

The information needs and information-seeking patterns of secondary level geography teachers in Lesotho: implications for information service

By

# **Constance Majomane Likonelo BITSO**

Student Number 27562052

Submitted in partial fulfilment of the requirements for the degree of Doctor Philosophiae (Information Science)

In the Faculty of Engineering, Built Environment and Information Technology

UNIVERSITY OF PRETORIA

Supervisor: Prof. Ina Fourie

November 2011



#### **ABSTRACT**

This thesis reports on a study that investigated the information needs and the informationseeking patterns of secondary level geography teachers in Lesotho with the aim of guiding the design and the implementation of information service for these teachers. It was instigated by variations in content acquired by geography teachers graduating from the National University of Lesotho. The study followed a survey method using focus group discussions with the in-service teachers who were the core participants, questionnaire with the prospective teachers and individual interviews with officials in institutions that work closely with secondary level geography teachers in order to triangulate and validate the survey results. The school libraries as part of information service provided to these teachers were also partially observed through site visits to note existing services. From the visits to school libraries the status quo and key problems in this regard were identified. The data collected through the questionnaire were mainly quantitative and were analysed using the Statistical Package for Social Sciences (SPSS), while the qualitative data from the focus group discussions and individual interviews were analysed by examining themes in such a way that common trends were established. Narratives were compared with each other throughout the entire data-processing stage. There were 82 in-service geography teachers from 28 out of 51 schools offering geography at both junior and senior secondary level in seven out of ten districts of Lesotho who participated in the study. Furthermore, 46 out of 62 prospective geography teachers and nine officials from institutions involved in secondary level geography education participated in this study.

The study used the Leckie, Pettigrew and Sylvain's (1996) information-seeking of professionals' model as its theoretical framework but overlaid it with other models such as Savolainen's (1995) everyday life information-seeking model and Wilson's (1999) nested model of information behaviour where necessary. The Leckie, Pettigrew and Sylvain's (1996) model helped to reveal the work environment of the in-service teachers, including their work roles, associated tasks, information needs and information-seeking patterns. The secondary level geography teachers (including in-service and prospective teachers) in Lesotho have a variety of information needs. The **nature** of the information needed is current and accurate for the content that they have to deliver in class. The **format** of information



needed is mostly audio-visual for teaching aids and materials for use in class to concretise abstract foreign geographical features and principles of geography to the learners, and print format for teachers' personal use. The study found that the participants all have the main educator role of teaching geography. Consequently the **scope** of information needed covers geography content with more emphasis on physical geography sphere. The scope of information needs also covers pedagogy or teaching methods, classroom management, learners' academic assessment and specific information pertaining to their social background, including information concerning youth and adolescence issues generally. It transpired that the participants also have administrative roles and tasks that require institution-specific information such as education policies, syllabus and curriculum documents, teaching regulations, national examinations and education legal frameworks. The results of the study also reveal that teachers have a social responsibility and caregiving role in respect of orphans whose numbers are increasing owing to the high prevalence of HIV and AIDS in Lesotho. Fulfilling this role requires information on social assistance for orphans and vulnerable children.

Findings on the teachers' information-seeking patterns include preferences for information sources and the order of consulting such sources. In this study, teachers' preferred order of information sources is the syllabus, then the learners' prescribed textbooks, their own collection of books and then colleagues who are also geography teachers in their schools and professional associations, science, agriculture and development studies teachers. Teachers' age and the geographic location of schools seem to have an influence on information-seeking patterns, given that younger novice teachers always start with the syllabus, while older teachers with longer teaching experience indicated that they do not consult the syllabus that much. Other marginal differences between the participants are that while younger teachers in urban schools reported occasional use of the internet, older teachers mostly consult their colleagues in other schools, as they seem to have well-established social networks. Teachers in the rural schools use the people in their communities, such as farmers and miners, as information sources. Libraries are hardly used because they are reported to be stocked with outdated books that bear no relevance to a current understanding of geography. The school libraries were reported to be staffed by incompetent people who are unable to assist with addressing the teachers' information needs. It was evident that journals are lacking in schools



and the teachers have limited means of keeping abreast with the latest developments in geography education other than through media such as television, radio and newspapers.

In terms of preferences for information sources and order of use, it is evident that teachers begin with the syllabus, which is a national framework guiding teaching and learning, moving on to internal and external information sources such as book collections, with a preference for colleagues specialising in disciplines such as geography, agriculture and natural sciences and development studies. This is followed by selective use of the internet as a global information source by younger teachers in urban areas. In satisfying information needs, teachers in rural schools also reach out to community members, such as farmers and miners. Popular media such as television, radio and newspapers compensate for lack of journals and other current literature possibly existing in well-functioning libraries.

In seeking information, communication channels used to access information are also important and had to be considered in this study. The study found that secondary level geography teachers in Lesotho use face-to-face communication as well as telephone/cell-phone calls, including Short Message System (SMS), for communication. The internet was recommended by 100% of the participants as one of the ways that could improve information service to these teachers. The internet is regarded as the key source to provide current and varied information, even though at the time of the study it was mostly used only by younger teachers in the urban areas. Communication channels preferred by secondary level geography teachers need to be noted, as they can shed light on how to communicate information to these teachers.

Based on the findings, the study proposes an information service model for secondary level geography teachers in Lesotho. The model is based on the information needs and information-seeking patterns of these teachers, including their preferred information sources and order of use, as well as communication channels. The model also considers, in its design, the prevailing poverty and limited resources in Lesotho to ensure that it is realistic and achievable. The model outlines its implementation strategies, as well as strategies to evaluate the proposed information service.



The study concludes by making recommendations concerning the modalities for addressing the information needs of secondary level geography teachers in Lesotho, the most important being that the teachers have access to information that is current and relevant to their teaching, disseminated in their preferred format and communicated through their preferred channels. Following the findings on information needs and information-seeking patterns, including the expressed need for internet, the study also recommends strategies on how these teachers may access the internet.



### **ACKNOWLEDGEMENTS**

I would like to express my deepest gratitude to the following people and institutions for their contributions and support to this research:

Special thanks to my supervisor, Prof Ina Fourie, for her continuous guidance, supervision and support throughout this study and Mrs. Barbara Bradley for language editing.

My appreciation goes to the Principal Secretary and the Chief Education Officer, Secondary Education in the Ministry of Education and Training for granting permission for this study to be done involving the in-service secondary level geography teachers in Lesotho. Equally, I would like to thank the National University of Lesotho (NUL), in particular the Registrar, Dean, Faculty of Education and the Teaching Practice Coordinator for allowing me to do this study with the prospective geography teachers. All the institutions whose employees participated in this study are also acknowledged.

My deepest gratitude goes to the NUL geography educator lecturer, Mr Tom Ssendija, whose contribution was very significant. He not only identified the final-year education students majoring in geography for me, but also distributed the questionnaire to his students and collected them on my behalf.

My family is thanked for being so patient and understanding of my absence from home. In particular, I would like to extend my sincere gratitude to my husband, Paul Bitso, for his encouraging words and emotional support when things were not happening as and when expected.

I must thank dearly all the participants in this study; their time and effort to answer my questions are highly appreciated.

The Lesotho government and the NUL are thanked for financially supporting this study.



### LIST OF ABBREVIATIONS AND ACRONYMS

ACL - Anglican Church of Lesotho	ACL -	Anglican	Church	of	Lesotho
----------------------------------	-------	----------	--------	----	---------

AIDS - Acquired Immune Deficiency Syndrome

ARV - Anti-retroviral

BA - Bachelor of Arts

B Ed. - Bachelor of Education

BA Ed. - Bachelor of Arts Education

BBGTA - Butha-Buthe Geography Teachers' Association

BGTA - Berea Geography Teachers' Association

BSc Ed. - Bachelor of Science Education

CDS-ISIS - Computerised Documentation System-Integrated Set of Information Systems

**COM** - Community

COSC - Cambridge Overseas School Certificate

CSIR - Council for Scientific and Industrial Research (in South Africa)

EBIT - Engineering Built Environment and Information Technology

ECCD - Early Childhood Care and Development

ECOL - Examinations Council of Lesotho

FPE - Free Primary Education

**GOV-** Government

HIV - Human Immunodeficiency Virus

ICT - Information and Communication Technology

IE - Institute of Education, National University of Lesotho

IDC - Information and Documentation Centre

IFLA - International Federation of Library Association and Institutions

FAIFE - Free Access to Information and Freedom of Expression

JC - Junior Certificate



LCE - Lesotho College of Education

LEC - Lesotho Evangelical Church

LGTA - Leribe Geography Teachers' Association

LIS - Library and Information Science

M Ed. - Master of Education

MA Ed. - Master of Arts Education

MOET- Ministry of Education and Training

NCDC - National Curriculum Development Centre

NEPAD - New Partnership for African Development

NUL - National University of Lesotho

OPAC - Online Public Access Catalogue

OVC - Orphans and Vulnerable Children

RCC - Roman Catholic Church

**RUSA-** Reference and User Services Association

SGTA - Southern Districts Geography Teachers' Association

SMS - Short Message System

SPSS - Statistical Package for Social Science

TV- Television

UK - United Kingdom

**UN - United Nations** 

UNESCO - United Nations Education, Scientific and Cultural Organisation

USA - United States of America



### **TABLE OF CONTENTS**

ABSTRACT	ii
ACKNOWLEDGEMENTS	vi
LIST OF ABBREVIATIONS AND ACRONYMS	vii
TABLE OF CONTENTS	ix
LIST OF CHARTS	xvi
LIST OF FIGURES	xvi
LIST OF TABLES	xvi
CHAPTER ONE – INTRODUCTION	
1.1 BACKGROUND	1
1.2 STATEMENT OF THE PROBLEM	11
1.2.1 Research questions	12
1.3 THEORETICAL FRAMEWORK	12
1.4 RESEARCH DESIGN AND METHOD	14
1.4.1 Study population	14
1.4.2 Data collection methods	14
1.4.3 Data analysis	16
1.5 SIGNIFICANCE OF THE STUDY	16
1.6 LIMITATIONS	17
1.7 CLARIFICATION OF TERMS	18
1.7.1 Information	18
1.7.2 Information need	19
1.7.3 Information-seeking	20
1.7.4 Information behaviour	21
1.7.5 Information use	21
1.7.6 Information source	22
1.7.7 Information communication channel	22
1.7.8 Information service	22
1.7.9 Secondary level geography teacher	23
1.8 THESIS STRUCTURE	23
4.0.COMCHICION	2-



## **CHAPTER TWO – LITERATURE REVIEW**

2.1 INTRODUCTION	26
2.2 INFORMATION-SEEKING MODELS	27
2.2.1 Leckie et al's (1996) information-seeking of professionals' model	28
2.2.2 Literature review of the Leckie <i>et al</i> 's (1996) model	33
2.2.3 Other studies based on the Leckie <i>et al</i> 's (1996) model	35
2.3 INFORMATION NEEDS OF TEACHERS	37
2.3.1 Information	37
2.3.2 Information needs	38
2.3.3 Teachers' information needs	41
2.4 INFORMATION-SEEKING PATTERNS OF TEACHERS	44
2.4.1 Information-seeking	45
2.4.1.1 Purposeful information-seeking	45
2.4.1.2 Serendipitous information-seeking	46
2.4.1.3 Proxy information-seeking	46
2.4.1.4 Collaborative information-seeking	47
2.4.2 Factors that affect information-seeking	49
2.4.3 Information-seeking patterns of teachers	52
2.5 INFORMATION SOURCES USED BY TEACHERS	55
2.5.1 Information sources	55
2.5.2 Information sources preferred by teachers	55
2.5.3 Availability and accessibility of information sources	59
2.6 USE OF INFORMATION COMMUNICATION CHANNELS WITH POSSIBLE IMPLICATIONS FOR	
TEACHERS	60
2.7 DESIGN AND IMPLEMENTATION OF INFORMATION SERVICE	62
2.7.1 Information service	63
2.7.2 Design of information service	65
2.7.3 Implementation of information service	71
2.7.4 Evaluation of information service	71
2.8 CONCLUSION	73



# **CHAPTER THREE – RESEARCH DESIGN AND METHOD**

3.1 INTRODUCTION	75
3.2 RESEARCH METHODOLOGY	75
3.2.1 Qualitative methodology	76
3.2.2 Quantitative methodology	78
3.3 SURVEY RESEARCH	79
3.3.1 Benefits of survey research	80
3.3.2 Limitations of survey research	81
3.3.3 Survey research in information needs and information-seeking studies	82
3.4 RESEARCH POPULATION	82
3.4.1 In-service secondary level geography teachers in Lesotho	83
3.4.2 Prospective secondary level geography teachers	85
3.4.3 Institutions involved in secondary level geography education in Lesotho	86
3.5 SAMPLING PROCEDURES	86
3.5.1 In-service secondary level geography teachers in Lesotho	87
3.5.2 Prospective geography teachers	89
3.5.3 Institutions involved in secondary level geography education in Lesotho	89
3.6 DATA COLLECTION	90
3.6.1 Focus group discussions	93
3.6.2 Interviews	96
3.6.3 Observation	98
3.6.4 Questionnaires	100
3.7 TRIANGULATION	103
3.8 PILOT STUDY	104
3.9 RELIABILITY AND VALIDITY IN RESEARCH	107
3.9.1 Reliability	107
3.9.2 Validity	108
3.10 DATA ANALYSIS	110
3.10.1 Analysis of quantitative data	110
3.10.2 Analysis of qualitative data	111
3.11 ETHICS IN SURVEY RESEARCH	114
3.12 CONCLUSION	116



## **CHAPTER FOUR – DATA ANALYSIS**

4.1 INTRODUCTION	117
4.2 IN-SERVICE SECONDARY LEVEL GEOGRAPHY TEACHERS' DATA	118
4.2.1 Demographic details of in-service teachers who participated in the study	119
4.2.2 The context of in-service secondary level geography teachers	122
4.2.2.1 Data describing schools that participated in this study	122
4.2.2.2 Descriptive data on the teachers' workload in participating schools	124
4.2.2.3 Data from partial observations of school libraries participating in the survey	126
4.2.2.4 In-service teachers' work roles and associated tasks in the survey	129
4.2.3 In-service secondary level geography teachers' information needs in the survey	131
4.2.3.1 Information needs related to key work roles in the survey	131
4.2.3.2 Information needs related to learners	133
4.2.3.3 The need for current information	135
4.2.3.4 The need for audio visual teaching aids	135
4.2.3.5 Information needs satisfaction	135
4.2.4 In-service teachers' information-seeking patterns reflected in the survey	136
4.2.4.1 In-service geography teachers' information-seeking styles reflected in the survey	138
4.2.4.2 Challenges in-service secondary level geography teachers encounter when seeking	
information	140
4.2.4.3 Factors that in-service secondary level geography teachers consider when selecting	
books/documents for teaching geography	141
4.2.4.4 Guidance/training on how to seek information in electronic environments	142
4.2.4.5 Teaching experience and information-seeking	143
4.2.5 In-service secondary level geography teachers' information sources	143
4.2.5.1 Availability and accessibility of information sources in schools	143
4.2.5.2 Information sources used by in-service teachers participating in the survey	145
4.2.5.3 Information format preference	152
4.2.6 In-service secondary level geography teachers' information communication channels	152
4.2.7 In-service teachers' recommendations on information service	154
4.3 PROSPECTIVE SECONDARY LEVEL GEOGRAPHY TEACHERS' DATA	155
4.3.1 Prospective geography teachers' demographic details	156
4.3.2 Prospective geography teachers' perceptions of accessibility and availability of information	
in their teaching practice schools	160
4 3 3 Prospective geography teachers' information needs	161



4.3.4 Prospective geography teachers' information-seeking patterns	163
4.3.5 Information sources used by prospective teachers	165
4.3.6 Information communication channels used by prospective teachers	166
4.3.7 Recommendations on information service by prospective teachers	167
4.4 DATA FROM PARTICIPATING INSTITUTIONS DIRECTLY INVOLVED IN SECONDARY LEVEL	
GEOGRAPHY EDUCATION IN LESOTHO	168
4.4.1 Profile of participants from institutions involved in secondary geography education in	
Lesotho	168
4.4.2 Information dissemination to secondary level geography teachers	170
4.4.3 Information needed by secondary level geography teachers	170
4.4.4 Information communication channels used by secondary level geography teachers	172
4.4.5 Suggestions for improving teachers' information service	173
4.5 CONCLUSION	175
CHAPTER FIVE – INTERPRETATION OF THE DATA	
5.1 INTRODUCTION	176
5.2 WHAT IS THE WORKING CONTEXT OF SECONDARY LEVEL GEOGRAPHY TEACHERS IN LESOTHO?	177
5.2.1 What is the context of Lesotho secondary level geography teachers?	177
5.2.2 The nature of work of secondary level geography teachers	179
5.2.3 The teachers' roles and associated tasks	179
5.3 WHAT ARE THE INFORMATION NEEDS OF SECONDARY LEVEL GEOGRAPHY TEACHERS IN	
LESOTHO?	181
5.3.1 What are geography teachers' information needs with regards to their teaching role?	182
5.3.2 Which factors trigger information needs of geography teachers participating in the study?	183
5.3.2.1 Information needs triggered by geography teachers' roles and associated tasks	184
5.3.2.2 Information needs triggered by geography teachers' context	185
5.3.2.3 Information needs triggered by the demographics of participants	185
5.3.3 Is the information available meeting the information needs of these teachers?	187
5.4 WHAT ARE THE INFORMATION-SEEKING PATTERNS OF SECONDARY LEVEL GEOGRAPHY	
TEACHERS IN LESOTHO?	188
5.4.1 What are the in-service geography teachers' information-seeking patterns?	189
5.4.2 How do secondary level geography teachers seek information?	192



5.4.3 What are the challenges that secondary level geography teachers encounter when seeking	
information?	194
5.4.4 What are the factors that influence information-seeking of secondary level geography	
teachers?	194
5.5 WHICH INFORMATION SOURCES DO SECONDARY LEVEL GEOGRAPHY TEACHERS MOSTLY	
USE?	198
5.5.1 Internal vs. external information sources	199
5.5.2 School libraries and journals	201
5.5.3 Information sources needed by in-service teachers	202
5.6 WHICH INFORMATION SOURCES ARE AVAILABLE AND ACCESSIBLE AT SCHOOLS	
PARTICIPATING IN THE SURVEY?	203
5.6.1 Awareness of information among geography teachers in the survey	204
5.6.2 Outcomes and feedback component of the Leckie <i>et al</i> (1996) model in the survey	205
5.7 WHICH INFORMATION COMMUNICATION CHANNELS ARE PREFERRED BY SECONDARY LEVEL	
GEOGRAPHY TEACHERS?	208
5.8 WHICH INFORMATION SERVICE CAN BE RECOMMENDED FOR SECONDARY LEVEL	
GEOGRAPHY TEACHERS IN LESOTHO?	211
5.8.1 Services	211
5.8.2 ICTs and information resources	211
5.8.3 Access	214
5.9 KEY FACTORS TO CONSIDER FOR THE DESIGN OF AN INFORMATION SERVICE FOR	
SECONDARY GEOGRAPHY TEACHERS IN LESOTHO	214
5.10 CONCLUSION	218
CHAPTER SIX - PROPOSED INFORMATION SERVICE MODEL FOR SECONDARY LEV	<b>VEL</b>
GEOGRAPHY TEACHERS IN LESOTHO	
6.1 INTRODUCTION	219
6.2 DESIGNING INFORMATION SERVICE FOR SECONDARY LEVEL GEOGRAPHY TEACHERS IN	
LESOTHO	221
6.2.1 Objectives of the information service proposed in this study	222
6.2.2 Factors guiding the design of information service for secondary level geography teachers	224
6.2.2.1. Users of the information service	226
6.2.2.2 Services constituting the information service	228



6.2.2.3. Marketing strategies	233
6.2.2.4 Human resources	234
6.2.2.5. Technology requirements	235
6.2.3 Proposed information service model for secondary level geography teachers	238
6.2.4 Evaluation of information service for secondary level geography teachers in Lesotho	245
6.3 IMPLEMENTING INFORMATION SERVICE FOR SECONDARY LEVEL GEOGRAPHY TEACHERS IN	
LESOTHO	246
6.3.1 Presenting the proposed model to stakeholders	247
6.3.2 Setting up the information service task team	249
6.3.3 Establishing infrastructure for the proposed information service	249
6.4 CONCLUSION	250
CHAPTER SEVEN – CONCLUSIONS	
7.1 INTRODUCTION	2
7.2 FINDINGS	2
7.2.1 Findings about the principal question	2
7.2.2 Findings based on the research questions	2
7.2.3 Implications for an information service for secondary level geography teachers in Lesotho	2
7.3 FINDINGS RELATED TO THE LECKIE <i>ET AL</i> (1996) MODEL	2
7.4 LIMITATIONS OF THE STUDY EMANATING FROM DATA	2
7.5 RECOMMENDATIONS	2
7.5.1 Implementation agency for the proposed information service	2
7.5.2 Collaborative approach for the delivery of information service	2
7.5.3 Allowance for traditional print and modern electronic information formats	2
7.5.4 Compiling and disseminating tailor-made information packages	2
7.5.5 Availability of information resources	2
7.5.6 Building personal files and information collections	2
7.5.7 Easy access to syllabus documents	. 2
7.5.8 Introduction and maintenance of alerting services	. 2
7.5.9 Documentation and dissemination of information for the activities of geography teachers	s'
associations	. 2
7.5.10 Formation of a national geography teachers' association	2
7.5.11 Sustenance of the information service	. 2



7.5.12 Exploration of mobile devices for information access	274
7.5.13 Introduction of inter library lending through school libraries consortium	276
7.6 SUGGESTIONS FOR FUTURE RESEARCH	277
7.7 CONCLUSION	278
REFERENCES	280
Appendix A - FOCUS GROUP DISCUSSIONS' SCHEDULE	321
Appendix B – INTERVIEW SCHEDULE	325
Appendix C - OBSERVATION SCHEDULE	327
Appendix D - QUESTIONNAIRE	328
LIST OF CHARTS	
Chart 4.1: Teaching experience of the teachers in the survey	119
Chart 4.2: Positions of the teachers who participated in the survey	120
Chart 4.3: Age of prospective teachers participating in the survey	156
Chart 4.4: The degrees studied by prospective teachers	157
Chart 4.5: The prospective teachers' university entrance qualification	157
Chart 4.6: Prospective teachers' prior teaching experience	158
Chart 4.7: Subjects that were taught by the prospective teachers before pursuing studies at NUL	159
Chart 4.8: The number of years of prior teaching experience	159
Chart 4.9: Prospective teachers' information format preference	163
LIST OF FIGURES	
Figure 2.1: The Information-seeking of Professionals model	28
Figure 2.2: Teachers' recursive online information-seeking practices	53
Figure 2.3: RUSA guidelines' model of an information service	68
Figure 2.4: A model of library and information services for a professional association	69
Figure 5.1: Secondary level geography teachers' information-seeking pattern	190
Figure 5.2: Secondary level geography teachers' information-seeking using the nested model	191
Figure 5.3: Data interpretation on the Leckie et al (1996) model	208
Figure 5.4: Secondary level geography teachers' information needs and information- seeking	
patterns	210
Figure 6.1: Factors guiding the design of an information service for Lesotho geography teachers	226



Figure 6.2: Hospital-based information transfer model for patient information service	23
Figure 6.3: Proposed information service model for secondary level geography teachers in	
Lesotho	24
Figure 6.4: Modalities for implementing the proposed information service	24
LIST OF TABLES	
Table 1.1: Research techniques used for the study of secondary level geography teachers	15
Table 1.2: Examples of multiple research methods in related information behaviour studies	16
Table 2.1: University libraries' information services and facilities (Kaur & Rani, 2008)	64
Table 2.2: Expansion of RUSA guidelines for an information service	68
Table 3.1: Benefits of survey research method	81
Table 3.2: Distribution of schools offering geography in Lesotho	85
Table 3.3: Sample of schools that participated in the study	88
Table 3.4: Categories of schools and number of geography teachers	88
Table 3.5: Sample of institutions that participated in the study	89
Table 3.6: Sample of participants in the pilot study	10
Table 4.1: Qualifications of in-service teachers that participated in the survey	12
Table 4.2: Subjects taught by in-service teachers in the survey	12
Table 4.3: In-service teachers' involvement in committees	12
Table 4.4: Distribution of schools selected for the survey	12
Table 4.5: The location of the schools selected for the survey	12
Table 4.6: Proprietorship of schools selected for the survey	12
Table 4.7: Number of classes/streams in schools selected for the survey	12
Table 4.8: Average class size in schools selected for the survey	12
Table 4.9: Number of teaching periods per week for the participants	12
Table 4.10: Availability and accessibility of information resources in schools	16
Table 4.11: Information needs of prospective teachers	16
Table 4.12: Places where prospective teachers found information	16
Table 4.13: Degree of information needs satisfaction	16
Table 4.14: Experiences with regard to information needed for lesson plans	16
Table 4.15: Prospective teachers' information-seeking styles	16
Table 4.16: Information-seeking difficulties encountered by prospective teachers	16
Table 4.17: Information sources used by prospective teachers	16



Table 4.18: Information communication channels used by prospective teachers	166
Table 4.19: Profile of the officials interviewed	169
Table 5.1: Awareness of information among geography teachers in the survey reflected in the	
Leckie <i>et al</i> (1996) model	205
Table 5.2: Key factors to consider for the geography teachers' information service	217
Table 6.1: Possible technology solutions to secondary level geography teachers	237
Table 6.2: Contextualising the Tarby and Hogan (1997) model for the current study	238
Table 6.3: Components of the proposed information model for geography teachers in Lesotho	243
Table 7.1: Findings related to the Leckie <i>et al</i> (1996) model	266