

Information Channels, Information Sources and Tasks of Secondary School Geography Teacher Trainees in Nigeria

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Abstract

This study presumes that teaching and learning are associated with handling of information; use or lack of information will affect quality of preparation of teacher trainees and that teachers were found to be active, experienced and critical users of information. Intrinsically, this paper examined the usage of information channels and information sources by secondary school geography teacher trainees in the context of their tasks. Three research questions were answered in this study. Six hypotheses were tested. Using survey design, a purposive sampling strategy was used to select participants from three institutions that trained secondary schools teachers in Oyo State, Nigeria. Data were collected through triangulation of individual interviews and questionnaire. Cross-tabulations of frequencies with certain demographic characteristics were done. Chi-Square Test Statistics (χ^2) were used to test for the differences based on gender and classes of participants. The analysis revealed the web as most preferred information channel followed by personal collection, books and interpersonal resources. Lecturer was the most preferred information source followed by internet sites, books and mates. Participants were very satisfied about the usage of preferred information channels and sources. All the hypotheses tested revealed no significant differences based on gender and classes of the participants. The end product of the analysis is a proposed model; a framework that can guide the possible design and implementation of information service for secondary school geography teacher trainees. This study recommended that information resources such as computer, internet, up to date geography books, pamphlets, and journals be made available and accessible in Nigerian secondary schools. Secondary school geography teacher trainees were encouraged to form and join associations and clubs. These clusters could be useful in information resource-sharing. This is capable of revitalizing geography as a secondary subject and making it more relevant to national development.

Keywords: *Geography, Secondary School Teacher Trainees, Information channels, Information sources, Tasks.*

1.0 Introduction

Geography as a school subject should be taught to enable learners, develop descriptive, interpretative and analytical techniques. The implication is that Geography teacher trainees need to update their knowledge about modern approaches to teaching. Importantly, teacher trainees should develop skills to impart geographical knowledge and information. More importantly, the quality of a geography teacher is a product of quality theoretical and practical knowledge and skills the teacher gets exposed to as a trainee. Again, the use or lack of information will affect the quality of preparation of geography teacher trainees and their level of proficiency. Just as Taylor reasoned “Teachers have been found to be active, experienced and critical users of information” (Taylor, 1991). While another author, Karunarathna (2008) said that teaching and learning are associated with handling of information. To this end, Geography teacher trainees must be adequately skilled in the selection and usage of information channels and sources in accomplishing their tasks of lesson planning, during studies and teaching practice.

Geography teacher trainees need information to fulfil their work related roles and tasks. This could be addressed by employing the appropriate information channels and information sources. This is as corroborated by Vergot, Israel & Mayo (2005), the authors opined that understanding the sources used by clientele and the use of appropriate information channels can facilitate a widespread coverage of the target audience. These scholars further described an information source as an individual or an institution that originates a message. A channel is the means by which a message gets from the source to the receiver. Succinctly put, an information source contains relevant information whereas a channel guides the user to pertinent sources of information.

Information is accessed through various channels (e.g. colleagues, phone catalogues and retrieval systems such as the internet) from various sources (e.g. colleagues, reference books and internal memoranda). From the worker's point of view, a source contains (or is expected to contain) relevant information while a channel guides (or is expected to guide) the worker to pertinent sources. Therefore there is no absolute difference between channels and sources. A channel may turn into a source and vice versa (Byström & Järvelin 1995). In this study, Information sources could be a person, an object, a telephone conversation, document, books, pamphlets, journals, conferences, seminars, workshops, internet sites (faxes, e-mails, SMS or MMS) or any other sources geography teacher trainees could utilize either to assist or in completing their training. While the identified information channels in this study include personal collection, periodicals, web, libraries observation, exhibitions and unknown or anonymous. However, in this study emphasis will be placed on the computer based information sources in favour of internet sources. The Internet primarily contains relatively recent information, such as entire books, magazine articles, software, email and chat. Essentially, internet permits access to the “invisible web”, which includes peer-reviewed scholarly articles from experts, newspaper articles, live and recorded video and audio.

Information channels provide access to information sources employed by the secondary school geography teacher trainees when engaging in their tasks. Just as well-known authors such as Byström & Järvelin (1995) established a systematic and logical relationships between task complexities, types of information, information channels and sources. Another author, Byström (2002) indicated that there is a relatively strong relationship between types of information and types of sources. The effects of task complexity made experts more attractive as a source than other people and all types of documentary sources.

The tasks of geography teacher trainees include usage of good teaching materials such as maps, globes, pictures, models, graphs, specimen, charts and fieldwork. Other tasks are; extensive research to be up-to-date using the internet, attending workshops, and conferences and the usage of the environment as a geography laboratory to teach facts. Teacher trainees are expected to learn about human, climate, relief, soils, vegetation and the water bodies. The teacher trainees should be able to use a variety of teaching methods, question and answer, chalk and talk, lecture method. For the purposes of this study the tasks of teacher trainees will be limited to the following. i) Studies: the curriculum, subject content, learning assignments and activities, classroom control, pupils' and students' age, abilities and learning, and suitable resources. ii) Lesson planning. iii) Teaching practice. These tasks are in conformity with professionals such as Bitso & Fourie (2012) according to the authors the work environment of in-service geography teachers include their work roles, associated tasks, information needs and information-seeking patterns. Furthermore, these authors added that Bitso & Fourie (2014) the scope of the information needed by prospective geography teachers covers content that has to be delivered in class, teaching methods, educational policies and learners' assessment.

In most Nigerian secondary schools, Geography seems to be a difficult subject to teach probably owing to the nature of the subject and the way it is being taught. This can be traced to inadequacy of illustrations, teaching aids for map reading and photographic interpretation. Use of computer/e-learning is limited to a

few top schools in the country. There are no geography rooms/laboratories. The above may not be exhaustive but these probably made Geography difficult to learn by students and many hated it. This indicates the gaps a teacher educator has to fill while being trained as a geography teacher. In realization of the value of information in learning and teaching of Geography, more needs to be done to improve availability of information through the usage of appropriate information channels and information sources while teaching and learning geography in developing countries such as Nigeria. As such, the main thrust of this research is to examine the usage of information channels and information sources by geography teacher trainees.

Therefore, this paper explored the information channels and information sources available to secondary school geography teacher trainees in the context of their tasks. The following research questions were answered in this study.

- What information channels do secondary school teacher trainees use in Nigeria?
- What information sources do secondary school teacher trainees use in Nigeria?
- To what extent do secondary school teacher trainees in Nigeria satisfied about
 - a) information channels and
 - b) information sources?

These questions were answered by using the task-based viewpoint in characterizing secondary school geography teacher trainees' tasks into learning and/or studies, lesson planning and teaching practice. To this end the following hypotheses were tested.

H₀₁: There is no significant difference in information channels usage patterns of secondary school geography teacher trainees on gender basis.

H₀₂: There is no significant difference in information channels usage patterns across classes of secondary school geography teacher trainees.

H₀₃: There is no significant difference in information sources usage patterns of secondary school geography teacher trainees on gender basis.

H₀₄: There is no significant difference in information sources usage patterns across classes of secondary school geography teacher trainees.

H₀₅: There is significant difference in the purposes of seeking information by secondary school geography teacher trainees on gender basis.

H₀₆: There is significant difference in the purposes of seeking information across classes of secondary school geography teacher trainees.

2.0 Literature Review

Though literature reviewed is replete with empirical works centered on developing needed skills of teacher trainees. Authors such as Sofowora & Egbedokun (2010) provided empirical data on the extent of the integration of the new technology in teaching and learning Geography in Nigerian Secondary Schools. Another scholars, Skutil, Havlíčková & Matějčíková (2013) dealt with the use of didactic material resources in the teaching of National History and Geography with the regards to promotion of independent activity of students within learner based education. In his contribution, Onasanya (2004) highlighted the selection and use of media in promoting trainee teachers' efficiency in the design, production and handling of media during practice teaching. As regards information needs, Nwokedi & Adah (2009) investigated the information needs of post-primary school teachers in Jos, Plateau State, Nigeria. While Lee, Paik & Joo (2012) examined the information resource selection of undergraduate students in academic search tasks.

In terms of use of information channels and sources by teacher trainees, Tanni (2012) investigated teacher trainees' use of information (seeking) channels and sources, and their modes of information acquisition in lesson planning. While Bitso & Fourie (2012) investigated the information needs and information-seeking patterns of secondary level geography teachers in Lesotho to guide the design and implementation of an

information service for these teachers. Furthermore, Bitso & Fourie (2014) studied information-seeking behaviour of prospective geography teachers at the National University of Lesotho based on their experiences during teaching practice. Another scholar, Byström (2002) studied task complexity and information-seeking activities in real-life work tasks. While, Godara & Bhimawat (2012) studied information sources and channels utilized pattern by the farm women for technical knowhow of wheat production technology in Udaipur district of southern Rajasthan.

From the foregoing, a plethora of research examined methods of improving teaching and learning of Geography, but scant research examined the mode of information acquisition of geography trainees. Particularly lacking is research that scrutinized information channels, information sources of secondary school geography teacher trainees' tasks. Now a mediator is needed to further explain the relationship between information channels, information sources and tasks of geography teacher trainees'. Hence, the goal of this study is to examine secondary school geography teacher trainees' information channels and information sources and their ways of acquiring information needed in their tasks-studies, lesson planning and during teaching practice.

3.0 Methodology

This study adopted a survey research design. This design was considered appropriate for the study because data were collected without changing the environment and nothing was manipulated. With surveys the large amount of information that can be gathered and be processed and analyzed in a short period of time. This design described the relationship between the information sources, information channels and tasks of geography teacher trainees. The population of the study comprised of all geography teacher trainees in Oyo State, Nigeria. However, a purposive sampling strategy was used to select 243 secondary school geography teacher trainees from three tertiary institutions that trained secondary schools' teachers in Oyo State, Nigeria. The institutions are as follows. i) Faculty of Education, University of Ibadan, (UI) Ibadan. ii) Emmanuel Alayande College of Education, (EACOED) Oyo, Erelu Campus. iii) Emmanuel Alayande College of Education, (EACOED) Oyo, Lanlate Campus, Lanlate.

Data were collected from secondary geography teacher trainees through triangulation of individual interviews and questionnaire. From the participants, information solicited relates to their information channels and information sources in their studies, lesson planning and teaching practice. Cross-tabulations of frequencies with certain demographic characteristics were used. Chi-Square Test statistics (χ^2) were conducted on these cross-tabulations to test for the significant differences based on gender and classes of the participants.

4.0 Analysis

4.1 Demographic Characteristics of secondary school geography teacher trainees

A total of 243 secondary school geography teacher trainees participated in this study. Out of which 27 (10.8%) are studying at the University of Ibadan (UI). At students combine Geography with either Educational Management, Guidance & Counselling or Special Education. While 150 (60.2%) and 72 (28.9%) participants were drawn from both Erelu and Lanlate Campuses of EACOED, Oyo respectively. At EACOED, participating secondary school geography teacher trainees combine Geography with any one of the following subjects: Biology, Computer Science, Economics, Integrated Science, Mathematics, Political Science, Social Studies and Physics.

4.2 Information channels usage of secondary school geography teacher trainees

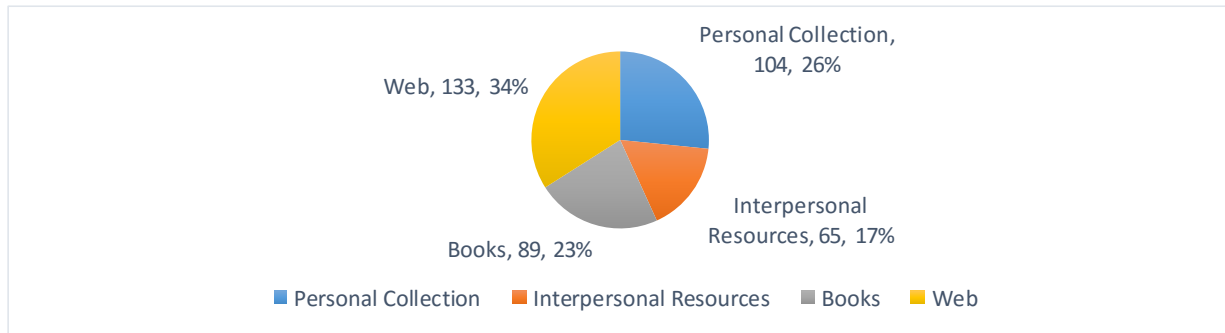


Figure 1: Information Channels

Reasons for using Information Channels

Majority of the participants showed that economy of time is the most important reason for using their preferred information channels. A total of 117 (35.13%) participants testified to this. Another 104 (31.23%) said ease of use is an important reason for using their preferred information channels. While 61(18.32%) and 51(15.32%) preferred their choice of information because of recency of information and the speed of information channels respectively.

4.3 Information sources usage of secondary school geography teacher trainees

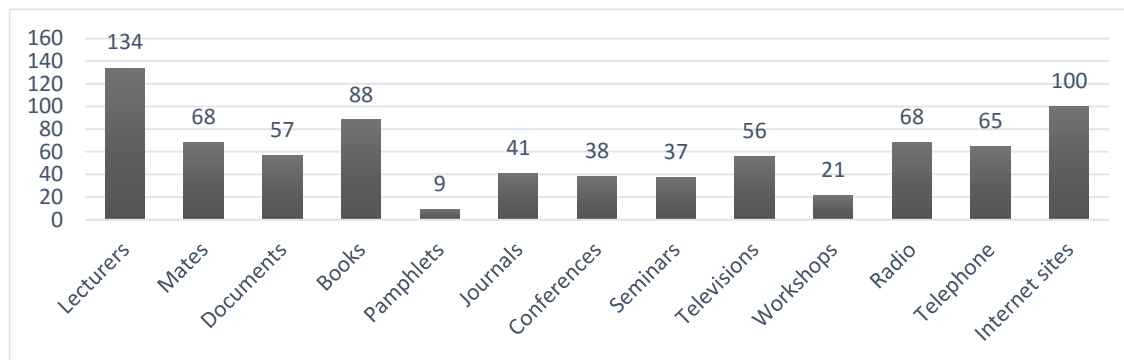


Figure 2: Information sources

Regularity of usage of information sources

As regularity within which participants used information sources, a total of 165 (66.3) responded that they used their preferred information sources daily. While 39 (15.7%) used theirs thrice in a week. Another 24 (9.6%), 7 (2.8%) and 4 (1.6%) used theirs once a week, once a month and twice a week respectively.

4.4 Satisfaction of secondary school geography teacher trainees about Information Channels and Information Sources

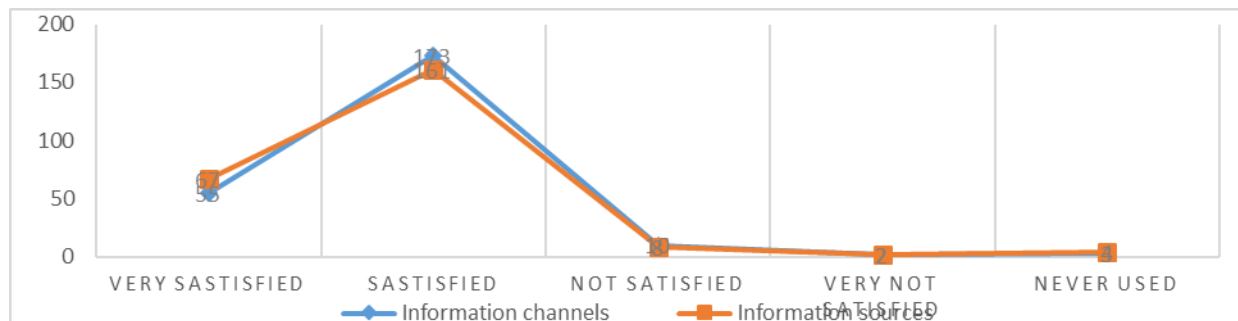


Figure 3: Level of satisfaction about Information Channels and information sources

4.5 Secondary school geography teacher trainees’ information channels usage by gender and class/level

Table 1: information channels usage of Secondary school geography teacher trainees’ by gender and class/level

Gender			Information Channels	Class/Level				
Male	Female	Total		Freshman	Sophomore	Penultimate	Graduating	Total
38	66	104	Personal Collection	39	58	6	1	104
30	35	65	Interpersonal Resources	15	45	4	-	64
42	47	89	Books	21	58	5	3	87
58	75	133	Webs	52	73	4	1	130

In testing of H_{01} and H_{02} : the data as presented in table1 was subjected to chi-test statistic. The summarized results were as presented in the Chi-Test Statistic table.

Chi-Test Statistic Table

	H_{01}	H_{02}
χ^2	2.6936	14.45
p-value	0.4413	0.1072

H_{01} : since p-value of 0.4413 is greater than 0.05. H_{01} is accepted. That is, there is no significant difference in information channels usage patterns of secondary school geography teacher trainees on gender basis.

H_{02} : since p-value of 0.1072 is greater than 0.05. H_{02} is accepted. That is, there is no significant difference in information sources usage patterns across classes of secondary school geography teacher trainees.

4.6 Secondary school geography teacher trainees’ information sources usage of by gender and class/level

Table 2: Secondary school geography teacher trainees’ usage of information sources by gender and class/level

Gender			Information Sources	Class/level				
Male	Female	Total		Freshman	Sophomore	Penultimate	Graduating	Total
58	76	134	Lecturer	50	73	5	3	131
27	41	68	Mate	13	49	6	-	68
26	31	57	Document	19	34	2	1	56
40	48	88	Book	29	53	3	2	87
4	5	9	Pamphlet	2	5	2	-	9
22	19	41	Journal	11	26	1	2	40

15	23	38	Conference	9	26	3	-	38
13	24	37	Seminar	8	25	4	-	37
25	31	56	Television	16	36	3	1	56
11	10	21	Workshop	4	15	1	-	20
34	34	68	Radio	16	49	2	1	68
26	39	65	Telephone	22	42	1	-	65
50	50	100	Internet site	47	47	3	1	98

In testing H_{O3} and H_{O4} , the data presented in Table 2 was subjected to Chi-test statistic. The summarized results were as presented in the Chi-Test Statistic table.

Chi-Test Statistic Table

	H_{O3}	H_{O4}
χ^2	6.9301	49.893
<i>p-value</i>	0.8622	0.0617

H_{O3} : Since *p-value* of 0.8622 is greater than 0.05. H_{O3} is accepted. That is, there is no significant difference in information sources usage patterns of secondary school geography teacher trainees on gender basis.

H_{O4} : Since *p-value* of 0.0617 is greater than 0.05. H_{O4} is accepted. Meaning that, there is no significant difference in information channels usage patterns across classes of secondary school geography teacher trainees.

4.7 Purpose of seeking Information by secondary school geography teacher trainees

Table 3: purpose of seeking Information by secondary school geography teacher trainees on gender and class/level bases

Gender			Purpose of seeking information	Class/Level				
Male	Femal e	Total		Freshm an	Sophomor e	Penultima te	Graduati ng	Tota l
39	53	92	Lesson Planning	23	56	6	2	87
66	118	184	Learning or Studying	88	83	8	3	182
16	16	32	Teaching Practice	10	20	1	1	32
18	17	35	Entertainment	7	25	1	-	33
15	26	41	Social Activities	8	27	4	1	40

In testing H_{O5} and H_{O6} , the data presented in Table 2 was subjected to Chi-test statistic. The summarized results were as presented in the Chi-Test Statistic table.

Chi-Test Statistic Table

	H_{O5}	H_{O6}
χ^2	26.873	4.9584
<i>p-value</i>	0.0081	0.2916

H_{O5} : the *P-value* of 0.0081 is less than 0.05. As such H_{O5} is rejected. That is, there is significant difference in the purposes of seeking information by secondary school geography teacher trainees on gender basis.

H_{O6} : the data presented in Table 3 was subjected to chi-square statistic. The *P-value* of 0.2916 is greater than 0.05 H_{O6} is rejected. That is, there is significant difference in the purposes of seeking information across classes of secondary school geography teacher trainees.

5.0 Discussion of findings

From the data collected and the analysis it was revealed that the web is the most preferred information channel by the secondary school geography teacher trainees. In order of preference personal collection, books and interpersonal resources are other important information channels used by them. However, majority of the participants showed that economy of time is the most important reason for using their preferred information channels. Other reasons are ease of use, recency of information and the speed of

information channels. The study also revealed that the participants saw lecturer as the most preferred information source. Followed by Internet sites, books and mates. In magnitude of importance, other information sources they preferred by the secondary school geography teacher trainees are as follows. Radio, telephone, document, television, journal, conference, seminar, workshop and pamphlet. The levels of secondary school teacher trainees' satisfaction about the usage of information channels information sources are very high. All the hypotheses tested revealed no significant differences based on gender and classes of the secondary school geography teacher trainees. For instance, there are no significant differences in information channels usage patterns. Also, there are no significant differences in information sources usage patterns.

The purposes of seeking information also showed no meaningful difference. This study is in agreement with (Karunarathna 2008). It supports the facts that teaching and learning are associated with handling of information. This study also confirmed the assertion of Taylor (1991) that teachers have been found to be active, experienced and critical users of information. Based on data collected, this study proposed a model. Considering the limited information channels and sources in Nigerian schools, it is recommended that the model proposed in this study be adapted for possible implementation across all subjects.

6.0 The proposed model

The premises of task-based information seeking and retrieval studies are that tasks trigger purposeful information seeking to the accomplishment of a goal. Information seeking is dependent on the primary goal of the task. Information sources are physical entities in a variety of media providing data or signs, which may become information when perceived. Information sources are therefore not synonymous with information contents. The information channel is the intermediary, which guides the information seeker to the source. The information channels are enabled by but not synonymous with various technologies. Information channels, like sources, may be informal (i.e., interpersonal) or formal (i.e., documentary) and, like sources, exclude the information seeker. The distinction between the two concepts is that information channels are used to become aware of and locate appropriate information sources that contain, or are expected to contain, the actual information sought for. The task is used as a framework for analysing access to information sources is considered relevant to this study. The conceptual framework lays down the: information channels, sources and the key characteristics of the task of secondary school teacher trainees.

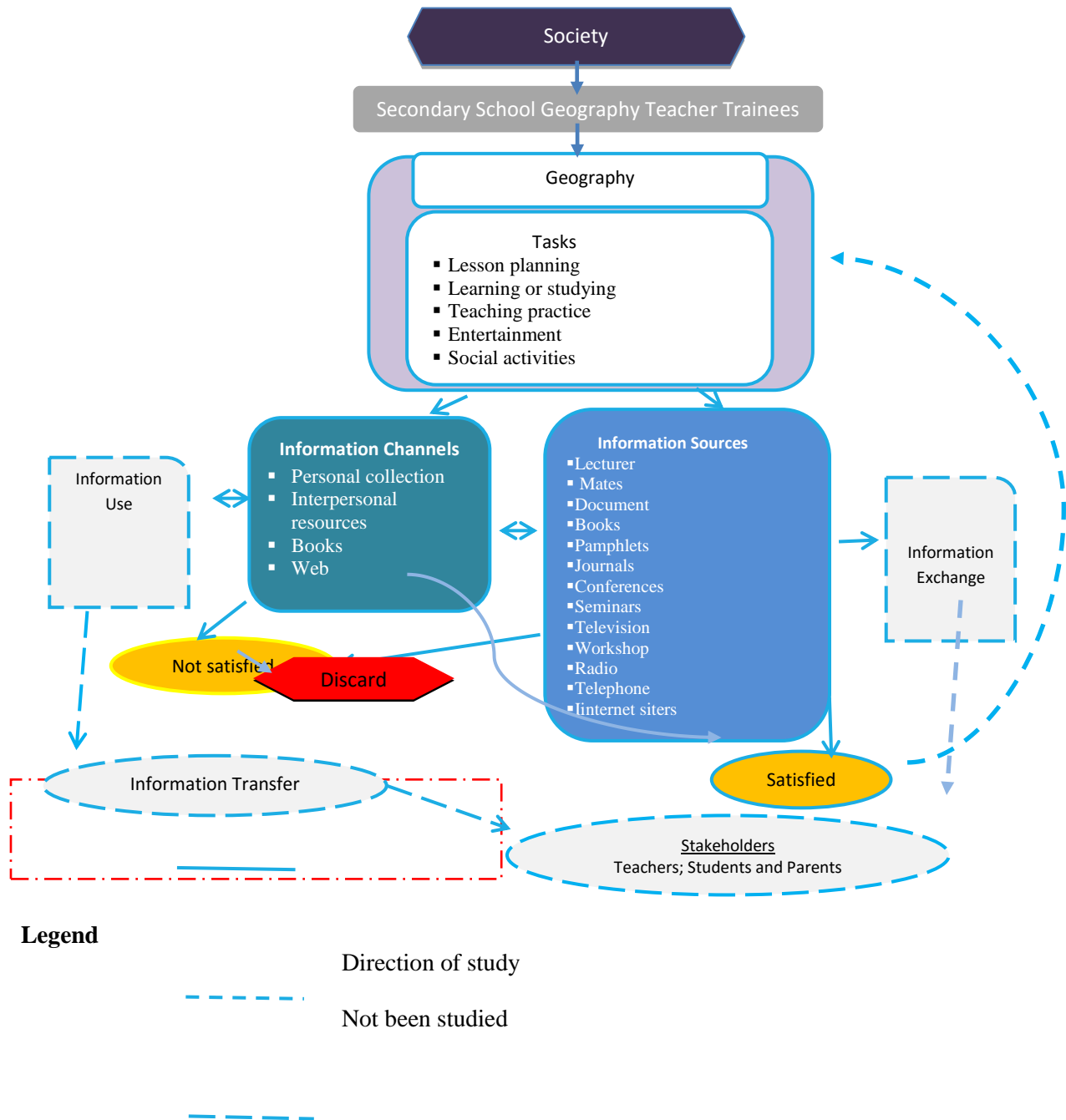


Figure 4: Model: Information Channels, Information Sources and Tasks of Secondary School Geography Teacher Trainees.

This model suggests that secondary school geography teacher trainees' seek information to satisfy their tasks and skills in geography. These tasks demand formal or informal information channels and information sources. If the information found satisfy the perceived need or fail to satisfy the need and have to reiterate the search process. The model also shows that part of the information needed may involve other people through information exchange. Then, information perceived as useful may be passed to stakeholders, as well as being used (or instead of being used) by the person himself or herself. Though this model provides a map of the area and draw attention to gaps in research. It provides no suggestion about tested hypotheses.

7.0 Implication for policy and practice

In Nigeria schools, geography is offered at senior secondary level. Now, geography is offered as elective course in humanities (National Policy on Education, 2013). It was felt that geography as a subject could be threatened by the relegation of this subject and introduction of new subjects. This relegation should be of interest to policy makers. This implied that there is likelihood of paucity in the training of professionals needed for national building and development. Such professionals include architects, surveyors, estate managers, country and town planners, cartographers, geography lecturers. Alternatively, subjects such as environmental education which is deep-rooted in geography should be introduced as one of compulsory cross-cutting subjects in schools. It is envisaged that in the tasks of preparing secondary school geography teacher trainees for employment more up to date information be provided about geography. This will increase appreciation of this subject by students.

8.0 Recommendations for information service interventions

In an effort to revitalize, reposition and make geography relevant to national development, the study put forward the following recommendations. The presumed scarcity of information resources in Nigerian schools should be righted. There must be interventions to improve information service delivery especially for the secondary school geography teacher trainees. Information resources such as computer, internet facility, photocopier, scanner, radio and telephone should be made available and accessible in Nigerian secondary schools. Up to date geography books, pamphlets, and journals should also be provided. Secondary school geography teacher trainees were also encouraged to form and join national geography teachers' association, discussion groups and school clubs like environment protection, geography, wildlife and debating. These clusters could be useful in information resource-sharing. This made geography real.

10.0 Conclusion

This study presumes that the quality of geography teachers is a product of theoretical, practical knowledge and skills they get exposed to as trainees. This implies that secondary school geography teacher trainees need to update their knowledge about modern approaches to teaching. They must be adequately skilled in the selection and usage of appropriate information channels and sources in lesson planning, studies and during teaching practice. This will support geography instruction.

References

- Byström, K. and Järvelin, K. (1995). Task complexity affects information seeking and use. *Information Processing & Management*, 31(2): 191 - 213.
- Byström, K. (2002). Information and Information sources in tasks of varying complexity. *Journal of the American Society for Information Science and Technology*, 53(7):581-591.
- Bitso, C., and Fourie, I. (2012). An Investigation of Information-Seeking Behaviour of Geography Teachers for an Information Service Intervention: The Case of Lesotho. *Information Research: An International Electronic Journal*, 17(4).
- Bitso, C. and Fourie, I. (2014). Information-seeking behaviour of prospective geography teachers at the National University of Lesotho. *Information Research*, 19(3).
- Godara, S. and Bhimawat, B. S. (2012). Information sources and channels utilized pattern by the farm women for technical knowhow of wheat production technology. *Journal Extension Education*, 20:164-166.
- Karunaratna, A. (2008). [Information-seeking behaviour of university teachers in Sri-Lanka in the field of management studies](http://hdl.handle.net/10760/12699). Retrieved August 30, 2011, from <http://hdl.handle.net/10760/12699>
- Lee, J., Paik, W. and Joo, S. (2012). "Information resource selection of undergraduate students in academic search tasks" *Information Research*, 17(1).
- Nigerian Education Research and Development Council (2013). National Policy on Education.
- Nwokedi, V.C. and Adah, J. (2009). Information needs of post-primary school teachers in Jos, Plateau State, Nigeria. *Information Technologist*, 6(2).

- Onasanya, S. A., (2004). Selection and utilization of instructional media for effective practice teaching. *Institute Journal of Studies in Education*, 2(1): 127-133.
- Skutil, M., Havlíčková, K. and Matějčková R. (2013). Didactic Material Resources in the Teaching of National History and Geography: Selected Results of a Qualitative Survey. World Academy of Science, Engineering and Technology. *International Journal of Social, Management, Economics and Business Engineering*. 7(10): 1480-1484.
- Sofowora, O. A. and Egbedokun, A. (2010). An Empirical Survey of Technology Application in Teaching Geography in Nigerian Secondary Schools. *Ethiopian Journal of Environmental Studies and Management*, 3(1): 46-54.
- Tanni, M. (2012). "Teacher trainees' information acquisition in lesson planning". *Information Research*, 17(3): 1-19. [Available at <http://InformationR.net/ir/17-3/paper530.html>]
- Vergot, P., Israel, G. and Mayo, D. E. (2005). Sources and Channels of Information Used by Beef Cattle Producers in 12 Counties of the Northwest Florida Extension District. *Journal of Extension*, 43(2):

Questionnaire

This survey examines information channels, information sources and tasks of secondary school geography teacher trainees in Nigeria. This survey is anonymous and the data will only be used for academic research. The survey takes 10–15 minutes to complete.

1. Institution:
2. Subject Combination:
3. Class level: Freshman () Sophomore () Penultimate () Graduating ()
4. What is your gender? Male () Female ()
5. Do you seek information? Yes () No ()
6. If yes, state your information channels?
Personal collection () Interpersonal resources () Books () Web ()
7. What are the reasons for using information channels?
Economy of time () Speed () Recency () Ease of use ()
8. Were you satisfied with information channels used?
V Satisfied () Satisfied () Not Satisfied () V not Satisfied () Never used ()
9. Please indicate your information sources.
Lecturer () Mates () Document () Books () Pamphlets ()
Journals () Conferences () Seminars () Television () Workshop ()
Radio () Telephone () Internet sites () Others, please specify.....
10. How often do you use information sources?
Daily () Thrice a week () Once a week () Twice a month () Once a month ()
11. For what purpose do you seeking information?
Lesson planning () Learning or studying () Teaching practice ()
Entertainment () Social activities () Others.....
12. We you satisfied with the information sources? Yes () No ()
13. If yes, rate information sources according to level of satisfaction.
V Satisfied () Satisfied () Not Satisfied () V not Satisfied () Never used ()
14. On what grounds did you assess the suitability of the information sources you did find?
15. State importance of information sources to completion of your study.