrons. This is because library patronage depends on the level of satisfaction of its users.

A study by Agyekum and Filson (2012) on the use of library resources by students in Ghana schools established that most of the students used library resources and library services to supplement their class notes, assignments and helped them in examination preparation. Similarly, a study conducted by Clabo (2002), pointed out that students use school library information resources for recreational readings, for reference purposes, when doing their school homework, teacher requirements and reading news from newspapers. Also, Orji (1996) found out that users use the school library for many and various reasons which is to prepare for examination, for leisure, recreation

for serious academic work, to see friends and people and many more. It can be seen from the discussions that a library is of great importance to students because of the opportunities it offers to students. Daniel (2004) concluded that the school library remains the power house of educational institution and that an educational institution without a library is like a motor car without an engine and a body without a soul.

Despite the important role libraries play in education, Kakoma (1999) noted that where school libraries exist, they are not adequately equipped and there is no evidence that these libraries are treated as an important component of the school curriculum, as they are often manned by unqualified library assistants or people with no qualification in librarianship. Benard and Dulle, (2014) in a study on assessment of access and use of school library information resources by secondary schools students in Morogoro Municipality, Tanzania noted that, the schools library were being manned by language teachers, office attendants who were not professionals in librarianship. They added that it was for this reason that most of the information resources like textbooks were scattered over tables and shelves and were not catalogued or classified.

The digital age according to Parker et. al, (2005) has resulted in a low patronage of libraries since the twenty first century user can have access to vast amounts of information without setting foot in a physical library due to the spread of the internet and computers everywhere. This has created the perception that, libraries are no longer needed or people do not see the relevance of going to the library if they can have access to information anywhere and anytime irrespective of the time of the day. Abdullahi (2008) asserted that most of the Nigerian students from secondary schools

who enter universities or colleges have never used the library effectively during their primary and secondary schools.

Krolak (2005) was also of the view that, teachers need to encourage the habit of reading for pleasure and as a requirement for continuous education. A vicious educational cycle continues if teachers are not strongly committed to providing supplementary reading materials and are not trained how to use them for the benefit of the students.

Today the role of libraries is changing worldwide. Libraries are no longer passive keepers and preservers of books but have now changed to become facilitators of information and lifelong learning. This equitable access to information is essential to enable educated and informed citizens to participate in a democratic global community (Krolak, 2005). Similarly, Singh and Nazim (2008) were of the view that modern libraries certainly cannot be passive warehouse for books and other printed materials but should upgrade their services by digitizing their resources for online use and these services should be accessible to anyone, regardless of time or location, through digital communication devices. They further stressed that, in this age of knowledge, libraries should be a storehouse of all of the knowledge and information accumulated by human kind. That is, they will have to store all kinds and forms of material and information and spread it beyond the geographical boundaries by the help of information technology.

Libraries are of great significance to teachers and students and to the entire educational institution as a whole considering the major role it plays in providing

information that is of high quality to its users. In effect, libraries exist to help in knowledge exchange not only to its immediate surroundings but even to people outside the boundaries of the library.

2.1.7 Use of ICT by Teachers in Information Acquisition

The advent of this new global economy has had serious implications for the nature and purpose of educational institutions. Access to information continues to grow day in day out such that the school cannot continue to be places for the transmission of an approved set of information from teacher to student over a period of time. Schools must instead be seen as places that promotes knowledge acquisition and skills that will enable people to continuously learn over the lifetime. As a result of this, Information and Communication Technologies (ICTs) which include radio and television, and the Internet - have been hyped as potentially and powerful enabling tools for educational change and reform (Henessay et.al 2010). ICT according to Ajayi and Ekundayo (2009) is simply about sharing and having access to data easily with the use of ICT tools such as computers, printers, internet and many others. In other words, ICT is seen as a superhighway on which information is transmitted and shared by people across borders. The field of education has been affected by the penetrating influence of ICT.

When ICTs are used appropriately, it helps enlarge access to education, fortifies the importance of education to all and sundry and raises the quality of education by helping make teaching and learning active and more engaging. A number of studies have looked into ICT use by teachers. Findings revealed that, the use of ICT in teaching is very advantageous. Aribisala (2006) was of the view that ICTs are

increasingly playing an important role in organisations and society's ability to produce access, adopt and apply information. The use of ICT's have made the sharing and transfer of information from even the remote areas possible. Teachers are not excluded from these benefits. ICT helps teachers to share information amongst themselves, to their students and even amongst those in the rural areas with the help of then ICT tools. According to Volman and Van Eck (2001), the use of ICT creates a powerful and interesting learning environment and it changes the learning and teaching process in which students deal with knowledge in an active, self-directed and constructive way.

Ajayi and Ekundayo (2009) posits that the role of education in nation building and the population explosion in the secondary schools these days has made the use of ICT in the teaching-learning process vital. This is because the adoption of ICT by the teachers will enhance effective teaching in terms of good course organisation, effective class management, content creation, self-assessment, self-study collaborative learning, task oriented activities, and effective communication between the teachers and research activities will be enhanced. This effective teaching results from the fact that teachers will be well informed so their confidence level will be high thereby making them able to deliver.

Tella et. al (2007) conducted a study on Nigerian secondary school teachers on “ uses of ICTs and implications for development of ICT use in schools. The findings revealed that most teachers considered ICT as a very useful tool since it makes teaching and learning easier. This is because teachers are able to acquire enough information through the use of the internet for their lessons and therefore feel

confident to stand before their students to teach. They therefore recommended that professional development policies assist ICT-related teaching models, in especially those that helps both students and teachers to take part in the teaching activities. They further added that emphasis should be placed on the pedagogy underlying the use of ICTs for teaching and learning. That is much attention should be given to the method of ICT use for teaching so that learning could be enhanced.

Research and active development projects such as those run by EdQual, a Research Consortium of educational institutions in the UK and Africa (Ghana, Rwanda, South Africa and Tanzania) on Educational Quality indicated two main reasons why teachers use ICT. Firstly, they feel that their own use of computers benefits their learners. This because teachers saw ICT as a motivator that motivates students' interest and learning in the subject. ICT encourages a positive attitude towards information technology as an essential part of a lifelong interest in learning. Secondly, teachers feel learners benefit from using ICT's themselves. It has been seen as sequencing way of learning properly, and provides access to a rich source of information. Teachers also saw the use of ICT as a way of increasing students chances of recall of previous learning, providing new stimuli, activating the learner's response, and providing systematic and steady feedback. Looking at what has been mentioned earlier, there can be an agreement with Cox et. al (1999) that the factors contributing to ongoing use of ICT by teachers include: making lessons more exciting, more enjoyable for teachers and their students, more diverse, more motivating, and supportive of productive learning.

Most studies conducted indicated that teachers have understood the use of ICT's as tools to enable them have access to rich information. A study conducted by Ahenkorah-Marfo et. al, revealed that, majority (91.4%) of faculty members of the Kwame Nkrumah University of Science and Technology, Ghana used Google search engine mostly for their online searches. Similarly, Kumar (2013) on assessing the information need and seeking behaviour of research scholars of M.B.P.G. College revealed that, majority (90%) of the respondents used Google search engine for their online searches.

Despite the benefits that ICT bring to the teaching profession, there are also some challenges teachers face in using the ICT tools to access information. It is a common misconception that access to technology on its own motivates teachers to apply it in their teaching (Hennessey et al, 2010). The biggest barriers to the use of computers identified by teachers participating in the 1998-1999 survey assessing the World Links schools programme were the lack of time available in classes, and in their own schedules for planning; and the lack of a national policy on the use of computers in schools (Kozma, et. al, 2004).

Anderson (1997) identified a range of physical and cultural factors that affect ICT use by teachers, including lack of reliable access to electricity, limited technology infrastructure (especially internet access, bandwidth, hardware and software provision), language of instruction and available software; geographical factors such as country size, terrain and communications; demographic factors such as population size, density and dispersion. Also, the teachers' level of understanding or knowledge of the teacher in the ICT in order to be able to deliver and the attitude of teachers,

inadequate learning resources, course curricula and other learning materials that incorporate ICT use play a major role.

However, in the study of Nigerian secondary school teachers by Tella et al (2007), lack of technical support in the schools, and teachers' lack of expertise in using ICT, were the prominent factors hindering teachers' readiness and confidence in using ICT. This brings to fore, the need for in-service training for teachers on ICT use in order to be able to integrate ICT in their teaching. Hennessy et.al (2010) were of the view that when people are trained on how to use ICT facilities such as computers, printers, internet and many others, having access to information becomes easy. In other words, training on ICT use has improved one's ability to retrieve information. ICT have therefore been seen as a superhighway on which information is transmitted and shared by people across borders.

Incentives play a major role in the work of teachers since it is seen as a motivator that can encourage an individual to do more of what he or she is doing. The lack of incentives and support for teachers are other factors hampering their use of ICT. The SRI-World Links evaluation (Kozma et al., 2004) revealed that teachers actively engaged in collaborative projects and often portrayed a constructivist teaching method. However, school administrators offer very little support and few incentives in order to use the technology effectively in the classroom. ICT could be an essential tool in all classroom discourses considering its numerous benefits it render to both students and teachers especially in information seeking.

2.1.8 Challenges Encountered by Teachers in Search for Information

Teachers and students are faced with several challenges in information seeking. In a study by Tahir et al (2008) on information needs and information-seeking behaviour of Arts and Humanities faculty members, the respondents were asked to mention problems they faced in the process of seeking for information for teaching and research. Seventeen possible problems were listed and respondents were asked to rank them using a five-point Likert scale. The results showed that unavailability of required material was ranked as number one with a mean of 3.71, followed by information scattered in too many sources, and the costly nature of information sources with mean scores of 3.60 and 3.47 respectively.

Similarly, Mostofa's (2013) study looked at problems faced by faculty members while seeking needed information and majority of the faculty members pointed out that they were sometimes faced with problems such as inability to locate the targeted sources, scattered information sources, lack of time for searching information, and the wrong use of key word.

Williams and Coles (2007) also indicated that the main barrier in information-seeking and use for teachers is limited time. Similarly, Shanmugam (1999) also mentions barriers to information-seeking among educators as shortage of time, inadequate library facilities, unavailability and inaccessibility of information and inability to locate up- to-date information.

Bitso (2012) indicated in her study on analysis of the information behaviour of geography teachers in Lesotho, a developing African country that the geography

teachers expressed the challenges they faced as lack of resources such as time and money, telephones and the internet. Other challenges observed by Bitso were the heavy teaching loads and too many learners in a class that made it difficult to find time for exhaustive information seeking. These challenges are coupled with a general lack of variety of information sources. A heavy workload on the teachers was also pointed out by Snyman and Heyns (2004) as a factor affecting the teachers information seeking.

Another research conducted by Onwuchekwa and Jegede (2011) on information retrieval methods in libraries and information centres in Nigeria revealed that respondents difficulties were experienced when they were attempting to make initial decisions with regard to their information-seeking action. The hindrances identified were: inability to formulate the subject of the need in appropriate search terms, uncertainty as to how to define the limits of the search and an ignorance of the types of sources most likely to be of value in satisfying the need. Also, it was found out that when respondents are looking for information, frustration sets in whenever;

- the search takes more time than the anticipated time;
- search engines that is to direct users to sources not accessible;
- difficulties were encountered in formulating search terms;
- tracing the accurate information is time-consuming; and
- the structure of the source with which the researcher or respondents was interacting was not found to be intuitive.

Other challenges stated by Onwuchekwa and Jegede,(2011) were that retrieved materials were deemed unsatisfactory when:

- it did not address the issue in question;
- it failed to include the needed type of information;
- there was insufficient useful material to meet the information need;
- the relevant content was so great in volume as to overwhelm the searcher;
- coverage of the matter in question was too superficial;
- much of it was considered irrelevant to the need and thus demotivating the search; and
- parts of it were found to be inaccurate.

There is also difficulty in an instance when an individual is trying to determine whether particular content was truly appropriate to the focus of a particular assignment in question. After accessing an adequate quantity of suitable material and looking at how the material could be exploited within the context of the specific requirements of what needed to be done, some researchers may be troubled by legal limitations on the use that could be made of the information; and faced barriers when seeking to construct meaning from the material. For example when researchers found the information to be ambiguous when considered in the light of the need; and discovered that the material seemed incompatible with content they had encountered previously elsewhere (Onwuchekwa and Jegede, 2011).

In a study by Kumar's (2013) on assessing the information need and information seeking behavior of research scholars of Motiram Baburam Government Post Graduate (M.BG.P.) College, the respondents were asked to mention the problems they faced while seeking for information. From the data analysis, it was evident that majority of research scholars faced the problem of non-availability of needed

information materials in the M.B.G.P. College, Haldwani. It was also found that, they faced many other problems like old library collection, language problem, staff without the requisite skills, lack of subject knowledge among library staff and lack of time and many others.

Another challenge that researchers, teachers and students encounter in the process of seeking for information is financial constraints. For instance peer-reviewed articles that are available on the web are usually published on fee-based e-journals. Access to these resources via personal online subscriptions or, more commonly, institutional online subscriptions are paid for by their libraries (Tenopir and King, 2001). For researchers who are not associated with an institution that can pay for these subscriptions such as retirees or independent consultants, teachers and students, these fees that must be paid before the needed information could be accessed. But in a situation where people cannot afford to pay that amount, then it becomes a barrier to information access (Line, 2001).

In effect, access to information despite the overabundance of information is not rosy but comes with its own challenges and the discussed issues are some of the problems faced by teachers, students and researchers in an attempt to seek for information.

2.1.9 Summary of Reviews

This chapter examined the contributions and propositions of other authors in the light of information seeking behaviour of teachers. The chapter laid much emphasis on information behaviour of teachers and what they usually used the information obtained for, once it has been acquired. From what has been discussed so far, it is

evident that access to information is of a greater benefit to teachers. Teachers rely on information obtained from several sources to help them plan their lessons, teaching notes, as well as make informed decisions concerning their students.

The literature also revealed that teachers were faced with some challenges in an attempt to seek information to help them perform their duties. Some of these challenges that emerged from the literature were the workload on the teachers which does not give them enough time to search for information, information scattered in several sources, inappropriate formulation of search terms, outdated library collections, lack of finance and many others. The gap which this study aims to fill is the fact that none of these studies described focused on teachers and the environment in Ghana which the researcher aims to study. It is for this reason that the researcher intends to investigate the information behaviour of teachers in the Lower Manya Krobo Municipality.



REFERENCES

- Abdulah, Aishatu (1998). "The Role of Libraries in Primary and Secondary Education in Nigeria". *Teaching Education Today* 8(1&2): pp. 21-26.
- Abdullahi, K. (2008). The Changing Role of Researchers in Nigeria: The Internet as an Alternative Future to Modernity. *Library Philosophy and Practice (e-journal)* 229. Retrieved on November 15, 2014 from <http://digitalcommons.unl.edu/ubphilprac/229>.
- Adeoti-Adekeye, W. B. (1997). The importance of Management Information Systems, *Library Review*, 46(5): pp. 318-327.
- Aforo, A. A. and Lamptey, R. B. (2012). Information needs and the information seeking behaviour of Law Lecturers in Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. *International Research Journal of Arts and Social Sciences* 1(4): pp. 75-80. Retrieved from <http://www.interesjournals.org/IRJASS>
- Agyekum, B.A., and Filson, C.K., (2012). "The Challenges of School Libraries after the Implementation of the New Educational Reforms in Ghana". *Library Philosophy and Practice (e-journal)*. Paper 932. Accessed from <http://digitalcommons.unl.edu/libphilprac/932> on 23/11/14.
- Ahenkorah-Marfo, M., Teye, V. & Senyah, Y. (2011). Information Seeking Behaviour of faculty: the case of the college of science, Kwame Nkrumah University of Science and technology, kumasi, Ghana. *Journal of Science and Technology*, 31(1): pp 89. Retrieved on July 8th, 2015. www.ajol.info/index.php/just/article/download/64889/52617
- Ajayi, I. A., Ekundayo, H. T. (2009). The application of information and communication technology in Nigerian secondary schools. *International NGO Journal*, 4(5): pp. 281-286. Retrieved on September 23, 2014 from <http://www.academicjournals.org/INGOJ> ISSN 1993-8225
- Ajibero, M. L. (1993). Librarianship, the Mother of all Professions", *Leading libraries and Information Center*, 1(2): pp. 3-4.
- Alemna, A. A. (1992). Scientific and technical Information in Ghana. *Information Development*, 8(4): pp. 215-220.
- Alemna, A. A. (2000). *Libraries, Information and society*. Accra: Ghana. Universities Press, pp. 20.
- Alemna, A.A. and K.E. Scouby, 2000. An investigation into the information needs and information-seeking behavior of members of Ghana's legislature. *Lib. Manage.*, 21(5): 235-240.

- Andersen, D.L., 2002. "Communicating information across cultures: understanding how others work,". Retrieved on July 19th, 2015 from <http://www.pantaneto.co.uk/issue9/andersen.htm>
- Anderson, J. (1997). *Integrating ICT and Other Technologies in Teacher Education: Trends, Issues and Guiding Principles* [Electronic Version]. Infoshare: Sources and Resources Bulletin, pp. 33-35. Retrieved on October 25, 2014 from www.unescobkk.org/fileadmin/userupload/ict/e-books/.../4integrating.pdf
- Anderson, L.W. & Krathwohl, D.R. (Eds.). (2000). *A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives*. (Abridged ed.). Boston, MA: Allyn & Bacon.
- Aribisala, J. O (2006). *Role of information and communication technology in globalization*. In Agagu AA (ed). Information and Community Technology and computer applications. Abuja: Panof Press pp. 68 – 76.
- Ayipeku, W.O. (1982). "Information Utilization by Policy-Makers in Nigeria, Part IV: Critical factors in the Utilisation of Information", *Journal of information science*, 5(2-3): pp. 87-92.
- Babbie, E. (2005). *The basics of Social research*. 3rd Ed, Thomson Learning Inc, Canada.
- Babu, A. R., Singh, Y. P., and Sachdeva, S. (2007). *Establishing a Management Information System*. Retrieved from <http://www.fao.org/docrepr/W5830eOk.htm9/23/2006>.
- Bates, M. J. (2006). Fundamental forms of information. *Journal of the American Society for Information Science and Technology*, 57(8), 1033-1045.
- Beckman, M. (1982). Organizational Structures of Information Centers: A result of Course held on Management Information Centres in China. pp. 153-159.
- Benard, R and Dulle, F. (2014). "Assessment of Access and Use of School Library Information Resources by Secondary Schools Students in Morogoro Municipality, Tanzania." *Library Philosophy and Practice* (e-journal). Paper 1107. Retrieved on September 25, 2015 from <http://digitalcommons.unl.edu/libphilprac/1107>.
- Bhatt, R. (2013). "A Study of Library Usage and Satisfaction by Social Scientists at Bahauddin Zakariya University, Multan". *Library Philosophy and Practice* (e-journal). Paper 963. Accessed from <http://digitalcommons.unl.edu/libphilprac/963>.

- Bitso, C. & Fourie, I. (2012). "An investigation of information-seeking behaviour of geography teachers for an information service intervention: the case of Lesotho." *Journal of Information Research*, 17(4) paper 549. [Available at <http://informationr.net/ir/17-> Retrieved on November 20, 2014.
- Bitso, C. & Fourie, I. (2014). Information-seeking behaviour of prospective geography teachers at the National University of Lesotho *Information Research*, 19(3), paper 637. Retrieved from <http://InformationR.net/ir/19->
- Bitso, C. (2012). *An Analysis of the Information Behaviour of Geography Teachers in a Developing African Country– Lesotho*. Review of International Geographical Education Online 2(2). Available at www.rigeo.org
- Boon, J. A. (1992). Information and development: some reasons for failure. *Information Society*, 8(3): pp. 227-241.
- Broadbent, K. P. (1982). Functions, Planning and Management of Information Centers: A Result of Course held on Management Information Center in China. Pp. 144-152.
- Buadi, D. W. (2014). Information Behaviour of Traditional Leaders in Shai Osudoku District. An MA Unpublished Dissertation submitted to the department of Information Studies, University of Ghana, Legon.
- Burke, M.E. (2007). Cultural issues, organizational hierarchy and information fulfilment: an exploration of relationships. *Library Review*, 56(8): pp. 678-693.
- Camble, E. (1994). The information environment of rural development workers in Borno State, Nigeria. *African Journal of Library Archives and Information Science*, 4(2): pp. 99- 106.
- Case, D. O. (2012). *Looking for information: A survey of research on information seeking, needs and behaviour*. Amsterdam: Elsevier.
- Choo, C. W. (2002). Information Management for the Intelligent Organization: The Art of Scanning the Environment. Medford, NJ: Information Today. Retrieved on November 25th, 2014. From www.choo.fis.utoronto.ca/fis/respub/dlc95.html
- Clabo, C.A., (2002). *Study of the Library Use Practices of High School Students in Three East Electronic Theses and Dissertations*. Paper 635 accessed from <http://dc.etsu.edu/etd/635>
- Cole, C. (2008). People transforming information - information transforming people: what the Neanderthals can teach us. *Proceedings of the American Society for Information Science and Technology*, 45(1), 1-10.

- Cox, M. J., Preston, C., & Cox, K. (1999). *What motivates teachers to use ICT?* Paper presented at the British Educational Research Association (BERA), University of Sussex, Brighton.
- Daniel, C. I. (2004). "Efforts/Activities at schools' level by Principals, Headmasters, and PTA to support provision of library services in school the case of Abuja Federal Capital Territory". *Nigerian School Library Journal*, 5(1). Retrieved on July 1st, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2864&context
- De la Vega, A. & Puente, R. T. (2010). Availability and use of printed, audio-visual and electronic information by high school teachers of communication and social sciences in Public educational institutions in Peru. *Libri*, 60 (4): pp. 306-320.
- Dervin, B. (1992). From the mind's eye of the user: The sense-making qualitative quantitative methodology. In J. D. Glazier & R. R. Powell (Eds.), *Qualitative research in information management*. (pp. 61 – 84), Englewood, CO: Libraries Unlimited.
- Dzandu, M. D., & Boateng, H. (2013). Unravelling the Dilemma of the Information Search process: The application of Wilson's model in a Ghanaian University setting. *International journal of Digital library services*, 3. Retrieved on July, 15, 2015. From www.ijodls.in
- Edoka, B.E. (2000). *Introduction to Library Science*. Palma Publishing and Links Company. Onitsa, Nigeria.
- Fairer-Wessels, F. A (1990). Basic community needs of urban black women in Mamelodi, Pretoria, South Africa. *South African Journal of Library and information Science*. 58 (4): 359-367. Retrieved on November 20th, 2014. From www.caisacsi.ca/proceedings/1995/olson.
- Fayose, P. O. (1995). *School Library Resources Center for Educational excellence*. Ibadan: Federal Ministry of Education p.13.
- Fazlul, H. (1976). *Information Needs of Teachers of the University of Engineering & Technology Lahore*. Lahore: University of the Punjab.
- Fiankor, D. K. and Adams, M. (2004). Information seeking behaviour and information use by the students of the Department of Information Studies, University of Ghana, Legon. *GhanaLibrary Journal*, 16: pp. 45-60.
- Foster, A. & Ford, N. (2003). Serendipity and information seeking: an empirical study. *Journal of Documentation*, 59(3): pp. 321 – 340.
- Foster, A. (2004). A nonlinear model of information-seeking behaviour. *Journal of the American Society of Information Science and Technology*, 55(3): pp. 228-237.

- Green, A. (1990). What do we mean by user needs? *British Journal Of Academic Librarianship*, 5: pp. 65-78.
- Hennessey, S., Harrison, D., Wamakote, L. (2010). Teacher Factors Influencing Classroom Use Of ICT in Sun-Saharan Africa. *Itupale Online Journal of African Studies*, 2 (2010): pp. 39- 54. Retrieved on November 21, 2014.
<http://web.utk.edu/~tenopir/NFAIS6-21final.ppt>
- Ikoja–Odongo, J.R., 2002. “An observational study of the information seeking and communicating behavior of entrepreneurs in the informal sector of Uganda,” In: Bothma, T. and A. Kaniki (editors). *ProLISSA 2002: Proceedings of the second biennial DiSSAnet conference, 24–25 October*. Pretoria: Infuse, pp.11-28. Retrieved on December 15th, 2015. From www.web.simmons.edu/~benoit/lis642/Chi-Square-infoseeking-Uganda.pdf
- Ikoja-Odongo, R. & Mostert, J. (2006). Information seeking behaviour: a conceptual framework. *South African Journal of Libraries and Information Science*, 72(3):145-158.
- Ingwersen, P. and Jarvelin, K. (2005). *The Turn. Integration of Information Seeking and Retrieval in Context*, Springer, Dordrecht.
- Johnson, J.D. (2003). On contexts of information seeking. *Information Processing and Management*, 39(5): pp. 735-760.
- Kakai M, Ikoja–Odongo R, Kigongo–Bukonya IMN (2004). A study of the information seeking behavior of undergraduate students of Makerere University. *Uganda World Libraries*, 14(1). Retrieved on November 15, 2015
http://www.worlib.org/vol14no1/kakai_v14n1.shtml
- Kakoma, A.K. 1999. School libraries in Lesotho. *Information Development*, 15(2):120-125.
- Kaye, D. (1995). The Importance of Information. *Management Decision*, 33(5): pp. 5-12.
- Khan, S. A. & Shafique, F. (2011) "Information Needs and Information-Seeking Behavior: A Survey of College Faculty at Bahawalpur". *Library Philosophy and Practice (e-journal)*. Paper 484. Retrieved on November 15, 2015
<http://digitalcommons.unl.edu/libphilprac/484>
- Kozma, R., McGhee, R., Quellmalz, E., & Zalles, D. (2004). Closing the digital divide: evaluation of the World Links Program. *International Journal of Educational Development*, 25(4), 361-381.
- Krolak, L., (2005) .The role of libraries in the creation of literate environments, Education for all Global Monitoring Report Literacy for Life, UNESCO accessed from [http://www.ifla.org/files/assets/literacy-and-#role reading/publications -of-libraries-in](http://www.ifla.org/files/assets/literacy-and-#role%20reading/publications%20of%20libraries%20in)

- Kuhlthau, C.C. (2001). The Information Search Process (ISP) A Search for Meaning Rather than Answers. *Doshisha Journal of Library and Information Science*, 1 (6), 31-46.
- Kuhlthau, C.C. (2004). *Seeking meaning: a process approach to library and information services*. 2nd ed. Westport, Connecticut: Libraries Unlimited.
- Kumar, A. (2013) Assessing the Information Need and Information Seeking Behavior of Research Scholars of M.B.P.G. College: A Case Study. *International Journal of Digital Library Services* (3). Retrieved from www.ijodls.in on 26/11/2014.
- Lan, C. & Chang, Y. (2002). The advanced study of information behaviour of biology teachers in junior high school. *Journal of Library and Information Science* (USA/ Taiwan), 28(2): pp. 39-48.
- Leckie, G. J., Pettigrew, K. E. & Sylvain, C. (1996). Modeling the Information Seeking of Professionals: a general model derived from research on engineers, health care professionals, and lawyers. *Library Quarterly*, 66 (2): pp.161-193.
- Lester, J. & Koehler, W. C. (2007). *Fundamentals of information science: Understanding information and its environment*. Neal-Schuman Publishers, New York, NY.
- Lewin, D., & Stokes, J. P. (2004). Information-seeking behaviour of nurse teachers in a school of health studies: A soft systems analysis. *Nurse Education Today*, 24(1): pp. 47-54.
- Line, M. B. (2001). Opinion paper: Access to documents by the independent researcher (Electronic version). *Interlending and Document Supply*, (29): pp. 175-176.
- Mabawonku, I. (2006). The Information Environment of Women in Nigeria's Public Service. *Journal of Documentation*, 62(1): pp. 73-90.
- Majid, S., Anwar, M. A. & Eisenschitz, T. S. (1999). Library use pattern of Malaysian agricultural scientists. *Libri*, 49 (4): pp. 225-235.
- Mardis, M. A. (2009). Classroom Information Needs: Search analysis from a digital library for educators. *DLIB Magazine*, 15(1/2). Retrieved on November 20th, 2014 from www.dlib.org/dlib/january09/mardis/01mardis.html
- Marouf, L. and Anwar, M. A. (2010). Information-seeking behavior of the social sciences faculty at Kuwait University. *Library Review Library Philosophy and Practice* (e- journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/314>

- Maybee, C. (2006). Undergraduate perceptions of information use: the basis for creating user-centered student information literacy instruction. *The Journal of Academic Librarianship*, 32(1), 79-85.
- Mensah, M. (2013). *Corporate Governance and Records Management in HealthCare Organisations in Ghana: A study of selected private and Public hospitals in Greater Accra Region*. A thesis submitted to the Information studies department, University of Ghana, Legon.
- Menzel, H. (1966). Information needs and uses in science and technology. *Annual Review of Information Science and Technology*, Vol. 1: pp. 41-69.
- Merchant, L. & Hepworth, M. (2002). Information literacy of teachers and pupils in secondary schools. *Journal of Librarianship and Information Science*, 34(2):pp. 81-89. Retrieved from www.lis.sagepub.com/content/34/2/81.short?rss=1&ssource=mfc on January 15, 2015.
- Mostofa, M. S. K. (2013). *A Study of Information Needs and Seeking Behavior of Faculty Members of Darul Ihsan University in Bangladesh*. University of Nebraska-Lincoln DigitalCommons@University of Nebraska-Lincoln. Library Philosophy and Practice (e-journal). Retrieved on January 12th, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2383&context.
- Mundt, M., Stockert, K. and Yellesetty, L. (2006). The information behaviour of teachers. Retrieved from http://katestockert.com/LIS510_Information_Behaviour_of_Teachers.pdf
- Mutshewa, A. (2007). A theoretical exploration of information behaviour: a power perspective. *Aslib Proceedings: New Information Perspectives*, 59(3), 249–263.
- Naushad Ali, P. M., Hasan, H., Ehsan. D. (2006). Library and information services.
- Ndeogo, M. (2014). Information of Faculty Members of Methodist University College. An MA Unpublished Dissertation submitted to the department of Information Studies, University of Ghana, Legon.
- Neuman, W. L. (2007). *Basics of Social Research: Quantitative Approaches* (2nd Ed.) Boston, Pearson Education, Inc.
- Nikalanta, S. and Scamell, R. (1990). The effect of information sources and communication channels on the diffusion of innovation in a data base development environment. *Management Science*, 36(1): pp. 24-40.
- Nnadozie, C. O. and Nnadozie, C. D. (2008). Information needs of Faculty Members in a Nigerian Private University: A Self-Study. Retrieved from *Library Philosophy and Practice* 2008. Retrieved from http://unllib.unl.edu/LPP/on_03/03/2014

- Nwokedi, V.C. & Adah, J. (2009). Information needs of post-primary school teachers in Jos, Plateau State, Nigeria. *Information Technologist*, 6(2).
- Olarongbe, S. A., Adepoju O. S., Akanbi-Ademolake H. B., & Pedro T. A. (2013). *An assessment of information needs and characteristics of users of Oyo State Public Library, Nigeria*. Library Philosophy and Practice (e-journal) at: <http://digitalcommons.unl.edu/libphilprac> Accessed on 21 October, 2014.
- Omagbemi, C. O., Odunewu, A. O., and Osifeso, F. F. (2005). Information Needs of Local Government Policy-Makers: A Case Study of Ijebu-North Local Government of Ogun State. *Lagos Journal of Libarary and Information Science*, 3(1). pp. 43-49.
- Önal, H. I. (2009). "IFLA / UNESCO School Library Manifesto for creating one world:
- Onwuchekwa, E. O. and Jegede, O. R. (2011). Information retrieval methods in libraries and information centers. *African Research Review an International Multidisciplinary Journal*, 5 (6): pp. 108-120.
- Orji, C. E. (1996). The use of public library by civil servants: A case study of Umuahia Public Library. B.L.S. Research Project Report. Abia State University, Uturu. Retrieved on July 1st, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2864...libphilprac
- Paisley, W. J. (1968). Information needs and uses. *Annual Review of Information Science and Technology*, Vol. 3: pp.1-30.
- Parker, R. K., Nitse, S. P., Flowers, A. K. (2005), "Libraries as knowledge management centers", *Library Management*, 26(4/5): pp. 176-189.
- Passey, D. (2006). Technology enhancing learning: Analysing uses of information and communication technologies by primary and secondary pupils with learning frameworks. *Curriculum Journal*, 17(2): pp.139-166.
- Pattueli, M. C. (2008). Teacher's perspective and Contextual dimensions to guide the design of N.C history learning objectives and ontology. *Information processing and Management*, 44(2): pp. 635-646.
- Perveen, S. (1976). *Information needs of teachers and research staff working in the social sciences department of the University of the Punjab*. Lahore: University of the Punjab.
- Powell, A. (2003). Supporting the revitalization of public libraries in Africa. In: *Information Development* 18 (4): pp. 245-249.
- Rakumako, A. & Laugksch, R. (2010). Demographic profile and perceived INSET needs of secondary mathematics teachers in Limpopo province. *South African Journal of Education*, 30(1): pp.139-152.

- Sánchez, G. & Valcàrcel, M.V. (1999). Science Teachers' Views and Practices in Planning for Teaching. *Journal of Research in Science Teaching*, 36(4): pp. 493-513.
- Savolainen, R. (2009b). Information use and information processing: comparison of conceptualizations. *Journal of Documentation*, 65(2): pp.187-207.
- Shanmugam, A. (1999). Information-seeking behaviour of trainee teachers in selected teacher training colleges in Malaysia. *Malaysia Journal of Library and Information Science*, 4(1): pp. 1-26.
- Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1): pp. 1-22.
- Shulman, L. (1987). Content Knowledge for Teaching: Innovations for the Next Generation of Teaching Assessments. Stanford University.
- Singh, D. K., and Nazim, M. (2008). *Impact of Information Technology and Role of Libraries in the Age of Information and Knowledge Societies*. 6th International CALIBER. Retrieved from www.core.ac.uk/download/pdf/11883554.pdf on September 24th, 2014.
- Smith, D. K. (2010). School library media centers in the 21st century can, and should be, hubs for increased student achievement and positive focused school reform. Retrieved on June 28th, 2015 from https://en.wikipedia.org/wiki/School_library
- Snyman, M. & Heyns, D. (2004). Die inligtingbehoefte van Afrikaans T1-onderwysers. [The information needs of Afrikaans T1 teachers.] *Mousaion*, 22(2): pp. 211-229.
- Spink, A. & Cole, C. (2006). Human information behaviour: integrating diverse approaches and information use. *Journal of the American Society for Information Science and Technology*, 57(1): pp. 25-35.
- Stonecash, J.C. (1981), "The IRM showdown". *Infosystem*, 28(10): pp. 42-8.
- Sturges, P. & Neill, R. (1998). *The quiet struggle: information and libraries for the people of Africa*. (2nd ed). London: Mansell.
- Suriya, M., Sangeetha, G., & Nambi, M. A. (2004). Information seeking behavior of faculty members from Government Arts Colleges in Cuddalore District. *Library and Information Networking*, pp.285-292.
- Tackie, S.N and Adams, M. (2007). Information needs and seeking behaviour of Engineers in Ghana, a case study of the Volta Ruler Authority. *African Journal of Library, Archives and Information Science*, 17 (2): pp.69-78.

- Tahir, M. Mahmood, K. & Shafique, F. (2008). Information needs and information-seeking behaviour of arts and humanities teachers: A Survey of the University of the Punjab, Lahore, Pakistan. *Library Philosophy and Practice* (e-journal) retrieved from <http://digitalcommons.unl.edu/libphilprac/314>. On 21/11/2014
- Tella, A., Tella, A., Toyobo, O. M., Adika, L. O., & Adeyinka, A. A. (2007). An Assessment of Secondary School Teachers Uses of ICTs: Implications for Further Development of ICT's Use in Nigerian Secondary Schools. *Online Submission*, 6(3). Retrieved on November 23, 2014 from <https://books.google.com.gh/books?isbn=1615206914>.
- Tenopir, C., & King, D. W. (2001). *What do we know about scientists' use of information?* Retrieved on 20/05/ 2014, from www.scholar.cci.utk.edu/...tenopir/.../what-do-we-know-about-scientists'-
- Uhegbu, A. H. (2007). *The information user: Issues and themes*. Okigwe: Whytem Publishers.
- Vickery, B. (2009). Information science in transition. In A. Gilchrist (Ed.), *Meeting the challenges in information science* (pp. 32-55), London: Facet publishers.
- Volman M. and van Eck, E. (2001). Gender equity and information technology in education: The second decade. *Review of Educational Research*, 71(4): pp. 613-634.
- Waite, J., (1989). "The school library and GCSE. Sch". *Libr.*, 37(4): pp.140
- Weller, Toni (2007). Information history: its importance, relevance and future. *ASLIB Proceedings*, 59(4-5), 437-448.
- Were, E., Rubangiza, J., Sutherland, R., Hinostroza, J. E., & Motimele, M. (2006). The Use of ICT to Support Basic Education in Disadvantaged Schools and Communities in Low Income Countries. A research project proposal for EdQual Consortium. Retrieved from <http://www.edqual.org/publications/research->
- Williams, D. and Coles, L. (2007a). Evidence-based practice in teaching: An information perspective. *Journal of Documentation*, 63(6): pp. 812-835.
- Wilson, T.D. & Walsh, C. (1996). *Information behaviour: an interdisciplinary perspective..* (British Library Research and Innovation Report, 10), Sheffield, United Kingdom: Retrieved from <http://informationr.net/tdw/publ/infbhavr/>
- Wilson, T.D. (2000). Human information behaviour. *Informing Science*, 3(2): pp. 49-56.
- Wright, M. and Guy, L. (1997). "Where do I find it and what do I do with it: Practical problem-solving in the data library," Retrieved from http://dphs.dacc.wisc.edu/types/data_reference.html, on 6 November 2014.

Zhang, P., & Benjamin, R. I. (2007). Understanding information related fields:

Zorkoczy, P. (1981). Information Technology: An Introduction, Pitman, London. pp. 157.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

A methodology is a master plan that describes the techniques and procedures that are used for data collection and how the analysis of the data in a research will be done. This section presents a detailed report on how data was collected in the study. This consists of the methods used in gathering the necessary information that was needed for the study to be successful. These methods included; research design, selection of subjects, population, sample size, instrumentation, data analysis and ethical considerations.

3.2 Research Design

A research design is a plan of study. It provides the overall framework for data collection. The overall plan and decision for research involves the design to adopt for a research work. According to Bless and Higson-Smith (2004), a research design is a set of procedures that guides the researcher in the process of verifying a particular hypothesis and excluding other hypothesis or explanations. In the view of Ndunguru (2007), “ a research design is an assemblage of conditions for specifying relationships among variables in a study, operationalizing these variables in a study, and controlling effects of extraneous variables, and a plan for selecting the sources and types of information to be used in answering research questions’’. In other words, a research design depicts the way a research is planned for effective data collection. It allows a researcher to draw conclusions about relationships between variables. Research design links the data to be collected and conclusions to be drawn to the

initial questions of the study. Gorad (2013) posits that, there are no intrinsically good or bad research designs. The emphasis in research design is less on how to conduct a type of research than on which type is appropriate in the circumstances.

This is a descriptive survey research, in which the mixed method approach was used. According to Creswell (2009), mixed method approach in research is the combination of both qualitative and quantitative method in a study. The quantitative method allows the results to be generalised from the sample perspective to the entire population. Quantitative research design also allows for proving or disproving a hypothesis. Quantitative methods essentially help to identify and assess the bounds of knowledgeability of the respondents and to assess respondents' attitudes, values, beliefs or opinions (Bouma, 2000). House (1994) indicated that questionnaires in quantitative research gives a more precise, explicit, and predetermined measure and identification of relevant variables in advance. Despite these benefits, questionnaires are however very complex to construct and the success of using questionnaires depends on the honesty of the respondents (Bouma, 2000).

Opoku (2006) was of the view that, qualitative data describes, explains, and characterizes the subjects of investigation using words rather than numbers. Fraenkel and Wallen (2000) posits that qualitative research is concerned with process as well as product. Qualitative research enables researchers to be concerned with how things occur in their natural settings. The qualitative approach used was the interviews conducted by the researcher.

Although the mixed method approach can be labour intensive, researchers usually employ a mixed method design in their study in order to widen their understanding or

to use one approach to better understand, explain, or build on the results from other approach (Cresswell, 2009). Also, it provides a better understanding of a research problem or issue and helps overcome deficiencies in one method only. This approach was relevant to this study to triangulate and corroborate findings from teachers, head teachers of the second cycle institutions and the officers in charge of the schools library.

3.3 Selection of case

There are twenty six districts and municipalities in the Eastern Region of Ghana of which Lower Manya Krobo is part. However, the study focuses on the Lower Manya Krobo Municipality because it is a newly created municipality and as a result of that, there may definitely be some problems the municipality including its teachers may be facing. So in order to bring to light these problems, the Municipality was selected as the case for this study. Furthermore, the public second cycle schools in the Municipality were considered for the study as against the private because they are older and better established. In addition, they are government funded. The public second cycle schools in the municipality are: Krobo Girls Senior High, Manya Krobo Senior High, Akuse Methodist Senior High and Akro Secondary technical Senior High School.

3.4 Population

A population may be considered as the entire collection of individuals or the people being considered for a study. Kumekpor (2002) indicated that a population is the total number of units of the phenomenon that exists in the area of investigation, which is all possible observations of the same kind. Defining the population enables the researcher

to determine who is to be part or excluded from the research. Amoahful (2002) posits that in selecting the population for a study, it is important to consider the people who will be able to provide the preferred information, either because they are the only ones who can give the needed information, or because they conform to some criteria set by the researcher.

This study was carried out among teachers in the four (4) public second cycle institutions in the Lower-Manya Krobo municipality. The schools that were considered for the study were Krobo Girls Secondary School (KROGISS), Manya-Krobo Secondary School (MAKROSEC), Akuse Methodist Secondary School (AMESS) and Akro Secondary Technical School (AKRO SECTECH). The total number of teachers in the schools were 295. The head masters and headmistress of the schools and the officers in charge of the schools library were also interviewed. They were eight (8) in number. Thus total population considered for the study was 303.

Table 3.1: Distribution of Teachers, heads of Schools and Officers of school libraries

Name of School	Total number of Teachers	Number of Heads	Number of officers in charge of Schools library	Total
Krobo Girls Senior High	82	1	1	84
Manya Krobo Senior High	75	1	1	77
Akuse Methodist Senior High	78	1	1	80
Akro Senior Technical High	60	1	1	62
Total	295	4	4	303

3.5 Sample Size

A sample according to Sparta (2003) is a subset of the population, that is, individuals who are selected from the population to participate in the research project. Neuman (2007) has argued that, it is very necessary to consider the total population for a study before choosing a sample size. For the purpose of this study, the entire population was used. This was informed by the views of Saunders et al, (2007) who intimated that a higher sample is better to reduce the margin of error and also to increase the possibility of a higher response rate since a one hundred percent response rate is not always achievable. The entire population of 303 was used. This decision was made by the researcher because it will help achieve a closer representation of the real issues under investigation.

3.6 Instrumentation

The instruments that was used to gather data for this study were questionnaire and interviews.

3.6.1 Questionnaire

A questionnaire is a tool for gathering and recording information about a particular issue of interest. A questionnaire basically is made up of a list of questions and also includes clear instructions and space for answers. Questionnaires mostly have a definite purpose that is linked to the objectives of the study. Questionnaire are mostly restricted to two basic types of questions. They are closed-form or restricted and open-form or unrestricted. Those that call for short, check-mark responses are the restricted or closed-form. The respondents were made aware of the purpose of the research. Structured questionnaires are usually associated with quantitative research.

That is, research that is concerned with numbers (how many? how often? how satisfied?). This data collection instrument was chosen by the researcher because it is saves time and one is able to gather data from large populations.

The questionnaire was divided into sections. It was made up of section A-F. Section A was on the background information of respondents. The background information consisted of gender, length of period of teaching, age and highest educational background of respondents. Section B was made up of; the information needs of teachers. Section C had to do with the information sources the teachers consulted to meet their information needs. Section D asked questions on the role libraries played in information delivery to schools. Section E, dwelt on the role of ICT in information provision while the last section touched on the challenges teachers faced while seeking information.

3.6.2 Interview

An interview basically is a person to person interaction between two or more people. An interview according to Kumar (2005) involves a person to person interaction between two or more people. A structured one-on-one interview was used to collect data from the head teachers as well as the officers in charge of the schools' libraries. Interviews were used because they play a very important role in a research.

Interviews enable researchers to collect non-verbal data, allows interviewees to seek clarification on questions and also allows the interviewer to ask follow-up questions to derive a more thorough response and also make access to confidential issues easy. By using interviews it gave the researcher the opportunity to spend adequate time

with the participants by giving them the opportunity to seek clarifications on the aim of the study and through that, having access to pieces of information that are very confidential. According to Kumar (2005) interviews play a very essential role in any research activity because they help to reveal certain facts that the researcher may not have thought of especially when a good relationship is established between the researcher and the respondents. Although, the interview technique as a means of data collection is considered as time consuming, Shepherd and Yeo (2003) have observed that interviews provide better contact between the researcher and the respondents.

Interviews were used to collect data from the institutional heads and the officers in charge of the second cycle schools in the municipality. The institutional heads were considered for the interview because they will be able to provide information on policy issues. The officers in charge of the library were also interviewed because they handle the information materials and can give the needed responses as to whether the library were being utilised by the teachers or not as well as give the state of the library. The interview was conducted with a well-structured interview guide. The interview guide sought to find information on personnel training and development for the officers in charge of the school libraries, library use by the teachers, whether the school libraries had an acquisition policy guiding the stocking of the library, the role libraries or information centers played in second cycle education, relationship with the Ghana Library Authority, policy on ICT and second cycle Institutions and the challenges the schools encountered.

3.7 Pilot Study

A pilot study was conducted to finalise the questionnaire. The pilot study was conducted on teachers in two (2) private Second Cycle Institutions in the Lower Manya Krobo municipality. The pilot study was done purposefully to determine the level of understanding of the questions raised in the study. Based on the feedback obtained, appropriate corrections were made to enhance the questionnaire.

3.8 Data collection Procedure

According to Fraenkel and Wallen (2002), the collection of data is an extremely vital activity of all research endeavors, because the conclusion of any study is based on what the data collected reveals. Data was collected in phases.

3.8.1 Phases of Data Collection

This section presents the step by step approach as to how data was collected for the study.

3.8.1.1 Phase 1: Meeting with the participating officers

The researcher met with the participating officers and explained what the research was about to them. Through that, the participants were able to ask questions pertaining to the research. All questions asked were answered to clear any doubts in the minds of the respondents or participants. Also, on that same day, appointments were booked with the teachers as well as the head teachers of the institutions as to when they would be available for the data collection to start. Positive feedbacks were given and the days and dates were fixed for the collection to commence. At Krobo secondary school, the teachers agreed on the 15th of January 2015 which was a

Thursday. At Manya Krobo Secondary School, the teachers agreed on 19th January, 2015 which was a Monday. At Akro Secondary Technical and Akuse Methodist Secondary School, the teachers however agreed on 21st January 2015 which was also a Wednesday.

3.8.1.2 Phase 2: Distribution and Administration of questionnaire

Based on the approved dates for the data collection to begin, the researcher followed exactly the said dates for the data collection process to begin. Administering of the questionnaires was done with the help of the heads of departments. This took a period of two (2) weeks. The first week was for Krobo Girls Senior High and Akro Manya Krobo Senior High and the second (2) week was for Akro Secondary Technical and Akuse Methodist Senior High Schools respectively. Since the teachers at Krobo Girls High School and Manya Krobo Senior High School agreed on different dates for the data to be collected, the researcher went through some of the questions with some teachers who were not present on the first meeting because there was enough time. It was different at Akro Secondary Technical and Akuse Methodist Secondary School since the teachers agreed on the same date which was 21st January 2015. The researcher went to Akro Secondary Technical School in the morning on the said date and with the help of the heads of departments, the researcher distributed the questionnaires to the teachers and proceeded to the Akuse Methodist Senior High School to administer theirs. The teachers were told to leave the completed questionnaires with their various heads of departments.

3.8.1.3 Phase 3: Collection of the administered questionnaire

This third phase was when the administered questionnaires were collected from all the teacher respondents in the four (4) second cycle institutions. The collection of the questionnaire was also done with the help of the heads of department as the teachers were told to leave the questionnaires with them. The researcher just picked them up from the offices of the heads of departments.

3.8.1.4 Phase 4: Conducting the Interview

The face-to- face interview were conducted using a well-structured interview guide. The interview was recorded by writing and audio/tape recording of the responses to the questions that were asked. The introductory part of the interview was the explanation of the aims of the study. The interview was conducted in the offices of the participating officers. The participating officers for the interview were the four (4) heads of the selected institutions and the four (4) officers in charge of the libraries of the institutions. They were eight (8) in number. Two different sets of interview guide were used for the two categories.

3.9 Method of Data Analysis

The data analysis for the study was in two parts. The Statistical Package for Social Sciences (SPSS) and Microsoft Excel software was used to compute the quantitative data and the qualitative data was done using content analysis.

3.10 Ethical Considerations

Fraenkel and Wallen (2000) have indicated that “all subjects should be assured that any data collected from or about them will be held in confidence”. They further

explained that whenever possible, the names of subjects in a study should be removed from all data collection forms. This will prevent anyone from knowing or having an idea as to who said what. A letter of consent was sent to the heads of the institutions in question seeking permission to undertake the study. Also the respondents were assured of their anonymity and confidentiality of the information they provide with respect to the study.



REFERENCES

- Amoafu, E. A. (2011). The use of ICT as a tool for teaching and learning in the University of Ghana. (Unpublished M. Phil thesis). University of Ghana, Legon.
- Babbie, E. (2005). *The basics of Social research*. 3rd Ed, Thomson Learning Inc, Canada.
- Bates, M. A. (2005). “An introduction to metatheories and models” In Fisher, K. E., Erdelez, S. and Mckechnie, L. (Eds), *Theories of Information Behaviour, Information Today*, Medford, NJ, pp. 1-24.
- Berge, B. L. (1989). *Qualitative research methods for social science*. Needham Heights, Masschusetts: Allyn and Schuster.
- Bless, C. and Higson-Smith, C. (2004). *Fundamentals of social research methods*. 3rd ed. Lusaka: Juta pp. 62.
- Bouma, G. (2000). *The research process*, 4th edn, Oxford University Press, Melbourne.
- Cresswell, J.W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 3rd ed. CA: SAGE Publications, London.
- Fraenkel, J. K. and Wallen, N. E. (2002). *How to design and evaluate research in Education*, 4th ed.: MC Graw-Hill, New York. pp.505.
- Gorard, S. (2013) *Research design: creating robust approaches for the social sciences*. Retrieved on November 28, 2014 from www.nova.edu/ssss/qr/qr18/clancy26.pdf.
- House, E.R. (1994). Integrating the quantitative and qualitative. In C.S. Reichardt and S. I. Rallis (Eds). *The qualitative and quantitative debate: New perspective* (pp. 13-22). Jossey-Bass Publishers: San Francisco.
- Kumar, R. (2005). *Research Methodology*. London: Sage Publications Ltd., p.113.
- Kumekpor, T. K. B. (2002). *Research methods and Science and Techniques of Social Research*: SonLife Press and Services, Accra. pp. 27.
- Ndunguru, P. C. (2007). *Lectures on research methodology for social sciences*. (Unpublished lecture notes). Research Information and Publications Department, Mzumbe University.
- Neuman, W. L. (2007). *Basics of Social Research: Quantitative Approaches* (2nd Ed.) Boston, Pearson Education, Inc.
- Opoku, J. K. (2006). *Theory in Social Research*. Accra: Woeli Publishing Services, p.12.

Saunders, M., Loius, P., & Thornhill, A. (2007). Research methods for business students. Pitman Publishing: London.

Shepherd, E. and Yeo, G. (2003). Managing Records: A Handbook of Principles and Practices, Facet Publishing: London.

Spata, A. V. (2003). Research Methods: Science and Diversity. New York: John Wiley and Sons INC., p. 138.



CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the analysis of the data collected from the field in relation to the information behaviour of teachers in second cycle schools in the lower Manya Krobo Municipality. Out of the two hundred and ninety five (295) questionnaires administered, 288 were returned representing 97.6 percent. Babbie (2005) indicated that a 65% response rate is good enough for a credible research.

This chapter has been divided into two parts. The first part is the quantitative analysis of data while the second part is the qualitative analysis. The Statistical Package for Social Sciences (SPSS) and Microsoft Excel software was used to compute the quantitative data and the qualitative data was done using content analysis.

The first part of this chapter is presented under the following sections:

1. Background information of the Respondents
2. Information needs of Teachers
3. Information Sources
4. Role of Libraries/information centres in information delivery in schools
5. Role of ICT in Information Provision
6. Challenges faced by the Teachers while seeking information.

4.2 Quantitative Analysis

4.2.1 Background Information of the Respondents

The background information of respondents was sought, although not a major issue of the study, the researcher considered it very vital to have an idea of the respondents'

background. The background information of respondents comprises; the gender of respondents, length of period of teaching, age of respondents and the educational background of respondents.

4.2.1.1 Gender of the Respondents

The respondents were asked to indicate the gender they belonged to. Data obtained revealed that out of two hundred and eighty-eight (288) respondents, one hundred and eighty six (186) representing 64.6% were males and one hundred and two (102) representing 35.4% were females.

4.2.1.2 Length of period of Teaching

The length of period of teaching was also sought and Table 4.1 depicts the responses given in relation to the length or period of teaching in the lower Manya Krobo Municipality.

Table 4.1: Length of period of teaching

Length of period	Frequency	Percent
0-11 Months	25	8.7
1-3 years	75	26.0
4-6 years	29	10.1
7-9 years	68	23.6
10 years and above	91	31.6
Total	288	100.0

Source: Field Data, 2015

From Table 4.1, it could be seen that out of two hundred and eighty eight (288) respondents, ninety one (91), representing 31.6% had been in the teaching service for more than 10 years. This was followed by seventy five (75) respondents, representing 26% who had been in the teaching service for a period of 1-3 years. Next to that was

sixty eight (68) respondents, representing 23.6% who had been in the service for 7-9 years, twenty nine (29) representing 10.1% had been in the service for a period of 4-6 years whilst twenty five (25), representing 8.7% of the respondents were in the service for 0-11 months. From the data shown in Table 4.1, it can be deduced that majority of the teachers in second cycle institutions in the Lower Manya Krobo had been in the service for 10 years and above.

4.2.1.3 Age of respondents

The researcher also deemed it right to find out the age range of the respondents.

Table 4.2 Age Range of Respondents

Age Range	Frequency	Percent
20-30 years	82	28.5
31-40 years	105	36.5
41-50 years	83	28.8
51-60 years	18	6.2
Total	288	100.0

Source: Field Data, 2015

As shown in Table 4.2, a total number of one hundred and five (105), representing 36.5% of respondents fell within the ages of 31-40 years. This was followed by eighty three (83), representing 28.8% of respondents whose ages fell within 41-50 years. Next to that was eighty two (82) respondents, representing 28.5% whose ages fell within 20-30 years and lastly, eighteen (18), representing 6.2% of respondents who had their ages ranging between 51-60 years. The data as shown in Table 4.2 indicates that most of the respondents were between the ages of 31-40 years.

4.2.1.4 Educational background of the respondents

The highest qualification of respondents was also sought as part of the background information. The responses received are shown in Table 4.3.

Table 4.3 Educational background of teachers

Qualification	Frequency	Percent
Degree (Non Professional)	86	29.9
B.ED	143	49.7
M.ED	55	19.1
MA	3	1.0
M.Sc	1	.3
Total	288	100.0

Source: Field Data, 2015

Table 4.3 indicates that one hundred and forty three (143), representing 49.7% of the respondents had attained bachelor of education (BEd) degree, eighty six (86), representing 29.9% of respondents had attained a non-professional teachers first degree, fifty five (55), representing 19.1% of respondents had attained master of education degree (Med), three (3), representing 1.0% of respondents had attained Master of Arts degree (MA) and lastly one (1) representing 0.3% had attained an MSc degree. From the data, it can be deduced that all the respondents were well qualified.

4.2.2 Information Needs of Teachers

According to Case (2012), an information need is a recognition of the fact that one's knowledge is inadequate to satisfy a goal that he/she has. It is for this reason that this section sought to establish the information needs of teachers in second cycle institutions in the lower Manya Krobo municipality. The researcher in an attempt to understand respondents' need for information, posed questions to elicit information

on the activities that motivated them to look for information. Respondents were asked to indicate the reasons for which they needed information. Respondents were given the option to give more than one response. Table 4.4 depicts the responses given.

Table 4.4 Reasons for the need of Information

Reason for the need of information	Frequency	Percent
For Teaching	143	49.7
For Research	35	12.2
For Learning	100	34.7
For Leisure	10	3.5
For Teaching, learning and research	98	34.0
For Research and learning	45	15.6
For Leisure, teaching and learning	68	23.6
For teaching and research	52	18.1

Source: Field Data, 2015

As shown in Table 4.4, One hundred and forty three (143) respondents, representing 49.7% indicated they needed information for teaching, one hundred (100) respondents, representing 34.7% indicated they needed information for learning, thirty five (35) respondents, representing 12.2% needed information for research, Ten (10), representing 3.5% of the respondents indicated that they needed information for leisure. In addition, ninety eight (98) respondents, representing 34% indicated that they needed information for teaching, learning and research, forty five (45) respondents, representing 15.6% indicated that the purpose of seeking information was for research and learning and sixty eight (68) respondents, representing 23.6% also indicated that their reason was for leisure, teaching and learning. Lastly, fifty two (52) respondents, representing 18.1% indicated teaching and research as their reasons for needing information. From Table 4.4, it can be concluded that the respondents needed information mainly for teaching, learning, research and leisure respectively.

4.2.2.1 Period within Teachers Schedules when they Source for Information

Again, respondents were asked to indicate the point within their work schedules when they decide to source for information. Respondents were given the option to indicate more than one response. Table 4.5 shows the individual responses given.

Table 4.5 Period for Sourcing for information

Period for sourcing information	Frequency	Percent
When planning lesson	119	41.3
When writing teaching notes	103	35.8
Updating oneself	66	22.9
When planning lesson, when writing teaching notes and updating oneself	102	35.4
When planning lesson and updating oneself	78	27.1
When writing teaching notes and when planning lesson	135	46.9
Updating oneself and when writing teaching notes	96	33.3

Source: Field Data, 2015

From Table 4.5, it can be seen that one hundred and nineteen (119), representing 41.3% of respondents indicated that they sourced for information when planning their lessons for students, one hundred and three (103), representing 35.8% of the respondents also indicated that they searched for information when they needed to write their teaching notes, whilst sixty six (66), representing 22.9% of the respondents indicated that they sourced for information when they wanted to update their knowledge. Also, one hundred and two (102) respondents, representing 35.4% indicated that they sourced for information when planning lessons, writing teaching notes and updating their knowledge. In addition, seventy eight (78), representing 27.1% of the respondents indicated that they sourced for information when planning

lessons and updating their knowledge, one hundred and thirty five (135) respondents, representing 46.9% indicated writing teaching notes and planning lessons as the period in their work schedule when they sourced for information, whilst ninety six (96) respondents, representing 33.3% indicated that they sourced for information when they wanted to update their knowledge and when writing teaching notes.

4.2.3 Information Sources used by Teachers

Based on one of the objectives of the study which was to determine the information sources that were available and accessible to teachers, respondents were asked to indicate the information sources that were relevant to their work. Figure 4.1 shows the responses.

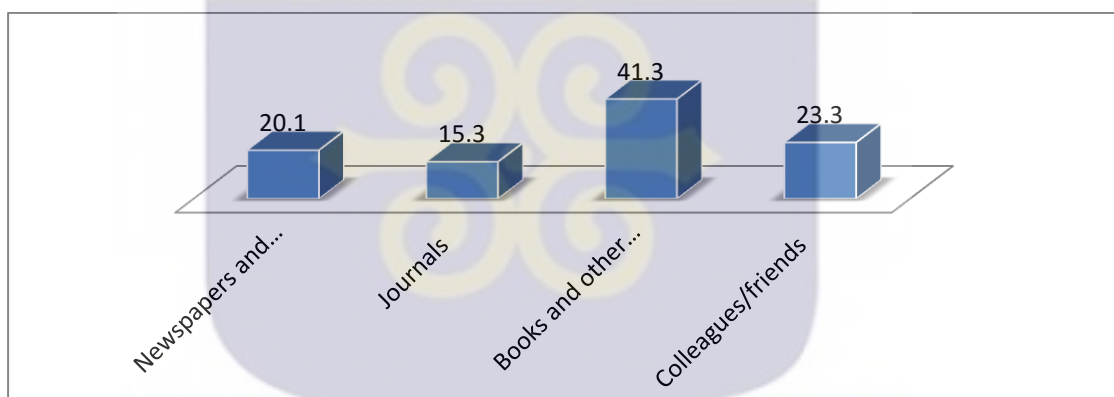


Figure 4.1 Types of Information Sources

As shown in Fig 4.1, a total of one hundred and nineteen (119) respondents, representing 41.3%, sixty seven (67) respondents, representing 23.3% and fifty eight (58), representing 20.1% of respondents stated that they consulted books and other monographs, colleagues/friends and newspapers and popular magazines respectively as their information sources in order to obtain relevant information for their works. The remaining forty four (44), representing 15.3% of respondents also indicated that they consulted journals in order to obtain relevant information for their works. It can

be concluded that, books and other monographs were the most consulted sources of information by the teachers.

4.2.3.1 Ranking of Information Sources

As a follow up question, respondents were asked to rank the information sources they had been consulting. The responses was ranked from 1-4 with 1 being the most preferred source and 4 being the least preferred source. The responses given are indicated in Figure 4.2.

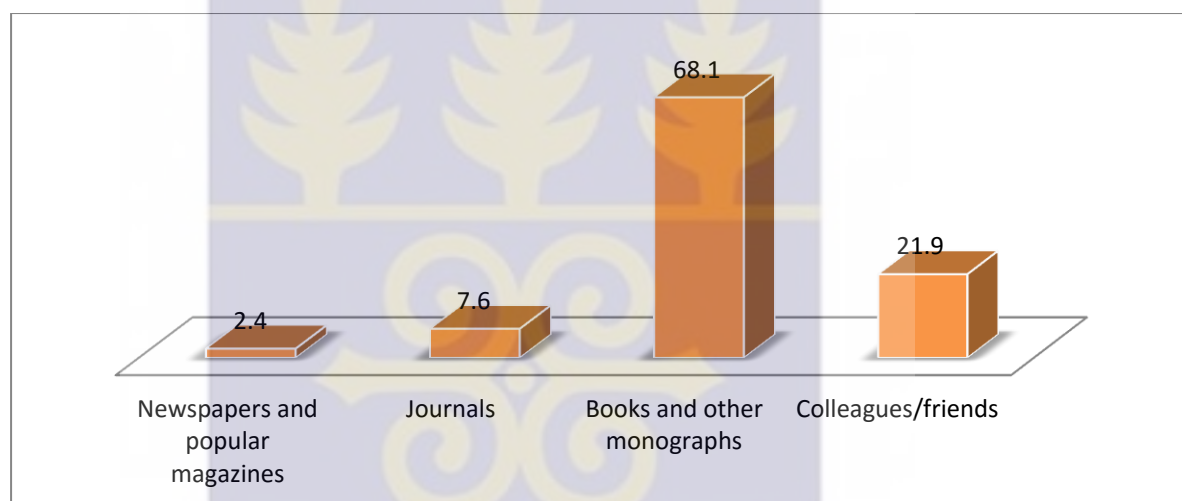


Figure 4.2 Ranking of Sources of Information

As shown in Fig 4.2, one hundred and ninety six (196), representing 68.1% of the respondents ranked books and other monographs as the most preferred source. This was followed by sixty seven (67) respondents, representing 23.3% indicating colleague/friends as the second preferred source of information. Journals were ranked as the third preferred source of information as twenty two (22), representing 7.6% of respondents went for that whilst seven (7) representing 2.4% of the respondents ranked newspapers and popular magazines as the fourth preferred source of information. From the analysis could be deduced that majority of the respondents preferred to consult books and other monographs to the other sources.

4.2.3.2 Reasons for consulting sources

The researcher went further to find out from respondents the reasons why they consulted some sources more than others and the responses obtained are shown in Fig 4.3.

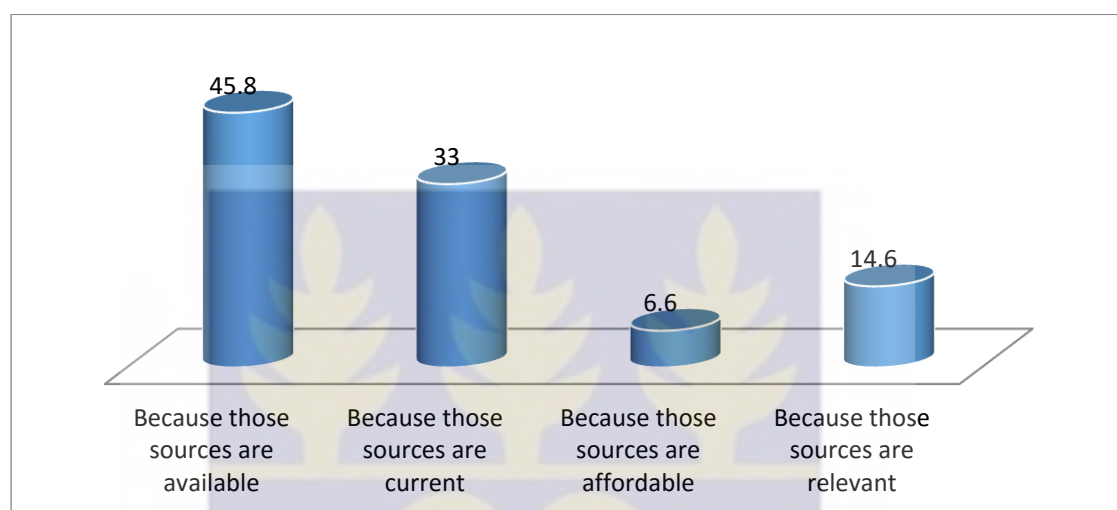


Figure 4.3 Reasons for consulting the Sources

When respondents were asked why they consulted the sources indicated in relation to the types of sources, one hundred and thirty two (132), representing 45.8% of the respondents indicated that they consulted those sources because they were available to them always and were easy to access. Ninety-five (95), representing 33% of the respondents mentioned that, they consulted those sources because those sources were current and they helped them work effectively. In addition, forty-two (42), representing 14.6% of the respondents indicated that they consulted those sources because they were relevant to their teaching activities whilst the remaining nineteen (19) representing 6.6% of respondents also mentioned that, they consulted those sources because they were affordable to them.

4.2.3.3 Benefits derived from using Information Sources

The researcher sought to find out how the information sources benefited teachers in second cycle schools in the Lower Manya Krobo Municipality. Respondents were given the option to provide more than one response. Table 4.6 shows the responses received from the respondents.

Table 4.6 Usefulness of the sources

Benefits derived from using the sources helps	Frequency	Percent
plan my lesson	166	57.6
give quality notes to my students	92	31.9
make informed decisions concerning my students	12	4.2
to keep me updated	9	3.1
plan my lesson, help give quality notes to my students and helps to keep me updated	102	35.4
make informed decisions concerning my students, help give quality notes to my students	59	20.5
plan my lesson, helps to keep me updated and help give quality notes to my students	71	24.7
plan my lesson and help give quality notes to my students	84	29.2

Source: Field Data, 2015

As shown in Table 4.6, the researcher sought to find out how information acquired from the types of information sources helped respondents in their teaching. It came out that one hundred and sixty six (166), representing 57.5% of the respondents indicated that, those information sources helped them plan their lesson, ninety two (92), representing 31.9% of respondents also indicated that those sources of information helped them to give quality notes for their students, twelve (12) respondents, representing 4.2% indicated that those sources helped them to make informed decisions concerning their students and nine (9) respondents, representing 3.1% indicated those sources helped them keep an up-to- date lesson notes.

In addition, one hundred and two (102) respondents, representing 35.4% said that those sources helped them plan their lessons, give quality notes to their students and kept them updated. Also, fifty nine (59) respondents, representing 20.5% said those sources helped them make informed decisions concerning their students as well as helped them give quality notes to their students. Furthermore, seventy one (71), representing 24.7% of respondents indicated that those sources helped them plan lessons, updated themselves as well as give quality notes to students. To add to that, eighty four (84) respondents, representing 29.2% said it helped them plan their lessons and to give quality notes to students. As shown in Table 4.6 it could be deduced that respondents benefited from the information sources.

4.2.4 Role of Libraries/Information Centres in Information Provision to Teachers

One of the objectives of the study was to find out the role libraries/information centres played in information delivery in the schools. In order to prosecute that objective, questions were posed to the respondents to obtain responses. Firstly, respondents were asked whether they visited or used the library to obtain information. One hundred and ninety six (196), representing 68.1% of the respondents indicated that they did visit or used the library in order to obtain information to satisfy their information needs. Also, ninety two (92) respondents, representing 31.9% indicated that they did not visit or use the library for their information needs.

4.2.4.1 Frequency use of the Library

Libraries/Information centres are important sources of information. They contain relevant information resources that can be accessed and used for teaching by the

teachers. The researcher therefore sought to find out the frequency or the number of times those one hundred and ninety six (196) respondents who indicated that they visited the library actually used the library. Figure 4.4 indicates the responses given.

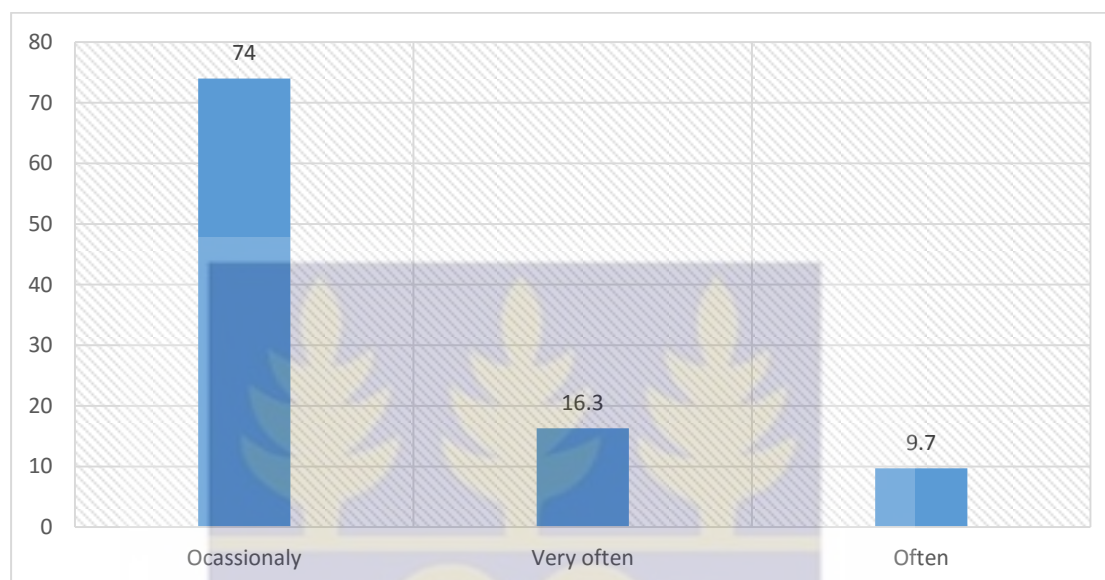


Figure 4.4 Frequency of visiting/using the library

With regards to how often respondents visited/used the library, as shown in Fig. 4.4, one hundred and forty five (145), representing 74% of respondents indicated that they did visit or use the library occasionally, thirty two (32), representing 16.3% of the respondents indicated that they visited the library very often whilst nineteen (19) respondents, representing 9.7% said they visited or used the library often.

4.2.4.2 Reasons for not visiting the school library

The ninety two (92) respondents, representing 31.9% who recorded that they did not visit or use the library were asked why they were not using the library in search of information. They recorded that some of the books in the library were not current and above all, they had access to the internet on their smartphones where they searched

for every needed information for whatever purpose they wanted it for so they did not see why they should use the library.

4.2.4.3 Whether information needs were met or not at the school library

In order to examine whether information needs were met or not in the school library for those one hundred and ninety six (196) respondents who indicated that they used or visited the library, respondents were asked to give the most appropriate answer from a given range of alternatives (yes, no and sometimes). They were asked further whether the library had information resources that helped teachers to gather needed information for teaching. The data received were as follows; one hundred and twenty (120), representing 61.2% of respondents indicated that their information needs were met in the library because the library had information resources that helped them to gather needed information for teaching while seventy six (76), representing 38.8% of respondents indicated that their information needs were sometimes met.

4.2.4.4 Knowledge of the existence of information resources in the School Library

Again the researcher sought to find out from the respondents how respondents got knowledge about the library. Figure 4.5 depicts the responses received.

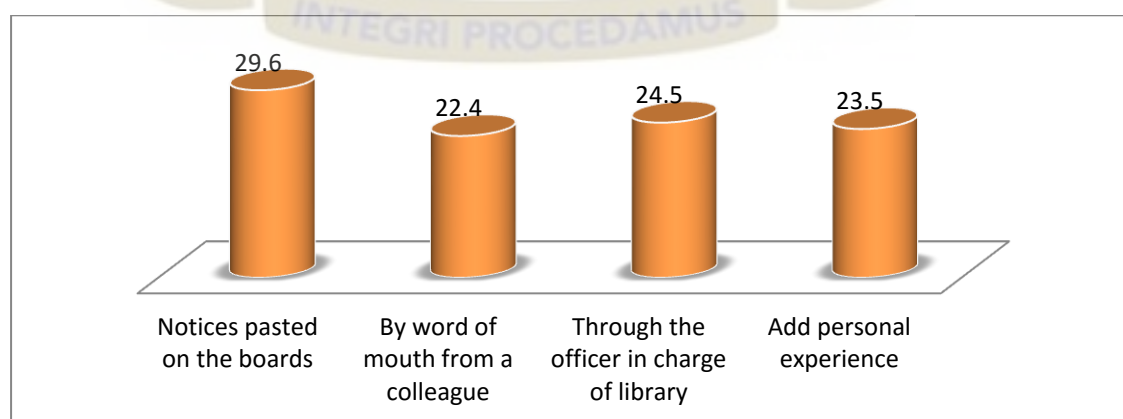


Figure 4.5 Knowledge about the existence of information resources in the Library

As shown in Figure 4.5, fifty eight (58), representing 29.6% of respondents indicated that they got to know of the resources of the library through notices posted on notice boards, forty eight (48) respondents, representing 24.5% got to know of the library resources by word of mouth by the officer in charge of the library, forty six (46) respondents, representing 23.5% got to know of the resources through personal experience, whilst the remaining forty four (44), representing 22.4% of the respondents got to know through colleague teachers. It can be deduced from Figure 4.5 that those who visited or used the library got to know the library's resources through notices on boards, from the officer in charge of the library, personal experience and by word of mouth from colleagues respectively.

4.2.4.5 Adequacy of the library Resources

The researcher sought to find out from the one hundred and ninety six (196) respondents who visited or used the library, the level of adequacy of the library's information resources. Respondents were asked to rate the level of adequacy by indicating whether it was (Very good, Good, Fair, or Below standard). Figure 4.6 shows the ratings given.

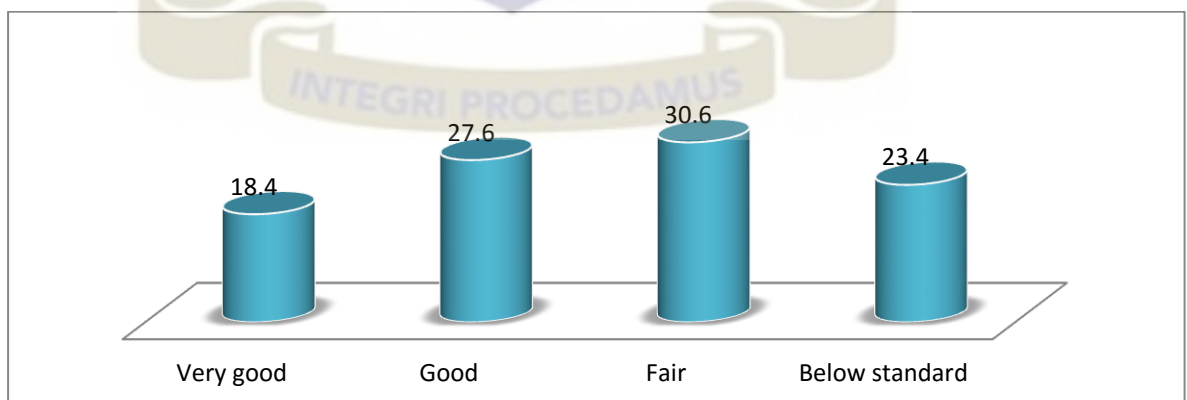


Figure 4.6 Rating the adequacy of information resources and facilities of the school's library

Rating the adequacy of information resources and facilities of the school's library as shown in Fig 4.6, the researcher found that sixty (60), representing 30.6% of the respondents found the information resources and facilities of the school's library to be fair, fifty four (54) respondents, representing 27.6% rated it as good, forty six (46) respondents, representing 23.4% rated the facilities and information resources in the library as below standard, whilst thirty six (36) representing 18.4% of the respondents found the facilities and information resource in the library to be very good.

4.2.4.6 Quality of services in the library

After the one hundred and ninety six (196) respondents who recorded that they visited or used the library had rated the information resources and facilities in the school's library, the researcher sought to know whether they were satisfied with the quality of services provided in the library. The findings revealed that one hundred and six (106), representing 54.1% of respondents were not satisfied as against ninety (90), representing 45.9% of respondents who were satisfied with the services in the library. Basing on the findings, it can be deduced that, majority of the respondents were not satisfied with the quality of services provided by the library.

4.2.4.7 Requiring Assistance when seeking for information from the library

The one hundred and ninety six (196) respondents who visited or used the library were further asked whether they required assistance whiles seeking information from the library. The findings revealed that sixty nine (69), representing 35.2% of the respondents sought assistance whilst one hundred and twenty seven (127) respondents, representing 64.8% did not need any assistance from the officer in charge of the library. Respondents were further asked how they accessed and

retrieved information from the library. From the responses, it came out that one hundred and twenty seven (127), representing 64.8% of the respondents went through the library stock, thirty four (34) respondents, representing (17.3%) sought help from the library staff and thirty five (35), representing 17.9% respondents indicated that they made use of the library catalogue.

4.2.4.8 Information Needs not met at the school library

Again, the researcher sought to find out what respondents did when their information needs were not met at the school's library. Table 4.7 shows the responses given

Table 4.7 The school library not meeting the information needs of teachers

What is done when information needs are not met	Frequency	Percent
Ask the officer in charge of the library for assistance	30	15.3
Seek help from the Internet	84	42.9
Give up	14	7.1
Consult colleague teacher	68	34.7

Source: Field Data, 2015

The findings as shown in Table 4.7 revealed that, eighty four (84), representing 42.9% of the respondents indicated that they sought help from the Internet anytime their information needs were not met by the library. Sixty eight (68) respondents, representing 34.7% also indicated that they consulted colleague teachers, thirty (30) respondents, representing 15.3% said they asked the officer in charge of the library for assistance, whilst fourteen (14) respondents, representing 7.1% indicated that they gave up when their information needs were not met by the school library.

4.2.4.8 Other Sources Consulted Apart from the Library

The researcher wanted to know other sources of information consulted by the two hundred and eighty-eight (288) respondents apart from the library. The responses are captured in Figure 4.7.

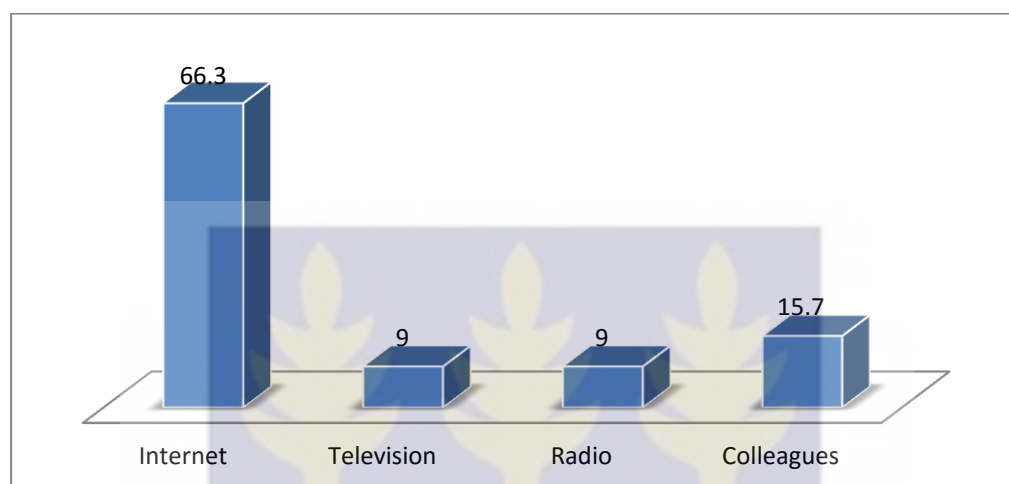


Figure 4.7 Other Sources Consulted apart from the Library

As shown in Figure 4.7, one hundred and ninety one (191), representing 66.3% of the respondents indicated that they consulted the Internet as an additional source of information, forty five (45) of them, representing 15.7% also indicated they consulted colleagues for information, twenty six (26), representing 9% of respondents indicated that they obtained information from the television and another twenty six (26) respondents, representing 9% also got information from the radio.

4.2.5 Use of ICT by Teachers in Information Acquisition

The advent of this new global economy has had serious implications for the nature and purpose of educational institutions. Access to information continues to grow day in day out. As a result of this, Information and communication technologies (ICT's) which include radio and television, printers and the Internet has been hyped as powerful enabling tools for educational change and reform (Hennessy et.al 2010).

The study sought to find out the role ICT played in providing information to teachers in second cycle institutions in the Lower Manya Krobo Municipality. To help the researcher find answers, questions were asked. The first question sought to know whether the schools had ICT laboratories. To this, two hundred and thirty eight (238), representing 82.6% of the respondents indicated that they had ICT laboratories in their schools while fifty (50) respondents, representing 17.4% said there were no ICT laboratories in their schools. The two hundred and thirty eight (238) respondents who recorded that they had ICT laboratories in their schools were further asked whether their ICT laboratories were well resourced in terms in infrastructure. From the data, it was revealed that, the laboratories were not well-resourced in terms of infrastructure as attested by two hundred and twenty eight (228) respondents, representing 95.8%. Ten (10) respondents, representing 4.2% indicated that their laboratories were well-resourced in terms of infrastructure.

4.2.5.1 Use of the Internet

The researcher wanted to know further, how the teachers in second cycle schools in the Lower Manya Krobo Municipality accessed the internet in search of information. Respondents were asked to indicate their source of internet. The responses given are shown in Figure 4.8

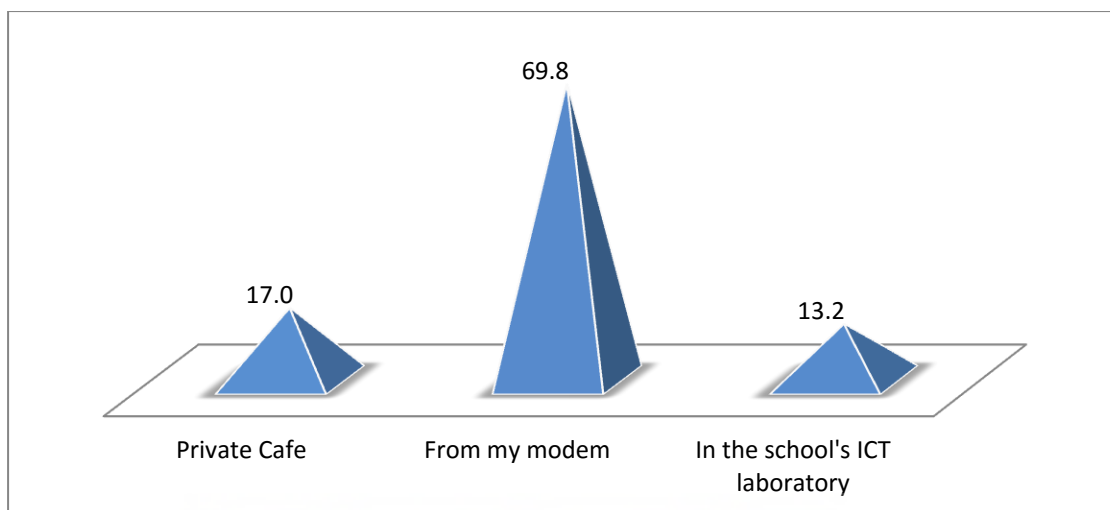


Figure 4.8 Source of Internet for Teachers

As shown in Figure 4.8, two hundred and one (201), representing 69.8% of the respondents indicated that they had access to the internet from their modems, forty nine (49), representing 17% of respondents said they had access to the internet from private internet cafes whilst thirty eight (38), representing 13.2% of the respondents indicated that they had access to the internet from their school's ICT laboratories.

To add to the findings obtained on how respondents got access to the internet, they were further asked whether they had ever searched on the internet for information on a topic and retrieved results. Two hundred and seventy nine (279) respondents, representing 96.9% said they had ever searched on the internet for a topic and received results whilst nine (9) respondents, representing 3.1% gave no response.

4.2.5.2 Relevance of Information obtained from the Internet

In addition to finding out whether respondents had ever searched for information on the internet on a topic and received results, the researcher wanted to know the degree of relevance or irrelevance of the information retrieved from the internet on topics

ever searched by the two hundred and seventy nine (279) respondents. Table 4.8 shows the responses given in relation to that question.

Table 4.8 Relevance of information from the internet

Degree of relevance or irrelevance	Frequency	Percent
Very relevant	117	41.9
Relevant	161	57.7
Irrelevant	1	.4
Total	279	100.0

Source: Field Data, 2015

Table 4.8 shows that, one hundred and seventy (161), representing 57.7% of respondents indicated that information retrieved from the internet was relevant to their topics. One hundred and seventeen (117) respondents, representing 41.9% also indicated that information retrieved from the internet on a topic they ever searched was very relevant. Only one (1) representing 0.4% of respondent indicated that information retrieved from the internet on a topic was irrelevant.

4.2.5.3 Search Engines Used by Teachers

Search engines are software systems designed to search for information on the World Wide Web. It presents results in a line often referred to as search engine results pages (SERPs). Examples of search engines are Google, Yahoo, Webcrawler, Ask.com and many others. The researcher wanted to find out which of the numerous search engines the two hundred and seventy nine (279) respondents used to search for information. The responses given are shown in Table 4.9

Table 4.9 Search engines

Type of search engine used	Frequency	Percent
Google.com	214	76.7
Wikipedia	31	11.2
Ask.com	11	3.9
Yahoo.com	21	7.5
Webcrawler.com	2	.7

Source: Field Data, 2015.

As shown in Table 4.9 out of the sample of two hundred and seventy nine (279), two hundred and fourteen (214) respondents, representing 76.7% indicated that they used google.com, thirty one (31), representing 11.2% of respondents indicated they used Wikipedia, twenty one (21) respondents, representing 7.5% used yahoo.com, eleven (11), representing 3.9% of respondents used Ask.com whilst two (2) representing 0.7% of respondents used Webcrawler.com. It can be deduced from the analysis that, majority of the respondents used google.com as their search engine for their internet search.

As a follow up question, respondents were asked whether they had had any training in ICT use as to how to search for and retrieve relevant information. Responses received on this question revealed that, seventy eight (78) respondents, representing 27.1% had had training on the use of ICT while majority, that is, two hundred and ten (210), representing 72.9% of the respondents had had no training on how to use ICT to access relevant information. It could be deduced that majority of the respondents had had no training in ICT use.

4.2.6 Challenges Encountered by Teachers in Information Seeking

The last objective of the study sought to find out challenges teachers faced while seeking information for their classroom works. First, respondents were asked whether they had ever encountered any challenge(s) while seeking information. Responses given are shown in Table 4.10

Table 4.10 Challenges Encountered while Seeking for Information

Frequency of challenge	Frequency	Percent
All the time	27	9.4
Sometimes	239	83
Never	22	7.6
Total	288	100.0

Source: Field Data, 2015

As shown in Table 4.10, two hundred and twelve (239), representing 83.% of the respondents sometimes faced challenges while seeking information, twenty seven (27) respondents, representing 9.4% also indicated that they faced challenges all the time when seeking information, while twenty-two (22), representing 7.6% of respondents indicated they never encountered any challenge while seeking information. From the analysis it could be deduced that respondents faced some form of challenges while seeking information.

4.2.6.1 Specific challenge(s) encountered while seeking for information

The researcher sought to find out the specific problem(s) that respondents encountered while seeking information. Respondents were given the option to provide more than one response. Table 4.11 shows the responses given by the respondents.

Table 4.11 Specific Challenge(s) encountered

Problems encountered while seeking Information	Frequency	Percent
Inadequate materials in the school's library	126	43.8
Lack of computer in the ICT laboratory	15	5.2
Lack of internet services	96	33.3
lack of the skill in using information communication technology facilities	12	4.2
Lack of time	39	13.5
Inadequate materials in the school's library and lack of computer in the ICT laboratory	40	13.9
Lack of internet services and lack of the skill in using information communication technology facilities	37	12.8
Lack of time and lack of computer in the ICT laboratory	53	18.4

Source: Field Data, 2015

Regarding problem(s) encountered while seeking information for teaching purposes as shown in Table 4.11, one hundred and twenty six (126) respondents, representing 43.8% had problems with the inadequate materials in the school's library. Ninety six (96), representing 33.3% of the respondents had problems with the lack of Internet connectivity in the school ICT laboratories. Next to that was thirty nine (39) respondents, representing 13.5% who had problem with inadequate time to use to search for information in the library. Also, fifteen (15), representing 5.2% of respondents had problems with the lack of computers in the ICT laboratory, whilst twelve (12), representing 4.2% of respondents had problems with lack of skills in using information communication technology facilities to search for information. In addition forty (40) respondents, representing 13.9% had problem of inadequate materials in the school's library and the lack of computers in the ICT laboratory. Thirty seven (37) respondents, representing 12.8% had problems of lack of internet services and their lack of the skill to use ICT facilities efficiently. Fifty three (53), representing 18.4% of the respondents had problems of inadequate time and insufficient computers in the ICT laboratory. Based on the findings, it can be deduced

that most of the respondents faced problems of inadequate materials in the school's library.

4.2.7 Suggestions on Increasing Library Use

The researcher sought to find out from the respondents, what the library could do in order to make it easier for them to utilize the services provided. Responses given in relation to the question are shown in Table 4.12.

Table 4.12 Ways to Increase Library Use by Teachers

Ways of increasing library use	Frequency	Percent
Organise seminars to create awareness for the use of the library	108	37.5
Introduce written instructions for using subject specific resources	28	9.7
Circulate list of new arrivals	152	52.8

Source: Field Data, 2015

As to what the library should do to make it easier for the utilization of its resources and services, it came out that one hundred and fifty two (152) respondents, representing 52.8% indicated that the library should cultivate the habit of circulating a list of new arrivals of materials. One hundred and eight (108), representing 37.5% of respondents also were of the view that the library should organise seminars to create awareness for the use of the library, while twenty eight (28), representing 9.7% of respondents indicated that the library should introduce written instructions to guide the use of subject specific resources in the library so that users can easily utilize them.

4.2.8 Suggestions from Respondents on improving access to information

The researcher wanted the respondents to freely suggest ways to improve access to information in the library by teachers. Suggestions received were that:

All new materials received by the library should be made known to all teachers so that they can be aware of them and use them and subject related books should be acquired by the library. In addition, new a list of arrivals should be circulated to all teachers to make them aware. Others were of the view that, government should provide each teacher with a personal computer. In addition, workshops should be organized on the use of ICT tools to search for information and internet facilities should be provided in the libraries to help improve access to information. To add to that, training should be organised regularly on ICT use for teachers as well as information literacy programs introduced.

4.3 Findings from Qualitative Analysis

4.3.1 Introduction

The second part of this chapter has to do with the qualitative analyses of data gathered through interviews. It involved logical deductions instead of mathematical operations to decisively explain the data collected for the purpose of achieving the objectives of the study. This was done to gain an in-depth understanding and to complement the views espoused by the respondents (teachers) on the main objectives of study. This part has been organised into six (6) sections, namely; personnel training and development, quality of teaching and information provision, acquisition policy and procedure, role of libraries/information centres in second cycle education, policy on ICT and second cycle schools, challenges faced by the schools.

4.3.1.1 Personnel Training and development

To ensure an efficient information provision to teachers in second cycle schools, there should be well trained personnel to manage the school library effectively. Training is among the management functions of human resource management and as a result, attention should be paid to it by every institution. The training of library personnel can be formal or informal. Even though training is not a major issue of the study. It was however sought by the researcher.

Findings revealed that none of the four officers of the school library who participated in the study had had any formal training in librarianship. It thus becomes difficult in a situation like that to ensure an effective library management. They however mentioned that they had attended some workshops on library management.

4.3.1.2 Library Use by Teachers

The researcher interviewed the Officers in charge of the schools library concerning the information needs of the teachers and the following were the outcome:

The officers of the library were asked whether the teachers did come to the library to look for information for their work. They responded positively to that by saying that the teachers did come to the library to look for information.

As a follow up question, the officers were asked the type of information the teachers come to look for. They said the teachers come to look for information in relation to their subject areas.

According to one officer;

‘ ‘The teachers come to the library mostly at the beginning of the term when they had to prepare notes for the new term. Others too come there to obtain information to update what they had already and they basically sought for information that was in line with their subjects’ ’ .

This means that the teachers visited the library mainly to look for information that will help them teach and carry out their duties as teachers effectively.

4.3.1.3 Acquisition Policy and Procedure

According to the International Federation of Library Association (2001), an acquisition policy is the instrument which provides an institution with the direction for selecting and deselecting resources for a local collection. It is the backbone around which the institution can acquire materials in a systematic order. The policy thus, serves as a reference for staff when assessing potential acquisitions. The policy covers a whole range of issues that includes acquiring materials, staff and capacity issues, funding, infrastructure and many others. The researcher sought to find out whether the schools under study had policies for acquiring books and other information materials in their schools library and to determine how the strategies under the policy were consistently applied. Interestingly, the officers in charge of the school library as well as the heads of the institution under study said there was no such policy to guide the stocking of the schools library. And in the absence of such a policy, the schools lacked the direction for acquiring materials for the library and this can result in availability of materials that may even not be relevant for the user community. The

absence of an acquisitions policy called for a follow up question as to what guided the stocking of the library.

Findings revealed that, the information materials for the school library were acquired based on the recommendations from the teachers and the heads of schools which were usually books on high demand for their teaching. They further stated that, they sometimes acquired some of the library materials from the Ghana Education Service (GES) through Ghana Education Trust (GETFUND), Non-Governmental Organisations (NGO's), donations and from philanthropists and many more.

In order to ensure effective teaching and learning, there should be the provision of adequate budget to support information provision. Budgeting provides the means by which limited resources are utilised effectively. As a result, the heads of the schools under study were asked whether they had dedicated budget for acquiring the knowledge materials for their libraries. In response, all four (4) heads of the institutions under study said they did not have any special budget allocated for information materials. Materials needed by both teachers and students have to compete with other needs of the schools. This called for a follow up question as to how they were able to fund the purchasing of the information materials which were recommended. Most of the heads were reluctant to answer the question. However, one headmaster willingly answered it.

According to him,

“They relied on internally generated funds (IGF) for purchasing their information materials that they recommended in consultation with the teachers”.

The officers in charge of the libraries were asked about information sources that were available in the library for teachers to consult. In response, they said there were a number of sources available. They stated that they made available subject journals, encyclopaedias, dictionaries books and newspapers, for teachers to consult for their teaching. They further stated that these information sources were arranged on the shelves for consultation by the teachers and any other person who needed it.

4.3.1.4 Role of Libraries/Information Centres in Second Cycle Education

The researcher sought to find out the role libraries played in the scheme of second cycle education. Both the school heads and library officers were interviewed. The following were the outcome: When the officers in charge of the library were asked of the role of libraries/information centres in education, they said that libraries or information centres were very necessary in schools because a library was responsible for providing for its community, information in all forms and formats and this helped its users to carry out their duties effectively.

According to one officer of the library,

*“A library is a form of store house of information.
Without it in schools, the school ceases to function.
Despite this, little attention is given to the library in
terms of budget allocation, their collections and resources”.*

The heads of the schools under study also mentioned that, a library was very necessary for every school as it was a collection of information which both teachers and students can access. For this reason, every school must have a library with adequate materials and resources to satisfy its users.

One school head was of the view that,

‘‘A library/information centre is at the heart of every academic environment and without it, information delivery in the schools will be impossible. He stated that libraries are comfortable places for learning and also serves as a source where information can be sought either online or from shelves. He added however that it should therefore be mandatory on the part the government to do everything possible to provide all school libraries with the adequate resources in order to be able to meet the demands of its user’’.

The interviewees further suggested that the government should ensure that all second cycle schools in every part of the country should have a library where teachers and students can have access to needed information.

4.3.1.5 Relationship with Ghana Library Authority

The Ghana Library Authority (GLA) was formerly Ghana Library Board. It was set up by a Gold Coast Ordinance Cap 118 and later revised by Ghana Library Board Act 1970 as the only institution mandated by law to establish, equip, manage and maintain public libraries in the country. Its primary mission is to promote lifelong reading habits among Ghanaians most especially, in the youth. The authority seeks to support formal and informal education through the provision of periodicals, books and other materials (Krampah, 2012).

As a result, the heads of the schools were asked whether they had any relationship with the public libraries in terms of supply of information materials. They mentioned that, they did not have any formal arrangements with the public libraries. However,

their teachers sometimes went there to borrow information materials to supplement what was available at their schools library. They added that, the teachers did visit the public libraries probably because the public libraries have a wide range of information materials since they were not restricted to only academic materials.

4.3.1.6 Awareness Creation

Interviewees were asked whether they organised any training for the teachers as to how to make good use of the library. Findings revealed that they did not hold any such training sessions for the teachers.

When the officers in charge of the library were asked how they publicised their libraries, they mentioned that they only displayed notices on notice boards upon the arrival of new materials for its users to be aware of. Also, they organised orientation for fresh students as to how to use the library during orientation ceremonies organized for them.

4.3.1.7 Policy on ICT and Second Cycle Institutions

The influx of ICT in information provision has made teachers to adopt ICT into their teaching to enhance effective course organisation and effective class management. ICT is seen as a very useful tool since it makes teaching and learning easier. ICT enables teachers to acquire enough information for their lessons and therefore felt confident to stand before their students and teach.

Based on another objective of the study which was on the role of ICT in information provision, the head teachers of the institutions under study were asked whether they had ICT laboratories and computers. All four (4) head teachers responded

affirmatively that they had ICT laboratories and computers. However, the computers they had in the laboratories were inadequate.

According to one school head,

“The number of computers in the school falls short. The ratio of the number of students in one class to the number of computers available in the laboratory is 3:1. That is, three Students’ to one computer”

This made the researcher to ask whether there was a policy guiding the acquisition of computers. In response, all four (4) heads of schools remarked that, the individual senior high schools did not have ICT policies. However, what was available was the national ICT policy.

A head of school making reference to the Ghana ICT for Accelerated Development Policy ICT4AD said;

The National Policy was formulated to transform the educational system to provide the requisite educational and training services and to develop Ghana’s information and knowledge based society and economy. It also served as a guide by which ICT can be exploited in an efficient and coordinated effort to support the education sectors own goals.

The researcher further asked of the source of the computers in the laboratories. The school heads responded that, they acquired the computers from the Ministry Of Education through Ghana Education Trust Fund (GETFUND), Non-Governmental Organisations (NGO’s) and some philanthropists. They however stressed on GETFUND as the main source of the computers in the ICT laboratories.

In response to a question as to whether the school’s ICT laboratory had internet facilities which can enabled teachers to search for information online, majority of the

heads said that, access to internet was non-existent despite the availability of computers in the ICT laboratory and this was due to lack of funding.

However, according to one head;

The Parent Teacher Association (PTA) has agreed to assist by contributing money to assist in the purchase of the internet facility so that teachers, students and the entire school community can have access to it.

The heads of schools added that despite this challenge of unavailability of internet services in their schools, the teachers still rely on their personal modems for these online searches. Further responses received as to whether there was any training organised for teachers on how to search for information and retrieve relevant results using the internet revealed that, teachers were not given any special training on how to use ICT facilities to search and retrieve relevant results by the schools due to lack of funds. However, some of the teachers have had some form of training in ICT which was helping them to search online to retrieve relevant results to their topics.

One school head mentioned that;

The ICT teacher in his school assists the other teachers who were faced with problems in an attempt to search for a particular information. This assistance was however given as and when the need arises.

4.3.1.8 Challenges Encountered by the Schools

When interviewees (heads of the second cycle schools and officers in charge of the schools library) were asked to mention some challenges faced by the school in terms of information provision, they recounted that the school was faced with the problem of inadequate materials and unavailability of required materials in the libraries. Also,

the ICT laboratories lacked ICT infrastructure like the internet which would help search for information. Other problems mentioned were the lack of shelves, fans, even seats for students to use in the libraries.

One officer of the library bemoaned that;

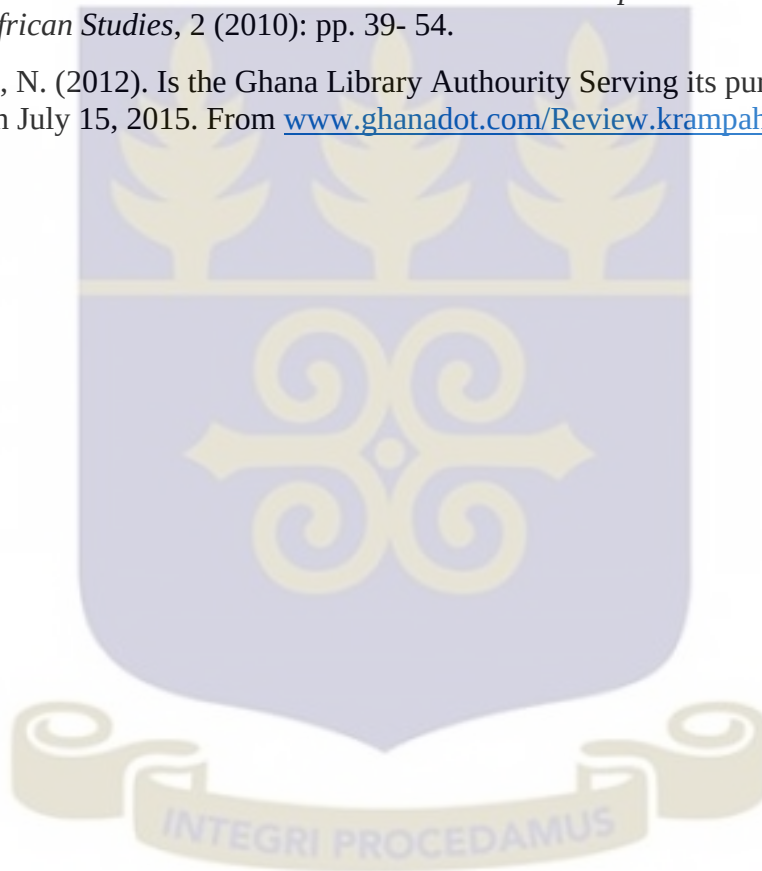
‘‘She was faced with the problem of lack of privacy since the library was sometimes used for other school activities’’.

Interestingly, the researcher observed this privacy issues herself in one of the schools under study whereas at the time of data collection, the library was being used by some teachers as a vetting room for prospective prefects of the school.

In effect, considering the role teachers play and looking at how important information is to them, it was noted from the findings that teachers are interested in acquiring adequate information. Despite this interest, they are sometimes faced with challenges in an attempt to access information to enable them carry out their duties. Despite all these challenges, they try their possible best to obtain information. This is a clear indication of how committed the teachers in the Lower Manya Krobo Municipality are to accessing information.

REFERENCES

- Babbie, E. (2005). *The basics of Social research*. 3rd Ed, Thomson Learning Inc, Canada.
- Case, D. O. (2012). *Looking for information: A survey of research on information seeking, needs and behaviour*. Amsterdam: Elsevier.
- Dora-Biblarz, D., Tarin, M., VickerY, J. & Bakker, T. (2001). International Federation of Library Association (IFLA) 2001. Sections on Acquisition and Collection Development. Retrieved from <http://www.ifla.org/VII/s14> on July 14, on July 14th, 2015.
- Hennessey, S., Harrison, D., Wamakote, L. (2010). Teacher Factors Influencing Classroom Use Of ICT in Sun-Saharan Africa. *Itupale Online Journal of African Studies*, 2 (2010): pp. 39- 54.
- Krampah, N. (2012). Is the Ghana Library Authourity Serving its purpose? Retrieved on July 15, 2015. From www.ghanadot.com/Review.krampah.libraries.011612



CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

The primary research objective of this study was to examine the information behaviour of teachers in second cycle institutions in the lower Manya Krobo Municipality. This chapter of the study deals with the discussion of the key findings and emerging themes arising out of the research. Thematic areas covered in the research were assessment of information needs of teachers, information sources, the role of libraries/information centres in information delivery in schools, use of ICT by teachers in information acquisition and challenges faced by the teachers while seeking information.

5.2 Assessment of Information Needs of Teachers

The fundamental right of every teacher is to have access to information. Teachers produce, record, process, disseminate and utilize information for their teaching activities. Teachers play vital roles in shaping the destiny of students within their dispensation. It is therefore necessary for teachers to have access to every needed information. One objective of the study sought to find answers to questions such as; the reasons for the need of information by teachers, the kind of information needed by teachers in order to adequately perform their duties and the point within their schedules when they decide to source for information.

Findings as was shown in Table 4.4 revealed that, teachers needed information for teaching (49.7%), for learning (34.7%) and for research (12.2%). The officers in charge of the school libraries also mentioned in the interview that the teachers were

found looking for information usually at the beginning of the term when they had to plan and write their teaching notes. This re-emphasizes Wilson's (1999) notion that the environment or social role a person plays drives his/her information need. The finding points to teachers' ability to recognize or identify their information needs in relation to curriculum contents. As a step in the right direction, teachers in second cycle institutions in the lower Manya Krobo municipality know when information is needed and thereby source for information to meet their varying needs (teaching, learning and research).

This affirms the findings of Mundt et al (2006) who attested to the fact that teachers had three major roles for which they often needed information. They were of the view that, teachers needed information for lesson planning, teaching methods, and students' evaluation. Mardis (2009) in a similar study also mentioned that, the information needs of teachers were to gain the curriculum contents that were required in the classrooms. It can be said that teachers in the Lower Manya Krobo Municipality are up and doing in terms of information search in order to improve upon their pedagogical content knowledge (PCK). This act will result in a better performance of teachers in the classroom and students can also learn effectively in order to yield good results.

Also, it was revealed that the point within teachers schedule when they source for information was when planning their lessons and when writing their teaching notes as indicated by 46.9% of teachers in Table 4.5. Surprisingly, only few teachers (22.9%) indicated that they sourced for information to update themselves. This was also attested to by the officers in charge of the school libraries. They mentioned that

teachers mostly visited the library to source for information mostly at the beginning of the term when they were planning and writing their teaching notes. This finding implies that teachers in second cycle schools in the lower Manya Krobo municipality are so committed to finding factual information in the preparation of their lesson notes to teach. This agreed with an earlier study Khan and Shafique, (2011) who were of the view that, college teachers mostly sourced information for lecture preparation, improvement of their personal competencies and current awareness. Passey (2006) pointed out that within the total arena of knowledge handling, teachers were basically interested in subject knowledge and knowledge of the curriculum. Similarly, Ahenkorah-Marfo et. al (2011) pointed out that faculty members of KNUST sought information for research work and for lecture preparation.

This implies that teachers in the lower Manya Krobo municipality were very much interested in gaining knowledge and mastery in the various subjects they teach in order to be able to deliver. They have seen the need to look for more relevant information to update their teaching notes in the era of continuous technological change where information changes every second. So when they realize that the information they have is inadequate, they look for more relevant information to add up to what they already have. It was for this reason that the teachers indicated that they went the extra mile to source information from the internet as well as contacting their colleagues when their information needs were not met at the schools library. This was shown in Table 4.7 where 42.9% of teachers indicated that they consulted the internet whilst 34.7% indicated they consulted their colleagues when they felt the information they had was inadequate. The finding points to the fact that teachers in the municipality under study understand the need to have access to information,

produce, record, process, disseminate and utilize information for their teaching. It is for this reason that they try as much as possible to satisfy the basic responsibilities of teaching by going the extra mile to obtain every needed information that would ensure effective teaching. This is supported by Case (2012) who viewed information need as a recognition of the fact that one's knowledge is inadequate to satisfy a goal that he/she has. So the need then arises when the present level of knowledge is incapable of dealing with a new situation.

Despite the desire of the teachers to obtain adequate information to teach, it was noted that the schools were not well resourced in terms of ICT infrastructure like computers and the internet. Access to the internet facility was from their personal modems. This was shown in Figure 4.8 where 69.8% of teachers indicated that they had access to the internet from their modems. This was also confirmed by all four (4) heads of the institutions under study. They mentioned that the computers they had in their ICT laboratories were inadequate. They added further that access to internet facility was non-existent in their schools and this was due to lack of funding. This implies that, access to relevant information by the teachers will be impossible in a situation where the library unable to meet the information needs of teachers. This will result in ineffectiveness on the part of the teachers because there will be difficulty in the preparation of teaching notes. And as a result, performance of students will dwindle.

5.3 Information Sources

According to Bates (2006), an information source is anything human beings interact with. Nikalanta and Scamell (1990) also defined information source as a medium in which knowledge and/or information is stored or any medium that was printed or

electronic, blogs, personal experiences, books, journal and magazine articles, expert opinions, encyclopaedias, and web pages. An information source is anything individuals come into contact with and provides them with information.

One of the objectives of the study was to examine the type of information sources available for teachers to consult in order to obtain relevant information for their work. Findings from the study revealed that, teachers in the municipality used books and other monographs as their major source of information. This was shown in Figure 4.1. Majority of teachers (41.3%) indicated that books and other monographs were relevant to their work. This was followed by 23.3% of teachers who indicated they contacted colleagues/friends. There was very little indication that teachers used newspapers and journals as 20.1% and 15.3% of teachers indicated that respectively. This means that, only few teachers consulted newspapers and journals. This attests to the reason why teachers suggested that subject related books must be acquired by the library. The information source pattern affirms the finding of a study by Sanchez and Valcarcel's (1999) which noted that teachers in general used students' textbooks as the major source of information. They further added that they sometimes used magazines and other information resources when they felt the information obtained is inadequate.

Also, teachers ranked books and other monographs as the most preferred source. This was followed by 23.3% of teachers ranking colleagues/friends as the second preferred source. In addition, 7.6% of teachers ranked journals as the third preferred source whilst 2.4% ranked newspapers and popular magazines as the fourth preferred source. There is a clear indication of teachers' preference for books and lack of preference for

newspapers and magazines. This finding is in tandem with the findings of a similar study by Ahenkorah-Marfo et. al (2011) who indicated that faculty members of the College of science, KNUST consulted textbooks often. However, this finding contradicts the findings of a study by Lewin and Stokes (2004), who found out that, journals were the top ranked information resources by lecturers in a School of Health Studies because journals were the information resource that was readily available and accessible to them.

It can be concluded that, teachers in public second cycle schools in the lower Manya Krobo municipality consulted books and other monographs as their major source of information. This was probable because books and other monographs were the available information materials in the library since 45.8% of teachers indicated that these sources were consulted because they were available, and 33% of teachers also indicated that these sources were current to their work. Only few teachers indicated that they consulted these sources because it was affordable (6.6%) and relevant (14.6%). The officers in charge of the library also mentioned that they made available books, subject journals, encyclopaedias, dictionaries and newspapers for teachers to consult for their teaching.

This finding is in agreement with the view of Merchant and Hepworth (2002) who indicated that the availability of information sources helped teachers to access different sources to satisfy different information needs. They added that information resources helped build a framework for their topics or lesson notes that becomes factual information for teaching. Similarly, findings of a study by Williams and Coles (2007) found that teachers tend to rely on readily available resources in the school

library. The finding agrees with the assertion of Leckie et al. (1996), that people seek information from sources that are relatively easily accessible, trustworthy, relatively cost effective, timely etc. Wilson (1997) indicated that access, credibility and the format in which information is communicated to be the characteristics which influences the selection of that particular source.

In addition, the four (4) heads of schools as well as the officers in charge of the schools libraries mentioned in the interview that acquisition of information materials were made in consultation with the teachers. This implies that, second cycle school teachers in the municipality under study were not left out in acquiring the knowledge materials. Also, subject related books were materials mostly requested when they were made to make their requests for the information materials needed because it helped them greatly in their lesson preparation. The finding indicates that teachers in the lower Manya Krobo municipality benefited greatly from the sources of information available to them in one way or the other. Therefore, the GES, NGO's, as well as GETFUND, should try as much as possible to consult teachers on what their information needs are before bringing in information materials. This will enable the teachers to recommend exactly the information materials they need.

It was also revealed by the heads of schools that there was no special budget allocated to information materials. It can be said that, since there was no special budget allocated to information materials, teachers in second cycle schools in the Lower Manya Krobo Municipality made do with the information sources that were available to them in their school libraries. This confirms why majority (45.8%), of teachers

indicated that they consulted the information sources in their libraries because they were readily availability for them to access needed information from.

5.4 Role of Libraries/Information Centres in Information Provision to Teachers

Powel (2003) established that libraries and information centres are the repositories in which any information can be found. It can be said that the effectiveness of a teacher's work in the classroom depends upon the quality of information available to him/her. Research has shown that an integrated school library program, appropriately resourced and staffed, can contribute to improved student achievement.

Edoka (2000) defined a library as a place established in a primary or secondary school to provide information materials to students and teachers. Benard and Dulle (2014) defined libraries as social institutions created to safeguard knowledge, preserve the cultural heritage and provide information for education and research purposes to different users. Fayose (1995) also stated that school libraries were that part of the school where books, periodicals, magazines, and newspapers, films, computers, filmstrip, videotapes, recording of all types were kept for use by her users. Singh and Nazim (2008) was also of the view that libraries played an important role by providing a good education and knowledge of high quality to individuals around the world, no matter how poor or rich they may be. Daniel (2004) concluded that the school library remains the power house of educational institution and that an education institution without a library is like a motor car without an engine and a body without a soul.

One objective of the study was to examine the role libraries/information centres played in information delivery to teachers. The areas covered under this objective were library usage, adequacy of information resources and facilities of the library, level of satisfaction of services provided by the library, retrieval of information, personnel training and development, and challenges encountered while seeking information in the library.

Findings from the study revealed that, teachers visited the libraries to look for information as indicated by 196 (68.1%) of them. The school heads and the officers of the library added that the teachers sometimes visited the public libraries. This was probable because public libraries have a wide range of information materials since they were not restricted to only academic materials. Iwhihu and Okorodudu (2012) asserted that a public library is a local centre of information that makes all kinds of knowledge and information available to its users. It implies respondents went there because of the availability of a wide range of knowledge materials.

Also, 92 (31.9%) of teachers indicated that they did not visit the library. This implies that, second cycle school teachers in the Lower Manya Krobo Municipality found their school libraries to be an important place where information is stored and a place where needed information could be gathered for teaching. They saw the library as that part of the school where knowledge of high quality is provided. It was for this reason that majority of the teachers indicated that they visited the library. This affirmed what the heads of schools said about the teachers' visits to the school libraries and sometimes, the public library. Researchers such as Passey (2006) pointed out that within the total arena of knowledge handling, teachers were basically interested in subject knowledge and knowledge of the curriculum. That is, teachers were very

much interested in gaining knowledge and mastery in the various subjects they teach and in the curriculum content in order to be able to deliver. So when teachers realise that the information they have is inadequate, they look for more to add. This confirms Case's (2012) who opined that information need is a recognition of the fact that one's knowledge is inadequate to satisfy a goal he/she has.

This finding however contradicts the view of Parker et. al, (2005) who posited that, the digital age has resulted in a low patronage of libraries since the twenty first century user can have access to vast amounts of information without setting foot in a physical library due to the spread of the internet and computers everywhere. This is probable because of the availability of smart phones everywhere which aids people to access various search engines like Google, Yahoo, Ask.com and many others to obtain needed information even at the comfort of their homes.

Despite the fact that the majority of the teachers indicated that they visited the library, their visits to the library were occasional. Out of the 196 teachers who indicated that they visited the library, 145 (74%) of them indicated that they occasionally went to the library to look for information. It was also revealed that 54.1% of teachers were not satisfied with the quality of services provided by the library whilst 45.9% indicated that they were satisfied with the services. This is in tandem with the findings of a similar study by Dzandu and Boateng (2013) who indicated that post graduate students of the University of Ghana were not satisfied with the services provided by the library. Similarly, Alemna and Skouby (2000) mentioned that members of Ghana's legislature were not satisfied with the services of their library and as a result, only few patronized it. The heads of schools mentioned the absence of an acquisitions policy in an interview. This implied that the schools lacked direction for acquiring

information materials relevant for the library. This can result in the acquisition of materials which may not be needed by the teachers.

This finding is at variance with the findings of a similar study by Kumar (2013) who indicated that majority of research scholars of MBPG College frequently visited the library. This was noted in their responses when 50% indicated that they visited the library everyday, 25% visited twice a week, 15% once a month. Only 10% visited the library once a month whilst none of them indicated they occasionally visited the library. The frequency of visits to the library by the MBPG College researchers was probable because of a high level of satisfaction of the services provided by the library. This was shown from their responses as 50% of them were satisfied with library collection to some extent, 45% were satisfied to great extent and 5% of researchers were not satisfied with the collection. Bhatt (2013) asserted that a successful library service depends mainly on the satisfaction level of its users. However, the satisfaction level of teachers with the services provided by the school libraries in the study was low.

In addition, it was revealed that 66.3% of teachers sought help from the internet apart from the library. In an earlier research, Case (2012) posited that, information need was a recognition of the fact that one's knowledge is inadequate to satisfy a goal he/she has. This position was also confirmed by the heads of schools when they alluded to the existence of computers in their ICT laboratories and yet no internet connectivity. However, teachers relied on their modems for searches online. This finding is in agreement with the findings of a similar study conducted by Ahenkorah-Marfo et al. (2011) who indicated that faculty members of the College of science,

KNUST used the internet to look for information and the Google search engine was mostly preferred.

It can be inferred that, second cycle school teachers in the municipality under study went the extra mile to acquire information when they felt the information they had was inadequate to meet their information needs or to enable them effectively perform their duties as teachers. Therefore, school libraries should be connected to internet facilities so that teachers can access any type of needed information when they felt the information they have is inadequate.

In addition to what has been stated earlier, it was revealed in the interview that none of the four officers of the school library who participated in the study had had any formal training in librarianship. It thus becomes difficult in a situation like that to ensure an effective library management. They however mentioned that they had attended some workshops on library management. This agrees with Kakoma (1999) who noted that, most school libraries were not adequately equipped and there is no evidence that those libraries are treated as an important component of the school curriculum since as they are often manned by unqualified library assistants or people with no qualification in librarianship. Also, Benard and Dulle, (2014) in a study on assessment of access and use of school library information resources by secondary schools students noted that, the schools library were being manned by language teachers, office attendants who were not professionals in librarianship. It was for this reason that most of the information resources like textbooks were scattered over tables and shelves and were not catalogued or classified.

5.5 Use of ICT by Teachers in Information Acquisition

ICT according to Ajayi and Ekundayo (2009) is simply about sharing and having access to data easily with the use of ICT tools such as computers, printers, internet and many others. Aribisala (2006) was of the view that ICTs are increasingly playing an important role in organizations and society's ability to produce access, adopt and apply information. Another objective of the study sought to find out the use of ICT in information provision. It sought to find the availability of ICT laboratories, availability of internet facilities, and whether training sessions were organized for teachers on ICT use or not.

Findings from the study revealed that the schools had ICT laboratories as was indicated by 82.6% of teachers. However, the ICT laboratories lacked ICT infrastructure like the internet that can enable the school community especially teachers to search for information online when their information needs are not met at the schools library. Despite the lack of the internet connectivity in the schools, findings show that teachers (69.8%) relied on their personal modems for online searches. This was also confirmed by the heads of schools during the interview. This is supported by the views of researchers such as Tella et al, (2007) who indicated that, most teachers saw ICT as a very useful tool since it made teaching and learning easier. This is because, ICT enables teachers to be able to acquire enough information on the subjects they teach and as a result, made them confident to stand before their students to teach. Therefore, schools' ICT laboratories as well as libraries should be connected to internet facilities so that teachers can access more current and relevant information when the need arises. Ajayi and Ekundayo (2009) in a similar study stated that, the explosion in the use of ICT in the teaching and learning process in

secondary schools has become vital. They further added that the adoption of ICT by teachers enhances effective teaching in terms of good course organisation, effective class management, content creation, self-assessment, self-study collaborative learning, task oriented activities, and effective communication with the students.

In addition, majority (76.7%) of the teachers indicated they used Google.com search engine for their online searches. Only few (0.7%) teachers indicated that they used Webcrawler.com. This is affirmed in a similar study by Kumar (2013) which found that, majority (90%) of research scholars of MBPG College preferred Google search engine because it has maintained its position in providing information on the internet. Similarly, the findings in a study by Ahenkorah-Marfo et. al (2011) found that faculty members of the College of science, KNUST preferred the Google search engine for their searches online. In addition, majority (72.9%) of teachers indicated that they had had no training in the use of ICT tools. The heads of schools also mentioned that training sessions on ICT use were not organized for teachers in their schools. This can however affect the teachers' ability to search and retrieve relevant information online. This finding is consistent with the literature on the relevance of training in the use of ICT in accessing information from websites. Hennessy et.al (2010) were of the view that, when people are trained on how to use ICT facilities such as computers, printers, internet and many others , having access to information becomes easy. In other words, training on ICT use improves one's ability to retrieve information. However, teachers indicated that they had had no training on ICT use and can affect their ability to access and retrieve relevant information.

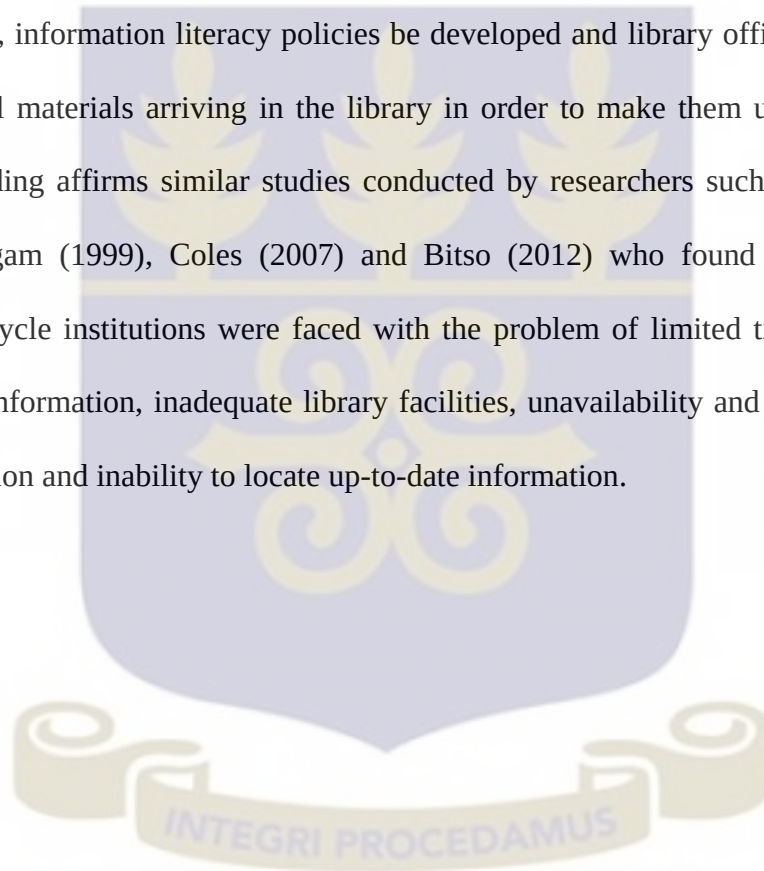
A general conclusion can be made that inadequate ICT facilities and the inability of heads of schools to organize training sessions for second cycle teachers in the Lower Manya Krobo Municipality on how to use ICT to access information could be a result of the fact that, there was no dedicated budgetary allocation for information materials. If there were to be a dedicated budget for information materials, other materials needed by both teachers and students in the schools would not have to compete with other needs of the school. Budgetary allocation would have made training on ICT use for teachers possible.

5.6 Challenges Encountered by Teachers in Information Seeking

Information seeking is challenged by several factors that may be situation or condition dependent. Niedzwiedzka (2003) indicated that, contextual factors such as the individual, social role of the individual looking for the information and the environment does not only influence the occurrence and determine the kind of need but also affect the ways in which information need is satisfied. A study by Dzandu and Boateng (2013), study revealed that, post graduate students were environmentally challenged by constraints within the University setting particularly poor and inadequate ICT infrastructure and as a result, were unable to achieve effective and satisfactory information search results.

Teachers are faced with several challenges in information seeking. One objective of the study was to examine the challenges faced by the teachers while seeking information to support their teaching. Majority (43.8%) of the teachers were faced with the challenge of inadequate materials in the school libraries. This was shown in Table 4.11. Other challenges encountered were lack of internet connectivity (33.3%),

inadequate computers in the schools' ICT laboratories and the lack of time to browse both the internet and the library stock (13.9%). Problems of this nature can affect the ability of teachers' in second cycle institutions in the Lower Manya Krobo Municipality to search for needed and current information. All these information seeking problems faced by teachers in is a clear indication that little attention is paid to information materials as there was no budget allocated to information materials. This attests to the reason why teachers suggested that internet connectivity be provided, information literacy policies be developed and library officers circulating a list of all materials arriving in the library in order to make them utilize the library. This finding affirms similar studies conducted by researchers such as Williams and Shanmugam (1999), Coles (2007) and Bitso (2012) who found that, teachers in second cycle institutions were faced with the problem of limited time to search for needed information, inadequate library facilities, unavailability and inaccessibility of information and inability to locate up-to-date information.



REFERENCES

- Ahenkorah-Marfo, M., Teye, V. & Senyah, Y. (2011). Information Seeking Behaviour of faculty: the case of the college of science, Kwame Nkrumah University of Science and technology, Kumasi, Ghana. *Journal of Science and Technology*, 31(1): pp 89 Retrieved on July 8th, 2015. From www.ajol.info/index.php/just/article/download/64889/52617.
- Ajayi, I. A., & Ekundayo, H. T. (2009). The application of information and communication technology in Nigerian secondary schools. *International NGO Journal*, 4 (5): pp. 281-286.
- Alemna, A. A., Skouby, K. E. (2000), "An investigation into the information needs and information-seeking behaviour of members of Ghana's legislature", *Library Management*, 21(5): pp. 235 - 240 Retrieved from <http://dx.doi.org/10.1108/01435120010324815> on: 06 January 2015.
- Aribisala, J. O. (2006). *Role of Information and Communication Technology in Globalization*. In Agagu AA (ed). *Information and Community Technology and computer applications*. Pan of Press: Abuja. pp. 68,76.
- Bates, M. J. (2006). Fundamental forms of information. *Journal of the American Society for Information Science and Technology*, 57(8), pp.1033-1045.
- Benard, R and Dulle, F. (2014). "Assessment of Access and Use of School Library Information Resources by Secondary Schools Students in Morogoro Municipality, Tanzania." *Library Philosophy and Practice* (e-journal). Paper 1107. Retrieved on September 25, 2015 from <http://digitalcommons.unl.edu/libphilprac/1107>.
- Bhatt, R. (2013). "A Study of Library Usage and Satisfaction by Social Scientists at Bahauddin Zakariya University, Multan". *Library Philosophy and Practice* (e-journal). Paper 963. Accessed from <http://digitalcommons.unl.edu/libphilprac/963>
- Bitso, C. (2012). *An Analysis of the Information Behaviour of Geography Teachers in a Developing African Country– Lesotho*. Review of International Geographical Education Online, 2(2), accessed from www.rigeo.org on 25/09/14.
- Case, D. O. (2012). *Looking for information: A survey of research on information seeking, needs and behaviour*. Amsterdam: Elsevier.
- Daniel, C. I. (2004). "Efforts/Activities at schools' level by Principals, Headmasters, and PTA to support provision of library services in school the case of Abuja Federal Capital Territory". *Nigerian School Library Journal*, 5(1). Retrieved on July 1st, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2864&context
- Dzandu, M. D., & Boateng, H. (2013). Unravelling the Dilemma of the Information Search process: The application of Wilson's model in a Ghanaian University setting. *International journal of Digital library services*, 3. Retrieved on July, 15, 2015. From www.ijodls.in

- Edoka, B.E. (2000). Introduction to Library Science. Palma Publishing and Links Company. Onitsa, Nigeria.
- Fayose, P. O. (1995). School Library Resources Center for Educational excellence. Ibadan: Federal Ministry of Education p.13.
- Hennessey, S., Harrison, D., & Wamakote, L. (2010). Teacher Factors Influencing Classroom Use Of ICT in Sub-Saharan Africa. *Itupale Online Journal of African Studies*, 2: pp. 39-54.
- Kakoma, A.K. 1999. School libraries in Lesotho. *Information Development*, 15(2):120-125.
- Khan, S. A. & Shafique, F. (2011). *Information Needs and Information-Seeking Behavior: A Survey of College Faculty at Bahawalpur*. Library Philosophy and Practice (e-journal). Retrieved from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1502&context
- Kumar, A. (2013). Assessing the Information Need and Information Seeking Behaviour of Research Scholars of MBPG College. *International Journal of Digital Library Services*, 3:pp. 1-7.
- Leckie, G. J., Pettigrew, K. E. & Sylvain, C. (1996). Modeling the Information Seeking of Professionals: a general model derived from research on engineers, health care professionals, and lawyers. *Library Quarterly*, 66 (2): pp.161-193.
- Lewin, D., & Stokes, J. P. (2004). Information-seeking behaviour of nurse teachers in a school of health studies: A soft systems analysis. *Nurse Education Today*, 24(1): pp. 47-54.
- Mardis, M. A. (2009). *Classroom Information Needs: Search analysis from a digital library for educators*. DLIB Magazine, 15(1/2). Retrieved from www.dlib.org/dlib/january09/mardis/01mardis.html
- Mardis, M. A., & Perrault, A. M. (2007). *Examining the information behaviors of educators to inform a model of professional exchange between science teachers and library media specialists*. Paper presented at the American Educational Research Association, Chicago. Retrieved from www.dlib.org/dlib/january09/mardis/01mardis.html on June 23, 2015.
- Merchant, L. & Hepworth, M. (2002). Information literacy of teachers and pupils in secondary schools. *Journal of Librarianship and Information Science*, 34(2): pp. 81-89.
- Mundt, M., Stockert, K. and Yellesetty, L. (2006). The information behaviour of teachers. Retrieved Nov 28, 2014 from http://katestockert.com/LIS510_Information_Behaviour_of_Teachers.pdf
- Nikalanta, S. and Scamell, R. (1990). The Effects of Information Sources and Communication Channels on the Diffusion of an Innovation in a data base development environment. *Management Science*, 36 (1): pp. 24-40.

- Niedzwiedzka, B. (2003). "A proposed General Model of Information Behaviour" *Information Research*, 9(1): pp. 1-17 paper 174.
- Parker, R. K., Nitse, S. P., Flowers, A. K. (2005), "Libraries as knowledge management centers", *Library Management*, 26(4/5): pp. 176 – 189. Retrieved from <http://dx.doi.org/10.1108/01435120510596035>
- Passey, D. (2006). Technology enhancing learning: Analysing uses of information and communication technologies by primary and secondary pupils with learning frameworks. *Curriculum Journal*, 17(2):pp.139-166.
- Powell, A. (2003). Supporting the revitalization of public libraries in Africa. In: *Information Development* 18 (2002) 4, pp. 245-249.
- Sánchez, G. & Valcàrcel, M.V. (1999). Science Teachers' Views and Practices in Planning for Teaching. *Journal of Research in Science Teaching*, 36(4): pp. 493-513.
- Shanmugam, A. (1999). Information-seeking behaviour of trainee teachers in selected teacher training colleges in Malaysia. *Malaysia Journal of Library and Information Science*, 4(1):pp.1-26.
- Tella, A., Tella, A., Toyobo, O. M., Adika, L. O., & Adeyinka, A. A. (2007). *An Assessment of Secondary School Teachers Uses of ICTs: Implications for Further Development of ICT's Use in Nigerian Secondary Schools*. Online Submission, 6(3). Retrieved from <http://books.google.com.gh/books?isbn=161960059> Accessed on 12/10/14.
- Williams, D. and Coles, L. (2007). Evidence-based Practice in Teaching: An information perspective. *Journal of Documentation*, 63(6): pp. 812-835.
- Wilson, T. D. (1997). Information behaviour: An interdisciplinary perspective. *Information Processing and Management*, 33(4): pp. 551-572.
- Wilson, T.D. & Walsh, C. (1996). *Information Behavior: an interdisciplinary perspective*, Sheffield, UK: Department of Information Studies. British Library Research and Innovation Report, 10, Retrieved from <http://www.webcitation.org/6CH7kqBjv>. November 25, 2014.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The main aim of this study was to find out the information behaviour of teachers in second cycle schools in the Lower Manya Krobo Municipality. The study adopted Wilson's (1999) Model of Information Behaviour as the framework for examining the information behaviour of teachers which comprises; information needs, sources, role of ICT and libraries in information delivery, and also, the challenges teachers in second cycle schools face in information seeking. This section presents the summary of findings of the study, the conclusions and recommendations made as a result of the findings.

6.2 Summary of findings

Teachers are people who impart knowledge to students. In order to perform these functions effectively, they need to be equipped with the right information. Information is so important to development that no group of people can ignore the benefits it holds (Buadi, 2014). This section, summarizes the findings of the study

6.2.1 Background Information of Teachers

The study revealed that teachers majority of the second cycle school teachers in the Lower Manya Krobo Municipality were males. Also, with the length of period of teaching, it was revealed from the study that majority of the teachers had been in the teaching profession for ten years and above and were within the age range of 31-40 years. With the highest educational background of teachers, it was evident from the

study that majority of the teachers were holders of a Bachelor of Education certificate. This was a clear indication that the teachers in second cycle schools in the Lower Manya Krobo Municipality were professionals.

6.2.2 Information Needs of Teachers

The study revealed that, teachers in the Lower Manya Krobo Municipality needed information for teaching and learning respectively as indicated by majority of the respondents. Also, it was revealed that the point within the schedules of teachers when they usually sourced for information was anytime they were planning their lessons and when they were preparing their teaching notes usually at the beginning of a new term.

6.2.3 Information Sources Available to Teachers

Findings from the study revealed that the teachers consulted books and other monographs as their major source of information because they were available. They further indicated that they consulted those sources because they helped them plan their lessons as well as enabling them to give quality notes to their students. It was also revealed by the heads of schools that they sometimes purchased some information materials which were recommended by the teachers which were usually books. They further mentioned that the main supply of information materials were the Ghana Education Service (GES) through Ghana Education Trust (GETFUND), donations from Non-Governmental Organisations (NGO's), and from philanthropists.

6.2.4 Role of Libraries/Information centres in Information Provision to Teachers

It was evident from the study that, majority of the teachers visited the library. However, their visits to the library were occasional and their information needs were largely met at the library. Despite that, they were not satisfied with the services of the library. Those who did not use the library indicated that some of the books in the library were not current and above all they had access to the internet on their smartphones where they could search for every needed information for whatever purpose they wanted it for so they did not see the essence of using the library.

The study also established that, in a situation where information needs were not met at the school libraries, teachers sought help from the internet to satisfy their information needs. It was also revealed by the heads of schools that the school libraries had no acquisition policies guiding its stocking and as a result, the schools lacked the direction for acquiring materials for the libraries. In addition, there was no special budget dedicated to information materials. However, the schools relied on internally generated funds (IGF's) to purchase some information materials recommended by the teachers for the library. Furthermore, no training was organised for teachers as to how to make good use of the library.

6.2.5 Use of ICT by Teachers in Information Acquisition

ICT is seen as a superhighway on which information is transmitted and shared by people across borders. The field of education has been affected by the penetrating influence of ICT.

Evidence from the study indicated that, the schools had ICT laboratories. However, they were faced with the problems of inadequate computers as well as lack of internet connectivity that could enable them conduct searches for information online. It was

also revealed that, the supply of computers to the schools ICT laboratories were from the Ministry of Education (MOE) through the Ghana Education Trust Fund (GETFUND), Non-Governmental Organisations (NGO's) and some philanthropists. They however stressed on GETFUND as the main source of supply of the computers in the ICT laboratories.

Despite the fact that they lacked internet facilities, the teachers relied on their modems when there was the need to search online. Also, it was found out that the teachers mostly used Google search engine for their online searches. Despite teachers' ability to search online for information, it was revealed that they had had no training in ICT use.

6.2.6 Challenges Encountered by the Teachers in Information Seeking

Teachers indicated that they were sometimes faced with challenges while seeking for information. The specific challenges encountered were with the inadequacy of materials in the school's library, the lack of internet connectivity in the ICT laboratory, and the lack of time to search through several sources to obtain information due to large class size.

6.3 Conclusion

Information is seen as a very important resource to teachers since they impart knowledge to students. Considering the roles teachers play in the lives of students and the community as a whole, they need to be empowered with the right information. Teachers rely on information from several sources to plan their lessons, write their teaching notes, update themselves and many more. As a result, they do not need just any information but relevant information which must be timely, accurate and reliable.

The paradox of the situation is that, the school system is unable to provide good quality and updated information for teachers. The information infrastructure needed to ensure access to information is unavailable. It is therefore incumbent on the government, the Ministry of Education (MOE), the Ghana Education Service (GES), second cycle school heads, and all stakeholders to ensure that proper information is made available to teachers since teachers can make and unmake an individual.

6.4 Recommendations

The study emphasises the importance of information in supporting the teaching roles and responsibilities of teachers. Considering teachers' roles, they need to be provided with a wide range of information sources that can enable them access adequate information. They were however faced with some challenges in accessing information. Based on the findings of the study, the researcher wishes to propose or make the following recommendations;

6.4.1 Engagement of Information Professionals

Teachers' workloads and large class sizes do not give them ample time to search through several sources for information. Some are even not aware of the existence of information sources that can enable them search for adequate information. Information therefore needs to be re-packaged for them to help them in the discharge of their duties. It is for this reason that information professionals need to be deployed to school libraries. Engaging personnel who are information professionals will give teachers a greater opportunity. This is because they will be able to understand the information needs of users and deliver appropriately.

Training programmes for library personnel should be part of the overall management strategy and they should contain elements to support professional and career development. The government should assist existing officers of school libraries to pursue further studies to upgrade their knowledge in librarianship either at the Department of Information studies, University of Ghana or any other information science institution. This will be successful by granting them study leave with pay to support their educational needs. Also, the heads of schools can contact the Ghana Education Service (GES) to liaise with Ghana Library Authority (GLA) to provide them with information professionals who would manage their school libraries. However, in the short term, there should be an in-service training or Continuous Professional Education (CPE) organised by GES in conjunction with GLA for both teachers and officers of school libraries in order to be able to properly and effectively manage the libraries.

6.4.2 Development of an Acquisition Policy

According to the International Federation of Library Association (2001), an acquisition policy is the instrument which provides an institution with the direction for selecting and deselecting resources for a local collection. It is the backbone around which the institution can acquire materials in a systematic order. The policy thus, serves as a reference for staff when assessing potential acquisitions. The policy covers a whole range of issues that includes acquiring materials, staff and capacity issues, funding, infrastructure and many others. Due to the unavailability of an acquisition policies, each school should develop their acquisition policy since second cycle institutions are not in uniform in terms of programmes. The policy can be developed by the information professional deployed to the school library, together with the head

of the institution and the teachers. This will guide and direct the stocking of school's library. However, in the absence of an information professional, the heads of schools can contact the Ghana Library Association (GLA) and the Department of Information Studies, University of Ghana, for direction.

6.4.3 Allocation of Budget to Information Materials

Budgeting provides the means by which limited resources can be utilised effectively. The heads of second cycle schools should make it a point to ensure that sufficient budgetary allocation is made for information materials so that the needed materials by the school library could be purchased.

The heads of the second cycle institutions should incorporate in their annual budgets, funds allocated to information materials. The Ministry of Education should ensure that the funds allocated to information materials are used for their intended purposes. In addition, there should be provision of funds in the budgets to cater for seminars and workshops to train teachers on library use.

6.4.4 Marketing of Information Resources

Marketing is defined as a way of understanding ones customers and creating products and services for them to suit their needs. According to Kotler (1994), "Marketing is the analysis, planning, implementation and control of carefully formulated programmes designed to bring about voluntary exchanges of values with target markets for the purpose of achieving organizational objectives. It relies heavily on designing the organization's offering in terms of the target market's needs and desires and using effective pricing, communication, and distribution to inform, motivate and

serve the markets. Library staff managing school libraries must be in tune with the intellectual interest of the teachers. They must therefore market information resources by undertaking awareness creation programmes where the teachers can see all their library resources.

All new materials arriving in the school library should be made known to all teachers through promotional techniques so that they can be aware of them and use them. Promotional techniques are necessary to ensure that the right information gets to the right people. Promotional techniques that can be engaged in are by word of mouth, posters/banners, exhibitions and displays and many others. Also, the library should use selective dissemination of information to promote their library resources to teachers. This is done by creating a profile of teachers' interest when the information materials arrive in the library and directing them to teachers. The library staff can organise seminars for teachers as a means of promoting the use of the library.

6.4.5 Provision of Information Communication Technology (ICT) Infrastructure to Schools

The advent of the new global economy has had serious implications for the nature and purpose of educational institutions. Access to information continues to grow day in day out. Consequently, schools cannot continue to be places for the transmission of an approved set of information from teacher to student over a period of time. Schools must instead be seen as places that promotes knowledge acquisition and skills that will enable people to continuously learn over the lifetime. As a result, Information and communication technologies (ICT's) which include radio and television, computers, printers, the Internet, and many more have been hyped as potential and powerful enabling tools for educational change and reform (Hennessay et.al 2010).

However, findings revealed that second cycle institutions in the lower Manya Krobo Municipality lacked ICT infrastructure.

The heads of the second cycle institutions together with the Ministry of Education should strengthen existing ICT laboratories by providing them with adequate ICT infrastructure such as computers, printers, internet connectivity and many others to enable teachers conduct searches online when they feel the information they have is inadequate. This because effective teaching and learning is dependent upon the teachers ability to access relevant information. Also, assistance should be given to teachers who are interested in acquiring personal computers and modems by the government through government subsidies, and loans with low interest rates to enable them to acquire ICT facilities.

6.4.6 Organizing Training for Teachers and Library staff on Information Search

The study revealed that teachers had had no training in the use of ICT tools. This impede their ability to search and retrieve relevant information. Hennessy et.al (2010) were of the view that when people are trained on the use of ICT facilities such as computers, printers and internet, accessing and retrieving relevant information becomes easy. Training on ICT use can improve one's ability to access e-resources in order to retrieve information.

It is being recommended that, the heads of schools, the Ghana Education Service in conjunction with the Ministry of Education should institute training programmes on information search for teachers. This training should be continuous through seminars, workshops and in-service training programmes to enhance their skills in current trends in information retrieval. Also, the Ghana Education Service should appeal to

the Ghana Library Authority and the Department of Information Studies, University of Ghana, Legon to assist them train both teachers and library staff. This can be organised in the form of seminars and workshops from time to time for teachers on the importance of the library and library use. In addition, the GES should grant study leave with pay to teachers who are willing to pursue programmes in information management since information is very vital to the work of teachers.

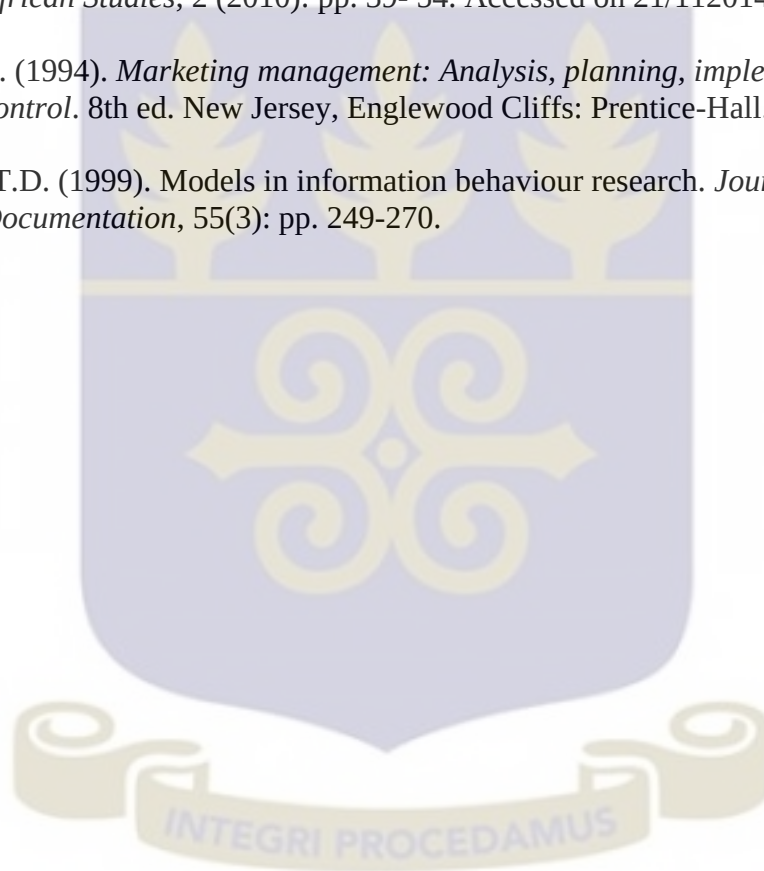
6.4.7 Supply of Information Materials to School Libraries

To avoid the supply of materials that may not be relevant and not useful to teachers, stakeholders must request from heads of schools, the list of the right and desirable materials that teachers need to adequately perform their duties. Also, stakeholders and heads of schools should solicit support from the Ghana Library Authority (GLA) and development partners to help in the supply information materials to second cycle institutions. Development partners like Japanese International Cooperation Agency (JICA), United Nations Educational Scientific and Cultural Organisation (UNESCO), United States Agency for International Development (USAID) and many more may be of help.



REFERENCES

- Buadi, D. W. (2014). Information Behaviour of Traditional Leaders in Shai Osudoku District. (An MA Unpublished Dissertation submitted to the department of Information Studies), University of Ghana, Legon.
- Dora Biblarz, D., Tarin, M., VickerY, J. & Bakker, T. (2001). International Federation of Library Association (IFLA) 2001. Sections on Acquisition and Collection Development. Retrieved from <http://www.ifla.org/VII/s14> on July 14, 2015.
- Hennessey, S., Harrison, D., Wamakote, L. (2010). Teacher Factors Influencing Classroom Use Of ICT in Sun-Saharan Africa. *Itupale Online Journal of African Studies*, 2 (2010): pp. 39- 54. Accessed on 21/11/2014.
- Kotler, P. (1994). *Marketing management: Analysis, planning, implementation, and control*. 8th ed. New Jersey, Englewood Cliffs: Prentice-Hall.
- Wilson, T.D. (1999). Models in information behaviour research. *Journal of Documentation*, 55(3): pp. 249-270.



BIBLIOGRAPHY

- Abdulahi, Aishatu (1998). "The Role of Libraries in Primary and Secondary Education in Nigeria". *Teaching Education Today* 8(1&2): pp. 21-26.
- Abdullahi, K. (2008). The Changing Role of Researchers in Nigeria: The Internet as an Alternative Future to Modernity. *Library Philosophy and Practice (e-journal)* 229. Retrieved on November 15, 2014. From <http://digitalcommons.unl.edu/ubphilprac/229>
- Adeoti-Adekeye, W. B. (1997). The importance of Management Information Systems, *Library Review*, 46(5): pp. 318-327.
- Aforo, A. A. and Lampitey, R. B. (2012). Information needs and the information seeking behaviour of Law Lecturers in Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. *International Research Journal of Arts and Social Sciences* 1(4): pp. 75-80. Retrieved from <http://www.interestjournals.org/IRJASS>
- Agyekum, B.A., and Filson, C.K., (2012). "The Challenges of School Libraries after the Implementation of the New Educational Reforms in Ghana". *Library Philosophy and Practice(e-journal)*. Paper 932. Accessed from <http://digitalcommons.unl.edu/libphilprac/932> on 23/11/14.
- Ahenkorah-Marfo, M., Teye, V. & Senyah, Y. (2011). Information Seeking Behaviour of faculty: the case of the college of science, Kwame Nkrumah University of Science and technology, kumasi, Ghana. *Journal of Science and Technology*, 31(1): pp 89 Retrieved on July 8th, 2015 from www.ajol.info/index.php/just/article/download/64889/52617.
- Ajayi, I. A., Ekundayo, H. T. (2009). The application of information and communication technology in Nigerian secondary schools. *International NGO Journal*, 4(5): pp. 281-286. Retrieved on September 23, 2014. From <http://www.academicjournals.org/INGOJ> ISSN 1993-8225
- Ajibero, M. L. (1993). Librarianship, the Mother of all Professions", *Leading libraries and Information Center*, 1(2): pp. 3-4.
- Alemna, A. A. (1992). Scientific and technical Information in Ghana. *Information Development*, 8(4): pp. 215-220.
- Alemna, A. A. (2000). *Libraries, Information and society*. Accra: Ghana. Universities Press, pp. 20.
- Alemna, A. A., Skouby, K. E. (2000), "An investigation into the information needs and information-seeking behaviour of members of Ghana's legislature", *Library Management*, 21(5): pp. 235 – 240. Retrieved on: 06 January 2015. From <http://dx.doi.org/10.1108/01435120010324815>

- Amoafu, E. A. (2011). The use of ICT as a tool for teaching and learning in the University of Ghana. (Unpublished M. Phil thesis). University of Ghana, Legon.
- Andersen, D.L., 2002. "Communicating information across cultures: understanding how others work," Available at <http://www.pantaneto.co.uk/issue9/andersen.htm> Accessed on July 19
- Anderson, J. (1997). *Integrating ICT and Other Technologies in Teacher Education: Trends, Issues and Guiding Principles* [Electronic Version]. Infoshare: Sources and Resources Bulletin, pp. 33-35. Retrieved on October 25, 2014 from www.unescobkk.org/fileadmin/userupload/ict/ebooks/.../4integrating.pdf
- Anderson, L.W. & Krathwohl, D.R. (Eds.). (2000). *A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives*. (Abridged ed.). Boston, MA: Allyn & Bacon.
- Aribisala, J. O (2006). *Role of information and communication technology in globalization*. In Agagu AA (ed). Information and Community Technology and computer applications. Abuja: Panof Press pp. 68 – 76.
- Ayiyeke, W.O. (1982). "Information Utilization by Policy-Makers in Nigeria, Part IV: Critical factors in the Utilisation of Information", *Journal of information science*, 5(2-3): pp. 87-92.
- Babbie, E. (2005). *The basics of Social research*. 3rd Ed, Thomson Learning Inc, Canada.
- Babu, A. R., Singh, Y. P., and Sachdeva, S. (2007). *Establishing a Management Information System*. Available at <http://www.fao.org/docrepr/W5830eOk.htm9/23/2006>.
- Bampoe, D. (2013). Manya Krobo Senior High at 45. Retrieved from www.newsghana.com-gh/manya-krobo-senior-high-school-45 on November 20th, 2014.
- Bates, M. A. (2005). "An introduction to metatheories and models" In Fisher, K. E., Erdelez, S. and Mckechnie, L. (Eds), *Theories of Information Behaviour*, Information Today, Medford, NJ, pp. 1-24.
- Bates, M. J. (2006). Fundamental forms of information. *Journal of the American Society for Information Science and Technology*, 57(8), 1033-1045.
- Bates, M. J. (2010). Information Behavior In *Encyclopedia of Library and Information Sciences*, 3rd Ed. Marcia J. Bates and Mary Niles Maack, Eds. New York: CRC Press, vol. 3, pp. 2381-2391.

- Beckman, M. (1982). Organizational Structures of Information Centers: A result of Course held on Management Information Centres in China. PP. 153-159.
- Benard, R and Dulle, F. (2014). "Assessment of Access and Use of School Library Information Resources by Secondary Schools Students in Morogoro Municipality, Tanzania." *Library Philosophy and Practice* (e-journal). Paper 1107. Accessed from on September 25, 2015. <http://digitalcommons.unl.edu/libphilprac/1107>
- Berge, B. L. (1989). Qualitative research methods for social science. Needham Heights, Masschusetts: Allyn and Schuster.
- Bhatt, R. (2013). "A Study of Library Usage and Satisfaction by Social Scientists at Bahauddin Zakariya University, Multan". *Library Philosophy and Practice* (e-journal). Paper 963. Accessed from <http://digitalcommons.unl.edu/libphilprac/963>
- Bitso, C. & Fourie, I. (2012). "An investigation of information-seeking behaviour of geography teachers for an information service intervention: the case of Lesotho." *Journal of Information Research*, 17(4) paper 549. [Available at <http://informationr.net/ir/17-> Accessed on November 20, 2014.
- Bitso, C. & Fourie, I. (2014). Information-seeking behaviour of prospective geography teachers at the National University of Lesotho *Information Research*, 19(3), paper 637. Retrieved from <http://InformationR.net/ir/193/paper637.html>
- Bitso, C. (2012). *An Analysis of the Information Behaviour of Geography Teachers in a Developing African Country– Lesotho*. Review of International Geographical Education Online 2(2). Retrived from www.rigeo.org
- Bless, C. and Higson-Smith, C. (2004). *Fundamentals of social research methods*. 3rd ed. Lusaka: Jut app. 62.
- Boon, J. A. (1992). Information and development: some reasons for failure. *Information Society*, 8(3): pp. 227-241.
- Bouma, G. (2000). The research process, 4th edn, Oxford University Press, Melbourne.
- Broadbent, K. P. (1982). Functions, Planning and Management of Information Centers: A Result of Course held on Management Information Center in China. Pp. 144-152.
- Buadi, D. W. (2014). Information Behaviour of Traditional Leaders in Shai Osudoku District. An MA Unpublished Dissertation submitted to the department of Information Studies, University of Ghana, Legon.

- Burke, M.E. (2007). Cultural issues, organizational hierarchy and information fulfilment: an exploration of relationships. *Library Review*, 56(8): pp. 678-693.
- Camble, E. (1994). The information environment of rural development workers in Borno State, Nigeria. *African Journal of Library Archives and Information Science*, 4(2): pp. 99- 106.
- Case, D. O. (2012). *Looking for information: A survey of research on information seeking, needs and behaviour*. Amsterdam: Elsevier.
- Case, D.O. (2007). *Looking for information: A survey of research on information seeking, needs, and behaviour*. 2nd ed. Amsterdam: Elsevier.
- Choo, C. W. (2002). Information Management for the Intelligent Organization: The Art of Scanning the Environment. Medford, NJ: Information Today. Retrieved on November 25th, 2014. From www.choo.fis.utoronto.ca/fis/respub/dlc95.html
- Choo, C. W. (2002). Information Management for the Intelligent the Intelligent Organization: The Art of Scanning the Environment. Medford, NJ: Information Today. Pp. 45.
- Clabo, C.A., (2002). *Study of the Library Use Practices of High School Students in Three East Electronic Theses and Dissertations*. Paper 635 accessed from <http://dc.etsu.edu/etd/635>
- Cole, C. (2008). People transforming information - information transforming people: what the Neanderthals can teach us. *Proceedings of the American Society for Information Science and Technology*, 45(1), 1-10.
- Cox, M. J., Preston, C., & Cox, K. (1999). *What motivates teachers to use ICT?* Paper presented at the British Educational Research Association (BERA), University of Sussex, Brighton.
- Cresswell, J.W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 3rd ed. CA: SAGE Publications, London.
- Daniel, C. I. (2004). "Efforts/Activities at schools' level by Principals, Headmasters, and PTA to support provision of library services in school the case of Abuja Federal Capital Territory". *Nigerian School Library Journal*, 5(1). Retrieved on July 1st, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2864&context
- De la Vega, A. & Puente, R. T. (2010). Availability and use of printed, audio-visual and electronic information by high school teachers of communication and social sciences in Public educational institutions in Peru. *Libri*, 60 (4): pp. 306-320.

- Dervin, B. (1983). *An overview of sense-making research: concepts, methods and results to date*. In International Communications Association Annual Meeting, Dallas, Texas.
- Dervin, B. (1992). From the mind's eye of the user: The sense-making qualitative quantitative methodology. In J. D. Glazier & R. R. Powell (Eds.), *Qualitative research in information management*. (pp. 61 – 84), Englewood, CO: Libraries Unlimited.
- Dzandu, M. D., & Boateng, H. (2013). Unravelling the Dilemma of the Information Search process: The application of Wilson's model in a Ghanaian University setting. *International journal of Digital library services*, 3. Retrieved on July, 15, 2015. From www.ijodls.in
- Edoka, B.E. (2000). Introduction to Library Science. Palma Publishing and Links Company. Onitsa, Nigeria.
- Ellis, D. (1989). A behavioural approach to information retrieval design. *Journal of Documentation*, 46: pp. 318-338.
- Ellis, D., Cox, D. & Hall, K. (1993). A comparison of the information seeking patterns of researchers in the physical and social sciences. *Journal of Documentation*, 49: pp. 356-369.
- Fairer-Wessels, F. A (1990). Basic community needs of urban black women in Mamelodi, Pretoria, South Africa. *South African Journal of Library and information Science*. 58 (4): 359-367. Retrieved on November 20th, 2015. From www.caisacsi.ca/proceedings/1995/olson
- Fayose, P. O. (1995). School Library Resources Center for Educational excellence. Ibadan: Federal Ministry of Education p.13.
- Fazlul, H. (1976). *Information Needs of Teachers of the University of Engineering & Technology Lahore*. Lahore: University of the Punjab.
- Fiankor, D. K. and Adams, M. (2004). Information seeking behaviour and information use by the students of the Department of Information Studies, University of Ghana, Legon. *GhanaLibrary Journal*, 16: pp. 45-60.
- Fisher, K. E. and Julien, H. (2009). Information Behaviour. In: B. Cromn (ed) Annual Review of Information Science and Technology. Medford, NJ: *Information Today* 43: pp. 1-73.
- Foster, A. & Ford, N. (2003). Serendipity and information seeking: an empirical study. *Journal of Documentation*, 59(3): pp. 321 – 340.
- Foster, A. (2004). A nonlinear model of information-seeking behaviour. *Journal of the American Society of Information Science and Technology*, 55(3): pp. 228-237.

- Fourie, I. (2006). *How Library and Information Science (LIS) professionals can use alerting services*. Chandos Publishing, Oxford.
- Fraenkel, J. K. and Wallen, N. E. (2002). How to design and evaluate research in Education, 4th ed.: MC Graw-Hill, New York. pp.505.
framework. *SA Journal of Library and Information Science*, 72 (3)145-158
- Gorard, S. (2013) Research design: creating robust approaches for the social sciences. Available at www.nova.edu/ssss/qr/qr18/clancy26.pdf. Accessed on 28/11/2014.
- Green, A. (1990) What do we mean by user needs? *British Journal Of Academic Librarianship*, 5: pp. 65-78.
- Hennessey, S., Harrison, D., Wamakote, L. (2010). Teacher Factors Influencing Classroom Use Of ICT in Sun-Saharan Africa. *Itupale Online Journal of African Studies*, 2 (2010): pp. 39- 54. Accessed on 21/11/2014.
- House, E.R. (1994). Integrating the quantitative and qualitative. In C.S. Reichardt and S. I. Rallis (Eds). *The qualitative and quantitative debate: New perspective* (pp. 13-22). Jossey-Bass Publishers: San Francisco.
<http://web.utk.edu/~tenopir/NFAIS6-21final.ppt>
- Ikoja–Odongo, J.R., 2002. “An observational study of the information seeking and communicating behavior of entrepreneurs in the informal sector of Uganda,” In: Bothma, T. and A. Kaniki (editors). *ProLISSA 2002: Proceedings of the second biennial DiSSAnet conference, 24–25 October*. Pretoria: Infuse, pp.11-28. Retrieved on December 15th, 2015. From www.web.simmons.edu/~benoit/lis642/Chi-Square-infoseeking-Uganda.pdf
- Ikoja-Odongo, R. & Mostert, J. (2006). Information seeking behaviour: a conceptual framework. *South African Journal of Libraries and Information Science*, 72(3):145-158.
- Ingwersen, P. & Järvelin, K. (2005). *The turn: integration of information seeking and retrieval in context*. Dordrecht: Springer.
- Johnson, J.D. (2003). On contexts of information seeking. *Information Processing and Management*, 39(5): pp. 735-760.
- Kakai, J.M., Ikoja-Odongo, R., & Kigongo-Bukenya, I.M.N. (2004). A study of the information seeking behavior of undergraduate students of Makerere University, Uganda. *World Libraries* 14 (1) Retrieved on November 15, 2015. From: http://www.worlib.org/vol14no1/print/kakai_print.html
- Kakoma, A.K. 1999. School libraries in Lesotho. *Information Development*, 15(2):120-125.

- Karunaratna, A. (2008). *Information-seeking behaviour of university teachers in Sri-Lanka in the field of management studies*. Retrieved from <http://hdl.handle.net/10760/12699> on 21st October, 2014.
- Kaye, D. (1995). The Importance of Information. *Management Decision*, 33(5): pp. 5-12.
- Khan, S. A. & Shafique, F. (2011) "Information Needs and Information-Seeking Behavior: A Survey of College Faculty at Bahawalpur". *Library Philosophy and Practice (e-journal)*. Paper 484. Retrieved on November 15, 2015 <http://digitalcommons.unl.edu/libphilprac/484>
- Kozma, R., McGhee, R., Quellmalz, E., & Zalles, D. (2004). Closing the digital divide: evaluation of the World Links Program. *International Journal of Educational Development*, 25(4), 361-381.
- Krolak, L., (2005) .The role of libraries in the creation of literate environments, Education for all Global Monitoring Report Literacy for Life, UNESCO accessed from <http://www.ifla.org/files/assets/literacy-and-reading/publications/role-of-libraries-in-creation-of-literate-environments.pdf>
- Kuhlthau, C. C. (1991). Inside the search process: information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42: pp.361-371.
- Kuhlthau, C.C. (2001).The Information Search Process (ISP) A Search for Meaning Rather than Answers. *Doshisha Journal of Library and Information Science*, 1(6), 31-46.
- Kuhlthau, C.C. (2004). *Seeking meaning: a process approach to library and information services*. 2nd ed. Westport, Connecticut: Libraries Unlimited.
- Kumar, A. (2013) Assessing the Information Need and Information Seeking Behavior of Research Scholars of M.B.P.G. College: A Case Study. *International Journal of Digital Library Services* (3). Retrieved from www.ijodls.in on 26/11/2014.
- Kumar, R. (2005). *Research Methodology*. London: Sage Publications Ltd., p.113
- Kumekpor, T. K. B. (2002). *Research methods and Science and Techniques of Social Research*,: SonLife Press and Services, Accra. pp. 27.
- Lan, C. & Chang, Y. (2002). The advanced study of information behaviour of biology teachers in junior high school. *Journal of Library and Information Science* (USA/ Taiwan), 28(2): pp. 39-48.
- Lan, C. and Chang, Y. (2002). The advanced study of information behaviour of biology teachers in junior high school. *Journal of Library and Information Science*, 28(2): pp. 39-48.

- Leckie, G. J., Pettigrew, K. E. & Sylvain, C. (1996). Modeling the Information Seeking of Professionals: a general model derived from research on engineers, health care professionals, and lawyers. *Library Quarterly*, 66 (2): pp.161-193.
- Lester, J. & Koehler, W. C. (2007). *Fundamentals of information science: Understanding information and its environment*. Neal-Schuman Publishers, New York, NY.
- Lewin, D., & Stokes, J. P. (2004). Information-seeking behaviour of nurse teachers in a school of health studies: A soft systems analysis. *Nurse Education Today*, 24(1): pp. 47-54.
- Line, M. B. (2001). Opinion paper: Access to documents by the independent researcher (Electronic version). *Interlending and Document Supply*, (29): pp. 175-176.
- Mabawonku, I. (2006). The Information Environment of Women in Nigeria's Public Service. *Journal of Documentation*, 62(1): pp. 73-90.
- Majid, S., Anwar, M. A. & Eisenschitz, T. S. (1999). Library use pattern of Malaysian agricultural scientists. *Libri*, 49 (4): pp. 225-235.
- Mardis, M. A. (2009). Classroom Information Needs: Search analysis from a digital library for educators. *DLIB Magazine*, 15(1/2). Retrieved on November 20th, 2014 from www.dlib.org/dlib/january09/mardis/01mardis.html
- Marouf, L. and Anwar, M. A. (2010). Information-seeking behavior of the social sciences faculty at Kuwait University. *Library Review Library Philosophy and Practice* (e- journal). Retrieved from <http://digitalcommons.unl.edu/libphilprac/314>
- Maybee, C. (2006). Undergraduate perceptions of information use: the basis for creating user-centered student information literacy instruction. *The Journal of Academic Librarianship*, 32(1), 79-85.
- Mensah, M. (2013). *Corporate Governance and Records Management in HealthCare Organisations in Ghana: A study of selected private and public hospitals in Greater Accra Region*. A thesis submitted to the Information studies department, University of Ghana, Legon.
- Menzel, H. (1966). Information needs and uses in science and technology. *Annual Review of Information Science and Technology*, Vol. 1: pp. 41-69.
- Merchant, L. & Hepworth, M. (2002). Information literacy of teachers and pupils in secondary schools. *Journal of Librarianship and Information Science*, 34(2):pp. 81-89. Retrieved on January 15, 2015. From www.lis.sagepub.com/content/34/2/81.short?rss=1&ssource=mfc

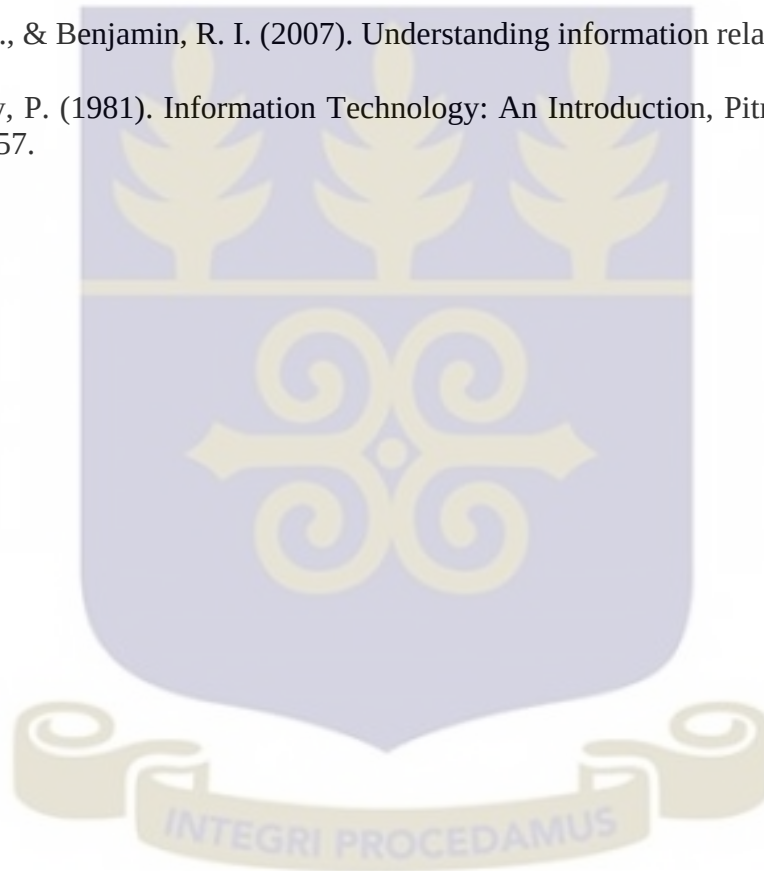
- Moloi, F., Morobe, N. & Urwick, J. (2008). Free but inaccessible primary education: a critique of the pedagogy of English and mathematics in Lesotho. *International Journal of Educational Development*, 28(5): pp. 612-621.
- Mostofa, M. S. K. (2013). *A Study of Information Needs and Seeking Behavior of Faculty Members of Darul Ihsan University in Bangladesh*. Library Philosophy and Practice (e-journal). Retrieved on January 12th, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2383&context...
- Mundt, M., Stockert, K. and Yellesetty, L. (2006). The information behaviour of teachers. Retrieved from http://katestockert.com/LIS510_Information_Behaviour_of_Teachers.pdf
- Mutshewa, A. (2007). A theoretical exploration of information behaviour: a power perspective. *Aslib Proceedings: New Information Perspectives*, 59(3), 249–263.
- Naushad Ali, P. M., Hasan, H., Ehsan. D. (2006). Library and information services
- Ndeogo, M. (2014). Information of Faculty Members of Methodist University College. An MA Unpublished Dissertation submitted to the department of Information Studies, University of Ghana, Legon.
- Ndunguru, P. C. (2007). *Lectures on research methodology for social sciences*. (Unpublished lecture notes). Research Information and Publications Department, Mzumbe University.
- Neuman, W. L. (2007). *Basics of Social Research: Quantitative Approaches* (2nd Ed.) Boston, Pearson Education, Inc.
- Niedzwiedzka, B. (2003). “A proposed General Model of Information Behaviour” *Information Research*, 9(1): pp. 1-17 paper 174.
- Nikalanta, S. and Scamell, R. (1990). The effect of information sources and communication channels on the diffusion of innovation in a data base development environment. *Management Science*, 36(1): pp. 24-40.
- Nnadozie, C. O. and Nnadozie, C. D. (2008). Information needs of Faculty Members in a Nigerian Private University: A Self-Study. *Library Philosophy and Practice*. Retrieved from http://unllib.unl.edu/LPP/on_03/03/2014
- Nwokedi, V.C. & Adah, J. (2009). Information needs of post-primary school teachers in Jos, Plateau State, Nigeria. *Information Technologist*, 6(2).
- Olarongbe, S. A., Adepoju O. S., Akanbi-Ademolake H. B., and Pedro T. A. (2013). *An assessment of information needs and characteristics of users of Oyo State Public Library, Nigeria*. Library Philosophy and Practice (e-journal) Retrieved from <http://digitalcommons.unl.edu/libphilprac> on 21 October, 2014.

- Omagbemi, C. O., Odunewu, A. O., and Osifeso, F. F. (2005). Information Needs of Local Government Policy-Makers: A Case Study of Ijebu-North Local Government of Ogun State. *Lagos Journal of Libarary and Information Science*, 3(1). pp. 43-49.
- Önal, H.Inci. 2009. “IFLA / UNESCO School Library Manifesto for creating one world:
- Onwuchekwa, E. O. and Jegede, O. R. (2011).Information retrieval methods in libraries and information centers.*African Research Review an International Multidisciplinary Journal*, 5 (6): pp. 108-120.
- Opoku, J. K. (2006).Theory in Social Research. Accra: Woeli Publishing Services, p.12.
- Orji, C. E. (1996). The use of public library by civil servants: A case study of Umuahia Public Library. B.L.S. Research Project Report. Abia State University, Uturu. Retrieved on July 1st, 2015 from www.digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2864...libphilprac
- Paisley, W. J. (1968). Information needs and uses. *Annual Review of Information Science and Technology*, Vol. 3: pp.1-30.
- Parker, R. K., Nitse, S. P., Flowers, A. K. (2005). Libraries as knowledge management centers. *Library Management*, 26(4/5): pp. 176-189.
- Passey, D. (2006). Technology enhancing learning: Analysing uses of information and communication technologies by primary and secondary pupils with learning frameworks. *Curriculum Journal*, 17(2): pp.139-166.
- Pattueli, M. C. (2008). Teacher’s perspective and Contextual dimensions to guide the design of N.C history learning objectives and ontology. *Information processing and Management*, 44(2): pp. 635-646.
- Perveen, S. (1976). *Information needs of teachers and research staff working in the social sciences department of the University of the Punjab*. Lahore: University of the Punjab.
- Powell, A. (2003). Supporting the revitalization of public libraries in Africa. In: *Information Development* 18 (4): pp. 245-249.
- Rakumako, A. & Laugksch, R. (2010). Demographic profile and perceived INSET needs of secondary mathematics teachers in Limpopo province. *South African Journal of Education*, 30(1): pp.139-152.
- Sánchez, G. & Valcàrcel, M.V. (1999). Science Teachers’ Views and Practices in Planning for Teaching. *Journal of Research in Science Teaching*, 36(4): pp. 493-513.

- Saunders, M., Loius, P., & Thornhill, A. (2007). Research methods for business students. Pitman Publishing: London.
- Savolainen, R. (2009b). Information use and information processing: comparison of conceptualizations. *Journal of Documentation*, 65(2): pp.187-207.
- Shanmugam, A. (1999). Information-seeking behaviour of trainee teachers in selected teacher training colleges in Malaysia. *Malaysia Journal of Library and Information Science*, 4(1): pp. 1-26.
- Shepherd, E. and Yeo, G. (2003). Managing Records: A Handbook of Principles and Practices, Facet Publishing: London.
- Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1): pp. 1-22.
- Schulman, L. (1987). *Content Knowledge for Teaching: Innovations for the Next Generation of Teaching Assessments*. Stanford University
- Singh, D. K., and Nazim, M. (2008). *Impact of Information Technology and Role of Libraries in the Age of Information and Knowledge Societies*. 6th International CALIBER. Retrieved on September 24, 2014. From www.core.ac.uk/download/pdf/11883554.pdf
- Smith, D. K. (2010). School library media centers in the 21st century can, and should be, hubs for increased student achievement and positive focused school reform. Retrieved on June 28th, 2015. From https://en.wikipedia.org/wiki/School_library
- Snyman, M. & Heyns, D. (2004). Die inligtingbehoefte van Afrikaans T1-onderwysers. [The information needs of Afrikaans T1 teachers.] *Mousaion*, 22(2): pp. 211-229.
- Spata, A. V. (2003). Research Methods: Science and Diversity. New York: John Wiley and Sons INC., p. 138.
- Spink, A. & Cole, C. (2006). Human information behaviour: integrating diverse approaches and information use. *Journal of the American Society for Information Science and Technology*, 57(1): pp. 25-35. *SRELS Journal of Information Management*. 43(4): pp. 357-362.
- Stonecash, J.C. (1981), "The IRM showdown". *Infosystem*, 28(10): pp. 42-8.
- Sturges, P. & Neill, R. (1998). *The quiet struggle: information and libraries for the people of Africa*. (2nd ed). London: Mansell.
- Suriya, M., Sangeetha, G., & Nambi, M. A. (2004). Information seeking behavior of faculty members from Government Arts Colleges in Cuddalore District. *Library and Information Networking*, pp.285-292.

- Tackie, S.N and Adams, M. (2007). Information needs and seeking behaviour of Engineers in Ghana, a case study of the Volta Ruler Authority. *African Journal of Library, Archives and Information Science*, 17 (2): pp.69-78.
- Tahir, M. Mahmood, K. & Shafique, F. (2008). Information needs and information-seeking behaviour of arts and humanities teachers: A Survey of the University of the Punjab, Lahore, Pakistan. *Library Philosophy and Practice* (e-journal) retrieved from <http://digitalcommons.unl.edu/libphilprac/314>. On 21/11/2014
- Tella, A., Tella, A., Toyobo, O. M., Adika, L. O., & Adeyinka, A. A. (2007). An Assessment of Secondary School Teachers Uses of ICTs: Implications for Further Development of ICT's Use in Nigerian Secondary Schools. *Online Submission*, 6(3). Retrieved on November 23, 2014. From <https://books.google.com.gh/books?isbn=1615206914>.
- Tenopir, C., & King, D. W. (2001). *What do we know about scientists' use of information?* Retrieved on November 20th, 2014, from www.scholar.cci.utk.edu/...tenopir/.../what-do-we-know-about-scientists -
- T.C.B. (2012). The Composite Budget of the Lower Manya Krobo Municipality Assembly for the 2012 Fiscal year. Retrieved on November 21st, 2014. From www.ghanadistricts.com/districts/?news&r=4&=74).
- Uhegbu, A. H. (2007). *The information user: Issues and themes*. Okigwe: Whytem Publishers.
- Vickery, B. (2009). Information science in transition. In A. Gilchrist (Ed.), *Meeting the challenges in information science* (pp. 32-55), Facet publishers: London.
- Volman M. and van Eck, E. (2001). Gender equity and information technology in education: The second decade. *Review of Educational Research*, 71(4): pp. 613-634.
- Waite, J., (1989). "The school library and GCSE. Sch". *Libr.*, 37(4): pp.140
- Weller, Toni (2007). Information history: its importance, relevance and future. *ASLIB Proceedings*, 59(4-5), 437-448.
- Were, E., Rubangiza, J., Sutherland, R., Hinostroza, J. E., & Motimele, M. (2006). The Use of ICT to Support Basic Education in Disadvantaged Schools and Communities in Low Income Countries. A research project proposal for EdQual Consortium. Retrieved from <http://www.edqual.org/publications/research->
- Williams, D. and Coles, L. (2007a). Evidence-based practice in teaching: An information perspective. *Journal of Documentation*, 63(6): pp. 812-835.
- Wilson, T.D. & Walsh, C. (1996). *Information behaviour: an interdisciplinary perspective.. (British Library Research and Innovation Report, 10)*, Sheffield, United Kingdom: Retrieved from <http://informationr.net/tdw/publ/infbehav/>

- Wilson, T.D. (1981). On user studies and information needs. *Journal of Documentation*, 37(1): pp. 3-15.
- Wilson, T.D. (1999). Models in information behaviour research. *Journal of Documentation*, 55(3) pp.249-270.
- Wilson, T.D. (2000). Human information behaviour. *Informing Science*, 3(2): pp. 49-56.
- Wright, M. and Guy, L. (1997). "Where do I find it and what do I do with it: Practical problem-solving in the data library," Retrieved from http://dphs.dacc.wisc.edu/types/data_reference.html, on 6 November 2014.
- Zhang, P., & Benjamin, R. I. (2007). Understanding information related fields:
- Zorkoczy, P. (1981). *Information Technology: An Introduction*, Pitman, London. pp. 157.



APPENDIX 1

QUESTIONNAIRE

TOPIC: INFORMATION BEHAVIOUR OF TEACHERS IN SECOND CYCLE INSTITUTIONS IN THE LOWER MANYA KROBO MUNICIPALITY.

I am conducting a research into the information behaviour of teachers in second cycle institutions in the Lower Manya Krobo Municipality as part of my Master of Philosophy programme in the Department of Information Studies, University of Ghana. In this regard, it is necessary to collect data from you as a major participant.

I would be very grateful if you could spare a few minutes of your busy schedule to fill this questionnaire. Your participation is very much needed to ensure the success of this research. Every information provided will be held in confidence; hence your name is not required. This exercise has nothing to do with your employer and your position held in this school. It is strictly for academic purposes.

Thank you.

Attafuah Harriet Fosua

P. O. Box, 198.

Somanya.

SECTION A: BACKGROUND INFORMATION (Please tick as appropriate)

GENDER

- a. Male [☐] b. Female [☐]

LENGTH OF PERIOD OF TEACHING

- a. 0-11 Months [☐] b. 1- 3 years [☐] c. 4-6 Years [☐] d. 7-9 years [☐] e. 10years and above [☐]

AGE

- a. 20-30 [☐] b. 31-40 [☐] c. 41-50 [☐] d. 51-60 [☐]

HIGHEST EDUCATIONAL BACKGROUND

- a. Degree [☐] b. B Ed [☐] c. MEd [☐] d. MSc [☐] e. MA [☐] f. M. Phil [☐]
g. PhD [☐] h. Other

SECTION B: INFORMATION NEEDS OF TEACHERS

1. What are the reasons for needing information?

Teaching ☐

Research ☐

Learning ☐

Leisure ☐

2. What kind of information do you need in order to adequately perform your duties as a teacher? Tick as many as applicable.

(i) Information for teaching ☐

(ii) General information ☐

(iii) Other (Please specify).....

3. At what point in your work do you decide to source for information?

(i) When planning your lesson ☐

(ii) When writing your teaching notes ☐

(iv) When you want to keep up-to-date ☐

SECTION C: INFORMATION SOURCES

4. What are the types of information sources you consult in order to obtain information relevant for your work?

(i) Newspapers and popular magazines ☐

(ii) Journals ☐

(iii) Books and other monographs []

(iv) Colleagues/Friends []

5. Rank the adequacy of the sources of information in question four (4) from 1-4 with 1 being the most preferred source and 4 being the least preferred source.

(i) Newspapers and popular magazines []

(ii) Journals []

(iii) Books and other monographs []

(iv) Colleagues/Friends []

6. Why do you find some sources (stated above) particularly useful?

(i) Because those sources are available []

(ii) Because those sources are current []

(iv) Because those sources are affordable []

(v) Because those sources are relevant []

7. How does the acquired information from these sources help in your teaching? Tick as many as possible.

(i) Help plan my lesson []

(ii) Help give quality notes to my students []

(iii) Help make informed decisions concerning my students []

(iv) Helps to keep me updated []

**SECTION D: ROLE OF LIBRARIES/INFORMATION CENTERS IN
INFORMATION DELIVERY IN SCHOOLS**

8. Do you visit/use the library to look for information? (If no, move to 10)

Yes [] No []

9. How often do you use/visit the library?

(i) Very often []

(ii) Often []

(iii) Occasionally []

10. If No, why? (After giving reasons, move to question 19)

.....
.....

11. Are your information needs met at the library? (for those who visited the library)

Yes [] No []

12. Does your school library have information resources that help teachers to gather information for teaching? Yes [] No []

13. If Yes, how did you get to know about it? If no, move to question fifteen (15).

i. Notices pasted on notice the boards []

ii. By word of mouth from a colleague []

iii. Through the officer in charge of library []

iv. Add Personal experience []

14. Rate the adequacy of information resources and facilities of the school's library if it exist.

(i) Very good []

(ii) Good []

(iii) Fair []

(iv) Below standard []

15. Are you satisfied with the quality of services provided by the library?

Yes [] No []

16. Do you require assistance when seeking for information from the library?

Yes [] No []

17. How do you access and retrieve information from the library?

(i) Seek help from library staff []

(ii) Browse through the library stock []

(iii) Use of library catalogue []

18. What do you do when your information needs are not met at the school library?

(i) Ask the officer in charge of the library for assistance []

(ii) Seek help from the Internet []

(iii) Give up []

(iv) Consult colleague teacher []

19. Apart from the library, which other sources do you consult?

(i) internet []

(ii) television []

(iii) radio []

(iv) colleagues []

SECTION E: ROLE OF ICT IN INFORMATION PROVISION

20. Does your school have an ICT laboratory?

Yes [] No []

21. Is the ICT laboratory well-resourced in terms of infrastructure?

Yes [] No []

22. Where do you use the internet?

- (i) School's library []
- (ii) Private Café []
- (iii) From my modem []
- (iv) In the school's ICT laboratory []

23. Have you ever searched on the internet for information on a topic and received results?

Yes [] No []

24. If yes, how relevant was it?

Very relevant []

Relevant []

Irrelevant []

25. If no, why

.....
.....

26. Which of these search engines do you use to search for information?

- (i) Google.com []

- (ii) Wikipedia []
- (iii) Ask.com []
- (iv) Yahoo.com []
- (v) Webcrawler.com []

27. Have you had any training on ICT use as to how you can search and access relevant information?

Yes [] No []

SECTION F: CHALLENGES FACED BY THE TEACHERS WHILE SEEKING INFORMATION

28. Have you ever encountered any challenges while seeking for information?

- (i) All the time []
- (ii) Sometimes []
- (iii) Never []
- (iv) No response []

29. What problems do you encounter while seeking for information for your work? Please tick as many as possible

- (v) Lack of relevant materials in the school's library []
- (vi) Lack of computers in the ICT laboratory []
- (vii) Lack of internet services []
- (viii) Lack of skills in using Information Communication Technology Facilities []
- (iv) Lack of time []

30. Please suggest what the Library should do to make it easier for you to utilize the services provided.

- (i) Organize seminars to create the awareness for the use of the library []
- (ii) Introduce written instructions for using subject specific resources []
- (iii) Circulate list of new arrivals []

31. Please suggest what should be done to improve access to information to teachers.

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.....

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32. Please any other comments:

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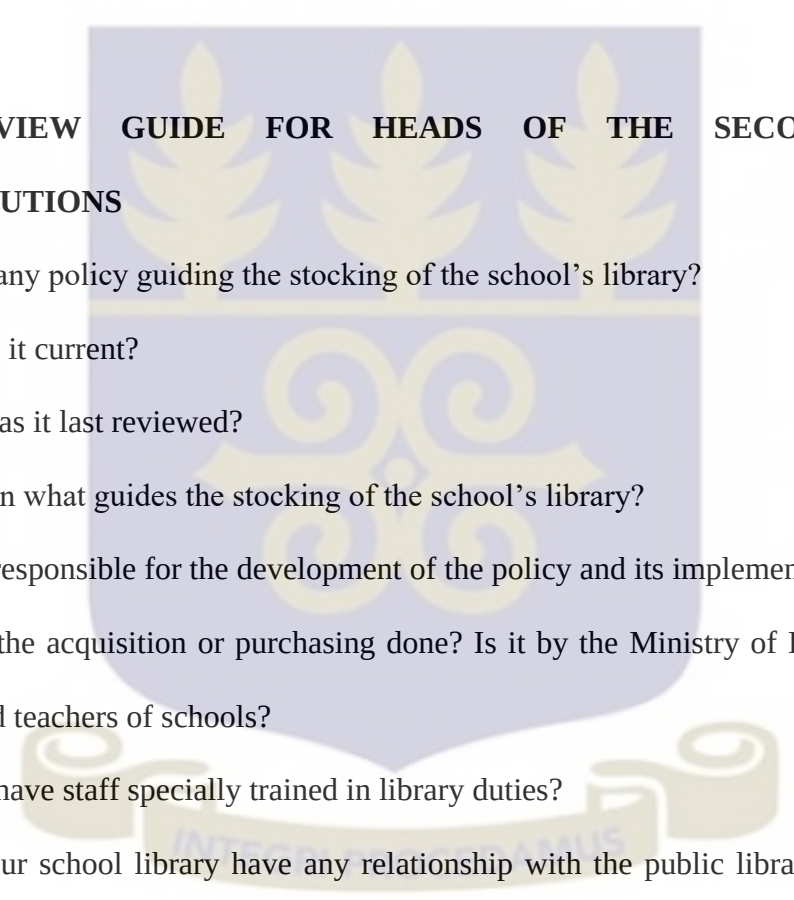
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Thank you



INTERVIEW GUIDE FOR HEADS OF THE SECOND CYCLE INSTITUTIONS

1. Is there any policy guiding the stocking of the school's library?
2. If yes, is it current?
3. When was it last reviewed?
4. If no then what guides the stocking of the school's library?
5. Who is responsible for the development of the policy and its implementation?
6. How is the acquisition or purchasing done? Is it by the Ministry of Education or by the Head teachers of schools?
7. Do you have staff specially trained in library duties?
8. Does your school library have any relationship with the public libraries in terms of supply of information materials?
9. Do you organize any training session for your teachers on library use?
10. Is there a dedicated budget for books or information materials?
11. Does your school have an ICT laboratory?
12. Is there any ICT policy guiding acquisitions of ICT tools?
13. If no, then how do you acquire the ICT tools to stock your ICT laboratory?

14. Does the ICT laboratory have internet facilities that aids the school community to search for information online?
15. Do you organize training sessions for your teachers on ICT use?
16. What are some challenges your school faces in terms of information provision?
17. What will you recommend for improving access to information to your teachers?

INTERVIEW GUIDE FOR OFFICER IN CHARGE OF THE LIBRARY

1. Do you have any training in library duties?
2. If yes, in what form was it? Was it formal or in-service training?
3. If not is there any plan to obtain any training in library studies in the near future?
4. Is there any policy guiding the stocking of the school's library?
5. If yes, is it current?
6. When was it last reviewed?
7. If no then what guides the stocking of the school's library?
8. How do you acquire books to stock your library?
3. How are the books and information materials arranged in this school?
4. What retrieval tool tools are available? (lists, indexes etc)
5. How is requisition done?
6. Do the teachers patronize the library?
7. If yes, what kind of information do they usually come to look for?
8. How is the movement of books or information materials controlled? (Is there any movement register?)
9. How do the teachers get to know that there are new arrivals?

10. Do you organize training for the teachers to facilitate information acquisition and use?
11. How do you sell or publicize your library?
12. What factors affect access to information needed by teachers in this school?
13. What are some challenges you encounter as the officer in charge of the library?
14. What will you recommend for improvement of the system?

