

**The integration of information-handling skills
into the South African secondary school
curriculum**

by

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Declaration

I Bomkazi Nuku, hereby declare that this thesis is my own work under the supervision of Dr. S.A. Ntsala, and that all sources that have been used or quoted have been duly acknowledged.

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ABSTRACT

The existing research claims that information-handling skills do not receive the necessary attention in some South African secondary schools, even though they are recommended by the National Guidelines for School Library and Information Services. The existing research affirms that this impacts negatively on learners, as a result they perform poorly in certain subjects, and this phenomenon ends up impacting on their tertiary education. The non-existence of the training manual for schools and the lack of the recent research on the integration of information-handling skills into curriculum opened the gap for this study to take place. The study intended to identify insights regarding a step-by-step integration of information-handling skills into the South African secondary school curriculum. Due to non-existence of the National School Library Policy that may provide recommendations on the integration of information-handling skills into curriculum, this study was limited to refer to few educational documents and policies, which had no in-depth information on information-handling skills but on curriculum. This study adopted an interpretivism paradigm to focus on the participants' own experiences in six secondary schools in Bloemfontein with school libraries, from various quintiles to represent the whole population relevant to the study. For this reason, either librarians or library committee members from both quintile (1-3 and 4-5) were interviewed per school during semi-structured interviews to reveal the status of the media centers. Teachers from both quintile (1-3 and 4-5) schools were requested to produce their lesson plans and learners' research work for analysis during document analysis. Also, learners were observed while accessing the media center resources in quintile (4-5) level schools during structured observation. The study revealed that the concerns raised in the problem statement still exist to this day, and the consequences are that plagiarism is committed, and that learners may not be ready for a tertiary education, according to previous research studies. This study addresses these concerns and contributes to the body of knowledge by proposing the Information-Handling Skills (IHS) enhancement model in secondary schools. The study recommends urgent implementation of this model, this would enable the successful integration of information-handling skills into curriculum by schools at all levels.

Keywords: information-handling skills, curriculum, school media center, multi-media resources, plagiarism

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction and background

Information skills in this study are presented as information-handling skills, as they deal with how information is handled. According to the National Guidelines for School Library and Information Services (Department of Basic Education (DBE), 2012:38), information-handling skills underpin learners' ability to complete an information task by first defining the purpose of the task, locating information resources, selecting relevant information from the resources, interpreting it, and using it appropriately. In the Pakistani context, Yousaf and Akhter (2018:1), regard information-handling skills as skills that enable learners to acknowledge the necessity for information, and the ways to obtain that information. However, it is crucial to distinguish the slight difference between information skills and information literacy skills, as both skills have a positive impact on curriculum, which is one of the main concepts in this study. Zinn, Stilwell and Hoskins (2017:34), explain that information literacy is a general field that includes the acquisition of information skills, ICT (Information and Communication Technology) literacy skills, library skills, cognitive skills, skills for problem-solving and critical thinking, and the development of positive attitudes and values. Specifically, the concept of information skills is associated with the ability to access relevant information, develop effective search strategies, appropriate utilisation of the library catalogue, and the ethical and legal use of information (Ngcongolo & Oyelana, 2017:77). This implies that the field of information skills is based on information literacy skills.

The discussion following below emphasises the importance of mastering information-handling skills, as stated in Chapter 1.4 of the National Guidelines for School Library and Information Services (Department of Basic Education (DBE), 2012:8). This chapter from the Guidelines highlights the need for learners and teachers to have information-handling skills to implement curriculum and support methodologies that are founded on resource-based learning and teaching. This implies that the implementation of curriculum in schools and resource-based learning and teaching, are the focus in the process of attaining information-handling skills. The National Guidelines for School Library and Information Services (Department of Basic

Education (DBE), 2012:37) state that resource-based learning and teaching is achieved through the utilisation of a range of diverse resources and is the objective of both curriculum and information literacy. Included in these would be multi-media resources, which learners and teachers should use to successfully integrate information-handling skills into the curriculum. The media center, unlike the library, does not contain only books, but also multi-media resources such as audio material, periodicals, internet connectivity, audio-visual resources and charts. According to Iqdami (2016:131), resource-based learning and teaching is a pedagogical approach which enables students to learn independently of their teachers, using extensive learning resources. The mentioned factors such as the utilisation of various resources, support of curriculum delivery, as well as the need to promote independent learning, as highlighted by the definitions above, are possible in schools with a functional media center or library. In addition, Wessels (2010:39) argues that information-handling skills must be practised in the media center together with the librarian, as the basis of the process for students to construct knowledge and develop their own ideas. This confirms that learners and teachers with information-handling skills can successfully conduct research activities. For this reason, it is critical for all teachers and learners to be equipped with information-handling skills, as they deal with information every day.

Yousaf and Akhter (2018:1-2) argue that information-handling skills, previously presented as library instruction, nowadays form the basis of the curriculum. This implies that there should be curriculum requirements per subject in relation to information-handling skills. This is confirmed in the South African context, in which learners in secondary schools, across several subjects, are required to be comfortable with information-handling skills. Section 2.2 of the National Curriculum Statement Curriculum Assessment Policy Statement (Department of Basic Education (DBE), 2014: 8) emphasises that learning should enable learners to have access to and handle information for learning across the curriculum, and in other contexts. This study is therefore focused on enhancing the integration of information-handling skills into the curriculum to enable learners to successfully access and manage information for learning using multi-media resources. Information-handling skills could be attained in all subjects through assessment tasks, which should be compulsory at FET (Further Education and Training) level

by utilising multi-media resources. To support this, Sections 4.6 and 6 of the National Protocol Assessment - Grade R to 12 (RSA, 2012:4-6) stipulate that recorded formal assessment tasks, such as projects or assignments, should be included in the final school-based assessment component of 25% for promotion purposes in all subjects for Grades 9 - 12. This study therefore focuses on secondary schools. Projects or assignments play a major role in the information-handling process. The necessity for information-handling skills is confirmed in the Survival Guide for FET Phase CAPS (RSA, 2011) in terms of all subjects. For example, Grade 10 – 12 Accounting learners are expected to complete assessment tasks such as written reports, projects and presentations, with an allocation of 50 marks for each of these annually. Also, Agricultural Science learners are expected to acquire 20 marks per year from each of the following tasks: practical investigation, an assignment, and a research project. For Business Studies, learners should complete an assignment, a presentation, and project. For Computer Applications Technology, Consumer Studies, Hospitality Studies, Life Orientation, Tourism and Physical Sciences, the assessment task is a project. For Economics, the assessment tasks are an assignment, project and case study. For Geography, the assessment task is a research/essay writing task. For History, the assessment tasks are an essay and heritage investigations. For Life Sciences, the assessment task is a project or assignment. For Mathematics, the assessment tasks are a project/investigation and assignment. For Mathematical Literacy, the assessment task is an assignment or investigation. For this reason, the mentioned assessment tasks in any subject could be analysed during the document analysis process. Therefore, in this study, the mentioned assessment tasks would be targeted as items, amongst others, to be analysed.

Despite the reality that information-handling skills are crucial, and that this competency is expected from all South African learners, the challenge that should not be ignored is that Information-handling skills do not receive the desired attention in many secondary schools. The implication is that learners in secondary schools still lack information-handling skills, and challenge extends to their tertiary education. For example, Neerputh (2014:78-79) confirms that many South African students are underprepared for tertiary education, as they have not acquired the skills to use information appropriately and conduct research for school projects. This is disturbing, because at this level learners are expected to self-regulate on several

independent projects. This study therefore focuses on secondary school learning. This issue is confirmed by research conducted at the Western Cape University of Technology by Hart and Davids (2010:4), which revealed that undergraduate students were not prepared for tertiary education as “they lack reading, writing and information-handling skills”. This is concerning, and the question arises why students lack these information-handling skills. One possible reason is that information-handling skills do not receive the needed attention in secondary schools.

Contributing to this fact might be the lack of a published document or manual for the training of teachers on information skills, both nationally and globally. To address this concern, the DBE published the National Guidelines for School Library and Information Services (Department of Basic Education (DBE),2012), which provide guidelines on how school libraries could be managed in order to support curriculum delivery. Despite these guidelines, there is still a gap regarding a training manual on information-handling skills for teachers. This deficit could lead to learners not being involved in information-handling processes. Like teacher guides, teachers would be able to use such documented training guides for the steps and processes of information-handling skills. Through this they would be able to teach their learners how to conduct research activities such as assignments, projects and others. Due to the lack of such a training manual, teachers are still struggling to use library resources in the classroom. This is confirmed by research conducted in South African schools, which concluded that some teachers are reluctant to adopt multi-media resources. They also struggle to grasp the process of incorporating the library and integrating resources into their teaching daily (Wessels, 2010:127). This makes it clear that multi-media resources are not used to their full capacity. These resources, however, would be of very little use without well-trained and motivated teachers or librarians. Another possible cause of this challenge is that there are very few qualified and full-time librarians to establish and run libraries in South African schools. This responsibility is usually given to non-specialist teachers who do not really have the time to manage the library. The lack of professional librarians in schools negatively affects learners’ performance regarding the handling of information (Manqele, 2012:24). In schools where there are no professional librarians, such a training manual could

assist teachers without library qualifications to familiarise themselves with information-handling processes. Another possible cause could be the fact that in South Africa, librarians are scarce. Only a few universities in the country offer library qualifications. Many universities that had offered the course in the past have phased them out. For these reasons, teachers might not have been exposed to either the utilisation of the media center or information-handling skills.

Referring to existing research about information-handling skills, a study by Watkins and Grix (2010:1) focuses on how to find and use the right resources, targeting university students in Social and Human Sciences. The argument in that study was that organisations require people who can find and critically evaluate a significant amount of information, who can communicate it in a logical manner. This study therefore focuses on how to locate information, in other words skills regarding accessing information (c.f. 2.7.3.1). In addition, this study dwelt on how to critically assess information, in other words analysing information (cf. 2.7.3.2), and on how to present it, through specific communication skills (cf. 2.7.3.3).

In South Africa, the most recent research about integrating the school library into the curriculum was by Dubazana and Karlsson in 2006. Their study was a case study about a specific high school in a township in Kwazulu-Natal. The researchers investigated the utilisation of the school library. They revealed that the school did not support strategic approaches to integrate the school library into the curriculum. They mentioned that specific approaches could be followed, although the study does not clearly refer to these. This study will highlight specific strategic approaches which need to be followed (cf. 2.7.3). These two mentioned studies, one from the US and the other from South Africa, both highlight the strategic approaches in different contexts. This could help this present study to unpick the approaches in the literature review.

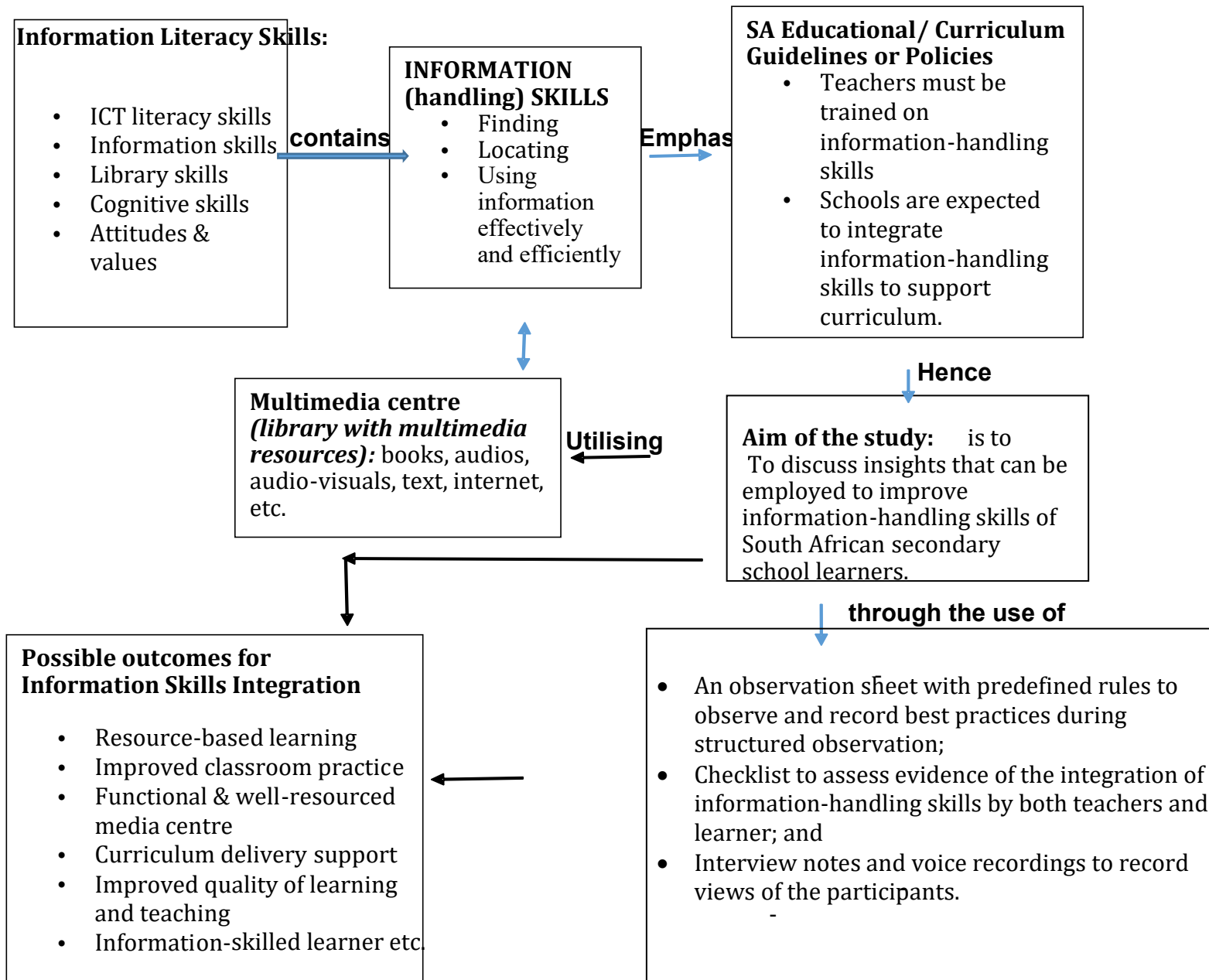
1.2 Research problem

As discussed above, information-handling skills do not receive the desired attention in most secondary schools in South Africa. This impacts negatively on the learners, as they end up performing poorly in certain subjects, which again has a negative effect on their tertiary education. Neerpath (2014:78-79), for example, confirms that many South African students are underprepared for tertiary education, as they do not have the skills to use information and to conduct research for school projects. This study would provide specific approaches on the integration of information-handling skills into the curriculum, and present factors that could lay a good foundation for such integration to take place in South African secondary schools.

1.3 Conceptual framework

A conceptual framework is a schematic or drafted plan that describes either graphically or narratively the key aspects to be studied, such as variables or concepts, and the expected relationships between them (Adom, Hussein, & Adu-Agyem, 2018). In this study, the key aspects to be studied and therefore appear in the conceptual framework below (Figure 1) are: information literacy skills, information-handling skills, South African curriculum guidelines/policies, multi-media centers (libraries with multi-media resources), and possible outcomes of the integration of information-handling skills, as highlighted in Chapter 1 (cf. 1.1). Referring to the above definition, this study would attempt to graphically explain the conceptual framework (cf. 1.3.1).

Figure 1: Conceptual framework



1.3.1 Justification

Information skills, as one of the skills emanated from information literacy skills, are highlighted in South African education documents and policies (cf. 2.2). In this study, information skills are expressed as information-handling skills, which teachers should integrate into curriculum according to the National Guidelines for School Library and Information Services (2012), as explained in the literature review (cf. 2.3). As also explained in the literature (cf. 2.3), the information-handling skills growth in schools is based on the media center, which, according to Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013:7), should accommodate suitable multi-media resources. Chapters 1 and 2 of the National Guideline for School Library and Information Services (2012: 3-5) highlight some factors as possible outcomes (cf. Figure 1) of the successful integration of information-handling skills into curriculum, which this study may regard as legal mandates (cf. 2.3).

1.3 Research question

1.4.1 The primary research question of this study is:

- ▶ What insights can be employed to improve the information-handling skills of South African secondary school learners?

1.4.2 The subsidiary research questions that will assist in answering the main research question are:

- ▶ How can information-handling skills be conceptualised?
- ▶ What are the South African policy guidelines concerning information-handling skills?
- ▶ What are the challenges faced by secondary school teachers concerning information-handling skills?
- ▶ What current secondary school teacher practices are aimed at developing information-handling skills?
- ▶ What strategies can be proposed to enhance the development of information-handling skills in secondary schools?

Below are the aim and objectives that guide the study.

1.4 Research aim and objectives of the study

1.5.1 Main aim:

- ▶ to identify the insights that can be employed to improve information-handling skills of South African secondary school learners.

1.5.2 Objectives:

- ▶ to conceptualise information-handling skills.
- ▶ to explore South African policy guidelines concerning information-handling skills.
- ▶ to assess challenges and evidence for the integration of information-handling skills by secondary school teachers and learners.
- ▶ to explore the current secondary school teacher practices aimed at developing information-handling skills; and
- ▶ to propose strategies to enhance the development of information-handling skills in secondary schools.

1.5 Research design and methodology

This study adopted an interpretivist paradigm, as it focuses on the participants' own experiences and understanding of the topic (Daher, Carre, Jaramillo, Olivares & Tomocic, 2017). This paradigm allowed the researcher to focus on the experiences of people, how they relate to or interact with each other, and how they create their social world by sharing meaning (Stone, 2017:29). The aim was to understand the experiences of people. In this study I also attempted to determine what the policy framework states regarding the integration of information skills into the curriculum in South African schools. The goal of interpretivism is to rely on the views of the participants regarding the situation as much as possible (Creswell, 2014:23). In this study, I would carefully consider the participants' views to contemplate their experiences and challenges on the integration of information-handling skills into the curriculum.

This study aimed to understand the lived experiences of the people involved. For this reason, phenomenology as a research design informs the empirical processes, as it shares certain characteristics with interpretivism. As a phenomenological researcher, I would focus on the experiences of people involved with the topic under study (Pieterse, 2020: 3). This means that the study would consider understanding the lived experiences of library committee members and subject teachers, who should have experience regarding the integration of information-handling skills into the curriculum. Subject teachers and library committee members would be given the opportunity to share their experiences through recorded interviews.

1.6.1 Research approach

A qualitative approach would be relevant in the case of this study, as it links well with phenomenology and interpretivism (Daher et al., 2017). The study will start with interviews to focus on the construction of knowledge through the interaction between the researcher and the participant. A qualitative research design was therefore the obvious choice (Hyett, Kenny & Dickson-Swift, 2014:33-34). The researcher would rely on the participants' views of the situation when they respond to the interview questions (Creswell, 2014:37). Document analysis would be employed to check the practical evidence on the integration of information-

handling skills by both teachers and learners. This means that this study would not observe teachers whilst teaching in the classroom, or library members while issuing books to learners, but it would obtain information on the basis of participants' past experiences by checking possible evidence with a checklist. In this case, the possible evidence might be found in teachers' lesson plans and their learners' research work, such as assignments or projects, as well as circulation registers from the library.

Lastly, this study would observe learners' utilisation of the media centers at the schools versus its readiness for the integration of information-handling skills.

1.6.2 Data collection

Data collection is the method of gathering data, employed by a researcher conducting a study, in line with the research design. It has a very definite impact on the research outcome (Ohioze, 2013:60). In this study, three methods of data collection would be employed, namely semi-structured interviews, document analysis and structured observation. I would firstly interview a library committee member from each participating secondary school, because the expectation exists that such a participant would have a lived experience in the information-handling process (Stone, 2017: 29).

1.6.2.1 Semi-structured interviews

Semi-structured interviews are data gathering techniques that incorporate various key questions that assist to explicate the areas to be explored, but they also enable the interviewer and interviewee to diverge and digress, to pursue a response or an idea in more detail (Nuku, 2019:12). I would employ semi-structured interviews because they could allow me, as the researcher, to ask follow-up questions with the aim of stimulating discussion to ensure that no matter is left unclarified (ACAPS, 2015:13). The interview questions would focus on participants' qualifications and designation, knowledge, and personal level of understanding about information-handling skills. Their experiences regarding the integration of information-handling skills and

their suggestions for better implementation of these skills would also be explored. Participants' responses would be recorded on paper, and would also be audio-recorded (Driscoll, 2011:165). This method of recording data using two formats would help the researcher to correctly record the participants' responses and would also be of help when analysing the data. For this reason, participants would be selected considering the main aim of the research. After the interview sessions in each school, an appointment would be scheduled for document analysis for the following week.

1.6.2.2 Document analysis

Document analysis is a form of qualitative research in which documents are analysed by a researcher to provide meaning and voice regarding a topic (Rahmawati, 2018:4). The intention was to give voice and meaning around the integration of information-handling skills into the curriculum by both teachers and learners. I would analyse relevant documents from the participants because they had lived experiences in the information-handling process (Stone, 2017:29). Analysing relevant documents such as lesson plans, assignments, circulation registers and others means checking evidence for implementation, using a checklist.

I decided not to observe teachers while teaching, as the teachers' lesson plans should supply enough evidence of the level of information-handling skills integration. It would not serve the purpose of the study to observe how information is communicated. Teachers communicate information by teaching or presenting, but learners communicate information through assignments. Information-handling skills run deeper than that. It is not a teaching method, but a behind-the-scenes activity. Lesson plans are relevant, as they can serve as a guide on how a topic was covered with given examples, resources and detailed exercises for learners. According to this study, information-handling skills should include accessing resources, information retrieval, analysing and ultimately communicating information. Therefore, observing how learners access information was necessary.

1.6.2.3 Structured observation

During the observation I would be a non-participant, as I would be looking for specific evidence from learners' practical skills in accessing information (Asymptomatic Carotid Artery Progression Study (ACAPS), 2015: 6). The structured observational technique recommends that it should be selective, and the researcher should attempt to focus on the elements that are relevant to the research purpose (Nuku, 2019:10). For this reason, I would focus on the enablers and barriers to integration. The expected evidence, and the relevant elements that I would focus on while observing, would be found in South African educational policies and the National Guidelines. An observation sheet would be used to observe the following: evidence of information-handling skills integration by both teachers and learners, the degree of integration, its frequency, how was it done, if the necessary resources were available, if the integration process was controlled, and whether learners were motivated to integrate information-handling skills.

1.6.3 Selection of research participants

In this study I would focus on Bloemfontein secondary schools. Many primary schools in the area had benefitted from projects such as the MEC's Schools project, the Revitalisation of Primary School Library and Reading project, the expired ETDP-SETA Library Internship project and the Dual-purpose Library project. Through these projects, primary schools received book donations, media centers, assistant-librarians, full-time librarians, etc. The concern was whether secondary schools had benefitted from any of these projects. The Free State Department of Education (FSDoE) provided media centers in most of the secondary schools in the Motheo Education district, so this study would target secondary schools with media centers.

The study would make use of non-random purposive sampling to select two or more participants with experience on information-handling skills (Draper, 2013:4). Six secondary schools from different quintile levels with media centers in Bloemfontein would be selected to represent the relevant population for study, since the integration of information-handling

skills into the curriculum is only possible where there is a media center (Bruff, 2019:1). Three of the schools would be at quintile levels 1 – 3 (not paying school fees), while the other three would be at quintile levels 4 - 5 (fee-paying schools).

Maimela (2015:8) argues that selected participants must be knowledgeable about the phenomenon under investigation. The researcher would expect subject teachers and library committee members to be knowledgeable and experienced about information-handling skills. Teachers of subjects such as Business Studies, Economics, Social Sciences and Languages would be used in this study. To support this, the Survival Guide for FET Phase CAPS (RSA, 2011:11-98) for all subjects confirms that all subjects are expected to complete assessment tasks. For this reason, this study would scrutinise teachers' lesson plans and learners' assessment tasks for Business Studies, Life Sciences, Economics and Languages per participating school. Although the Survival Guide for FET Phase CAPS does not mention any research work for language subjects, it would be considered in this study.

Therefore, from each of the six participating schools, four teachers (Business Studies, Life Sciences, Economics and Languages) and one library committee member would be selected. These participants would contribute to the document analysis process. Interviews would be conducted with one library committee member from each participating school, to give clarity and also to share any challenges faced by the school in terms of information-handling skills.

1.6. Data analysis and interpretation

Data analysis involves making judgement about combining pieces of data into interconnected patterns and clusters (Nowell, Norris, White, & Moules, 2017: 2). To analyse qualitative data, the researcher would employ thematic analysis, as it enables the effective categorisation of data into themes, which facilitates interpretation (Jugder, 2016:2). The data collected from the

document analysis, structured observations, field notes and semi-structured interviews would be compared and integrated. I would set codes for the data, in the form of a word, phrase, sentence or paragraph. I would therefore interpret and make conclusions by comparing the collected data with information from the literature review about the integration of information skills using multi-media resources to support the curriculum (Creswell, 2014:261).

1.7 Value of the study

The study could potentially bring awareness to all state departments and institutions with a library section (such as the Department of Education, Department of Sport, Arts and Culture, tertiary institutions, etc.) about the importance and practice of the integration of information skills into the curriculum. The research might provide a general description regarding the integration of information skills into the curriculum in secondary schools in the Free State. This would allow stakeholders in the Free State Department of Education (FSDoE) to assess the implementation of policies in schools. The study would highlight the possible barriers and enablers in the integration of information skills into the curriculum in South African schools. The study might also expand on the experiences of other countries that could contribute to address issues affecting the integration of information skills into the curriculum. Lastly, it might assist stakeholders at the District level to be aware of the challenges faced by schools, in order to learn how they could better assist in ensuring that information skills are integrated successfully by schools at all levels.

1.8 Demarcation

1.9.1 Scientific demarcation

The study falls within the general ambit of curriculum studies, as it involved analysing teaching and learning documents by both teachers and learners in a classroom context. Maimela (2015:1) argues that curriculum modification is intended to enhance the value of teaching and learning. This study therefore aimed to provide an impact on teaching and learning through the

integration of information skills in South African schools. The study was therefore perceived to be necessary, as there is a deficit in the integration of information skills into the curriculum in South African schools.

1.9 Ethical issues

Integrity

To ensure integrity, I applied for ethical clearance for the research from the University of the Free State Faculty of Education Ethical Committee. I also wrote a letter to request authorisation to conduct research in secondary schools, and another to the principals of the selected schools to request authorisation to conduct research at their schools. This letter explained how and why the research would be conducted, and how the schools might benefit from the study.

I have a responsibility of sharing the results of the research with all stakeholders and with the general public after the successful completion of the study. This I would do by submitting a copy of the research thesis to the University of the Free State Library and Information Services, and to the Free State Department of Education.

Liability

To adhere to aspects of liability, I informed participants that their participation in the study was voluntary. Participants' identities remained confidential, and no reference to the participants was made during the analysis and reporting of the data.

Participants needed to complete and sign a consent letter if they wished to participate in the research. If at any time during the research a participant wished to withdraw for any reason, they were free to do so without any adverse effects.

1.10 Term definition

- Quintile 1 - 3: Schools that do not ask for school fees.
- Quintile 4 - 5: Fee-paying schools.
- Blurb: Short summary on the back cover of a book of what the book is about. It often contains people's comments about the book.
- Contents page: Indication of what a book is about, situated at the front of the book. It gives an outline of the contents of each chapter, with a page indication.
- Index: Alphabetical list of the key topics covered in the book, usually at the back of the book.
- Title page: Found at the front of the book. It contains the title of the book, its author and the publisher.
- Title verso page: Page on the reverse side of the title page. It contains information on the specific edition, such as the publisher, the publisher's address, date of publication, and notes on reprints and editions. It also contains information regarding copyright.
- Spine: The backbone of the book. It usually contains the title, author, and sometimes the publisher's logo.
- Spine label: In the case of a library book, this contains the shelf number.

1.11 Research layout

This study is presented in five chapters.

Chapter 1: Orientation of the research.

Chapter 2: Literature review. The objective of the literature review is to review the importance and practices involved in the integration of information skills to support the curriculum in South African schools.

Chapter 3: The research design of the study, including the adopted research paradigm and the methodology.

Chapter 4: Data analysis and discussion, where I seek to understand the realities of integrating information skills to support the curriculum in South African schools.

Chapter 5: Integration and analysis of the data to address the main research question.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

A literature review is defined as the critical discussion of relevant published work, and showing awareness of differing approaches, arguments and theories. It should link to the purpose and rationale of the current research (Mudavanhu, 2017:190). The literature review helps the reader to understand the project or thesis better, as it highlights relevant studies on the topic, as well as any gaps that may exist in the literature (Cantero, 2019:1). This study reviewed specific sources whose arguments or theories were relevant to my topic, and have a link to my research purpose and rationale, as the main concepts covered were summarised in the conceptual theoretical framework (ref. Fig. 1; cf. 1.3).

This chapter aims to review the facts on the conceptualisation of information-handling skills in order to explore South African educational policy guidelines regarding the integration of these skills into the curriculum. This is done to support the main aim of the study, which is to provide insight into the integration of information-handling skills into the secondary school curriculum. For this reason, I considered factors that could either inhibit the integration process or contribute to improving the integration of information-handling skills to support the curriculum in South African schools. Practical examples will be drawn from other countries.

2.2 Conceptualisation of information-handling skills

Information is the key issue for the educational, economic and social future of any country. It is therefore a globally important entity. Satija (2013:129) argues that authentic and adequate information allows one to live effectively, however it needs knowledge and skills for its effective application. Knowledge and skills in this study imply information literacy and information-handling skills. For this reason,

it was crucial to differentiate between information literacy skills and information skills (cf. 1), as referred to in the guidelines and policies in the South African educational sector.

The South African educational guidelines, documents and policies to which this study refers are the National Guidelines for School Library and Information Services, the South African National Curriculum Statements (SANCS) Gr R – 12, and the Minimum Uniform Norms and Standards for Public School Infrastructure. These are explored below.

2.3 South African educational policy guidelines regarding the integration of information-handling skills into the curriculum

In the South African context, there is a belief that learners will succeed if they are given the opportunity and guidance to gain information-handling skills. For example, according to the research, a learner should be able to draw valid conclusions after considering the measurable possibilities and triggers of any challenging situation they may face (Maddock & Maroun, 2018:1). In addition, Bundy (2013:241) confirms that the integration of information-handling skills into the classroom context benefits the growth of constructive thinkers. It supports learners who manage their own learning, ask relevant questions, find information from a variety of sources, and re-arrange and group this information to create and present ideas that reflect their own deep understanding. This does not exclude learners with disabilities or learners that use sign language. To support this view, Section 2.2 of the National Curriculum Statement Curriculum Assessment Policy Statement (NCS CAPS) (RSA, 2014:8) emphasises that one of the aims of learning South African Sign Language (SASL) is to enable learners to confidently voice and support their own views, ideas and emotions in order to become analytical and independent thinkers. Thus, the utilisation of multi-media resources could be of great importance as they cater for all learners, including those with special abilities and capabilities.

Among other things, the South African National Curriculum Statements (SANCS) Gr R – 12 (Department of Basic Education (DBE), 2021a:3) aim to produce learners that can be convergent thinkers and administrators who think critically and creatively. It also encourages learners to gather, examine, categorise, and critically assess information. In this study, information skills are expressed as

information-handling skills, as they emphasise different skills regarding information-handling abilities such as collecting, analysing, organising and critically evaluating information (cf. 2.6.3). In addition, the National Guidelines for School Library and Information Services (2012:19) emphasise that every teacher should be trained on information-handling skills and should ensure the integration of these skills into the curriculum. The handling of information implies access to various resources. Hence, the Department of Basic Education (DBE) (2012:9) recommends that library services should provide information resources and skills to implement the curriculum.

Curriculum, as a concept, refers to all aspects of the teaching and learning experience, such as the content of learning areas that are taught in schools (Maimela, 2015:15). Learners are also assessed on this content. The National Protocol for Assessment Grade R-12 (Department of Basic Education (DBE), 2011:4) stipulates that for all subjects, formal assessment tasks such as assignments, projects and other research tasks must be used to determine whether a (Grade 9 - 12) learner should be promoted to the following grade or not. According to this study, the mentioned formal assessment tasks could be completed after the acquisition of information-handling skills. This led to the decision that the formal assessment tasks should be included in the documents analysed in this study (see checklist Appendix G).

Section 13(i) of DBE's regulations relating to the Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013: 7) accepts a media center with a suitable collection as a core requirement in every South African school. Mojapelo (2015:8) argues that a library is an instructional multi-media centre, integrating the latest audio-visual materials. Based on this assertion, I regard the term 'multi-media centre' as shortened to be 'media center'. Thus, a media center collection implies multi-media resources. This indicates that the successful integration of information-handling skills requires the availability of multi-media resources. Omenyo (2016:12) agrees to this claim by stating that a media center is the foundation of the growth of information-handling skills in schools. Learners can utilise the space and resources for leisure and academic activities. For this reason, this study recognises the media center as a

necessity for the successful integration of information-handling skills into the curriculum. Such centres are expected to contain multi-media resources. This is supported by Bruff (2019:1), who supports the view that utilising multi-media resources helps learners to develop information-handling skills. For this reason, this study supports the idea that the multi-media resources in a school's media center should be in line with the curriculum of that school.

Chapters 1 and 2 of the National Guidelines for School Library and Information Services (2012:3-5) highlight the legal mandate. This study regards these as the expected outcomes for the successful integration of information-handling skills into the curriculum. They are the following: established resourced-based learning, effective teaching and learning processes, supported curriculum delivery, and research-skilled learners. This study also considered the mentioned expected outcomes when compiling research instruments, such as observation sheets (see Appendix I), checklists (see Appendix G) and interview questions (see Appendix H). This study also addresses the abilities of research-skilled learners when discussing strategic approaches in the practical process of integrating information-handling skills to support the curriculum (ref. 2.7.3). The mentioned expected outcomes for the successful integration of information-handling skills into the curriculum could be some of the motivating factors for schools to master the integration process. These are discussed below.

2.4 Importance of mastering the integration of information-handling skills to support the curriculum according to South African educational library guidelines and policies:

This study identifies the importance of mastering the integration process of information-handling skills to support curriculum, and that includes a definition of these skills by the Department of Basic Education.

2.4.1 Recommendation of information-handling skills by the Department of Basic Education (DBE)

It is important to verify if information-handling skills are recommended by the Department of Basic Education before focusing on how it could be integrated into the curriculum. Terminology regarding information-handling skills is utilised by the Department of Basic Education (DBE), by recommending that learners must be well prepared and engaged in the information-handling process prior to the commencement of research projects (Department of Basic Education (DBE), 2012:31). In other words, as it is compulsory for learners to do projects in the classroom for their subjects, according to the curriculum, learners cannot successfully complete their projects if they are not conversant with information-handling skills. If this is not the case, the curriculum is negatively affected and not supported. Hence, the study highlights the term curriculum with which the information-handling skills should be integrated. The definition of the term 'project' is clarified by the DBE in NCS Abridged Section 4: FET Grade 10-11 CAPS Amendments (2020b:7), as tasks in which learners should apply their understanding or knowledge that they have acquired in class, in either groups or individually. The document clarifies that projects may involve aspects of investigation and/or research, based on, amongst others, the understanding of content and the application of skills. It is for this reason that this study also analysed learners' research tasks such as projects, during the document analysis process (cf. 3.5.2.2).

As mentioned earlier, the National Guidelines for School Library and Information Services (Department of Basic Education (DBE), 2012:38) refer to information skills as the skills underpinning a learner's ability to, among other things, locate sources of data in order to complete the research task given by their teachers. This study therefore places an emphasis on how to locate sources to complete the research task (refer 2.6.3.1.2). It is therefore obvious that the process of locating sources of data is only possible in the media center environment, in which various multi-media resources are available. Chapter 8.1 of the National Guidelines for School Library and Information Services (Department of Basic Education (DBE), 2012: 30) emphasises that it is necessary that, among other things,

learners' information-handling skills and knowledge should be developed, evaluated and assessed by teachers in collaboration with teacher-librarians to maximise the potential of the school library service. This implies that the integration of information-handling skills cannot be successfully implemented without the presence of a media center in the school. This is because multi-media resources, which the study has already proven as a necessity for information-handling skills, cannot be placed anywhere else but in the media center. However, the integration process should happen in the classroom context.

2.4.2 Established resource-based learning

Established resource-based learning is one of the expected outcomes of the integration of information-handling skills. The study made it clear in Chapter 1 that the integration of information-handling skills is possible when multi-media resources are utilised. The circulation register in the media center may serve as evidence for the utilisation of multi-media resources. Therefore, if both teachers and learners see the daily utilisation of multi-media resources in the classroom as the norm, learning would be based on resources. This study highlighted in Chapter 1 that resourced-based learning enables students to learn independently of their teachers, using various resources. It further supports curriculum delivery, as well as the need to promote independent learning, as highlighted by the definitions above. All of these aspects could be facilitated by a functional media center or library. In addition, Wessels (2010:39) argues that information-handling skills must be practised with the media center teacher and the librarian as the centre of the process, so that students can construct knowledge and develop their own ideas. This confirms that learners and teachers with information-handling skills are able to successfully perform research activities, and this may lead to effective teaching and learning.

2.4.3 Effective teaching and learning process

An effective teaching and learning process is, according to this study, an improved classroom practise through which teaching and learning practises take place between teachers and learners through lesson presentations and assessment procedures. There are certain expectations regarding this aspect from both the teachers and learners.

2.4.3.1 Teacher expectations

The teacher has a duty of delivering a specific lesson to the learners. The lesson plan, or teaching plan, which may serve as part of the teaching preparation, is a crucial information resource for this study, as it is expected to indicate resources used apart from the formal learning and teaching support material (LTSM). According to the National Protocol for Assessment for Grades R - 12 (Department of Basic Education (DBE), 2011: 23), all teachers are anticipated to have a file containing proof of their teaching and assessment, such as their teaching plans, with an indication of any other resources used besides textbooks. In this study, the teaching plan will be considered as a lesson plan and will be analysed to check for evidence regarding the use of resources besides textbooks, as recommended by the DBE.

2.4.3.2 Learner expectations

This study would like to encourage learners to utilise their school's multi-media collection, along with the prescribed LTSM in the classroom. This is confirmed by the Department of Basic Education (DBE) (2020b:42), when it proclaims that the learner should collect information and bring it to the classroom, so that teachers and learners can interact with the collected information to complete the task. Examples of tasks include the following:

- Case study

To complete a case study, the teacher must supply learners with topics on which the case study can be based. Learners are usually assigned one week to gather resources on the assigned topic (Department of Basic Education (DBE),2021b: 42). In addition, the DBE recommends that learners should draw on their own experiences, and all sources must be acknowledged. This study explains how sources should be acknowledged (cf. 2.7.3.2 & 2.7.3.3).

- Project

A project is an example of a research task that is assigned to learners in the form of a research question or topic. It is crucial that learners understand the research topic and be clear about what is expected of them. The Department of Basic Education (DBE) (2020b:9) highlights that a project should be an investigative task, and that teachers should provide detailed guidelines to learners. In addition, the DBE further emphasises that relevant resources should be made known to learners. Based on this, this study further encourages collaboration between teachers and librarians or library committee members (cf. 2.6.4).

- Assignment

An assignment is a formal assessment task which is categorised as a non-test and non-examination task. Learners are required to complete it over a fixed period of time (Department of Basic Education (DBE), 2020b:44). The following steps are recommended for an assignment:

- Formulate a key question
- Allow learners to complete research in the school media center on the topic or supply learners with the necessary sources. Learners need to select appropriate sources for their topic. This study regards this step as the process of accessing information, that covers all stages of locating sources (cf. 2.7.3.1).
- Learners must prepare notes during their research, and they need to summarise information in their own words. Teachers need to be specifically cautious that learners do not just transfer and utilise information from the internet without editing and paraphrasing it. This study regards this step as the process of analysing information (cf. 2.7.3.2).
- Learners' assignments must include a list of references. This is also included in the process of information communication (cf. 2.7.3.3).

It was highlighted earlier in the study (cf. 2.3) that all aspects of teaching and learning are included in the curriculum, and these need to be supported for smooth delivery.

2.4.4 Supported curriculum delivery

Once resource-based learning has been established, through which learners learn independently using multi-media resources, and that mode of teaching and learning has become effective, as discussed above, it can be said that curriculum delivery is supported. A case study done in Ghana about the importance of the school media center in teaching and learning (Omenyo, 2016:13), highlights that the school's media center should have sufficient resources to support standard teaching and learning, as well as to aid the curriculum of the school. This study has mentioned that the school's curriculum is supported by the school's media center if it contains material that supports all learning areas and languages offered by the school. In addition, if the media center has a diverse multi-media collection that meets the needs of all and cater for diverse learners and are utilised to its fullest, it shows that the school's curriculum is supported, and that information-handling skills are integrated into the curriculum.

2.4.5 Research-skilled learners

A learner in a resource-based learning environment, as mentioned above, can interact with multi-media resources and solve problems through research-based activities. Neerpath (2014:34) places emphasis on the value of the media center, and states that a learner would seek information in the media center for problem-solving, using a given research question, by first evaluating information resources to gather relevant information. Such a learner is skilled in research, and this skill is acquired from continuous practise in research exercises. Daily research exercises are completed successfully when the available multi-media resources are adequate to support the school's curriculum.

It is therefore crucial for this study to share examples of schools both internationally and nationally that have experience in the integration of information-handling skills.

2.5 Different experiences of the integration of information-handling skills internationally and nationally

There is a need of information-handling skills in 21 Century Education, and they are almost the same as information technology skills since they are usually vital to enable users to access information resources (Adzmi, et al., 2017:1521). It is further not possible to integrate information-handling skills without collaborating with teachers and librarians.

A case study that assessed the integration of information-handling skills into an undergraduate business curriculum in the USA (Rodriguez, Cadiz & Penkova, 2018:2), concluded that the success of the integration process is dependent on the level of dedication to collaboration among the administration, librarians and the teaching staff. Other contributing factors included external aspects such as changes in politics and the US economic crisis of the time. This conclusion was based on the argument that teaching would be at the centre of the academic library work, and that it would be of vital importance to reshuffle library services to meet this increasing need. Collaboration (cf. 2.7.1.1) and the lack thereof (cf. 2.6.4) were emphasised and explained throughout the study. To support this argument, Davis, Cochran, Fagerheim and Thomas (2016:7-8) explain how academic subject librarians initiated the integration process by first designing an anonymous survey to obtain feedback from all faculties about the relevance of the library collection to the courses offered by the university. The joint efforts of developing the academic library collection, according to the syllabi of the university, led to the enhancement of teaching and learning.

In addition, highly developed countries such as Australia, for example, follow a strategy of developing the library collection as a team. This results in a rich subject collection, including a range of suitable resources, both print and digital. They also organise access to digital resources via the library catalogue or the school intranet (Australian Library and Information Association, 2014:50). In this study, library catalogues are crucial as they guide media center users to the exact required and relevant resources. This allows learners to access the correct resources without wasting time. Iqdami (2016:130-133) argues that in the Indonesian context, library print and digital resources supplement the use of textbooks as the primary sources in the media center. They encourage resource-based learning, as it enables learners to explore and construct new knowledge, depending on their own need for independent learning.

Referring to less developed countries such as Pakistan, the results of a research study that emphasised the assessment of information-handling skills of secondary school students, discovered that embedding these skills into the curriculum can enhance student learning (Yousaf & Akhter, 2018:9). In their study, they recommended that policy makers and teachers examine the curriculum and contemplate addressing these skills explicitly in the curriculum. Teachers, for example, might not teach information-handling skills directly, but they can set assignments and research tasks to help learners to acquire these skills. This activity may ultimately assist students to avoid plagiarism. In this regard, an experimental study might be of great help. In addition, numerous strategies can be embraced to advance and assess information-handling skills, such as face-to-face interactive lessons, virtual sessions, and encouraging the utilisation of e-libraries. The mentioned strategies can assist students to effectively manage information. Another research project on Pakistan (Shabiralyani, Hasan, Hamad & Iqbal, 2015:226-227) encouraged the use of multi-media resources in the classroom to stimulate and support learning. It could furthermore be applied to enhance lesson plans and make a lesson clearer and more understandable, provide students with additional ways to process subject information, and make the learning process more interesting. Visual resources may include film strips, projectors, television, radio, models, charts and maps, while audio-visual resources may include television, radio and film.

In their research on undergraduates' utilisation of libraries in federal universities in South-West Nigeria, Onuaha and Subair (2013:12) argue that students who do not perform activities involving the integration of library resources, may struggle to manage the rigours of the academic world. This study therefore intends to collect data in schools that have library resources. The utilisation of library resources helps both teachers to prepare their lesson plans and learners to prepare their assignments (Omenyo, 2016:63).

Research done at a university of technology in South Africa recommends that the relevance of the media center collection should be determined to ensure the successful integration of information-handling skills into the curriculum (Neerpath, 2014:176). The findings from that study indicated that to only depend on usage statistics to determine the relevance of the library collection, may not be effective. Technology and evaluation tools should rather be used to determine the relevance of the collection, in order to enhance and support the curriculum. The process of the integration of information-handling skills at that specific universities of technology had an impact on the relevance of the curriculum, student needs, and helping to promote research-based pedagogy in the university. These findings are supported by research in South African schools (Jiyane & Onyancha, 2010:13), which states that information-handling skills must be initiated in the early school years and to enable learners to gather, analyse, organise and assess information. If this is not the case, it could hinder the integration of information-handling skills into a school's curriculum. These factors are discussed in the following section.

2.6 Factors that could hinder the integration of information-handling skills into schools' curriculum

Zinn et al. (2017:41) argue that often teachers lack the expertise to teach learners how to complete research projects. In addition, many parents complete school projects for their children, or learners simply plagiarise other projects. The concern is whether information skills are being introduced in South African schools, and whether teachers are equipped to facilitate the acquisition of these skills.

In this context, this study refers to the factors that could hinder schools from integrating information-handling skills into the curriculum. Factors such as teachers' competence, their knowledge or their workload should not stand in the way of the integration process, though these issues are some of the challenges faced by teachers while trying to integrate information-handling skills into the curriculum.

2.6.1 Lack or absence of a functional school media center

It is obvious that the school library or media center is one of the requirements that enables the integration of information-handling skills into the curriculum. Durnford (2013:10) supports this claim by stating the importance of a media center in a secondary school. The availability of a media center plays a vital role in the matric results of a school. In 2008 the mean pass rate for schools without a media center was 47%, compared to 66% for those with a media center. Wessels (2010:4) bemoans the lack of functional school libraries and regards it as one of the causes of the reading challenge in South African schools. A school can establish a library, but if it does not contain enough relevant resources, it will not be used. Once it is stocked with useful resources, accessible, and used by learners, such a media center is functional. The 2011 National Education Infrastructure Management System (NEIMS) report mentions that from 20.7% of South African public schools with a dedicated space assigned for a library, 13.47% had no resources and only 7.23% had a functional library (Paton-Ash & Wilmot, 2013:8). A media center that lacks resources means that it is not functional. Zinn et al. (2017:31) state that only 16.82% of schools in South Africa have a well-resourced library. This implies that the stocked libraries in South African schools (both primary and secondary schools) improved from 7.23% to 16.82% in three years. With so few schools with resourced libraries, the negative impact on the information-handling process would be severe. Information skills integration is possible when the library has multiple resources that are accessible to all learners and teachers. Thus, South African schools need libraries that are functional. According to my experience as a School Library Advisor (SLA), a functional school library is a custom-built and spacious facility with a variety of library resources, available to all users, and managed by a qualified librarian or a functional school library committee. This is confirmed by Chapter 6.2 of the National Guidelines for School Library and Information Services (2012:22), which further highlights that library committee members have a responsibility to manage the functionality of the media center in a school. By

custom-built I mean the library infrastructure can accommodate multi-media resources and should be considerate of all users' abilities, including differently-abled people. Accessibility of the library resources is therefore important, to ensure that information-handling skills are integrated successfully into the school curriculum in secondary schools.

2.6.2 Inaccessibility to multi-media resources

Inaccessibility could be caused either by resources that are not processed and catalogued, by a lack of resources, or by their unsuitability.

2.6.2.1 Resources not processed and catalogued

Research done by Terry and Spear (2019:8) in an American school in Texas revealed that when learners were instructed to seek information from library books for their research project, the librarian discovered that they only searched for information from the internet and not from books. This shows that 21st century learners prefer to use computers to books. Their study proposed several ways to address this problem.

Firstly, the school created a computerised library catalogue, where both teachers and students could quickly locate relevant resources available in the media center. Librarians could do a keyword search to determine which information-handling skills were being conveyed by individual teachers at different grade levels.

A study by Zinn et al. (2017:39) that focused on the journals of teachers in the Western Cape, reflecting information literacy education in the South African classroom, highlighted that the Dewey Decimal Classification (DDC) system helps to locate information in the library. To support this, the classification and cataloguing of library resources are also recommended by South African policies and guidelines. For example, the National Guidelines for School Library and Information Services (Department of Basic Education (DBE),

2012:31) highlight that the skills regarding locating and finding information in the library, centres around the basic library skills of how library resources are classified and catalogued. This study accepts both manual and computerised library catalogues for South African schools. This would attract learners to access the school library or media center collection. However, when the resources in the media center are unsuitable for the needs of the school, the learners will not be interested in accessing the media center. Suitability is therefore discussed below (cf. 2.6.2.3)

2.6.2.2 Lack of resources

Resources imply both human resources, in the form of librarians, as well as information resources. For example, referring to the research by Moruf (2015:65) on the utilisation of secondary school libraries in Nigeria, the majority of schools do have libraries, but they are not utilised for research by learners. This is mainly due to inadequate resources. There are also very few professional librarians, while teachers are not equipped to manage the school libraries. These findings echo those of Wessels and Mnkeni-Saurombe (2012:46), which state that teachers are not equipped to understand how the media center should support teaching and learning. This may impact negatively on learners.

To support this, Idoko, Asogwa and Ugwuanyi (2015:3) confirm that Nigerian secondary schools totally depend on class notes and textbooks for assessment, including assignments, as learners lack confidence in using their school libraries, which are inadequately resourced. This confirms that learners had never been exposed to a school library, which might explain why students are underprepared for tertiary education, as explained under the research problem statement (cf. 1).

In the case of reading resources, this study proves that multi-media resources are one of the requirements for the successful implementation of information-handling skills. If such resources are not available, this negatively affects learners' accessing skills in the media center. Idoko et al. (2015:3) confirm that inadequately resourced school libraries in Nigerian secondary schools caused a lack of

confidence in learners to use such resources. This made them totally dependent on class notes and textbooks for assessments, including assignments. This implies that opportunities for integrating information-handling skills were limited.

2.6.2.3 Suitability of reading resources

The media center should aim to serve and meet the needs of all potential users in different target groups in the school (Department of Basic Education (DBE), 2012:29). This implies that if the media center does not meet teachers' and learners' needs, its resources are unsuitable. Section 3(2) of the Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013:16) stipulates that the resources in schools' media centers should be replenished regularly to satisfy the academic needs. According to this study, the needs of both learners and teachers should align with the curriculum of the school, therefore multi-media resources should support the school's curriculum and extra-curricular activities. Secondly, by mentioning learners in 'different target groups', the National Guidelines imply that resources should cater for learners' level of schooling, age and hobbies. The school curriculum, extra-curricular activities, and learners' grade, age and hobbies are clarified below.

- School curriculum

According to this study, the school's curriculum means the subjects or learning areas and languages offered by the school. Maimela (2015:15) defines curriculum as the content of learning areas to be taught in each phase. Therefore, the media center at the school should support both the subjects and the languages offered by the school. The National Guidelines (Department of Basic Education (DBE), 2012:16) also confirm that the media center collection should cover a full range of information resources, including fiction, non-fiction, and audio-visual material.

If the school's multi-media resources do not cover learners' learning areas, it would be impossible for learners to do their research work and be exposed to information-handling skills.

- Extra-curricular activities

Extra-curricular activities such as sport are recommended as part of a school's activities. This is confirmed by section 15(1) of the Minimum Uniform Norms and Standards (RSA, 2013:17), which states that all schools must introduce extra-mural activities like sports, physical education and recreational activities. According to this study, the media center should support all school activities, including extra-curricular activities with the multi-media resources.

- Learners' grade, age and hobbies

A learner's age is taken into consideration by policies regarding teaching and learning. For example, the National Policy for an Equitable Provision of an Enabling School Physical Teaching and Learning Environment (RSA, 2010:20-21) highlights that Section 3 of the 1996 South Africa Schools Act (SASA) recommends the consideration of a learner's age for GET, and that quality education in the senior secondary phase should be accessible to all eligible learners. According to this study, quality education implies education suitable for the age and the grade of the learner, and should support the interests and hobbies offered by the school. The reason is that the more multi-media resources there are available in the library to suit learners' grade, age and hobbies, the greater the possibility of the successful integration of information-handling skills into curriculum.

2.6.3 Lack of qualified and full-time librarians in schools

The 2009 school library campaign, "one school, one library, one librarian", initiated by Equal Education, put school libraries on the map, which resulted in the establishment of libraries in a number of South African schools. This did not necessarily mean that all school libraries would be staffed by professional librarians (Hart & Zinn, 2015:31-32). In 2013 the Norms and Standards were published to enforce the establishment of a library space in each school. Section 13(1) of the Minimum Norms and Standards (RSA, 2013:16) stipulates that all schools should have a media center with suitable multi-media resources. In South African schools there are very few

qualified and full-time librarians available to establish and run school libraries. This responsibility is given to non-specialist teachers, who do not really have the time to manage the library and serve as part-time library committee members, as it overloads their school responsibilities. The absence of professional librarians in schools has a negative impact on learners' performance, and the entire information-handling process as a whole (Manqele, 2012:24). To support this, according to the research by Moruf (2015:65) on the utilisation of secondary school libraries in Nigeria, the majority of schools do have libraries, but they are not utilised for any form of research activity by learners due to inadequate resources, a lack of professional librarians, and teachers who are ill-equipped.

To overcome this lack of qualified librarians in South African schools, the DBE established at least 20 functional dual-purpose libraries in Cape Town schools to serve both schools and the community (Fraser, 2013:51). In the Free State, dual-purpose libraries were initially established in primary schools through a partnership between the Department of Education and the Department of Sports, Arts, Culture and Recreation in the 2014-2015 financial year. The number of dual-purpose libraries grow annually. This study will also recognise and prioritise schools that have dual-purpose libraries.

2.6.4 Lack of collaboration between teachers and librarians

Information-handling skills are developed when teachers and librarians collaborate on assignments for school. Librarians can assist in the planning of teaching and learning to support the curriculum. This is confirmed by Fraser (2013: 50-51), who argues that it is crucial for schools to collaborate to be able to prepare for the integration of information-handling skills and to establish well-resourced and well-functioning media centres. This collaboration is also recommended by the National Guidelines, as explained earlier (cf. 2.4)

According to Bundy (2013:241), teachers in Australian state secondary schools establish partnership with teacher librarians to use resource-based learning methodologies in ensuring that information-handling skills are integrated into the school curriculum. In this context, the teacher librarian and school teaching staff work together to help learners access and utilise multi-media resources.

The challenge in South African secondary schools is that the library profession is a scarce skill. Very few universities in the country still offer this qualification. The Australian strategy could work in South African schools only if the DBE can provide the funding for professional librarian posts. There are other factors that could also contribute to improving the integration of information-handling skills into the South African secondary school curriculum.

2.7 Factors that could contribute to improving the integration of information-handling skills into South African secondary school curriculum

This study is based on the fact that there seems to be a scarcity of research on the integration of information-handling skills into the curriculum and regarding insights on teacher training on information skills.

Internationally, information-handling skills are recognised as one of the most valuable skills that must be acquired by learners. For example, Bundy (2013:245) confirms that “the acquisition of information skills is now one of the educational aims of most state education departments”. The most important observations from that study are :

- collaboration between teachers and librarians must be initiated
- there is a need to teach information-handling skills in context
- due to clients’ problems in carrying out research or enquiry-based tasks, librarians have an important perspective to contribute to the teaching and learning process
- librarians’ teaching role should focus on information and the skills required to locate and use it
- independent learning skills are basic to both lifelong learning and the social and economic well-being of society

The above-mentioned information regarding Australian schools can be extrapolated to the South African context. Librarians and libraries are necessary resources that play a vital role in the teaching and learning, and the curriculum, of a school. It is therefore important to know what the following entails: library or media center, curriculum, and strategic approaches as highlighted above.

2.7.1 Library or media center

A library or media center is not a luxury but a necessity at a school. The National Policy for an Equitable Provision of an Enabling School Physical Teaching and Learning Environment (RSA, 2010:8) confirms a media center as a necessity. Its availability or not is one of stark inadequacies and inequalities in the current teaching and learning environment in South African schools. This is confirmed by Mojapelo and Dube (2014:1), who argue that a functional school media center is of the utmost importance in enriching the quality of teaching and learning, and in supporting teachers and learners at a school. Therefore, it is crucial that each school should have a spacious and functional media center that can support all the needs of teachers, learners and the curriculum.

The integration of information-handling skills requires multi-media resources, which are usually located in the media center. For example, Omenyo (2016:11) argues that the media center enhances the development of teaching and learning in a school, as it contains resources in a variety of formats that supports the school's curriculum. In addition, Halkar (2019:174) highlights the importance of the media center and the development of information-handling skills as some of the key factors of learners' information competencies, as explained earlier (cf. 2.3). Therefore, it is impossible for information-handling skills to be successfully integrated with multi-media resources without either a media center or a library space. In addition, in the regulations relating to the Minimum Norms and Standards for Public School Infrastructure (hereafter the Minimum Norms and Standards) (RSA, 2013), the Minister of Basic Education prescribes that all schools must establish a school library with a minimum collection that is relevant to the academic programme of the school, to enable information-handling skills to be developed in learners. The media center must be accessible to all learners. Each school should therefore make a conscious decision on the architectural structure, the size and the position of the media center on the school premises.

A school may for example consider having ramps to accommodate differently abled learners or teachers. Accessibility to the media center by all users is very important.

As mentioned earlier, a media center contains a variety of multi-media resources, including books, audio material, periodicals, internet access, audio-visual resources and charts (cf. 2.3). According to the school monitoring survey done in 2013 (Department of Basic Education (DBE), 2013:4), only 74% of secondary schools in the Free State had media centers. These schools were spread over the five education districts of the Free State province, namely Motheo, Xhariep, Thabo Mofutsanyana, Fezile Dabi and Lejweleputswa. The Mangaung Metro is situated in the Motheo district, where this study was done in schools with functional media centers. Hughes (2013: 2-3) mentions that a functional media center should supply the following: an increased number of full-time library staff or qualified teacher-librarians; library collections that are large, frequently updated and cover material in a variety of formats; and increased use of the library. The mentioned factors are discussed below.

2.7.1.1 Increasing the number of full-time library staff in a school or employing qualified teacher-librarians

As discussed earlier in this chapter, there is a need for collaboration between teachers and the librarian (cf. 2.4). In South African schools, having a librarian in a school library is a necessity to plan learners' research tasks in collaboration with teachers. Dubazana and Karlsson (2006:4) argue that the collaboration of teacher-librarians with teachers in schools enables the integration of library resources and information-handling skills into the curriculum. There are, however, a limited number of teacher librarians in schools. More often, teachers form school library committees, and these committees are responsible for the extra duties of managing the library.

This collaboration between subject teachers and teacher librarians is promoted internationally. For example, the Australian Professional Standards for Teachers highlight that secondary school subject teachers should work with library staff to build a library collection that

supports teaching and learning. They can also set challenging learning tasks for learners' research and guided inquiry (Australian Library and Information Association, 2014:22-24).

According to Moruf (2015:65), who conducted research on the utilisation of secondary school libraries in Nigeria, the majority of schools in that country does have libraries. They are however not utilised for research activities by learners due to inadequate resources, a lack of professional librarians, and ill-equipped teachers. In addition, Nigerian secondary schools depend on class notes and textbooks for assessments, including assignments. As a rule, they do not make use of their school libraries, as these are generally inadequately resourced (Idoko et al., 2015:3). Learners in that country are generally not exposed to the school library, and this implies that the opportunity for integrating information-handling skills is limited. The School Library Manifesto of the International Federation of Library Associations (IFLA) recommends that school librarians should be competent in planning and teaching both teachers and learners about information-handling skills (International Federation of Library Associations and Institutions (IFLA), 2021: 2).

The following discussion supports the view that a lack of librarians in schools may lead to a decline in learners' academic performance. The National Guidelines for School Library and Information Services (Department of Basic Education (DBE), 2012:44) state that the school librarian is expected to assist learners in the use of multi-media resources, and to collaborate with teachers regarding the integration of information-handling skills into the curriculum. In addition, Chu, Tse and Chow (2011:133) argue that librarians and teachers impart information-handling skills to learners through inquiry-based learning by using questioning to actively involve learners in their own learning. This implies that a partnership between teachers and librarians works well for the benefit of the learners. Therefore, without the librarians, it might be impossible for teachers to instil information-handling skills to learners on their own.

According to Bundy (2013:241), Australian teachers establish partnerships with teacher librarians to use resource-based learning methodologies in ensuring that information-handling skills are integrated into the school curriculum. In this context, the teacher librarian and teaching staff work together to help learners access and utilise multi-media resources. Tshuma and Chigada (2018:12) recommend that the librarian should analyse the learners' needs to ensure that the resources of the school media center are relevant. This may

assist in ensuring that the media center resources are aligned with the school curriculum to facilitate the information-handling process. It is the responsibility of the librarian to create a secure haven in the media center for relaxed reading and information retrieval for learners at any time (Department of Basic Education (DBE), 2012:14). The librarians should also be on hand to assist learners with their assignments and projects. Research done at the Utah State University in the USA (Davis et al., 2016:2) confirms that librarians are well versed with the process of collecting high quality material for both teaching and research. They are also well positioned to work with faculty seeking to incorporate Open Educational Resources into their courses. The same applies to librarians in South Africa at the FET (Further Education and Training) level or at secondary school level. Librarians are in a good position to select relevant multi-media resources for both teachers and learners. They can also work with teachers to integrate information-handling skills into the curriculum, using these resources. It is confirmed by Bruff (2019:1) that librarians can assist learners with assignments, pointing them to relevant resources in the library.

In South African secondary schools, the teacher-librarian collaboration strategy will work only if the DBE can secure funding for professional librarian posts. In a way to solve the librarian issue, the Free State Department of Education partnered with ETDP-SETA to train and place unemployed people in schools with established libraries. This project started in 2018 and ended in 2019, and participants obtained a certificate in Assistant Librarianship. The participants were paid a stipend every month. This project worked very well, as learners in schools were engaged in reading promotion activities. Schools established reading clubs and were trained by Media Subject Advisors (MSA) based in the district. Unfortunately, this project came to a close. In the Motheo district, the areas that benefitted from the project included Bloemfontein, Botshabelo and Thaba Nchu. This study is focused in Bloemfontein.

2.7.1.2 Library collections that are large, frequently updated and cover material in a variety of formats

As mentioned in Chapter 1, some sources still use the old concept of 'library' (cf. 1). However, according to this study, a library and media center differ according to their collections. A media center should, in addition to books (fiction, non-fiction and reference works), have multi-media resources, such as audio cassettes, audio-visual resources, computers (internet and email access), print media such

as journals, pamphlets and periodicals, posters, charts, etc. Aladeniyi and Owokole (2017:94) define resources in the library as material such as books, software, audio-visual material and audio-visual hardware, which are all used in the teaching and learning process. The quantity of these resources in school media centers differ, and may sometimes depend on the quintile level of the school. According to the quintile system in South Africa, quintile 1 - 3 schools are non-fee-paying schools, while quintile 4 – 5 schools are fee paying schools. This is based on the socio-economic profile of schools and the wider community in which they are situated (Parliamentary Monitoring Group, 2020). For this reason, media centers in quintile 1 - 3 schools may have fewer resources compared to media centers in quintile 4 – 5 schools. The quantity of library resources is also dependent on the size of the media center. Multi-media resources can fit better in a spacious, custom-built media center than in a classroom-sized media center, as the latter could be a converted classroom. In addition, these library resources are information-based materials that enable the library to fulfil its purpose of satisfying the information needs of its users. According to this study, multi-media resources help users to meet their needs when completing a research activity through an information-handling project.

The media center facilitates the attainment of information-handling through its multi-media resources. Owokole (2018:92) argues that information-based resources are important tools in the teaching and learning process of any academic community. These information-based resources are presented as non-fiction resources in this study (cf. 2.4.4). Members of the academia require information-based resources for learning, teaching, research, updating their knowledge, and personal development, as is the case with teachers and learners. Basically, the durability and accomplishment of any tertiary institution rely on the media center. The same applies to public schools. The school curriculum and school stakeholders should be able to depend on the school's library for knowledge and personal development. This is confirmed by Robinson (2018:2), who argues that good functionality of libraries leads to learners' improvement in English language skills and academic marks. This supports the view that the success of teaching and learning depends not only on the availability of library resources, but also on the ability to make efficient and effective use of those resources (Neerpath, 2014:30). This

study therefore supports the view that integration of information-handling skills is successful when the resourced media center is fully accessible and functional.

In the Five-Year Plan 2015/16 – 2019/20, the Minister of Basic Education highlights that functional and well-resourced school media centers impact positively on the DBE's efforts to improve reading (Department of Basic Education (DBE), 2015:4). To support this, research in the South African context shows that a functional media center can positively impact learner performance and reading ability (DG Murray Trust, 2015:1). This proves that the availability of a functional media center in schools provides both learners and teachers with an opportunity to access a variety of resources and can lead to the successful integration of information-handling skills.

The latest National Curriculum Statement (NCS) emphasises active learning, for which multi-media resources (print or digital) for information-based research tasks are needed. The ability to locate and utilise resources (beyond the textbook) requires learners to have interaction with various resources, possess information-handling skills and a willingness to seek information. Learners should also display persistence, attention to detail, and the interrogation of information and sources (Zinn et al., 2017:33).

The study will therefore focus on schools that have large collections of multi-media resources.

2.7.1.3 Increasing learners' use of the media center, as indicated by the circulation register

As highlighted in Section 1.6.1 of this study, the circulation register is one of the items to be analysed during the data analysis. The circulation register indicates the utilisation of multi-media resources, which are borrowed by learners in the media center. This means that the circulation desk also is important, as it prepares the media center ready for the circulation process.

According to my experience as an Education Library Information and Technological Services (ELITS) official in the Free State Department of Education, learners use the media center mostly for reading purposes. The purpose of reading depends on the type of resource selected by the user. A user may read for pleasure/enjoyment or read to gain information/knowledge from multi-media resources, benefiting from the fourth industrial revolution (4IR). This is confirmed in the DBE's Reading Champion manual (Department of Basic Education (DBE), 2021b:4-6), which recommends the use of the media center as an aid to maintain learners' habit and enjoyment of reading. It may further offer opportunities for utilising information for, amongst others, knowledge and understanding. In addition, the National Guidelines (Department of Basic Education (DBE), 2012:15) highlight that the resource collection in the media center is not only intended for reading for enjoyment by learners, but also to support subject teaching. Robinson (2018:2) supports this statement by arguing that a media center contains additional material for teachers to prepare their lesson plans and for students to prepare their class projects and assignments.

- Reading for pleasure/enjoyment

According to this study, reading for pleasure or enjoyment does not depend on whether the reader enjoys what he/she is reading or not, but on the type of resource he or she is reading. For example, fiction reading is usually done for fun. The National Guidelines (Department of Basic Education (DBE), 2012:49) emphasise that fiction books should provide enjoyment and aid in language development. Fiction is frequently used by language teachers for the purpose of promoting reading and developing learners' language proficiency. Reading for enjoyment is not the reason behind this study, but I mention this so that the reader can understand how it differs from reading to gain knowledge.

Non-fictional resources should be the focus in the classroom, as they provides information. For example, in the Dewey Decimal Classification (DDC) system, code 400-499 in the library represents non-fiction about language. The DDC code 800-899 represents literature. There are therefore non-fiction books on language that can be utilised to develop language. Fig. 2 below indicates the DDC

(Dewey Decimal Classification) codes allocated to subject headings of non-fiction books. These are arranged numerically on the shelves according to the Basic School Library Manual (Department of Basic Education (DBE), 2017:38).

Figure 2: DDC Codes allocate to subject headings of non-fiction

000–099	General Knowledge: Records that cover all topics, e.g. encyclopaedias and books covering a wide range of topics. Books on libraries, museums and mass media are also placed here.
100–199	Philosophy and Psychology: Records about the way people behave and think
200–299	Religion: Records about all the kinds of religion all over the world
300–399	Social Sciences: Records about people and what they do, e.g. politics, law, economics, education, etc.
400–499	Language: Records on the grammar and make-up of languages all over the world
500–599	Pure Science: Records on all the sciences such as mathematics, physics, chemistry, biology, botany, zoology, astronomy, etc.
600–699	Applied Science: Records on how man has used science – technology, e.g. medicine, cooking, agriculture, building, etc.
700–799	Arts and Recreation: Records on all the things that make people enjoy life such as music, art, drama, dancing, sport, etc.
800–899	Literature: Literature of all parts of the world like stories, poetry, plays, etc.
900–999	History, Biography and Geography: Records covering places, people and events all over the world from all time.

If learners are familiar with these codes, they can easily utilise them to search for relevant information in the media center.

- Reading to gain information/knowledge

Reading to gain information should be the reason behind choosing a factual or non-fiction resource. The National Guidelines (Department of Basic Education (DBE), 2012:47) define non-fiction as material that fulfils the research purpose, supports the curriculum, and balances subject coverage. Such sources provide knowledge or factual information, and they are used for assignments, projects

and other research activities. Non-fiction resources in a school's library should elate to the subjects/learning areas taught in that particular school, so that they can support the teaching of those subjects in advancement of the school curriculum.

From the above discussion, it can be deduced that reading with understanding provides the basis of mastering the information-handling process. This also applies to understanding the content of the research topic or assessment task. One cannot gain knowledge without first understanding the content. To ensure that the content is understood, media center resources such as physical or digital encyclopaedias and dictionaries should be used. This study therefore recommends the utilisation of multi-media resources.

Research has shown that integrating multi-media resources in everyday classroom activities equips learners with information skills. Learners therefore become researchers, life-long and independent learners, and constructive thinkers, who have the ability to ask appropriate questions, communicate ideas, reflect deep understanding and cope with the rigours of academia (Bundy, 2013:238-239).

Ngcongolo and Oyelana (2017:77) explain that the concept of information skills is associated with the ability to access relevant information, compile search strategies, and make effective use of the library catalogue.

- *Fourth Industrial Revolution (4IR) as safety measure against Covid-19*
 - Libraries in the 4IR

The global Covid-19 pandemic was a threat to the utilisation of traditional face-to-face libraries, as it resulted in the complete closure of school libraries. For safe re-accessibility and re-utilisation of school libraries, new rules had to be developed. According to Medawar and Tabet (2020:183), the following precautionary measures were followed to provide a safe environment in libraries during Covid-19:

masks were mandatory, libraries were cleaned regularly, hand sanitisers were placed near self-checkout stations and at entrances, and temperature checks were done for staff and visitors.

Compared to traditional face-to-face library research, digital library research, which mostly encourages the use of resources found and accessed via the internet, ensures speedy access to information. It also kept library patrons safe from Covid-19. Oke and Fernandes (2020:4) argue that the internet as well as other emerging technologies should advance the pace at which information is supplied to learners, irrespective of their location, while facilitating competency-based and self-directed learning. The library may be substituted by the media center in the Fourth Industrial Revolution, as technology is increasingly important. For example, media centers now use computerised and/or online cataloguing to capture multi-media resources instead of manual cataloguing (cf. 2.6.2.1). Media centers in the Fourth Industrial Revolution will be influenced by external features such as mobile libraries, which will incorporate digital technologies and state-of art displays (Noh, 2015:796-797). In some Free State schools, the mentioned features such as mobile libraries, digital technologies and library displays have already been incorporated to some extent.

- Impact of Covid-19 on the utilisation of school media centers

Normal procedures regarding the utilisation of media centers had to change during the Covid-19 period. School libraries had to adhere to Section 8.6 of the revised draft on the DBE's standard procedure for the management of Covid-19 (Department of Basic Education, 2020a: 31), which recommended that media centers could open, but learners could not share books and they had to avoid touching surfaces that had not been cleaned or sanitised. This proves evidence that the Covid-19 pandemic in a way enforced media centers to embrace the 4th Industrial Revolution, as it seemed safer to utilise digital resources than books. The media center collection for 4IR may include digital books, internet access, audio resources and audio-visual resources. These are all recommended to ensure the successful integration of information-handling skills into the curriculum.

2.7.1 Curriculum

The gist of the study, which is the integration of information-handling skills into the curriculum, cannot be effectively dealt with if there is inadequate information about the curriculum. Maimela (2015:15) argues that the term curriculum forms the basis of the education process. He refers to curriculum as “the content of learning areas to be taught in each phase”. The teaching process of the learning area directly involves teachers, learning and teaching support material, and learners’ work.

2.7.2.1 Teachers

Teachers play a significant role in presenting the curriculum. They specialise in teaching and learning across the curriculum. They also function as either a subject teacher or a language teacher in relation to the media center, by ensuring that information-handling skills are integrated into the curriculum. They normally run the school’s media center in the absence of a qualified or full-time librarian. The listed co-responsibilities of teachers are mentioned below.

- Subject teachers and the media center

Subject teachers are one of the stakeholders at school that probably has expertise in information-handling skills, since they have knowledge of the subject content. According to Maddock and Maroun (2018:195), CAPS focuses on knowledge of the subject. The specialists in subject knowledge in schools are subject teachers, and that is why this study chose subject teachers as suitable participants. Subject teachers are expected to have relevant experience regarding the integration of information skills for two reasons. Firstly, learners mainly gather information on specific topics from their textbooks. Secondly, subject teachers are expected to teach and to give research tasks to learners, such as assignments/projects/information tasks. Subject teachers plan their lessons before entering the classroom to teach. This shows that teachers are expected to have integrated information-handling skills in the classroom whilst teaching. In Australia, teachers cooperate with teacher librarians regarding learners’ work, a possible reference list/bibliography, and

teachers' work plans. This serves as practical evidence of the integration of information-handling skills (ALA, 2014:6-7). For this reason, the interviews in the study included questions to probe whether teachers collaborate or plan the research topics to be given to learners. The study also investigates teachers' lesson plans as document analysis, to ascertain if multi-media resources are used by teachers to either prepare notes for learners or use them as part of their teaching aids.

- Language teachers and the media center

The subject that concerns language teachers is a specific language. They are expected to teach about the language, including its origin, grammar, etc. In the media center, studies about language are regarded as factual information. Literature can include creative writing, but also the analysis of a work of fiction in a specific language. In the DDC language and linguistics as a science are allocated the numbers 400 – 499, while literature is 800 – 899 (see figure 2).

Language teachers have the added responsibility of promoting reading in schools. The National Guidelines (Department of Basic Education (DBE), 2012:32) recommend the celebration of national and international literacy days in schools such as Mother Language Day in February, National Library Week in March, World Book Day in April, International Literacy Day, Readathon Week and Heritage Day in September, and World AIDS Day in December. This might require research, which can be supported by information-handling skills. For this reason, language teachers will also participate in this study.

- Teachers in teaching and learning across the curriculum

The teaching and learning process involves the teaching and learning of, amongst others, knowledge and skills, including information-handling skills, in all learning areas or subjects. The National Protocol for Assessment Grades R – 12 (DBE, 2011:vii) highlights that the acquisition of skills through learning across the curriculum may be reflected by the level of language proficiency. This implies that both language and subject teachers are involved in teaching and learning across the curriculum, through which skills are acquired. This study intends to ascertain if teachers are currently integrating information skills into the curriculum. The mentioned documents will

therefore be analysed to check for evidence of integration. The integration of information-handling skills should have been happening since the inception of CAPS. Section 3.7 of Curriculum Assessment Policy Statement (CAPS) (Department of Basic Education (DBE), 2018:9) stipulates that the planning of these tasks must be based on the content of the subject. The content-based books in South African school libraries or media centers are allocated DDC codes. It is important that teachers know the DDC codes for their subjects, as this will help them to guide learners to easily locate resources in the media center when given assignments. Learners should therefore also be familiar with the broad DDC categories, as well as with the library catalogue. Section 1.3 (e) of the National Curriculum Statement (NCS): Curriculum Assessment Policy Statement (CAPS) in FET Gr 10 - 12 (DBE, 2011:4) recommends that teachers should have a clear understanding of the barriers to learning, in order to address them and plan around them. This could be done through interaction and collaboration with library or media center committee members, as the media center collection should be diverse in terms of its content.

- Teachers as library/media center committee members

A diversified media center collection may satisfy the needs of both teachers and learners, despite any differences in gender, race, abilities and capabilities. Teachers serving on the media center committee manage this diverse collection of resources. The National Guidelines (DBE, 2012:34) stipulate that one of the responsibilities of library committee members is to draft the school library policy, which should address the management of the school library. The school library committee may work with either the teacher librarian, assistant librarian or library assistant in the school.

Neerpath's study (2014:4) also involved subject librarians. His focus was the integration of the library to enhance teaching and learning at universities of technology in South Africa. He identified that, amongst others, resource collection and development, faculty collaboration and partnership, research as well as reading and writing programmes contribute to the success of teaching and learning. This study would also like to recommend some programmes for the South African secondary school level or FET (Further Education

and Training) level to promote the integration of information skills to support the curriculum. These are resource collection and development, collaboration and partnership, as well as reading and writing programmes.

- Resource collection and development: This refers to the process of selecting and developing relevant multi-media resources for the school media center. These would differ from school to school, based on specific needs as stated by the National Guidelines (DBE, 2012:16). Selected resources should therefore satisfy the needs of its users. This benefits the integration of information-handling skills, as the resources will contain information relevant to their users.
- Collaboration and partnership: This implies collaboration between teachers and librarians, specifically regarding research activities for learners.
- Reading and writing programmes: Such programmes should be the task of language teachers. This will allow them to engage learners in research activities to integrate information-handling skills into the curriculum. For example, schools can establish reading clubs, or give learners topics to be researched for discussion during debates. In preparing for this, learners would be engaged in the information-handling process.

The above implies that teachers should collaborate with teacher librarians in ensuring that information-handling skills are integrated into the curriculum. Collaboratively they should develop and select relevant resources for the school's media center. Planning for and allocating a budget for the media center collection should take place in partnership with the School Management Team (SMT) and the School Governing Body (SGB).

2.7.2.2 Learners' work

Learners' work is referred to as classroom assessments in this study, although not all classroom assessments are recognised by this study. The DBE (2011:3) recommends that a classroom assessment must show evidence of learner achievement in the most efficient and effective way.

The National Protocol Assessment Grade 10 - 12 highlights that assessment for learning, which is also known as informal or daily assessment, is done through observation and teacher-learner interaction. On the other hand, assessment of learning, which is also known as formal assessment, is assessment through which knowledge and skills are assessed. For this reason, this study recognises assessment of learning. This type of learning is also regarded as formal assessment. Tasks are given to learners, based on the curriculum content of subjects. Ramasodi (2009:64) argues that in order to assess whether a service is meeting its objectives, appropriate performance indicators can be formulated through performance measurement. To support this argument, Yousaf and Akhter (2018:3) highlight that a set of criteria is needed to assess the authenticity or credibility of information. According to Section 2.1 of the FET Grade 10 - 11 CAPS Amendments, (Department of Basic Education (DBE), 2021b: 23), teachers evaluate learners' formal assessment tasks, and grade them for the sake of progression and certification. Formal assessment provides teachers with a structured way of assessing how learners are coping in a grade and in a certain subject. It should be planned by teachers, and should be visible in their lesson plans, notes, question papers, memoranda and rubrics. Examples of formal assessment tasks include, amongst others, assignments, projects, case studies and research presentations, which all require information-handling skills. Learners need information skills to complete these tasks, including the gathering, processing and communication of information (Eisenberg, 2008). This study will randomly select examples of learners' assessment tasks to be analysed during the data collection phase of this study.

There is a link between formal assessment tasks per subject and multi-media resources, as they both require the integration of information-handling skills. This is confirmed in Section 1.1 of the FET Grade 10 - 11 CAPS (Department of Basic Education (DBE),

2021b:7), which states that the selected form of assessment should be suitable for the developmental level and age of learners. The School Library Manifesto highlights that multi-media resources “complement and enrich textbooks, teaching materials and methodologies”, which form part of LTSM (International Federation of Library Associations and Institutions (IFLA), 2021: 1). For example, multi-media resources for primary schools should be colourful, playful, full of graphics and pictures, with text in a large font. Schools offering Physical Sciences should have science-related resources in the media center, to support science assessment tasks. Multi-media resources, as listed above, supplement the utilisation of Learning and Teaching Support Material (LTSM) in the classroom. It is important to differentiate between LTSM and multi-media resources (MMR), as schools allocate a budget for them separately (refer 2.7.2.3 below).

2.7.2.3 Learning and Teaching Support Material (LTSM)

Section 11.1 (e) of the Gauteng Province DoE Learning and Teaching Support Material Policy (Department of Education (DoE) Gauteng Province, 2018: 9) states that “LTSM include textbooks or learners’ workbooks or teachers’ manuals”. This implies that both Learning and Teaching Support Material (LTSM) and multi-media resources (MMR) should be utilised in the classroom by teachers and learners. According to Shandu (2014:3), an annual LTSM budget of about 10% was used by schools to fund library services. This implies that when schools commit to allocate the budget to sustain the functionality of their media centers, more library or multi-media resources (MMR), including a computerised library system, could be purchased, aiding in the integration of information skills. The South African National Guidelines (DBE, 2012) mandate all South African schools to allocate a percentage of their learning and teaching support material (LTSM) budget to purchase library resources. In Gauteng, the provincial department allocated 10% of each school’s LTSM to library resources. This money, however, could also be used to buy other material, depending on the needs of the school (Shandu, 2014:3-5).

According to Nuku (2019:133), schools in the Motheo education district still allocate 10% of the LTSM budget for library use or multi-media resources (books/magazines, library material, media films and non-consumables). In addition, schools are divided into two sections. These are Section 21 schools, that manage their own budgets, and Non-section 21, or Partially section 21 schools, whose budget is managed by the Department. This means that Section 21 schools order library material directly from the publishers, while the others submit their needs to the Department, which manages the ordering process. All schools in the Motheo education district should therefore resources in their media centers, and should be ready to integrate information-handling skills into the curriculum.

2.7.3 Strategic approaches

In the context of this study, strategic approach is referred to as the practical process of integrating information-handling skills in the classroom context. Again, viewing the situation at school level, the South African National Curriculum Statements Gr R - 12, among other things, aim to produce learners that can solve problems and make decisions using critical and creative thinking, as well as encouraging learners to collect, analyse, organise and critically evaluate information (Walstra, 2013). Tshuma and Chigada (2018:8) support this statement, by stating that learners should be equipped with information-handling skills to learn the following skills: finding, locating and using information effectively and efficiently.

According to Yousaf and Akhter (2018:3), the practical processes of information skills are illustrated as three information competencies, namely access to information, information analysis, and usage of information. The processes are explained below, as the one leads to the other.

2.7.3.1 Access to information (accessing skills)

The National Policy for an Equitable Provision of an Enabling School Physical Teaching and Learning Environment (RSA, 2010: 31) highlights that the accessibility of libraries and media centers constitutes the optimum level of school functionality and the operational teaching and learning environment. Accessibility to the media center implies accessibility to various types of information resources.

The process of accessing information involves the attainment of accessing skills. Hart and Davids (2010:5) argue that “learning how to ‘access’ information implies critical thinking skills as well as technical proficiency”. Critical thinking is definitely applicable in the process of locating information, as it involves decision making in terms of where and how the information could be located. This study has already shown that learners experience the handling of information through research activities like project or assignment in order to access multi-media resources.

In Pakistan, secondary school learners are aware of information-handling skills, but they struggle with how to define information tasks (Yousaf & Akhter, 2018:7). According to this study, the process of defining an information task is part of accessing skills, which is the first practical step of information-handling skills.

The accessing process starts in the classroom when a teacher gives learners a topic on which to do research. The first step is to define the topic or information task.

- Defining the research topic

The assignment or research topic is defined in the classroom by the teacher. Learners should know what is expected of them, as well as the expected outcome of the assignment. If the information task is not clear to the learners, the chances of digressing are high. According to the National Protocol for Assessment for Grades R – 12 (2011:31-32), “an assessment is based on the grade-level content”. According to this study, this simply means that an information task must suit the grade and age of the learner. This may assist the learner to get clarity about the task. In addition, the study recommends that when clarifying the research topic with learners, teachers may also clarify the ‘task word’ of the question with learners, the ‘content words’ as well as the ‘limiting words’. The main reason behind clarifying these words at the outset in the classroom is to ensure that learners stay focused when responding to the research question.

Maddock and Maroun (2018:208) argue that in defining a term, the use of a dictionary is encouraged. This implies that learners must be taught how to use dictionaries and encyclopaedias in the classroom to equip them with accessing skills. In addition, teachers may also brainstorm the topic with learners to either create a number of ideas or develop sub-topics. Dogan and Batdı (2021:542) state that brainstorming activates learners' minds, and it helps them to simplify the reorganisation of knowledge. It enables learners to deal with a research topic and produce as many ideas as possible when doing their assignment or project, without the having to bring any one of them to fruition. Therefore, once they understand the research topic, it is not so difficult to find resources, analyse the information from the located resources and then communicate the information. The steps are explained below.

- Locating resources in the media center

When the research topic is clear to the learners, this step should be easy. The ability to locate and assess resources for learning is a required skill for lifelong learning and effective work in a number of fields. Assisting students to get solutions to questions on their own is also an effectual approach for learning (Bruff, 2019:1). It is crucial for a researcher to know where and how to locate resources, and in the school context the school librarian can assist learners with this. This study will observe learners during the process of accessing resources in the school's media center for their assignments.

An information task must be clear, so that learners have a good idea of the type of information that they are looking for. Learners can use the library catalogue to locate resources in the library or media center. Learners should not only rely on one or two resources, and should include resources from the internet, audio material, audio-visual material, periodicals, reference works, and others. Whether a school has a manual library catalogue or a computerised catalogue, they work in the same way. The only difference is how the bibliographic description is captured. In a manual catalogue, the bibliographic description is captured on a card, while a computerised catalogue captures it electronically.

This study has already made it clear that media centers contain multi-media resources. The intention of this study is to ensure that the school curriculum is supported by these resources. Wessels (2010:70-71) argue that the DDC system is widely used to organise resources in a media center (see Figure 2). Relevant non-fiction books and reference works can therefore easily be located due to their DDC numbers. Learners are advised not to only use the title of a book to decide on its relevance and suitability, as it may be deceptive. They should also look at the table of contents, index, preface and the blurb.

Teachers may not be familiar with the DDC numbers for all subjects, but this study suggests that teachers must at least know the DDC numbers for their specific subjects. This will allow them to advise learners on how to easily locate relevant resources in the media center. It is advised that, as part of training on information accessing skills, learners should be taught about the DDC system.

As previously stated, assessment of the research task is based on the content, depending on the grade of the learner (Department of Basic Education (DBE), 2011b:31-32). In the media center, the content is organised according to subject, title or author. For this reason, this study would like to suggest that learners must be trained on how to find resources using the subject, title or author, as part of accessing skills training.

After locating resources by using the catalogue and the DDC system, learners must select relevant data from the identified resources.

2.7.3.1 Analysis of the information (analysing skills)

At this stage, relevant resources are identified, located, and accessed. Data is selected from different resources after assessing its relevance.

- Selecting information

Learners should scan and skim resources, understand the content, compare and contrast the gathered information, and take notes to keep record. Scanning is a way of finding a specific piece of information in a reading selection, while skimming is moving through the resource from beginning to end, to get a quick overview of an entire selection by locating and identifying valuable and important parts of a reading selection (Nyack, 2014:1-2). The process of assessing the information takes place when the learner has collected all the relevant resources from the media center. According to the FET Grade 10 - 11 CAPS (Department of Basic Education (DBE), 2021b:7), the topic and nature of an assignment is determined by the content. The learner is advised to identify keywords in the assignment and use these to retrieve relevant data. The learner may compare and contrast information, and scan and skim through the content of the selected resources.

At this stage learners should be familiar with the important sections of books that may help to identify relevant resources in the media center. These include the contents page, title page, title verso page, index, the blurb, spine and spine label. These parts of the book can help learners to decide on the relevance of the resource to address the task. Book sections are explained in 1.11 of this study.

- Digesting and interpreting information

At this stage, the student should interact with multiple sources in an attempt to argue for and against the topic. I however think that this should be based on learners developing their own questions to get more information. The approach is explained below.

- Inquiry approach

A learner or researcher may formulate his or her own question with the intention of finding a solution to the problem. Andrini (2016:39) highlights that inquiry, in general, is a process that includes formulating relevant questions, the critical evaluation of a number of different sources, investigation, reviewing what is already known, obtaining data, analysing and interpreting the data, and making

predictions and communicating the results. In addition, Omenyo (2016:84) argues that the approach of inquiry to learning is where learners acquire knowledge from various sources of information to construct their own questions. This learning approach empowers students to establish their understanding through the utilisation of a variety of resources, and they benefit more when there is a close partnership between teachers and librarians.

- Creating or constructing own knowledge on the topic

Learners should contextualise information, formulate their own opinions about the topic, have an original interpretation, construct a logical argument, and create their own knowledge. As this study recommends the utilisation of multi-media resources, learners are expected to engage each source by either reading, viewing, or listening to resources. From that they can extract specific information through the application of note taking, highlighting and paraphrasing.

Learners should analyse information and merge data into pieces of information. This is then combined into a structure, and the structure is reviewed. During this stage keywords could be used to decide what to write. Throughout the entire process learners should avoid plagiarism.

- Avoiding plagiarism

Plagiarism is a serious ethical offense. (Roka, 2017: 4) considers the following as plagiarism:

- (i) submitting another person's work as your own
- (ii) duplicating ideas or words from another person's work without giving credit
- (iii) failing to use quotation marks in a direct quotation
- (iv) providing erroneous information about a quoted source

- (v) editing text but duplicating the sentence structure of a source without giving credit
- (vi) copying so many words or ideas from a source that it comprises the majority of your work, whether you give credit or not

Plagiarism can be avoided by citing sources correctly while making use of an accepted referencing style. Learners may lose marks for incorrect citations, or may find themselves guilty of accidental plagiarism.

During this process, learners should be taught to construct their own sentences using their identified keywords. Once learners manage to construct such sentences, they can logically build paragraphs. During this stage, learners can skim and scan the resources to decide what they need to write. When all the information is on paper, it is then ready to be communicated.

2.7.3.2 Usage of information (communication skills)

This section deals with how the analysed information should be communicated, as explained above. This includes the organisation of the information, ethics of information use, and ways to communicate the information (Yousaf & Akhter, 2018:3). According to this study, it is crucial to ensure the logical sequence of ideas. During document analysis, this study will also consider the table of contents of learners' assignments, as this should ensure the logical sequence of ideas. Chapter 1 (cf. 1.11) explained the type of information that can be found in the table of contents. It is also crucial to choose an appropriate format to present the information, such as a poster, essay or assignment, lesson presentation, report, drama, or another way of communicating information. This study regards the writing of research work, such as assignments by learners, as one of the strategies to communicate information. Teachers can communicate the information they have acquired in the media center on paper through lesson-plan preparation. During the document analysis in this study, I will therefore analyse teachers' lesson-plans and learners' research work. According to this study, it is crucial to acknowledge all sources through correct referencing.

During document analysis, this study will also check the use of references in the learners' research work. The research work will also be checked for interesting and dynamic presentation, with a proper structure. During the document analysis, this study will also critically check the structure of learners' research work, especially the reference list/ bibliography, which contain information that can be found on title page and title verso page of a non-fiction resource. According to Tetzner (2021: 2) a reference list lists of all the sources that you have referred to in your research work, whereas a bibliography lists all the sources you used while researching your assignment. A bibliography may include texts that you have not directly referred to in your work, but which have had an influence on your ideas.

In the reference list/bibliography, learners should alphabetically list all references according to the authors' surnames. Each source should, with the correct punctuation, indicate the author's surname, initials, year of publication, title of the resource, place of publication and the publisher. For example:

[Nuku, B. (2019). Investigating establishment, functionality, and sustainability of primary school libraries. Bloemfontein: University of the Free State.]

- Evaluate and reflect on the task and the process (reflecting)

After the communication process, the information is ready for evaluation. According to this study, the learner should first conduct self-assessment and check that all the information-handling steps were applied. The content of the completed information task should be reviewed, as well as the phases of the process and the steps used in the information task. The learning outcomes of the completed information task should also be evaluated. It is wise to keep a journal for self-assessment.

In this case the evaluator should be a teacher. According to the DBE (2011:9-10), teachers may use either a rubric or memorandum to assess learners' research work.

2.8 Conclusion

This chapter highlighted the conceptualisation of information-handling skills, the recommendation of its integration into the curriculum by South African educational documents and policies, the importance of mastering the skills, different experiences of countries internationally and nationally with the integration of information-handling skills into the curriculum, factors that could hinder the integration process, and factors that could contribute towards improving the integration of information-handling skills into curriculum.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This study aims to investigate the challenges faced by secondary school teachers regarding information-handling skills. This chapter covers the research questions and objectives, as well as the design and methodology of this research project. The research design is related to the research methods, which translates the approach into practice (Creswell, 2014:30). Therefore, it is crucial to know the research methods utilised in this study, as well as all the processes employed to answer the research questions.

3.2 Primary research question:

- ▶ What insights can be employed to improve the information-handling skills of South African secondary school learners?

Secondary research questions:

- ▶ How can information-handling skills be conceptualised?
- ▶ What are the South African policy guidelines concerning information-handling skills?
- ▶ What are the possible challenges faced by secondary school teachers concerning information-handling skills?
- ▶ What current secondary school teacher practices are aimed at developing information-handling skills?
- ▶ What strategies can be proposed to enhance the development of information-handling skills in secondary schools?

The following research aim and objectives responded to the mentioned research questions.

3.3 Research aim and objectives

Aim:

- ▶ To identify insights that can be employed to improve the information-handling skills of South African secondary school learners.

Objectives:

- ▶ To conceptualise information-handling skills.
- ▶ To explore South African policy guidelines concerning information-handling skills.
- ▶ To assess challenges and evidence for the integration of information-handling skills by secondary school teachers and learners;
- ▶ To explore the current secondary school teacher practices that are aimed at developing information-handling skills; and
- ▶ To propose strategies to enhance the development of information-handling skills in secondary schools.

3.4 Methods

Research methods are techniques and tools that are used to do research and they provide the researcher with the ways to gather, sort and interpret information to make a conclusion (Walliman, 2021: 3). According to Goundar (2012:2), research methods are various schemes or procedures that are used to gather data and get a solution to a problem.

Research methods refer to the research paradigm and research design employed by a study. Carnaghan (2013:2) argues that interpretive frameworks may be social justice theories seeking to bring about change or address issues in society. Patten (2017:3) recommends the mastering of research methods by researchers to make a sound decision in their fields, and be productive at resolving contrasting claims that are constantly found in the existing literature of the research. Therefore, interpretivism is a suitable paradigm for this study, as it seeks to address issues relating to the integration of information-handling skills.

3.4.1 Paradigm

A paradigm is an expression that is derived from a sociolinguistic discourse analysis (Tribe, Dann, & Jamal, 2015:2).

The paradigm employed in this study is interpretivism, which is based on participants' own experiences and meaning (Daher et al., 2017). This paradigm was relevant for this study as the participants had prior experience of information-handling skills. According to Javornicky (2018:79), the researcher's task is to seek to comprehend and analyse the social reality in the context of this socially created knowledge. This paradigm allowed the researcher to understand and analyse the available evidence of the integration of information-handling skills by both teachers and learners. According to Kivunja and Kuyini (2017:11), interpretivist paradigm arrays with research methods and methodologies that would collect and interpret qualitative data.

Qualitative research was employed to focus on the construction of knowledge through the interaction between the researcher and the participant (Hyett et al., 2014:33-34). In addition, qualitative research presumes that reality is constructed socially, and that there are countless realities or possible interpretations of a solitary event (Pieterse, 2020: 4). This study therefore employed a design that enabled the researcher to employ multiple collective methods in order to have multiple interpretations.

3.4.2 Research design

Research design aims to provide a suitable framework for the study. The process of research design includes various interrelated resolutions to determine the relevance of information that can be obtained (Sileyew, 2019:3).

Research designs can include several popular formats such as phenomenology, ethnography, narrative research, grounded theory, and case studies (Creswell, 2014:17). Phenomenology can be defined as the subdivision of philosophy exclusively intended to describe and analyse the phenomena (Emiliussen, Engelsen, Christiansen, & Klausen, 2021:1). This study was grounded in phenomenology as a design, as the researcher's concern was with the participants' lived experiences regarding the integration of information-handling skills (Stone, 2017:29).

In addition, the researcher's choice of theoretical perspective was influenced by the researcher's ontological and epistemological stance (Braun, Clarke, & Weate, 2016: 5).

3.4.2.1 Ontological assumptions

Nehal (2017:117) argues that ontology refers to the form and nature of reality. Reality seeks an explanation from participants' perspectives (Ponelis, 2015:538). Hence the study employed interpretivism. According to Moon and Blackman (2017:3) Ontology is the study of being and it focuses on the existence of what is real in the world and on human beings who can acquire knowledge. This was also considered when selecting a research method. Nowell et al. (2017:3) argue that ontological assumptions induce epistemological assumptions, which induce methodological considerations. These, in turn, induce instrumentation issues and the collection of data.

3.4.2.2. Epistemological assumptions

Epistemology focuses on the aspects of the scope, validity and ways of gaining knowledge, such as the acquisition of knowledge and the validation of the acquired knowledge (Moon & Blackman, 201: 3).

Nehal (2017:117) also argues that epistemology is referred to as the correlation between the knower and what can be known. For this reason, the study employed a qualitative approach. This allowed the researcher to conduct interviews with participants who had certain knowledge, namely the integration of information-handling skills into curriculum. Epistemology is the subdivision of the philosophy that enquires what is known and how is it known, and it has much concern about the adequacy and legitimacy of the knowledge (Moon, Cvitanovic, Blackman, Scales, & Browne, 2021:2). The study ensured that professionalism and readability was applicable in as far as the integration of information-handling skills are concerned.

3.5 Methodology

Research methodology must be scientifically acceptable to be used by the research through structured enquiry in solving problems and creating new applicable knowledge (Goundar, 2012:4).

Seixas et al. (2018: 4) argue that methodology aims to assist researchers to pre-structure responses to a sufficient extent to allow viable and efficient data reduction and analysis. The pre-structuring process includes the sampling and collection and then analysis of data, as explained below.

3.5.1 Data sampling

I focused on six Bloemfontein secondary schools that had media centers. Three of these schools were located in the historical township area, while the other three were in urban areas. The majority of primary schools in Bloemfontein had been prioritised to benefit from certain projects, such as the MEC's schools project, the Revitalisation and Reading project, the expired ETDP-SETA Library Internship project, and the Dual-purpose library project. The primary schools in the specified projects received either book donations or intern librarians. The concern was whether secondary schools had also benefitted from any of these projects. The Free State Department of Education (FSDoE) had built media centers in most of the secondary schools in the Motheo education district.

The study employed non-random purposive sampling to target participants who probably had experience regarding information-handling skills (Draper, 2013:4). Three secondary schools with media centers from quintile levels 1 - 3 (non-fee-paying schools) and another three with media centers from quintile levels 4 - 5 (fee-paying schools) were selected to represent the whole population relevant in terms of the studied context. A total of six secondary schools therefore participated in the study.

The participants who potentially had experience on information-handling skills were subject teachers and library committee members, mainly through their involvement with lesson planning and assessment tasks. To support this claim, the Survival Guide for FET Phase CAPS (RSA, 2011:11-98) for all subjects confirms that all subjects are expected to complete assessment tasks. For this reason, this study considered the lesson plans and assessment tasks from all disciplines. Teachers from Business Studies, Social Sciences, Economics and languages were included. Library registers were also included, as these showed circulation evidence from the library committee members.

3.5.2 Data collection

Data collection technique is prescribed by the research method, and it has instruments that would be utilised to analyse the collected data (Goundar, 2012:39). Therefore, the data collection techniques below each have an instrument to be used to analyse the collected data.

From previous research it was clear that information-handling skills develop long-lasting skills of learning, which do not only sustain students' tertiary studies but assist them in their careers (Hart & Davids, 2010: 24). Three data collection methods were employed, namely semi-structured interviews, document analysis and structured observation.

3.5.2.1 Semi-structured interviews

A semi-structured interview utilises both closed and open questions, through which the interviewee is given the opportunity to provide more information as the interview progresses (Creswell, 2014:315). To support this, Hammarberg, Kirkman, and de Lacey (2016:499) validates that also a qualitative research technique involves semi-structured interviews when the researcher seeks views on a research topic, but involves in-depth interviews to understand a condition from personal perspective.

In addition, semi-structured interviews permit the interviewer and interviewee to diverge from a strict interview schedule to pursue a proposition or response in more detail (Gill et al., 2008:291). I employed semi-structured interviews because it allowed me as the researcher to ask follow-up questions with the aim of stimulating discussion to ensure that no relevant aspect was left unclarified (ACAPS, 2015:13). The interview questions focused on the participants' qualifications and designation, knowledge, and personal level of understanding about information-handling skills, their experience on the integration of information-handling skills, and their suggestions for better implementation of these skills. Participants' responses were recorded on a note pad and were also audio-recorded (Driscoll, 2011:165). Recording in two formats assisted the researcher to document the actual responses and assisted in data analysis.

After the interview session in each school, an appointment was scheduled for document analysis during the following week. The study first conducted interviews with only one library committee member per school from the six participating schools, to obtain a sense of the situation and also to share the challenges faced by each school regarding information-handling skills.

3.5.2.2 Document analysis

The second stage of data collection involved document analysis, which is a form of qualitative research where documents are analysed by a researcher to give meaning and voice regarding a topic (Rahmawati, 2018:4). Relevant documents such as lesson plans (cf. 2.4.3.1), projects (cf. 2.4.3.2) or assignments (cf. 2.4.3.2), as well as circulation registers (cf. 2.7.1.3), were analysed to check for evidence of implementation, using a checklist.

Schools in both quintile levels presented documents for analysis, even though there was a difference between the two levels in terms of the quantity and quality of available resources. The evidence of information handling would remain the same, despite

the fact that some schools were better resourced than others in terms of the media center. Subject teachers, a language teacher and the librarian or library committee member participated in the document analysis process by presenting learners' research work, teachers' lesson plans and a circulation register. The document analysis took a minimum of 30 minutes per school.

During this process, the documents were analysed, and the checklist was used to verify the evidence on the integration of information-handling skills. The checklist was used to check the following: evidence of the integration of information-handling skills by both teachers and learners, the degree of integration, how often was it done, how it was done, if the necessary resources were available to do it, if the integration process was controlled, if learners were motivated to integrate information-handling skills, etc.

3.5.2.3 Structured observation

In the third phase of data collection, the researcher observed the media centers of the three participating schools in the quintile level 4 - 5. Participant observation enabled the researcher to identify the possible successes and challenges faced by learners in the process of attaining information accessing skills. As a non-participant, I only observed the process of accessing the resources in the media center and the utilisation of multi-media resources by learners. Creswell (2014:36) highlights that careful observation is a prominent tool for understanding, and that true knowledge is elicited from the experiences of the senses. In this study, the researcher also ensured careful observation by using an observation sheet. This observation sheet highlighted aspects on which to focus during observation. These aspects were extracted from the literature review (cf. 2.6).

According to this study, the observation process of learners' accessing skills was the first stage of the information-handling skills integration process. The aim was not only to identify challenges, but also to emphasise good practises. Therefore, learners from the three quintile level 4 - 5 schools were observed in the media center. There were four groups of learners, representing the subjects Business Studies, Social Sciences, Economics and Languages. After the data had been collected through the three data collection methods, it was analysed, as explained below.

3.5.3 Data analysis

Thematic analysis was employed as it enabled the effective categorisation of data into themes to facilitate interpretation (Jugder, 2016:2). Thematic analysis can be either inductive to data coding, where analysis is driven by what is in the data, or it can be deductive, where the researcher brings a sequence of ideas, concepts or topics to the data that can be utilised to code the data (Braun & Clarke, 2012:58-59). This study analysed the data by using a combination of both the inductive and deductive approaches, as themes could be extracted from the ideas and concepts in the study's literature review, from the notebook with audio-recording, the observation sheet and the checklist. This thematic analysis approach allowed the study to analyse data from structured observations, document analysis, semi-structured interview sessions and a literature review, as the researcher was guided by audio-recordings, a checklist and the observation sheet. I interpreted the data and drew conclusions by comparing the collected data to the literature review about the integration of information skills using multi-media resources to support the curriculum (Creswell, 2014:261).

3.6 Quality of the study

3.6.1. Trustworthiness

Trustworthiness is concerned with the explicitness and transparency of the procedural decisions, conduction of the research, data collection and management (Hammarberg, Kirkman, & De Lacey, 2016:500). Measures in relation to trustworthiness were employed to ensure the credibility, transferability, dependability and confirmability of this study (DeVault, 2018). The components, as related to this study, are discussed below:

3.6.1.1 Research credibility and transferability

Credibility deals with the extent to which the research findings are congruent with reality, as well as the assurance of whether the reader will believe the findings or not (Stone, 2017:40). To ensure the credibility of my research, I ensured that the research design complemented the research questions. In addition, the methodology of the study was thoroughly explicated and justified (Stenfors, Kajamaa & Bennett, 2020:597). For example, I explained the reason why the study utilised phenomenology and the interpretivism paradigm (cf. 3.2). Maguire and Delahunt (2017:2) argue that the credibility of the research process is further enhanced by the focus on relevant thematic analysis. Therefore, this study followed Braun and Clarke's, 2006 six-phase framework for executing a thematic analysis to ensure credibility. These steps are: 1) be familiar with the data, 2) create initial codes, 3) look for themes, 4) examine themes, 5) clarify themes, 6) record the results (Maguire & Delahunt, 2017:4).

Transferability should be visible in qualitative research so that readers can make connections between the study elements and their own experience (Siegle, 2018). The transferability criterion is utilised in interpretivist research to ensure validity, and it represents the researchers' attempts in ensuring that they provide adequate data to which readers can also relate (Kivunja & Kuyini, 2017:34).

3.6.1.2 Research dependability and confirmability

Dependability and confirmability affirm trustworthiness. Dependability almost has the same meaning as credibility, according to qualitative researchers (Siegle, 2018). Credibility was explained earlier in this study (cf. 3.4.1.1).

To verify confirmability in this study, the researcher ensured that the findings were a reflection of the participants' experiences and ideas (Kennedy-Clark, 2012:7). Confirmability criterion can be utilised by the interpretivist researcher in alternative to the objectivity criterion, whereby the findings of one researcher can be confirmed by other researchers in the same field (Kivunja & Kuyini, 2017:34)

3.6.2 Triangulation

Triangulation can be used to expand the validity and credibility of research findings (Noble & Heale, 2019:2). This means that it can be used to assure the authenticity of the data collected by the researcher. With that being said, this study used methodological triangulation to validate the data, through the utilisation of numerous data collection methods including document analysis, semi-structured interviews and structured observation.

3.6.3 Ethical considerations

This topic encompasses ethical considerations regarding the researcher's ethics and the researcher-participant relationship. Merriam (2009:230) argues that the nature of ethical dilemmas does not rely on a series of general pre-arranged instructions, but on the investigator's own values and sensitivity. In this study, the relationship between the researcher and participants will

be informed by how much the researcher reveals about the purpose of the study to the participants, and to what degree the researcher will maintain the participants' anonymity throughout the study.

Integrity

I applied for ethical clearance for the research from the University of the Free State Faculty of Education Ethical Committee. I also requested permission to conduct research in schools and sent a letter to the relevant principals of the selected schools to ask for permission to conduct research at their schools. This letter explained how and why the research would be done, and how the schools might benefit from the study.

It is the responsibility of the researcher to share the results of the study with all relevant stakeholders and with the public after successful completion of the study. This I will do by submitting a copy of the research to the University of the Free State Library and Information Services, and to the Department of Education.

Liability

Participation in the study was voluntary. Participants' identities remained confidential, and no reference was made to the participants during the analysis and reporting of the data. The participants were provided with a consent letter, which they needed to complete and sign if they wished to participate in the study. If at any time during the research a participant wished to withdraw, he/she was free to do so without any adverse effects. If the participant chose to withdraw from the study, he/she could request to do so.

CHAPTER 4: DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter focuses on the analysis and discussion of the data from the three data collection instruments, namely audio-recorded interviews with notes, the checklist for document analysis, and the observation sheet for structured observation. I analysed documents in all six schools and observed in only three schools in quintile 4 - 5 level, hence the checklist and observation sheet were treated as separate instruments.

It was crucial for the study to analyse documents in all six schools to check for evidence of information-handling skills. The usefulness of these documents is discussed in the literature review, for example lesson planning as teacher expectation (cf. 2.4.3.1), learners' research tasks under learner expectation (cf. 2.4.3.2), and the circulation register (cf. 2.7.1.3). In addition, Chapter 2 also indicated the available strategic approaches in the mentioned documents and made an argument based on the findings.

The data were analysed using thematic analysis and are discussed below. The identified themes were extracted from the literature review (cf. 2.6 & 2.7) and were used as the main focus when constructing research questions with related aspects as sub-themes (cf. Appendix J). As clarified in Chapter 3, I used a combination of both inductive and deductive thematic analysis (cf. 3.5.3). The literature review discussed the factors that could contribute towards improving the integration of information-handling skills in the secondary school curriculum, which led to the interview questions.

4.2 Interview sessions (cf. Appendix H)

4.2.1 Introduction

Semi-structured interviews were conducted in three quintile 1 - 3 and three quintile 4 - 5 secondary schools with the librarian or library committee member. The interview sessions covered two sets of questions: demographic information and current teacher practices regarding the integration of information-handling skills into the curriculum.

4.2.2 Demographic information

The participants' information regarding their demographic information is summarised in Table 1 below.

Table 1: Participants' demographic information

Participant	School quintile level	Participant designation	Service period	Library qualification	Media center	Custom-built OR converted classroom
E	4-5	Full-time librarian	13 years	No	Yes	Custom-built
A	1-3	Full-time librarian	2 years	Yes	Yes	Converted classroom
B	1-3	Library committee member	10 years	No	Yes	Converted classroom
C	1-3	Library committee member	2 years	No	Yes	Custom-built
F	4-5	Part-time Librarian	9 years	Yes	Yes	Custom-built
G	4-5	Library committee member	2 years	No	Yes	Converted classroom

4.2.2.1 Participants' designation with years of experience

The findings tabulated the participants' designation in the school media center along with their years of experience. Table 1 indicates that amongst the participants was one full-time librarian from a quintile 4 - 5 school, and another full-time librarian from a quintile 1 – 3 school. The former had more experience, which was a benefit of being in a quintile 4 - 5 school (cf. 2.7.1.2). That participant only received informal training by the previous librarian and did not have a library qualification.

The latter, with a library qualification, was placed at a non-fee-paying school to assist the school media center to function as a dual-purpose media center, in other words serving both the school and the community. The dual-purpose project benefitted certain primary schools in the Free State, as highlighted in Chapter 1 (cf. 1.6.3). This placement happened because of a partnership between the Department of Education and the Department of Sports, Arts, Culture and Recreation on the agreement that the Department of SACR could resource the media center. Besides the full-time librarian and a computer with software to manage media center resources, the school would have benefitted from this partnership by receiving more resources. The media center was, however, still under-resourced.

4.2.2.2 Librarian and library committee member versus school quintile level

The findings in Table 1 further indicate that that many participating schools do not have a full-time librarian or a qualified librarian, but only library committee members. These committees are usually composed of teachers, including an SGB person who is also a teacher. According to Section 4.121 of the National Policy for an Equitable Provision of an Enabling School

Physical Teaching and Learning Environment (RSA, 2010:51), the SGB can raise funds for school infrastructure projects. This is one of the reasons why the SGB is included in the library committee. The library committee members in both quintile levels (quintiles 1 - 3 and 4 - 5) were full-time teachers without any library qualifications. They had to manage the media centers at their schools because librarians had not been appointed. However, the situation and status of functionality in the media centers of these two quintile levels were totally different. For example, in some of the quintile 1 – 3 schools, no budget was allocated for the media center in 2022, and there was no evidence that the media center was being used. They claimed that the resources they had were from donors, so they depended on donations for resources for their media centers. On the other hand, in the quintile 4 – 5 schools, a budget was allocated for the media centers for 2022. This has already been utilised for the media centers, and there was evidence that the media centers were well used. The majority of the library committee members also confirmed during the interview sessions that the quintile 1 – 3 schools were not prioritising the needs of the media center, and that they were therefore not functional.

4.2.2.3 Availability of the media center

All the participating schools had resourced media centers with either librarians or library committee members responsible for their administration and management media center. These schools adhered to the Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013:7), as highlighted in the literature review (cf. 2.5). All the visited school media centers were located on the school premises. This was crucial for this study as it illustrated the possibility of supporting the needs of every teacher and learner in the school, as well as the school curriculum (cf. 2.7.1).

Regarding the architectural structure and position of the media centers on the grounds of the visited schools, it was clear that they catered for every learner and teacher, as discussed in the literature review (cf. 2.7.1). The media centers in the visited schools differed in structure and size (cf. 4.4.2).

4.2.2.4 Skills awareness/knowledge

The first data collection strategy used was semi-structured interviews, and the first question enquired about the librarian's or library committee member's knowledge about information skills. Most of the participant did not give the full definition of information skills, an indication that they had limited knowledge about information skills.

The responses below by participants E, A, F and C indicate that they had limited knowledge about information skills.

Participant E from a quintile 4 – 5 school replied:

...It's knowing exactly where the resource material is and how to find the resource material.

Participant F from a quintile 4 – 5 school replied:

...Yes, it's a variety of skills to get information, how to look for information, how to get information in books, internet....yes!...

Participant A from a quintile 1 – 3 school:

...Yes, it's how to retrieve information...

Participant C from a quintile 1 – 3 school:

...Yes. It is about how you are able to handle the information and how you are able to use the information.

The participants' responses indicate that they may not be conversant with the integration of information-handling skills. The definition should cover the accessing, analysing and communication processes of information, as explained in the literature review (cf. 2.7.3)

The responses below by participants B and G indicate a complete lack of understanding.

Participant B from a quintile 1 – 3 school:

.....I don't even understand what are information skills...

Participant G from a quintile 4 – 5 school:

...No, I don't know!

This implies that it is probably not be easy for these participants to evaluate and assess learners' information-handling skills in collaboration with teachers, as recommended by the National Guidelines for School Library and Information Services (cf. 2.4.1). Further interview questions (see Appendix H) covered current teacher practices, as highlighted as one of the objectives in Chapter 1 (cf. 1.4).

4.2.3 Current secondary school teacher practices

The aim of this section relates to the fourth objective of the study, which is to explore current secondary school teacher practices aimed at developing information-handling skills.

4.2.3.1 Collaboration between teachers and the librarian to select media center resources

Another interview question was to find out if the librarian collaborated with teachers to select relevant resources for the media center.

The selection of relevant resources will aid in curriculum integration, because the resources will support the curriculum of the school and will satisfy the needs of teachers as well. In other words, the media center would be ready for the integration of information-handling skills into the curriculum. Collaboration (cf. 2.7.1.1) and the lack thereof (cf. 2.6.4) were emphasised and explained throughout the study. The joint efforts of developing the collection of the media center, according to the curriculum of the school, will enhance the teaching and learning (cf. 2.5).

Participant E from a quintile 4 - 5 school responded:

...The teachers have their own budget to buy material. I sometimes ask them to suggest the relevant books for their subjects...

This was the good attempt, however it happens every time that the budget becomes available to ensure that the selected resources are relevant to the needs of teachers and learners and the curriculum (cf. 2.4.4 & 2.7.1).

The findings indicate that there was no collaboration with the teachers:

Participant B from a quintile 1 - 3 school:

... When the library was established...we are the one that selected the little resources that we have. There was a budget in 2013, the last time....

Participant A from a quintile 1 - 3 school:

...No because our department is doing the selection for the libraries, as dual-purpose library.

Participant G from a quintile 4 – 5 school:

...If you look at what we have here,most of these were donations.....

The responses of participants B, A and G responses show that there was no collaboration with teachers to select multi-media resources, therefore the possibility is that available resources could not be satisfying the needs of all teachers (cf. 2.7.1).

The findings show that there was some collaboration, but that not all teachers were involved:

Participant C from a quintile 1 - 3 school:

... We usually work with committee that consist of teachers and SGB...

The concern is that not all teachers are in the committee. Preferably all teachers should be involved in the selection process to ensure that their subjects have relevant resources in the media center, so that learners will not struggle to find resources.

Some schools actually reported collaboration.

Participant F from a quintile 4 - 5 school:

.... Yes, I always ask teachers what are the research topics for the year because we always buy books for the year...

This is acceptable, resources can be selected by topic, as the topics are based on the content of the subjects or learning areas taught at school (cf. 2.7.1.3).

4.2.3.2 Processing of resources

Resources should be processed so that they are easily accessible by the users. According to this study, processed resources imply readiness for utilisation by both teachers and learners. Participants were therefore asked if resources were processed according to the DDC. As explained in the literature review (cf. 2.7.1.3), non-fiction or academic resources are usually allocated DDC numbers according to the subjects they cover. This also determines their position on the shelves, for easy access.

The majority of the participants agreed that their resources were processed.

Participant E from a quintile 4 - 5 school nodded and replied:

...Yes it is!... because they are supposed to be..

Participant C from a quintile 1 – 3 school:

...Yes, processed for easily accessibility and order.

Participant F from a quintile 4 – 5 school:

...Yes!

Participant G from a quintile 4 - 5 school:

...Yes they are...how is supposed to be!.

When resources are processed according the DDC, it is easy for learners to access them. For the study, this means that learners may not struggle with accessing skills, which are one of the information-handling skills (cf. 2.7.3).

Some participants, however, were not sure.

Participant B from a quintile 1 - 3 school replied:

...The library volunteer tried, and I believe they are!..

Participant C from a quintile 1 – 3 school:

.... Yes, I think we try to do it!.

The responses further imply that resources might have been wrongly processed. According to the study, incorrect processing may mislead learners when locating resources in the media center in order to do their research work. This shows that schools need a professional or full-time librarian to manage the media center.

4.2.3.3 Utilisation of the media center for research purposes

The next question was: “Do learners use the media center to do their assignments or projects? If so, how often?” Some participants confirmed that learners did in fact visit the media center to do their research work, but not as often as they should have:

Participant C from a quintile 1 - 3 school:

.....Yes, once a month at least.

Participant F from a quintile 4 – 5 school:

...Yes, they do per term. They come during break-time and after school...

Participant E from a quintile 4 - 5 school:

.... Some do....depending.... when they get assignments. Grade 7 - 12 come during break or after school....

Some participants confirmed that their learners utilise the media center for research purpose almost every school day, and this is an advantage to learners to gradually learn and attain the skills.

Participant G from a quintile 4 - 5 school:

...Yes they do! They come after school.... from Monday to Thursday now that we don't have a librarian. We had a librarian placed by the Department of Education. Our library was functional because of him but his contract ended...

Participant A from a quintile 1- 3 school:

..Yes, during break they come to borrow books and others come late to research books for their assignments...

Participant B from a quintile 1 - 3 school:

...Yes...not so much! Very few. Importantly (usually) after classesunder the supervision of us.”

Participants' responses above show that schools are giving learners research work, and they have the opportunity to do it in their media centers. This shows that teachers are doing as expected by the Department of Basic Education (DBE), as explained in the literature review (cf. 2.4.3.2), as they allow learners to collect information to complete their research tasks in the classrooms.

4.2.3.4 Advising learners to avoid copy and paste

One interview question asked how the librarian, or the library committee member, advised learners not to 'copy and paste' when doing research work. Copying and pasting information to a learner's own is the same as duplicating someone's ideas and presenting them as your own. This is an ethical offence according to Roka (2017) (cf. 2.7.3.2.3). According to this study, it is important for learners to be advised to avoid copy and paste when they do their school research work.

Participant E from a quintile 4 – 5 school:

.... Teachers tell them to...

Participant F from a quintile 4 - 5 school:

.... I think the teachers in the class they do it with learners...

The responses from Participants E and F show that they usually leave this responsibility to the teachers. This implies that there is a possibility that neither the librarians/library committee members nor the teachers are doing it!

Participant C from a quintile 1 - 3 school:

.....Usually, I would tell them how to paraphrase....

Participant A from a quintile 1 - 3 school:

...To make example, I talk to them about citation and tell them how to cite.

These two participants (A and C) confirmed that they advise learners to avoid copy and paste, by paraphrasing and using citations. Teachers need to be specifically cautious that learners do not just transfer and utilise information from the internet without editing and paraphrasing it (cf. 2.4.3.2).

The responses indicate that some librarians advise learners to avoid copying and pasting, while others do not mention it at all, and leave this responsibility to the teachers. This may be the result of non-collaboration between teachers and the librarian.

4.2.3.5 Non-fiction supporting all the subjects and learners in the school

One question asked if the school library resources were suitable for the learners of the specific school, in terms of age, grade, learning areas and languages taught at the school. This would imply that curriculum is supported, as discussed in the literature review (cf. 2.6.2.3).

One of the concerns of this study was the quality and suitability of the content. This would be different for different ages or grades. It is critical to be able to differentiate between resources suitable for a primary school and for a secondary school. According to this study, besides scanning and skimming through the identified documents, it is important to take illustrations and font size into consideration when checking for appropriateness in terms of age or grade level.

Referring to the literature review (cf. 2.6.2.3), the National Guidelines for School Library and Information Services (2012:29) recommend that the resources in each school's media center should satisfy the need of all users irrespective of age and grade. In addition, according to this study, non-fiction material in the media center should support all subjects, as stipulated in the National Protocol for Assessment Grade R - 12 (DBE, 2011:4), as explained in the literature review (cf. 2.3). Non-fiction is used as the basis for the writing of assignments, projects and other research tasks for all subjects. This simply means that the curriculum is supported, as it implies all aspects of the teaching and learning experience, which includes the content of learning areas that are taught in schools.

The findings from the interview session discovered that the majority of quintile 1 - 3 schools contain resources unsuitable for their learners, and that most participants (both quintile levels) responded that their existing non-fiction collections supported some of the learning areas, but that they needed updated resources.

Participant B from a quintile 1 – 3 school:

...Well some are suitable....and some are outdated. Some are not relevant...

Participant G from a quintile 4 - 5 school:

... More of learning areas are covered but need up-to-date and modernised topics that relate to youth of today.

The majority of participants were of the view that not all of their learning areas, or the subjects offered at their schools, are supported by non-fiction books in the media center (cf. Appendix J). This implies that some of the curricular needs are not met in the media center. The possibility exists that learners may not find relevant resources for their assignments or other research work, and that this could result in the non-integration of information-handling into curriculum.

However, some of the participants could not tell if their resources were up to date or not.

Participant C from a quintile 1 - 3 school:

...I wouldn't say because most of them we got from donations.

This indicates that some schools just accept any resources donated to them without screening them for suitability. The implication is that they may receive resources that do not support their curriculum. For this reason, they could not be irrelevant to learners' research tasks topics and that may lead to the non-integration of information-handling skills (cf. 2.6.2).

4.2.3.6 The school's library has an impact on learners' academic achievement

Another interview question was:

Do you think the school's library has an impact on learners' academic achievement? How?

This question was necessary because the literature review highlighted that a well-resourced and functional media center has the potential of impacting positively on learner performance and on reading abilities (cf. 2.7.1.2).

Participant A from a quintile 1 - 3 school:

...Yes because library...the main function is to support education; learners learn a lot....

Some of the participants' responses were vague, for example Participant A. This indicates that the participant might not understand how the school's library is actually impacting on learner performance.

Other responses, on the other hand, indicate the impact of the media center in terms of developing higher-order competencies.

Participant G from a quintile 4 - 5 school:

....Yes...they take out books,... and do research work and improve in assignment...

As discussed in the literature review, learners attain information-handling skills while executing research tasks such as case studies, projects and assignments (cf. 2.4.3.2). Research enables learners to think critically and creatively as they gather, examine, categorise, and critically assess information (cf. 2.3).

4.2.3.7 Librarians assist learners to find relevant resources for their assignment topics

During the interview session, participants were asked questions that focused on the accessing process.

“How do you assist learners to find relevant resources for their assignment topics?”

According to this study, the process of accessing resources is the first stage of the integration of information-handling skills, where a learner would need guidance to locate resources in the media center that are relevant to their research work media center (cf. 2.7.3.1). It is the responsibility of the librarians to help both teachers and learners in this regard. The study expected participants to mention the use of the media center catalogue, as explained in the literature review (cf. 2.5). It is extremely time-consuming to locate relevant resources in the media center without the use of a catalogue.

Some of the participants mentioned that they use the relevant shelf number or Dewey Decimal classification number, they either literally led learners to the shelves or searched the books for learners, for example:

Participant A from a quintile 1 - 3 school:

...Firstly, I interview them so that I see what they need, ...and go to the shelves to find books that contain the information they want...

Participant C from a quintile 1 - 3 school:

... We classify books in the library.... advise them to go to the specific shelf...

Participant G from a quintile 4 - 5 school:

...We assist the learners to get relevant resources....

The use of DDC numbers to locate resources in the media center is acceptable, but it is time consuming, especially if the school does not have a catalogue (either manual or electronic). The catalogue can guide the media center user directly to the required resources (cf. 2.5; 2.6.2.1).

However, some participants used their computerised library administrative systems to locate resources for learners.

Participant E from a quintile 4 - 5 school:

..I use search function on the library system, PAPYRUS,... or I just tell them to go to the specific shelf...

Participant F from a quintile 4 - 5 school:

..If its internet I try to find good resources from Media 24. To find the topic, I go into the computer to see if we do have books...

Some of the participants admitted that they do not assist learners to find resources for their assignments, as they regard it as the responsibility of the subject teachers.

Participant B from a quintile 1 - 3 school:

... Subject teachers are the ones helping, because we don't have a librarian...

The findings indicate that where schools had librarians, those librarians assisted. In schools that did not have librarians, library committee members could not assist, as they believed this to be the task of subject teachers . This shows that the scarcity of librarians in schools is a challenge, as learners may not be adequately assisted to retrieve relevant resources in the media center.

4.2.3.8 Clarity of the instructions from the teachers

The participants were asked if the learners knew what the teachers expected from them.

According to the study, learners' understanding of the research topic or assignment is crucial. This implies that the teachers need to clearly define the information task as explained in the literature review (cf. 2.7.3.1).

The majority of the participants were certain that teachers do in fact clarify the research topics and instructions to learners.

Participant G from a quintile 4 - 5 school:

...Yes,.. I take it from the class.....teachers do explain!.....

Participant F from a quintile 4 - 5 school:

...In my experience, the topic is always explained....they really know what to do.

A number of the participants were not convinced that learners were clear about their research tasks or instructions from teachers.

Participant B from a quintile 1 - 3 school:

...I think they know,... if not they go to their teacher for more explanation”.

Participant C from a quintile 1 - 3 school:

...In most instances, I don't think all of them know...

Participant A from a quintile 1 - 3 school:

...Sometimes they don't have a clue....you need to explain to them what their topic wants...

Participant E from a quintile 4 - 5 school:

.... Yes, I think teachers always explain,....introduction,... etc

From the responses it is clear that the majority of participants from the quintile 1 – 3 schools indicated that learners would come to the media center without understanding their research topic. On the other hand, the majority of the participants from the quintile 4 – 5 schools indicated that learners knew what was expected of them, as their teachers did explain the task. This is a major concern to this study, because if learners do not understand the research topic and what is expected of them, they can

easily become distracted. The study's literature review (cf. 2.7.3.1) also explained why and how the research topic must be defined for learners, so that learners can remain focused.

4.2.3.9 The value of the different elements of a book, such as the 'blurb'.

Another interview question was:

"What type of information does a 'blurb' of a non-fiction book give?" A 'blurb' refers to a short piece of writing that describes or summarises something longer and more complicated, and the definition is provided in chapter 1 (cf. 1.11).

The study intended to check the interviewees' knowledge about scanning and skimming a non-fiction book, as discussed in the literature review (cf. 2.7.3.2).

Some participants gave a correct explanation, while others were uncertain (cf. Appendix J).

Participant G from a quintile 4 - 5 school:

...I think it gives a summary of what the book is about.

Only Participant G gave the correct response. This indicates that many library staff are not actually readers. This is a concern, as staff might not be able to assist learners to search for relevant information in the media center if they themselves do not know which part of a book contains what type of information. This implies that they are not familiar about scanning and skimming, as explained in the literature review (cf. 2.7.3.2).

4.2.3.10 Use of a circulation register for loans

The participants were asked to justify the usage or non-usage of the circulation register.

The study used the circulation register as one of the documents to be analysed (cf. Appendix G), since it provided information that could validate the utilisation of multi-media resources that may lead to the integration of information-handling skills into curriculum, as explained in the literature review (cf: 2.7.1.3). The register might be either manual or computerised. The findings showed that most of the schools had electronic circulation registers (cf. Appendix J), and this was acceptable and relevant, because it acted as a safety measure during Covid-19 (cf. 2.7.1.3).

Positive responses about the availability of the circulation register gave the impression that learners were utilising media center resources, which would enable the integration of information-handling skills. This would be confirmed during the document analysis process (cf. 4.3).

Notwithstanding the above responses, there is also evidence that some schools did not have circulation registers, as seen below.

Participant G from a quintile 4 – 5 school:

Aah,... we don't have....but I recorded the loaning information on a piece of paper...

Participant B from a quintile 1 – 3 school:

...We hardly have it, they use resources but.....they don't take books home. We don't have a librarian.... the learners have to go out to the public library, after school...

“The loaning information on a piece of paper” by Participant G is not bad, as it still indicates that learners are lending books. The recorded information could be regarded as a manual circulation register, if the recorded information includes information about the resource loaned, learner details, the reason for lending and the lending period. This information could serve as evidence for the circulation of resources (cf. 2.7.3.1). It keeps a record of the resources borrowed from the media center. Its unavailability means a lack of the evidence for the utilisation of resources, which would imply non-integration of information-handling skills into the curriculum (cf.2.4.2).

4.2.3.11 Challenges experienced by schools

It was important that this study should highlight the challenges that schools might be facing in the integration process of information-handling skills into the curriculum. This section lists challenges shared by the participants when they responded to the question:

“What challenges are you facing in utilising your library resources?”

One of the challenges was the absence of full-time librarians in schools. Unfilled librarian posts in the schools’ media centers emerged as a challenge during the interview sessions. This was specifically the case in quintile 1 – 3 schools, while the quintile 4 – 5 schools did not experience this challenge.

Participant B from a quintile 1 - 3 school said:

.... The fact that we don't have a librarian is a serious challenge, all the library committee members are overloaded,....and the library is left on its own! No budget for the library. We need chairs here, at least for learners to come here and study. There's vandalism,...things just disappear. All need to be looked into....to be fixed! We are five.... but they are not active. They hardly remember that they are part of the committee...

This response from participant B confirms what was discussed in the literature review about the consequences of the lack of a librarian in a school (cf: 2.6.3). However, the school library committee takes over the management and administration of the media center in the absence of the librarian. The mentioned challenges show that schools might not have plans in place for the management of the media center. Chapter 3 of the National Guidelines for School Library and Information Services (DBE, 2012 :11) recommends that the school library committee, with representation from the School Management Team (SMT), teachers and the School Governing Body (SGB), should draft a school library policy to ensure that the media center services are well planned and budgeted for, and all members are committed to provide their full support. The lack of a librarian and the non-functionality of the library committee can definitely affect the functionality of the media center, which could have a negative impact on the integration of information-handling skills.

Participant C from a quintile 1 – 3 school said:

.....My challenge is to balance my responsibilities between being the teacher and being the library committee member. The other library committee members are not active.....you see, this goes with a passion.

Participant C's response implies that their school library committee was composed of teaching staff only. As already mentioned, it is clear that adding more representatives from other teams at school to the school library committee is crucial, and the members should be committed to the task, according to the National Guidelines for School Library and Information Services (2012).

Participant F from a quintile 4 – 5 school:

...We are fortunate to have a good library, we need more time to introduce the library to the kids...

The response by Participant F shows that their challenge was a lack of time to orientate learners about the services the media center provide for their development. Orientation is crucial, as it familiarises learners about the location of resources in the media center, preparing them for the integration of information-handling skills (cf. 2.7.3.1)

Another challenge noted by the participants was the utilisation of the media center for other purposes. Some schools used their media centers as classrooms due to a lack of classroom space.

Participant G from a quintile 4 – 5 school:

...Yes, we have,...but learners also come here to attend a language class,and I don't see it as a problem...

Participant C from a quintile 1 – 3 school:

...Our media center has a big space,and that part (*pointing with forefinger*) is a classroom. Learners come here for a class..... And two teachers have offices here so,...I don't really have control over this library....

Some media centers are not utilised as intended, as they are used as classrooms in addition to housing the media center. The lack of classrooms may have been caused by social distancing restrictions to comply to the rules and regulations of the Covid-19 pandemic. This might also be the reason why in some cases learners were only allowed to access the media center in the afternoon.

Another challenge is the non-allocation of a budget for the media center. The study expected the schools to confirm that they are allocated a budget to purchase resources for the media center, according to the National Guidelines for School Library and Information Services (DBE: 2012), as explained in the literature review (cf. 2.7.2.3).

Most of the participants from quintile 4 - 5 schools mentioned that there is a budget allocation to their media centers. This allows them to acquire multi-media resources, as confirmed during observation (cf. 4.4.2.3). Most of the participants from quintile 1 – 3 schools mentioned that their schools had not been allocating a budget for the media center for years. Their schools do not prioritise the media center, even though they know that they needed more resources.

Participant A from a quintile 1 – 3 school:

...Yes...until 2019. From 2019 they didn't have. In 2022, they had a budget, and they bought furniture for learners to come and study....

Participant B from a quintile 1 – 3 school:

...No, never happened! We talk about it in the meetings.....it is just not a priority...

Participant C from a quintile 1 - 3 school:

“No, there's no budget. We never had it, all these books were a donation”.

As discussed in the literature review, schools are mandated by the National Guidelines for School Library and Information Services (2012) to allocate a percentage of their LTSM budget to purchase multi-media resources annually (cf. 2.7.2.3). According to this study, if there's no budget, there won't be resources, which could be a barrier to the integration of information-handling skills into the curriculum.

4.2.4 Conclusion

This section revealed some of the challenges faced by schools regarding their media centers. These include the absence of a full-time librarian, too few resources, and insufficient budgets. These issues were also identified from the literature review (cf. 2.6.1) as possible challenges that might negatively impact on the effectiveness of the integration process.

During the interview sessions, all the participating quintile 1 – 3 schools confirmed that the media center was not a priority to their School Management Teams (SMT) and School Governing Bodies (SGB), who are responsible for the management of school finances. This might explain the lack of a budget, librarian, and resources. To confirm this, some of the participants complained about the attitude of teachers, who were not in the library committee, towards the librarian and use of the library.

They also confirmed that most of the members of the library committees were not passionate about the media center. They were also overloaded with their own work, so they seemed to be inactive members.

Despite the challenges faced by schools, the interview sessions with the participants showed that there was a possibility that information-handling skills were integrated into the curriculum. Therefore, document analysis was needed to verify the information shared during the semi-structured interviews.

4.3 Document analysis

The literature review (cf. 2.7.2.1) revealed that teachers' lesson plans, learners' research work and their bibliographies can be seen as practical evidence of the integration of information-handling skills. Media center circulation registers, teachers' lesson plans and learners' research work were explained in Chapter 3 (cf. 3.5.2.2). I visited quintile 1 – 3 and quintile 4 – 5 schools for document analysis, and scrutinised certain documents, as mentioned in Chapter 3 (cf. 3.5.2.2). These included the library's circulation register, teachers' lesson plans and learners' assessment tasks, to verify the implementation of information-handling skills, using a checklist (see Appendix G). The checklist focused on skills regarding information access, information analysis

and information communication (as discussed in the literature review cf. 2.7.3) in the circulation register, teachers' lesson plans, and learners' research work.

4.3.1 Media center circulation registers

In this study, proof of circulation activity implies the utilisation of resources, from which the probable integration of information-handling skills can be inferred. The findings showed that most of the schools had circulation evidence in the form of a manual circulation register, while some of the schools were using a computerised library administration system. School A, from quintile 1 – 3, used a computerised circulation register called PROLIB, that was used to manage media center resources, but this unfortunately only indicated item barcodes instead of the types of resources borrowed by learners.

Figure 3: Copy of a computerised circulation register

DUAL LIBRARY OFFLINE REGISTER

Date of Issue	Card Number	Book Barcode	Due Date	Renew/YES/NO
01/02/2022	120403463	00199707777 00210503519 00210196150	14/02/2022	NO
01/02/2022	120402971	00210544558 00209737730	14/02/2022	NO
01/02/2022	120402963	00212785612 00212968078	14/02/2022	NO
01/02/2022	120400413	00212753969 00194566602	14/02/2022	NO
01/02/2022	120401525	00205573915	14/02/2022	NO
				NO
02/02/2022	120401371	00198336164 00199310028	15/02/2022	NO
02/02/2022	120402718	00198478606 00010303952 00198322534 00204153907	15/02/2022 28/02/2022	YES
02/02/2022	120400090	00209466010 00210974002 00204207104	15/02/2022	NO

04/02/2022	120400758	00199742088 201985580	18/02/2022	NO
04/02/2022	120400766	00199741993	18/02/2022	NO
04/02/2022	120400375	00210974058 00205115778	18/02/2022	NO
04/02/2022	120401525	00205290956 00197706574	18/02/2022	NO
09/02/2022	120401525	00198336128	28/02/2022	NO
09/02/2022	120401371	00197486013 00204570740	28/02/2022	

The copy of computerised circulation register above shows that each learner was allowed to loan more than three resources for at least 14 days. That would give them enough time to access relevant information to complete their tasks. For this reason, the integration of information-handling skills may have been facilitated.

4.3.2 Teachers' lesson plans

As discussed in the literature review, the National Protocol for Assessment (Grades R - 12) recommended that teachers' lesson plans should indicate the use of resources other than LTSMs (cf. 2.4.3.1). According to this study, teachers' lesson plans should indicate the utilisation of multi-media resources, supplementing LTSMs, textbooks and teachers' guides. The literature review (cf. 2.5) emphasised the necessity and advantages of utilising multi-media resources in the classroom. These include helping the teacher to clarify, establish, correlate and co-ordinate concepts.

The findings showed that in all participating quintile 1 – 3 schools, the teachers for all subjects had prepared lesson plans in different formats. Most of the participating quintile 4 – 5 schools had work schedules instead of lesson plans, and some had

lesson plans that showed no utilisation of resources. This study regarded work schedules as insufficient. Although it indicated topics, content and projects per term, as well as revision of past exam papers, it did not expand on the resources to be used by either the teacher or the learners, learners' tasks or activities, and assessment. The mentioned aspects like resources, learners' tasks or activities and assessment are crucial for the study, as they are highlighted in the literature review under 'effective teaching and learning process' (cf. 2.4.3).

Figure 4: Work schedule from a quintile 4 - 5 school

BUSINESS STUDIES GRADE 12- 2022 TERM 1							
WEEKS	DATES	TOPIC	CONTENT	PROJECTS	SET BY	DATE COMPLETED	COMMENTS
1	12 Jan - 14 Jan	BUSINESS ENVIRONMENTS Macro environment: Impact on recent legislation on business	Skills Development Act, Labour Relations Act, Employment equity Act,				
2	17 Jan - 21 Jan	BUSINESS ENVIRONMENTS Macro environment: Impact on recent legislation on business	BEE & BBBEE, COIDA			1 Feb	New matric work tool
3	24 Jan - 28 Jan	BUSINESS ENVIRONMENTS Macro environment: Impact on recent legislation on business	National Credit Act Consumer Protection Act				Time explaining
4	31 Jan - 4 Feb	BUSINESS OPERATIONS Human Resource Function	HR activities, Recruitment, Selection, Interviews, Employment contracts, Placement and induction, Salary administration, Acts related to HR	Projects in	Mrs Erasmus	17 Feb.	Completed project.
5	7 Feb - 11 Feb	BUSINESS ROLES Ethics and Professionalism	Ethics, Professionalism, Code of conduct, Effective business practices, Kings Code, Issues challenging behaviours, Strategies to address issues				
6	14 Feb - 18 Feb	BUSINESS ROLES Creative thinking and problem solving	Creative thinking in workplace, Problem solving, Techniques, Conventional- non-conventional thinking, Assessing creative solutions				
7	21 Feb - 25 Feb	BUSINESS ENVIRONMENTS Macro environment: Business strategies	Strategic management, Strategic management process				
8	28 Feb - 4 Mar	REVISION OF PAST MARCH EXAM PAPERS					Exercises/ revision for the exams will be done during each week in this term.
9	7 Mar - 11 Mar	FORMAL TEST/ EXAMS			Department of Education		
10	14 Mar - 17 Mar	FORMAL TEST/ EXAMS			Department of Education		

In teachers' lesson plans, the study checked aspects that could be regarded as evidence for the integration of information-handling skills, according to the literature review.

4.3.2.1 Teachers' lesson plans indicate the utilisation of multi-media resources

The study found that some teachers' lesson plans showed evidence of using multi-media resources, while others did not. For example, all the Business Studies teachers from the quintile 1 - 3 schools had access to the 2022 National Recovery Annual Teaching Plan for Grade 11. This plan provided an option for the use of multi-media resources such as newspapers, television, radio and magazines by both teachers and learners. Another example is that all Economics teachers had access to the 2022 National Recovery Annual Plan for Grade 10. This plan provided an option for the use of multi-media resources, including magazines, newspapers, the internet, case studies, clippings, bulletins, YouTube videos, etc. This implies that in South African secondary schools, all subjects/learning areas had standardised teaching plans prescribed annually, which recommended the utilisation of multi-media resources.

Figure 5: National Recovery Annual Teaching Plan for Grade 11

basic education
Department
Basic Education
REPUBLIC OF SOUTH AFRICA

2022 Annual Teaching Plan Business Studies Grade 11

2022 National Recovery Annual Teaching Plan: BUSINESS STUDIES: Grade: 11

Term 1 47 days	Week 1 12-14 January (3 days)	Week 2 17-21 January (5 days)	Week 3 24-28 January (5 days)	Week 4 31 Jan-04 Feb (5 days)	Week 5 07-11 February (5 days)	Week 6 14-18 February (5 days)	Week 7 21-25 February (5 days)	Week 8 28 Feb-04 Mar (4 days)	Week 9 07-11 March (5 days)	Week 10 14-17 April (4 days)
CAPS Topic	Baseline Assessment	Influences on, and control factors relating to the business environments (P1)	Challenges of the business environments (P1)	Adapting to challenges of business environments (P1)	Impact and challenges of contemporary socioeconomic issues on business operations (P1)	Business Sectors (P1)	Benefits of a company versus other forms of ownership (P2)	Avenues of acquiring business (P2)	Revision	
Core Concepts, Skills and Values	Baseline Assessment to determine learning losses in Grade 10	<ul style="list-style-type: none"> Examination of control factors Ways to be involved in macro environment – if beneficial to business. Micro environment Market environment Macro environment 	<ul style="list-style-type: none"> The challenges of the micro (internal), market and macro business environments Challenges of the micro environment Challenges of the market environment Challenges of the macro environment 	<ul style="list-style-type: none"> Ways in which a business can adapt to challenges of the macro environment, and whether this is to the benefit of the business Information management, strategic responses, mergers, takeovers, acquisitions and alliances, organisation design and flexibility, direct influence of the environment and social responsibility Lobbying, networking and power relations 	<ul style="list-style-type: none"> The impact of contemporary socio-economic issues on business operations, and their challenges; decisions for specific business situations The impact of contemporary socio-economic issues on business operations and productivity Possible business solutions/contributions to deal with the socioeconomic issues Investigation of developments in industrial relations that relate to contemporary business practice. 	<ul style="list-style-type: none"> The links between various primary, secondary, and tertiary enterprises. Examination of the links between: <ul style="list-style-type: none"> The benefits and challenges of establishing a company versus other forms of ownership Recap the characteristics, advantages and disadvantages of the forms of ownership 	<ul style="list-style-type: none"> The benefits and challenges of establishing a company versus other forms of ownership Formation of companies The company's charter-Memorandum of incorporation and commencement of the company Prospectus 	<ul style="list-style-type: none"> Avenues of acquiring businesses Their advantages and disadvantages as well as contractual implications (e.g. royalties) 	Revision	
Requisite Pre-Knowledge		Grade 10 knowledge of the three business environments and their components, challenges of macro and at least ONE strategy for each challenge			Grade 10 knowledge of socio-economic issues		Grade 10 knowledge on the business sectors	Grade 10 knowledge of the different forms of ownership	Knowledge of different types of businesses	Understanding the meaning of action verbs, analysis of scenarios/statements principles of marking
Resources (other than textbook) to enhance learning	Grade 11 Bus Studies Notes; 2020 paper 1 & 2 exemplars, Past question papers; Telematics video etc. Teachers and learners must use recent business news from the media (newspapers/radio/TV/magazines) to understand the links between various primary, secondary and tertiary enterprises									

The findings also showed that some teachers' lesson plans, for example for Economics in quintile 1 - 3 schools, did not provide the option of using multi-media resources. This could lead to the possibility of not utilizing multi-media resources at all. An example is shown below:

Figure 6: Lesson plan without resources enquiry

LESSON PLAN:	SUBJECT: ECONOMICS	GRADE: 11
TOPIC: Factors of production		
Sub-topic: Land		
PRIOR KNOWLEDGE:	Ask learners to mention four factors of production they know from grade 8	
LESSON AIM: at the end of the lesson learners should	<ul style="list-style-type: none">→ Be able to mention four factors of production→ Give remuneration of each factor of production→ Explain the characteristics, importance and classifications of each factor of production	

The literature review (cf. 2.7.2.2) also revealed that teachers utilised multi-media resources in the classroom to supplement LTSM. The study expected to see the use of multi-media resources in teachers' lesson plans. In some instances, for example Science teachers in quintile 1 - 3 schools, the lesson plans indicated resource enquiry. They made use of notes and textbooks as their references, however, instead of multi-media resources. The reason could be a lack of resources in the media center. This may result in the non-integration of information-handling skills into curriculum. The evidence is shown below:

Figure 7: Lesson plan with resource enquiry

Lesson PRESENTATION				
TEACHERS' ACTIVITY	LEARNERS ACTIVITY	RESOURCE(S) AND TEACHING METHOD	TYPE OF ASSESSMENT include references	DATES
The teacher explain labour as one of factors of production.	* learners listen and ask for clarity where they don't understand	-> Textbooks -> Notes	- Classwork Activities - 15 Activities from notes	26/03/2021
*The teacher assess learners by giving them activities to be done	* learners complete the activities	-> Textbooks (Focus) -> Notes	- learners complete classwork activities from the textbooks and from the notes	26/03/2021

The literature review (cf. 2.5) also revealed that multi-media resources enable teachers to teach and learners to do their research work successfully. The National Guidelines for School Library and Information Services (DBE, 2012:5) recommend the utilisation of multi-media resources for subject teaching.

4.3.2.2 Teachers' lesson plans indicating research task for learners

Some of the reviewed teachers lesson plans from the quintile 1-3 schools had research tasks for learners with guidelines indicating the expected steps and the marks allocated for each step. This is good in order for learners to understand what is expected of them.

The study expected to see learners' research tasks in the teachers' lesson plans, as this is one of the expectations from a learner as discussed in the literature review (cf. 2.4.3.2). In addition, a research task is compulsory in all subjects, as these are used to establish if a learner may be promoted to the next grade or not (cf. 2.3). Lastly, a research task enforces the utilisation of multi-media resources, which is a crucial aspect for this study.

Utilisation of multi-media resources (MMRs) to supplement, not replace, LTSM.

As clarified in the literature review, LTSM includes textbooks or learners' workbooks or teachers' manuals (cf. 2.7.2.3). MMRs include fiction, non-fiction, reference works (for example dictionaries, encyclopaedias, and atlases), audio cassettes, audio-visual resources, computers (internet and email), and print media (including journals, pamphlets, periodicals like magazines, newspapers etc., posters, charts (cf. 2.7.1.2).

The findings indicated that teachers' lesson plans do contain research tasks for learners, in the form of assignments in most cases, and projects in a few schools. For this reason, teachers would be expected to utilise multi-media resources while teaching, in other words supplementing LTSM (cf. 2.7.2.2) to make the learning more motivating, and to help teachers to clarify concepts. The findings from the document analysis indicated that most of the teachers might have misunderstood the idea of

using other resources besides textbooks when teaching (cf. 4.3.2.1; the National Recovery Annual Teaching plan). The image below (cf. Figure 8) shows that this teacher provided a case study, and derived questions from it for the learners.

The study identified this as a challenge, as it was apparent that multi-media resources (MMRs) were not supplementing LTSM.

The main challenge discovered during document analysis through lesson plan analysis, was that most of the teachers did not use multi-media resources in the classroom to supplement LTSM, as highlighted in the literature review (cf. 2.5 & cf. 2.7.2.2).

They instead used multi-media resources to replace LTSM, and this mistake was passed on to the learners.

Through the learners' research work, the study revealed that some learners did not refer to multi-media resources, but rather cut pictures and articles from multi-media resources and pasted them onto their research work. The teachers responded by allocating these learners good marks. This confirmed that neither the librarians nor the teachers were adequately informed about plagiarism. The conclusion was that teachers and librarians, or library committee members lack the necessary expertise.

Figure 8: Some teachers used a case study for formal assessment

2022 TERM 1 SBA TASK

GRADE 11

GDE BUSINESS STUDIES

TERM 1 : Case Study
 DURATION: 2 Hours
 Marks : 50

This task should be completed under controlled conditions

QUESTION 1
 Read the case study below and answer the questions that follow:

SPEEDY MOTORS LTD (SM)

Speedy Motors (SM) is a large business that specialises in the selling of pre-owned cars. Speedy Motors has recently, experienced a decline in profits due to changes in consumer behaviour, and the spending behaviour of customers. COVID -19 lockdown restrictions, which resulted in closing some of its branches in Mpumalanga. SM had to close their business due to the COVID 19 pandemic.

SM retrenched about 100 employees across their branches. The trade unions influence its members to embark on a strike in response to the decision taken by the management of SM to retrench its members.

SM management influenced the suppliers by signing long-term contracts. The top-level management initiated bargaining sessions with the unions.

The general increase in the prices of cars in the country after the Covid19 pandemic made it difficult for the clients of SM to buy cars. SM's customer's attitudes, interests, inflation, and opinions about pre-owned cars discouraged clients discourage them from buying SM lobbied with other car dealers to force the government to reduce the interest rate on loans.

SM had to find a way of adapting to the challenges posed by the business environment by making strategic plans to remain sustainable in the competitive market.

[Source adapted from: Business Ideas .co.za> Accessed on 13 October 2020]

1.1.1 Identify the micro and the macro challenges of SM from the scenario above. (2)

1.1.2 Classify SM's challenges according to the TWO business environments. (4)

1.1.3 State the extent of control that SM has over EACH business environment named in QUESTION 1.1.2 (2)

Use the table below as a GUIDE to answer QUESTIONS 1.1.1 – 1.1.3

CHALLENGES (1.1.1)	BUSINESS ENVIRONMENTS (1.1.2)	EXTENT OF CONTROL (1.1.3)

1.1.4 Quote TWO ways in which SM can be involved in the macro environment, from the above case study.

In this case, the resource used did not supplement the textbook (LTSM) to facilitate the lesson, but it was actually used to substitute the textbook. Referring to the Curriculum and Assessment Policy Statement: Abridged Section 4 for Grade 10 - 11, with the implementation date of January 2020, the DBE emphasises that if the case study is used for assessment, the teacher should supply learners with the topic on which the case study should be based for evaluation (cf. 2.4.3.2). Therefore, learners must be granted one week to gather resources on given topics, and they must expand on, analyse and resolve a challenge or set of problems, and make suggestions and/or recommendations to defend their arguments (Department of Basic Education (DBE), 2021b:42)

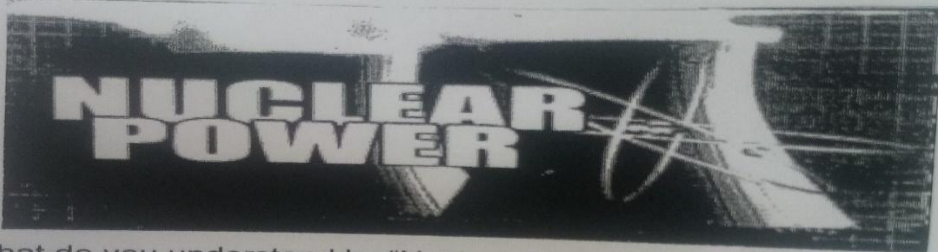
The findings also revealed that learners' research tasks were in the form of either assignments or projects. The projects seen by this researcher mostly showed non-research questions and very few research tasks questions. Where these were present, their mark allocation was very low. The concern of this study is the impact of these research questions with low mark allocation in developing research skills in learners.

Figure 9: Showing two marks allocated for research

**GRADE 12
ECONOMICS PROJECT
TERM 2 50 MARKS**

This is a research project. You will not find the answers in the text book. To be able to answer the questions in depth and with insight, you need to do research on the internet, read news articles or go to a public library. At the end, you have to list at least TWO sources you used.

QUESTION 1



1.1.1 What do you understand by "Nuclear energy" ? (2)

1.1.2 Do some research on the reason why South Africa considers Nuclear power as a source of energy. (2)

1.1.3 What main source of energy has South Africa been using? (2)

1.1.4 Based on your research, debate the merits (advantages) and demerits (disadvantages) of nuclear energy. (10)

The fact that such a small portion of the overall mark was allocated to the research aspect is a concern in this study. Teachers should consider awarding marks for 'correct answer expected', the 'phrasing of the content/correct answer' and the 'citation' or 'acknowledgement of the owner of the used idea/source'. All of this information is worth much more than two marks. Such a small mark allocation to the research aspect will not motivate learners to use multi-media resources, and find out more about a research topic.

4.3.3 Evidence from learner activities

4.3.3.1 Learners' research work contains references

The study also checked the research work in all six schools to see if learners correctly referenced resources (cf. 2.7.3.2). In addition, the study looked at the content of the learners' work to check if multi-media resources were actually utilised. The findings showed that all learners from both sets of quintile schools (quintile 1 - 3 and quintile 4 - 5) utilised resources. All learners utilised multi-media resources in the same way that their teachers did in their lesson plans. Instead of correctly referencing the resource, they took a photo of the information they wanted from the resource and attached this to the research task as evidence of the utilisation of resources. This was sufficient to obtain marks.

Scrutiny of the documents indicated that learners did not cite sources in their research work, but they pasted photos of the information they needed onto their research work. According to the study, plagiarism should be avoided when integrating information-handling skills into the curriculum, as explained in the literature review (cf. 2.7.3.2).

4.3.3.2 Reference list/bibliography in learners' work

As highlighted in the literature review (cf. 2.7.3.3), a reference list differs slightly from a bibliography, but the study accepts both of them as long as the sources referred to in the research task are listed. A bibliography lists the sources used by a researcher and may include sources that may not have been cited, but which had an influence on the research-task.

The study therefore checked if the learners' research work contained a reference list/bibliography. This study expected to see a reference list/bibliography that indicated the different resources used. The findings showed that all of the learners' research work had a reference list/bibliography. In the research work of learners from both quintile school sets, it however only indicated one type of resource per learner. It showed that some learners focused on the internet only for information searching, while others focused only on books. No learner utilised more than one type of resource from the media center collection for a research task.

Figure 11: Reference list/bibliography showing internet references only

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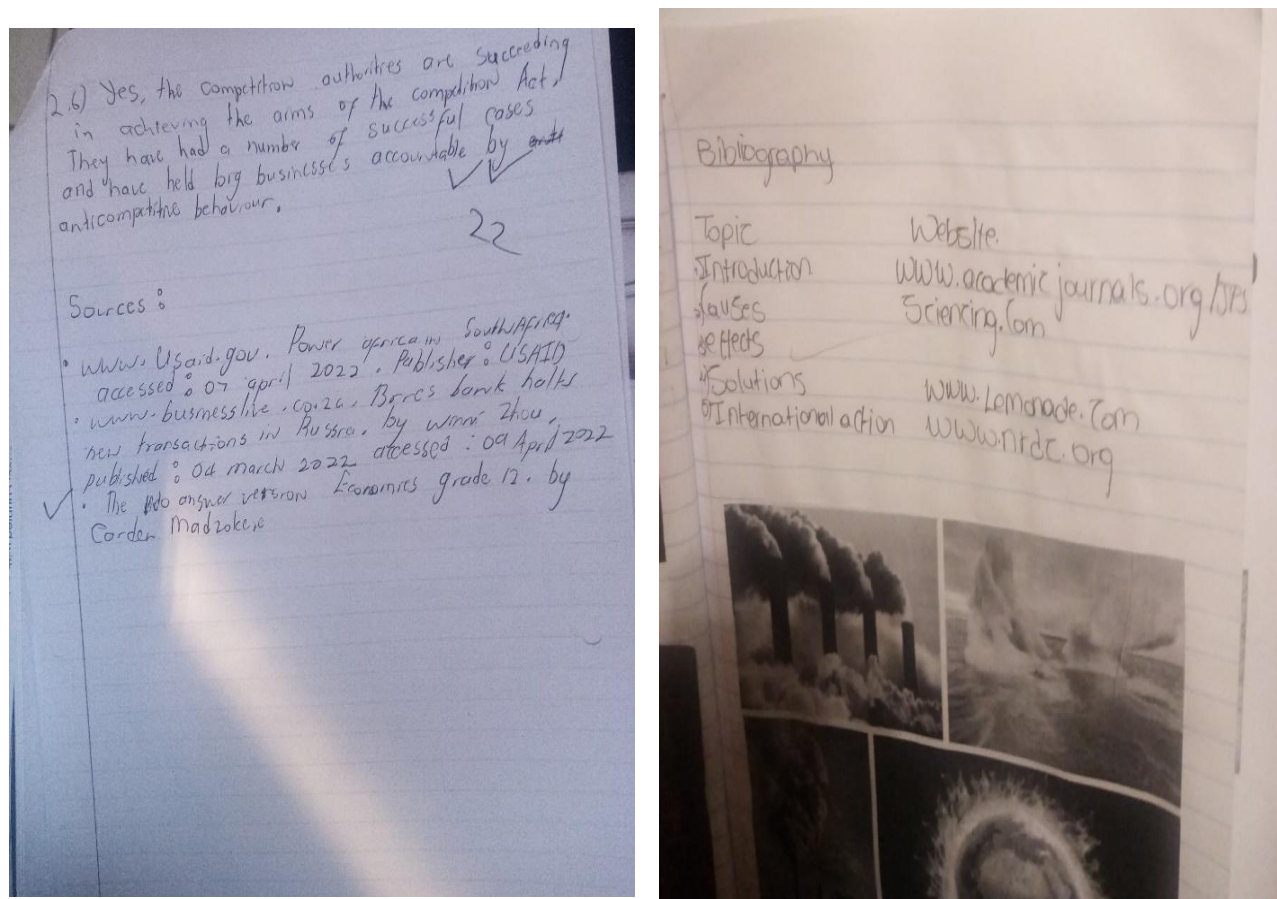
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* not enough solutions listed.
* the body of your research lacks more info.

4.3.3.3 Marks are allocated to reference list/ bibliography

The findings showed that marks were allocated to the reference list/bibliography. According to the study, marks allocation to the reference list/bibliography would encourage learners to find information from more resources, and this would lead to the integration of information-handling skills into the curriculum. The findings from the majority of the participating schools (both quintile 1 - 3 and quintile 4 - 5) revealed that marks were also allocated for incorrectly written bibliographies/reference lists.

Figure 12: Some learners' research work indicating a reference list/ bibliography and the marks allocation



Marks allocated to incorrect bibliographies was a concern to the study. Findings from the interview session indicated that the librarians felt certain that teachers were teaching learners about referencing. These findings from the document analysis revealed that learners were actually not taught about referencing, while teachers were also unsure about it. The literature

review (cf. 2.7.3.3) explained what a reference list/bibliography should look like. Learners should be exposed to research and the use of the media center, so that they do not struggle at university (cf. 1.2). In addition, the literature review (cf. 2.7.3.1) made it clear that authors' surnames should be prioritised in research, and should be clearly mentioned in the reference list/bibliography.

4.3.3.4 Accessing skills

To check accessing skills, the study investigated whether the resources used were relevant to the research topic, and whether the stated facts responded to the research topic. Since learners' research work did not show citations, the study had to look at the pictures attached to the research report, and reference list/bibliography, to check the relevance of the resources. The findings showed that all media center resources were relevant to the research topic, and the stated facts corresponded to the research topic. According to the study, learners had mastered the accessing skills.

4.3.3.5 Analysing skills

To check analysing skills, the study looked at the construction of own sentences, paraphrased information, or direct quotations. According to the findings, none of the learners' research work showed quotation marks. According to the study, a quotation mark implies the use of another person's exact words, which should be immediately followed by a citation. The findings showed that a number of learners had paraphrased in the body of their research work and used their own words when writing the conclusion of their assignments. However, sources were not acknowledged, and only a few of the used sources were included in the reference list/bibliography. The Curriculum and Assessment Policy Statement for FET (Department of Basic Education (DBE), 2021b:82) recommends that teachers must be vigilant of learners committing plagiarism. It does not mention

how learners can avoid plagiarism, but emphasises that learners must sign a proclamation of authenticity to state that the work they submitted is entirely their own.

4.3.3.6 Communication skills

To check communication skills, the study investigated whether facts in the research work were correlated, and whether there was coherence or synergy in the learners' arguments. According to the study, the presence of a table of contents could be an indication of coherence, as indicated in the literature review (cf. 2.7.3.3).

- Correlated and organised research work

The findings showed that some teachers provided guidance to learners on how to structure and formulate their research tasks. This was done according to the DBE's recommendations that learners must be provided with guidance (cf. 2.4.2.2), so that they would know what is expected of them.

ASSESSMENT: PROJECT
RELATIONSHIP BETWEEN MARKETS
GRADE 11

TERM 2 Due : 26 May 2021 50 MARKS

For many years Eskom has been considered to be a monopoly in South Africa. Recently, Eskom encounters a lot of problems, which society have to pay for.

Do some research into this situation and consider a few questions. Once you have done this, write all your findings up in a report.

Your report must not exceed 4 typed pages or 6 handwritten pages.

There must be a :

- Introduction
- Table of content
- Conclusion
- Sources used
- Front page with your name, grade and the name of the project

QUESTIONS TO BE ANSWERED:

- Find three recently written articles about Eskom and about the problems they face. Cut them out and attach them to your report. Write a short summary on each article.
- Make a list of FIVE benefits of being a monopoly (i.e. why Eskom would want to stay a monopoly)
- Explain why it is advantageous to society if we do not have monopolies (i.e. the disadvantages of monopolies to society)
- Examine possible disadvantages of too much competition in an economy.
- Research South Africa's competition laws and write a short description of how the law defines competition and its view on monopolies.

~~_____~~ Economics

Introduction
Eskom is a South African electricity public utility. It was established in 1923 as the electricity supply Commission (ESCOM) and also known by its Afrikaans name Elektriesevoorsieningskommissie (Eskom) by the South African government and the people of the Republic of South Africa in terms of the Electricity Act (1922). South Africa in terms of the Electricity Act (1922). South Africa became a republic in 1960's. Eskom represents South Africa in the Southern African Power Pool. The utility is the largest producer of electricity in Africa and was among the top utilities in the world in terms of generation capacity and sales but has since slipped in both categories.

(table of content)

Introduction
<https://www.eskom.co.za/our-company/sustainable-development>
Article 1
<https://business24.co.za/news/energy/11/22/eskoms>
Article 2
<https://business24.co.za/news/energy/13/2022/eskom-problem>
Article 3
Eskom and its 2015 was five major problems the Power utility is facing

Benefits of a monopoly (www.economicshelp.org/economics)
Disadvantages of monopoly to society (www.economicsonline.co.uk)
policy and their views (www.britannica.com) ✓
Conclusion (https://www.eskom.co.za)

Figure 13: Project instruction versus a learner's project

Figure 13 above shows the teacher's guidance to a learner on how to organise the work. Learners were instructed to start with the introduction, followed by the table of contents, then the main body of the text, the conclusion and the reference list/bibliography. The learner's work was organised as instructed, and as a result the marks were allocated.

Another challenge identified in this study was unstructured learners' research work. The study discovered that the questions for the learners' research tasks indicated that many teachers seemed uncertain of how to structure the research task. For example, learners were given incorrect guidance (refer to Figure 13). It seems as if the teacher lacks expertise. In the literature review of this study guidance is provided regarding the structure of learners' research work (cf. 2.7.3.3).

According to this study, communicating ideas in an organised manner indicates a polished skill of communication. An organised learner's research work should have a table of contents, introduction, body, conclusion, and reference list/bibliography.

- Correlated facts

The findings revealed that some learners' work showed a clear table of contents, while some learners' research work indicated confusion between a table of contents and an index. The allocation of marks was even more confusing.

Figure 14: Table of contents being confused with index, and marks allocation

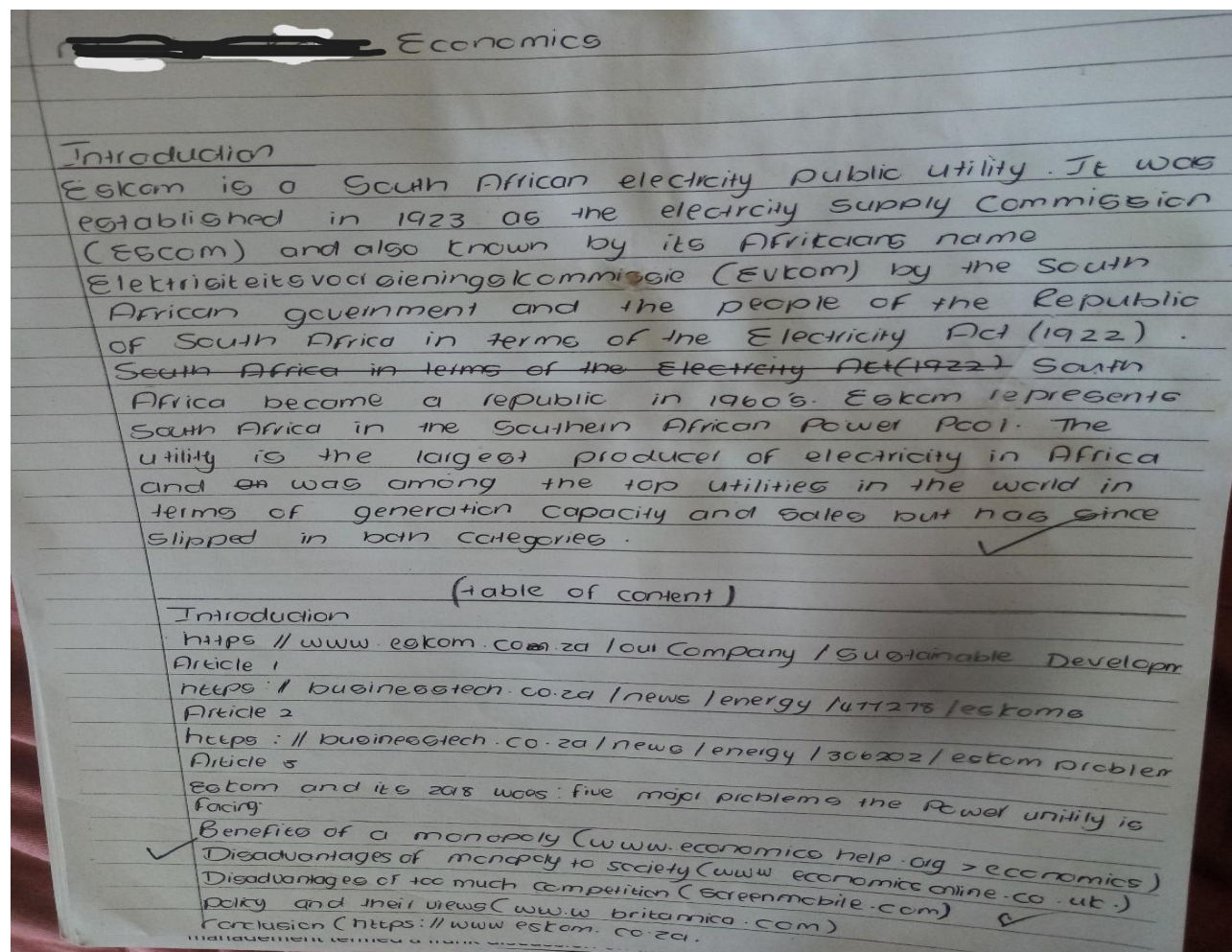
Geography: Assignment

Index: Global warming
Page 1: What is global warming
Page 2: Articles of global warming
Page 3: Causes of global warming
Page 4: Examples of causes of global warming
Pages: Articles
Page 6: Effects of global warming
Page 7: How can we stop global warming.

Index: 4
Articles & Pictures: 8
Introduction: 5
Causes: 16
Solutions: 10
Results of Global Warming: ~~20~~ 20
Conclusion: 5
Bibliography: 4
= 72/100

In addition, there also seemed to be confusion between the table of contents and the reference list/bibliography. Even in cases where this was visible, teachers usually allocated marks for it. This implies that the teachers themselves were uncertain.

Figure 15: Table of contents being confused with reference list/ bibliography, and marks allocation



The table of contents should indicate a chapter or topic heading, with the correct page number, as explained in Chapter 1 (cf. 1.11). It was disconcerting to find that learners were awarded marks despite the confusion. In addition, the findings showed that some of the teachers were unsure of the structure of a research project, or the purpose of the table of contents. For example, Figure 15 indicates that some projects started with an introduction, followed by the table of contents, which is structurally incorrect.

4.4 Structured observations (cf. Appendix I)

The observation process, as explained in Chapter 3 (cf. 3.3.2.3), focused on learners' actions in the media centers of the three participating schools in the quintile level 4 – 5. The motive behind the observation process was to observe how learners located information sources in order to complete the research task given by their teachers. It was crucial for the study to also identify the possible successes and challenges faced by learners in the process of attaining accessing skills. The contents of the observation sheet are:

1. Media center access: well-built/converted classroom; easily accessible; librarian/library person; multi-media resources; resources with DDC numbers; fiction covering all languages taught at school; non-fiction covering subjects taught and extra-curricular activities offered by the school.
2. Media center utilisation: come as individuals/with a teacher/come as groups; consult librarian; use manual or computerised circulation system/register; able to find resources needed; use multi-media resources/focus on one type of resource; non-fiction mostly used; resources borrowed; takes more than 30 minutes or less.

4.4.1 Accessibility to the media center

It was important to determine the extent of accessibility to the media centers, as this would affect accessibility to the resources in the media center. The process of accessing is crucial, as even the architectural structure affects the accessing process (cf. 2.7.1).

4.4.1.1 Architectural structure

This part was included because accessibility could be affected by the physical structure of the media center. All the visited and observed media structures were accessible to all users since they were situated on the premises of the schools. The designs of the media center structures seemed to accommodate diverse learners, even those who were differently abled. As the media center is expected to accommodate diverse resources, so too should it accommodate learners with diverse abilities, as highlighted in the literature review (cf. 2.4.4).

4.4.1.2 Safety measures and precautions against Covid-19

At the time of data collection, Covid-19 was still a reality in schools. It was therefore important to determine the safety measures and precautions at the schools against Covid-19, to ensure safety and easy access of learners to the media center. Safety measures and precautions against Covid-19 were also mentioned in the literature review (cf. 2.7.1.3).

All the visited and observed media structures had warning signs at the entrance of the media center to help prevent the spread of Covid-19. Learners were given the opportunity to sanitise their hands before entering the media centers.

Figure 16: Signs and precautionary measures for Covid-19 to ensure safe access to resources



The visited media centers differed in size.

4.4.1.3 Converted media centers

On visiting the schools, the researcher found a converted media center, as highlighted in the literature review (cf. 2.7.1.2), at only one of the schools. It was therefore smaller than the custom-built media centers. Due to its size, it was impossible to house all the multi-media resources. For this reason, it is preferable for a school to build a centralised spacious custom-built media center than converting a classroom.

4.4.1.4 Custom-built media centers

Custom-built media centers, as highlighted in the literature review, were found in two of the visited schools. Some of the quintile 4 – 5 schools had custom-built media centers that catered for both the FET phase (Grades 8 - 12) and the GET phase (Grades R - 7).

Figure 17: Custom-built Media center in quintile 4 - 5 school



4.4.2 Accessibility to media center resources

The findings revealed that in all the visited and observed schools, media centers had non-fiction sources, dictionaries, encyclopaedias, audio-visual resources, computers and internet connectivity. Resources were organised and reachable on the

shelves by all learners. There were short chairs placed in between the shelves that could be used when needed, to reach the upper shelves.

4.4.2.1 Media center resources were processed

Observations regarding the processing of resources were in line with what was reported during the interviews (cf. 4.2.3.2). Resources in the visited schools (quintile 4-5 schools) were classified according to the Dewey Decimal Classification system. The spine labels were clearly visible on the spines of the books. Shelves were labelled and books were shelved accordingly. They could therefore easily be retrieved by learners, as highlighted in the literature review (cf. 2.6.2.1).

4.4.2.2 Resources were being used by learners (in visited quintile 4 - 5 schools)

The resources were accessible, as they had been processed according to DDC. The majority of learners visited the media center in groups. However, some learners were assisted individually by the librarian to search for books they wanted from the shelves. This might be because learners were not familiar with DDC numbers, or they just did not know which books might contain their needed information.

Some learners moved around the shelves independently. They would take a book from the shelf, check the cover page, front and back, and then move to the seating area, where they sat and read. According to the study, checking the relevance of a resource is important during the accessing process, as explained in the literature review (cf. 2.7.3.1).

In addition, all the visited media centers had circulation registers that showed the borrowed resources, as well as their issue and the return dates. According to this study, this is evidence that resources were retrieved and accessed before being borrowed. After taking books from the shelves and reading them in a seated or study area, some learners placed the books on a table between the shelves.

Figure 19: During Covid-19 returned books were quarantined for three days before being returned to the shelves



The study accepted that the books were kept on the table as a way of quarantining them before re-issue or being returned to the shelves. Dobрева and Anghelescu (2022:3) state that ideas regarding book sanitisation and the number of quarantine days for books during Covid-19 differed across institutions.

Most of the visited schools used computerised administrative systems to issue books to learners, while some used a manual circulation system.

4.4.2.3 Availability of multi-media resources (in visited quintile 4 - 5 schools)

Most of the visited media centers contained multiple types of resources including TV/video, internet, encyclopaedias and non-fiction books. This is an indication that it is possible for schools to either budget for, or organise the donation of multi-media resources for their media centers, that would support curriculum of their schools.

Figure 20: Media center with multi-media resources like audio-visual material



4.4.2.4 Resources supporting the curriculum

As discussed in the literature review (cf. 2.6.2.3), curriculum is defined as the content of the subjects or learning areas as well as languages taught at the school. In the visited and observed schools (quintile 4 - 5), non-fiction and fiction books supported the learning areas and the languages taught at the schools respectively, although some of the books looked old. This is in line with what was reported during the interviews (cf. 4.2.3.5), where the participants confirmed that their resources supported the curriculum, but were outdated. The resources also supported.

the extra-curricular activities of the schools, for example there were books about sports (rugby and soccer). This implies that the resources supported curriculum, so learners would be able to find enough and relevant resources in the media centers to address their research projects. The literature review explained the importance of including extra-curricular activities as part of educational priorities, so the study recommends that resources that support extra-curricular activities should form part of the schools' media center collection (cf. 2.6.2.3).

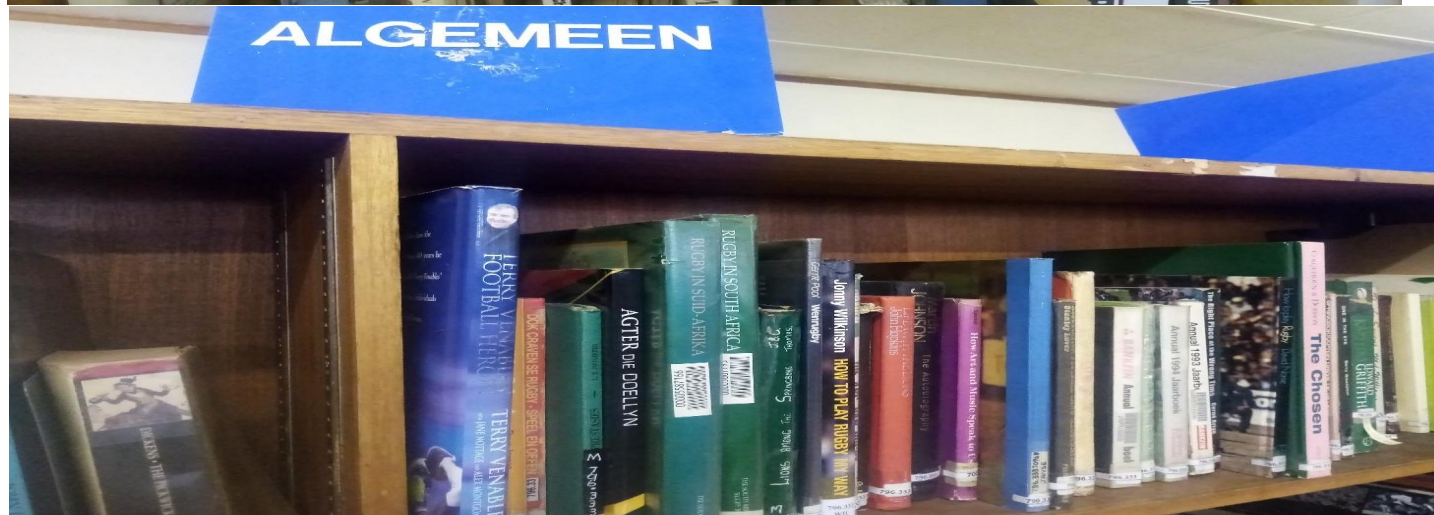


Figure 21: Resources that support schools' extra-curricular activities

4.4.2.5 Availability of study areas with suitable furniture (in quintile 4 - 5 schools)

Learners are not compelled to borrow resources, or to utilise them at home or outside the media center. The availability of a study area in the media center affords learners the opportunity to access as much resources as they needed to, and utilise them inside the media center. As a result, the researcher observed a high number of utilised resources left on the table (cf. Figure 19). Pieces of furniture needed in a media center ready for the integration of information-handling skills are the circulation desk, study desks and chairs. The visited schools had the necessary and suitable furniture such a circulation desk, study desks and chairs in the study area and in the computer area, and cushions in the audio-visual area (cf. Figure 20). Learners are allowed to use the study area (cf. Figure 22) to do their research work to ensure the utilisation of multi-media resources. The circulation areas had circulation desks. Taken at face value, the media centers all seemed ready for the integration of information-handling skills into the curriculum.

Figure 22: Study area where learners can sit to complete their research tasks



4.4.3 Challenges faced by schools in the integration process

The challenges listed below were identified during observation process.

4.4.3.1 Media center readiness

- Absence of a full-time librarian

During the interview sessions, many of the participants confirmed that there were no full-time librarians at their schools (cf. 4.2.2.2 & Table 1). Most of the visited schools had no full-time librarian, in which case the media centers were managed by library committee members. In most of these cases the media centers were unorganised, and some of the books had not been processed. This shows that for the successful integration of information-handling skills, schools need full-time librarians to keep the media center organised and ensure that resources are processed.

4.4.4 Summary

This chapter covered the analysis of data from the interview sessions, document analysis and observation. Challenges faced by both teachers and learners were also identified and discussed.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section is aimed at proposing strategies to enhance the development of information-handling skills in secondary schools. The proposed strategies are based on the recommendations below, and guided by the structured summary of the research findings (ref. Chapters 4 & Appendix J)

5.2 Findings, conclusions, and recommendations

5.2.1 Availability of the media center

Findings

Some of the visited media centers had spacious custom-built structures that accommodated various resources (cf. 4.4.1.4). However, some were not that spacious, and were the same size as a classroom (cf. 4.4.1.3). In addition, the media centers of the visited and observed schools were situated on the premises of the schools, and their structures seemed to accommodate diverse learners, including differently abled learners (cf. 4.4.1.1).

Conclusions

The media centers visited for observation were in good a condition. They were spacious, accessible, and ready for use, and obviously beneficial for information-handling skills integration. Media centers like these have the potential of accommodating

multi-media resources that could support all subjects or learning areas taught at the school, its extra-mural activities, and the needs of all learners and teachers, as explained in the literature review (cf. 2.7.1)

Recommendations

I would like to recommend that all schools (both sets of quintiles) consider custom-built media centers, as these can accommodate all suitable resources, as discussed in the literature review (cf. 2.6.2.3), for example non-fiction and reference books, audio resources, audio-visual resources, periodicals, charts and pamphlets. Also, having ramps or convenient pathways to the media center would accommodate differently abled users.

However, in schools that already have classroom-sized media centers, these should at least be sectioned to accommodate only the multi-media resources that would support their curriculum. Redundant, irrelevant, unused, and old resources should be weeded, and the duplication of resources should be avoided.

The study has proven that the integration of information-handling skills into the curriculum requires a media center which is suitable, updated, and contains enough multi-media resources to support the school's curriculum. Therefore, each school should have its own media center, as the focus is to support the curricular needs of each school. For this reason, it is to schools' disadvantage if they must share media centers. It is also difficult to implement, as this practice may lead to disturbance caused by the movement of learners from one school to another. Schools without media centers should at least have access to a digital media center to help learners develop information-handling skills. A digital media center (DMC) can be used by schools to reach out, share their books or any content, and engage to more learners or audience. Western Oregon University (WOU) suggest that it can operate just like Facebook (FB) where one student may share or post a book or video, and there are certain

activities they are proposing for their DMC for their academic media center, the activities such as digital video and audio recording and editing; website design and support; e-book creation and distribution; desktop design, for posters, books, and other printed materials; technology-enhanced presentations; as well as publishing support for all aspects of digital distribution and traditional publication (University, 2016:1). Learners can be engaged by either asking them questions or allow them to share ideas about the shared content. her learners or audience The latest National Curriculum Statement (NCS) emphasises active learning, which in turn needs the utilisation of multi-media resources (print or digital) for information-based research tasks (cf. 2.7.1.2).

Experts from the Department of Education could assist schools by training teachers on the integration of information-handling skills into the curriculum. The implementation of the training could be continuously monitored by using the checklist (cf. Appendix G), interview questions (cf. Appendix H) and observation sheet (cf. Appendix I) as monitoring tools during school visits.

5.2.2 Availability of resources

Findings

Most of the schools that participated in the interviews (both quintile 1 - 3 and quintile 4 – 5 schools) confirmed that their resources in the media center supported the curriculum, but they were outdated (c.f. 4.2.3.5). In addition, the interview session confirmed that resources in quintile 1 - 3 schools did not cover all the learning areas (cf. 4.2.3.5).

The findings show that most of the schools visited for observation (quintile 4 - 5) had different types of resources in the media centers. This is important for this study, as was discussed in the literature review (cf. 2.7.2.2). As explained by the participants during the interview session, the content of the non-fiction and fiction resources in the media centers covered the learning areas and the languages offered by the schools, but they looked old (cf. 4.4.2.4). In addition, non-fiction about sports covered the extracurricular activities offered by the school, for example rugby and soccer (cf. Figure 21).

Conclusions

The findings imply that some of schools in both quintile sets (quintile 1-3 and quintile 4-5) had resources that were relevant and supported curriculum, but they needed to be updated (cf. 4.2.3.5). This is not necessarily a barrier to the integration of information-handling skills into curriculum, because learners can still obtain information for their research work in the learning areas taught by the school, but the information should also be relevant to the current situation.

In addition, the majority of quintile 1 - 3 schools had few resources that supported the curriculum but could not cover all the learning areas taught at the schools (cf. 4.3.3.5). This may lead to learners struggling to get relevant information for their research tasks, and this would also affect the integration of information-handling skills into the curriculum. Most of the quintile 4 - 5 schools visited for observation had multi-media resources, for example non-fiction, fiction, reference works (encyclopaedias and dictionaries), atlases, internet access, TV-video and periodicals. This implies that there was a possibility for the integration

of information-handling skills into the schools' curriculum. According to Section 13(i) of the DBE's Regulations relating to the Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013:7), all media centers in South African

schools should have a suitable collection as a core area (cf. 2.3). The study recommends the suitability of resources that would enable the integration of information-handling skills into the curriculum.

Recommendations

Schools need to allocate a sufficient budget to purchase resources that would support the learning areas and languages taught there. Resources should also be acquired that supports the extracurricular activities of the school. As explained in the literature review, the annual allocation of a budget helps to improve the resource collection in the media center. For example, in Gauteng province schools allocate 10% of their annual LTSM budget to purchase media center resources (cf. 2.7.2.3). In addition, this study recommends that schools should start with the weeding process, that is, remove outdated resources to provide space for updated resources. In addition, schools should analyse the needs of the media center, and that will help them to identify which sources to purchase to meet the needs of both teachers and learners (cf. 2.7.1.2).

5.2.3 Roles in the library

Findings

Most of the visited schools for observation (quintile 4 - 5) were staffed by either librarians or library committee members. They helped learners to find the books they wanted and issued resources to the users. The library committee members were also teachers. The literature review reveals that the DBE (2012:22) recommends that a library committee member has the responsibility of managing the functionality of a school's media center (cf. 2.6.1).

The findings from interview sessions reveal that most of the library committee members in quintile 1 - 3 schools are unable to execute media center responsibilities. Examples include failure to allocate a budget for the media center (cf. 4.2.3.11), and ignorance on whether books were processed or not (cf. 4.2.3.2).

The quintile 1 - 3 schools confirmed that the media center was not a priority of the school (cf. 4.2.3.11). The effect of this was that there were fewer processed resources than at quintile 4 - 5 schools. This may affect their readiness for the integration of information-handling skills into the curriculum. The importance of having a budget for the media center and DBE's recommendation on the allocation of the budget by schools is explained in the literature review (cf. 2.7.2.3).

Conclusion

Library committee members from some of the schools in quintile 1 - 3 could not balance their responsibilities of being a teacher and being a library committee member at the same time. This implies that these school library committees were composed of teaching staff only, as all the media center duties were dependent on them. It would be impossible for library committee members to perform all the media center duties if the members are all teaching staff. This would lead to non-functionality of the media center. The study recommends that the library committee needs representatives from other teams at school, apart from teaching staff. Those members should be fully committed to the task. Chapter 3 of the National Guidelines for School Library and Information Services (DBE, 2012:11) recommends that the school library committee, with representation from the School Management Team (SMT), teachers and School Governing Body (SGB), should draft a school library policy to ensure that the media center services are well planned and budgeted for. All members must be committed to provide their full support. The involvement of the School Governing Body (SGB) in the library committee may influence the SMT and other members of the SGB to allocate a budget for the media center, as they may better understand the needs of the media center (cf. 2.7.2.1).

Non-allocation of a budget and the non-execution of other duties in the media center may indicate mismanagement, or the lack of a proper management plan for the media center. This study recommends that the media center committee, with the principal, teaching staff, members of the school governing body, community members should draft a policy for the school media center

and ensure that it is implemented. This policy may be reviewed annually by all committee members, so as to make changes where possible.

Recommendations

The media center duties are too much for teaching staff alone. Library committees need more representatives from other teams at school, and those members must be committed to the resource-centre. Chapter 3 of the National Guidelines for School Library and Information Services (DBE, 2012 :11) recommends that the school library committee should have representation from the School Management Team (SMT), teachers, and School Governing Body (SGB). The committee should draft a school library policy to ensure that the media center services are well planned and budgeted for. All members should be committed to provide their full support. The involvement of the School Governing Body (SGB) in library committee meetings may influence the SMT and other members of the SGB to allocate a budget for the media center, as they might better understand the needs of the media center (cf. 2.7.2.1.).

The lack of a librarian and the non-functionality of the library committee can affect the functionality of the media center, which could have a negative impact on the integration of information-handling skills into the curriculum.

I would like to suggest that that the Department of Basic Education (DBE) may continue with implementation of the dual-purpose library project, in which a full-time librarian is appointed to manage school media center, similar to the project in Cape Town (cf. 2.6.3).

5.2.4 Classification and arrangement of the media center resources

Findings

During the interview sessions some of the participants from both quintile sets (quintile 1 - 3 and quintile 4 - 5) confirmed that their resources in the media centers were processed according to the Dewey Decimal Classification (DDC) system (cf. 4.2.3.2). This implies that resources were easily accessible, organised, and ready to be utilised so that information-handling skills could be integrated into the schools' curricula. However, some schools (in quintile 1 - 3) had few resources, and the library committee members were unsure whether the resources were processed or not (cf. 4.2.3.2).

Conclusions

In schools where the resources are properly processed, learners can easily locate resources in the media center when doing their research work, like projects, assignments, and case studies. If resource are not processed in the media, it would be difficult for learners to locate books in the shelves, and that would result in learners either not doing their research tasks or be late for submission. In this situation, learners would never get an opportunity to develop their information-handling abilities.

However, in some quintile (1 - 3) schools with limited resources, and with uncertainty of whether they are processed or not, learners might struggle to get more information about the research topic. This would impact negatively on learners' information-handling abilities. Uncertainty regarding the processing of resources is not acceptable, as there is a possibility that resources might be wrongly processed. According to the study, incorrect processing may mislead learners when trying to locate resources in the media center to do their research tasks.

Recommendations

I recommend that after being processed, resources should be arranged numerically on the shelves according to DDC numbers affixed to the spines of the books, as highlighted in the literature review (cf. 2.7.1.3).

This shows that schools need a professional or full-time librarian to manage the media center. The appointment of full-time librarians could solve the problem, as they would then have enough time to process the resources.

However, in the absence of full-time librarians, the number of library committee members may be increased so that media center responsibilities may be shared between more people.

5.2.5 Utilisation of multi-media resources

Findings

The findings from the interview sessions show that learners from certain schools (quintile 4 - 5) utilised the multi-media resources for research purposes, but not as frequently as they should. In many cases they only used the resources once per term (cf. 4.2.3.3). This was verified during observation by the electronic attendance register (cf. 4.4.2.2). Again, in some of the schools visited for

observation (quintile 4 - 5), learners were utilising multi-media resources such as non-fiction, the internet, TV-video and periodicals, and they used the study area to work on their research tasks (cf. Figure 22). In addition, learners in some schools (quintile 1 - 3) utilised the media center almost every day (cf. 4.2.3.3), which helps learners to gradually learn and attain the needed skills.

Document analysis confirmed the utilisation of resources. One example is that the computerised circulation register indicated that each learner was allowed to borrow more than three resources for at least 14 days (cf. Figure 3). That would give learners sufficient time to access enough information to complete their tasks. For this reason, the integration of information-handling skills seems to be possible.

The schools visited for document analysis did not show the utilisation of multi-media resources in their lesson plans (cf. 4.3.2.1; Figure 5). They were expected to indicate any resources used apart from the formal learning and teaching support material (LTSM), an aspect which is highlighted in the literature review (cf. 2.4.3.1). This implies that teachers may not have utilised multi-media resources while teaching. This imposes a risk of not exposing learners to the process of integrating information-handling skills into curriculum while they still have a chance to practise it before they reach a tertiary institution.

Learners' research tasks, as another analysed document, do however indicate the utilisation of resources mentioned in the reference list/bibliography. The learners only used one type of resource per research task, such as only internet resources or only books (cf. Figures 11 and 12). Although this is not optimal, at least the learners were using a resource, although one would like to see better utilisation of all the resources in the media center.

The findings from the document analysis shows that when teachers were giving research tasks to learners, they used multi-media resources. However instead of giving learners a research question on which to do a case study, the teacher used a copy of an existing case study and constructed questions on it (cf. 4.3.2.2). This is a concern as the source was not acknowledged, and this implies that the existing case study was used in the place of a textbook or a teacher's copy.

Likewise, during document analysis, the learners were found cutting and pasting pictures of the relevant information in their assignments, projects, and case study tasks (cf. 4.3.2.2) when utilising multi-media resources.

Conclusions

Learners from some of the schools (quintile 1 - 3 and 4 - 5) utilised multi-media resources, but some did not utilise resources frequently. The possibility is that learners were not given research tasks for all of their subjects by their respective teachers, as learners were found to visit the media center only once per term for research tasks. This is bad, as learners were not given enough chance to develop their information-handling skills. The implication is that they would be promoted to the next grade, and ultimately to the university level without having exposed to information-handling processes. The utilisation of resources by learners was evidenced by the circulation registers, in either manual or electronic format, as well as in research tasks, such as assignments, projects and case studies.

The unavailability of evidence in some teachers' lesson plans implies that they may not be utilising multi-media resources in the classroom context as expected (cf. Figures 6 and 7). This is bad as they were denying themselves a chance to develop their information-handling skills.

Both teachers and learners were cutting and pasting information and pictures, and they utilised these without acknowledging the sources. This shows that multi-media resources were utilised to replace MMR instead of supplementing them. This implies that both teachers and learners were lacking analysing skills (cf. 2.7.3.1).

Recommendations

The use of multi-media resources is dependent on teachers frequently giving learners research tasks, preferably once a week rather than once per term. This is supported by the fact that learners are assessed formally on the content of all subjects, including for tasks like assignments, projects, and other research tasks, as their promotion to the next grade depends on it (cf. 2.3). In addition, Section 6.2 of the National Curriculum Statement-Curriculum Assessment Policy Statement (Department of Basic Education (DBE), 2021b:70) emphasises that learning should enable learners to have access to and handle information for learning across the curriculum and in a broad spectrum of other contexts. (cf. 1.1). For this reason, learners need to access and refer to all types of resources in the media center, and not just to a single type of resource.

Teachers should refer to the National Recovery Annual Teaching plan, which provides an option for the use of multi-media resources such as newspapers, television, radio and magazines by both teachers and learners (cf. 4.3.2.1; Figure 5). This is also confirmed by the National Protocol for Assessment for Grades R – 12, which states that teachers' lesson plans should indicate the use of resources, apart from LTSMs (cf. 2.4.3.1).

As explained in the literature review (cf. 2.4.3.2), the teacher should supply learners with topics on which they can base a case study, according to the Amended FET CAPS (Department of Basic Education (DBE), 2021b:42).

The study highlights that multi-media resources (MMR) should be used to supplement learning and teaching resources material (LTSM), not to replace it (cf. 2.7.2.2). In addition, the study briefly explained how plagiarism can be avoided (cf. 2.7.3.2) and how the reference list/bibliography should be written (cf. 2.7.3.3). The analysing skills includes the following activities, they need to scan and skim resources, understand the content, compare and contrast the gathered information, and take notes to keep record; digesting and interpreting information; creating or constructing own knowledge on the topic, and avoid plagiarism. In addition, Learners must be collaboratively taught by teachers and the librarian or committee members of the media center on how to acknowledge sources and cite them correctly and compile a reference list.

5.2.6. Assistance provided in the media center

Findings

Most of the quintile 1 - 3 schools visited for interview sessions confirmed that they helped learners to locate books in the media center by either looking for the books on the shelves on behalf of learners, or literally leading learners to the shelves and guiding them to locate books (cf. 4.2.3.7).

This was confirmed during observation in quintile 4 - 5 schools, where most learners visited the media center in groups. Some learners were assisted individually by the librarian to literally search for books on the shelves (cf. 4.4.2.2). The reason might be that learners were not familiar with DDC codes, or that they were not sure which books might contain their needed information.

Conclusions

Some of the teachers were able to help learners to access resources, they were just literally looking at the shelves and hoping to find books on a specific topic, as books were processed according to DDC numbers (cf. 4.2.3.9). This is not wrong, but it is time-consuming. This may be disadvantageous to learners who have assignments or any research work to do, since they normally have submission dates and deadlines. In addition, it would be a workload for the teacher if all learners from different classes need assistance at the same time.

Recommendations

The study recommends that schools should make their resources accessible through the media center catalogue, whether a manual or electronic catalogue. This means that after the librarian or the media center committee member had classified books by assigning DDC numbers, they should catalogue them according to author, title, subject and DDC code, as explained in the literature review (cf. 2.7.3.1). Both learners and teachers should therefore receive instruction on how to effectively use the media center catalogue to find relevant resources. Therefore, all schools must have either an electronic/computerised library administration system or a manual system, media center to facilitate access by both teachers and learners.

Teachers should at least familiarise themselves with the DDC numbers of their subjects, so that they are able to advise learners on how to locate resources independently of the librarian for research projects.

5.2.6 Resources used are relevant to the research topic

Findings

The findings from the document analysis, regarding learners' research tasks, indicate that the resources used were relevant to the topic (cf. 4.3.3.4). However, due to the absence of citations and incomplete information in the reference list/bibliography in some learners' research work in both sets of quintile schools, the relevance of the topic was checked in the pictures attached to learners' research work. Most of the schools visited for interviews (both sets of quintiles) confirmed that resources in their media centers supported curriculum, but that these were outdated (cf. 4.2.3.5).

Conclusions

The relevance of resources to the curriculum benefitted learners to find useful resources for their assignments, projects, and case studies, and the resources they used were relevant to the research topic the teachers gave them. However some of the resources were old and outdated.

Recommendations

Teachers and the media center committee members should collaborate to weed out all the obsolete resources from the media ceter.

5.2.8 Research ethics

5.2.8.1 Avoiding plagiarism

Findings

During the interview sessions, most of the librarians stated that teaching learners about plagiarism was the responsibility of the teachers. They further said that teachers might have taught the learners about plagiarism in the classroom when the assignments were handed out (cf. 4.2.3.4). However, document analysis revealed that the learners' research work contained no references, nor any quotation marks for direct quotes (cf. 4.3.3). They would rather cut pictures from a resource and then paste it into their assignment. Most of the learners did not understand how bibliographic information should be captured. In addition, some of the learners confused the reference list/bibliography with the table of contents.

Conclusions

Learners' research work did not indicate citations or quotation marks for direct quotes. The librarians or library committee members did not teach them, as they thought it to be the responsibility of the teachers. The implication is that learners would be promoted to the next grade until they move to a tertiary institution without knowledge of plagiarism and the necessary information-handling skills. This situation therefore confirms the research problem of this study, as stated in Chapter 1 (cf. 1.2).

Recommendations

This issue can be prevented if librarians or library committee members work together with teachers. This indicates one of the implications of a lack of collaboration between teachers and librarians or library committee members to integrate information-handling skills (cf. 2.4.1).

It is crucial for all teachers and media center staff to be knowledgeable about information-handling skills, as this is their area of responsibility. It was argued in the literature review that learners cannot successfully complete their projects if they are not conversant with information-handling skills (cf. 2.4.1).

5.2.8.2 The structure of research tasks

Findings

The document analysis show that some of the learners' projects given by the teachers contained either very few research questions or no research questions at all (cf. 4.3.2.2). The few research questions present had a very low mark allocation (cf. Figure 9). In addition, some of the teachers provided guidance to learners that was incorrect, for example guidance about the structure of a research task (cf. Figure 13). Learners were instructed to start with the introduction, followed by the table of contents, then the conclusion and the reference list/bibliography. The learner's work was organised as instructed, and as a result the marks were allocated (cf. 4.3.3.6). This was a concern to the study, and this indicated that the teacher may need more expertise concerning the integration of information-handling skills.

In addition, the document analysis (cf. 4.3.3.6) also shows that most of the learners' research tasks had a table of contents that was not written correctly, and it was confused with the index. Despite this, the marks were allocated by the teacher (cf. Figure 14), as was the case when the table of contents was confused with the reference list/bibliography (cf. Figure 15)

Conclusions

Some of the learners received projects with either few or no research questions at all. Again, the projects with few research questions were allocated very few marks. The concern is whether the research question with a very low mark allocation (two

marks) would have an impact on learners' information-handling skills. The sad reality is that the poor learners would never be motivated to utilise multi-media resources due to very low mark allocation.

In addition, some teachers lack information regarding the structure of the research work, as the table of contents was confused with the index and reference list/bibliography in a few cases. The fact that some teachers allocated marks to the wrong learner responses is a concern. The sad reality is that those learners could be promoted to the next grade and ultimately to the university level with that wrong information.

Another concern is the fact that teachers provided learners with guidance that was misleading and then they allocated marks for it. This implies that teachers lack expertise regarding information-handling skills. The sad reality is that learners perceive teachers as their role models, so the possibility is that learners would imitate and apply that wrong information until they move to the tertiary institution.

Recommendations

The literature review highlighted the structure of the research work, specifically about the table of contents (cf. 2.7.3.3) and the reference list (cf. 4.3.3.2). Again, the amended FET CAPS highlight that a project should be an investigative task (cf. 2.4.3.2). This means that learners are expected to conduct research when doing a project. The literature review clarified the expectations for such a project (cf. 2.4.1). For example, the (Department of Basic Education (DBE), 2012:31) recommends that learners need to be ready and be engaged in the information-handling activities before they are engaged in research projects. In

addition, DBE in NCS Abridged Section 4: FET Grade 10-11 CAPS Amendments (2020b:7), emphasises that learners should apply the knowledge they have acquired in the classroom when they do research tasks.

5.2.9. Collaboration between the librarian and teachers on selection of MMR and planning of research work

Findings

The interview session showed that there was little collaboration between librarians and teachers to plan learners' research work. One outcome of this was confusion about the responsibility for learner instruction on plagiarism (cf. 4.2.3.4). If neither the librarian/library committee member nor the teachers take responsibility of coaching learners about plagiarism, it will negatively affect the learners. The interview session also revealed that some of the participants claimed that they had contacted teachers and requested input when the need arose. (cf. 4.2.3.1). Consulting teachers first could be the initiation stage of a successful collaboration with teachers.

Conclusions

Limited collaboration between librarians or library committee members and teachers will have an impact on learners. For example, learners were not taught about plagiarism, as some librarians/library committee members wanted to shift this responsibility to teachers. On the other hand, some of the participants indicated they selected resources for their media centers in collaboration with teachers.

According to this study, the suitability of resources for the media center is crucial (cf. 2.6.2.3). This highlights the importance of the involvement of teachers to ensure that resources support the school's curriculum and meet the needs of both teachers and learners, including learners' hobbies and recreational activities. Learners would be equipped with general knowledge, and be able to participate in debate competitions, for example. Teachers also need multi-media resources in the media centers for lesson plan preparations and their own subject development. This ensures that content areas are enriched using a range of suitable resources, both in print and digital.

Recommendations

Establishing better collaboration could be initiated by the librarians or library committee members by meeting the teachers to discuss and agree on research tasks given to learners, considering the availability of relevant resources in the media center. According to the amended FET CAPS (Department of Basic Education (DBE), 2021b:9) learners should be informed of relevant resources to complete their research projects (cf. 2.4.3.2).

Regarding the selection of resources, this study would like to recommend that the school librarians or school library committee can start the integration process by first designing an anonymous survey to obtain feedback from all Heads of Departments (HODs) about the relevance of the library collection in terms of subjects/learning areas offered by the school (cf. 2.5). The joint efforts of developing the school media center collection based on the curriculum of the school may lead to the enhancement of teaching and learning.

5.3 The proposed model: Information-handling skills (IHS) model

Table 2: Information-Handling Skills (IHS) enhancement model

Stages to be followed	Key issues	Findings	Strategy
<p>1. Media center readiness (Preparing for the integration of information-handling skills)</p>	<p>Availability of the media center</p>	<p>Structure: Some of the media centers visited for observation were custom-built, in good condition, and ready for use for information-handling skills integration. However, some were a classroom-sized media centers that may not be able to accommodate all suitable multi-media resources, as is the case with a custom-built media center.</p>	<p>Consider custom-built media centers: The study recommends that all schools (quintile 1 - 3 & quintile 4 - 5) should consider custom-built media centers, as they would be able to accommodate all suitable resources to support the curriculum of the school. According to Section 13(i) of DBE's Regulations Relating to Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013: 7), a media center in every South African school must have a suitable collection as a core area (cf. 2.3). The suitability of resources enables the integration of information-handling skills.</p> <hr/> <p>Existing classroom-sized media centers:</p>

			In the case of existing classroom-sized media centers, these should at least be sectioned to accommodate only the multi-media resources that would support their curriculum. They should weed irrelevant, unused and old resources, and be cautious about quantity, by avoiding the unnecessary duplication of titles.
	Non-availability of the media center	All of the visited schools had a media center, which is the first step in the process of preparing for the integration of information-handling skills. Therefore, a school without a media center will struggle with the integration of information-handling skills.	Schools without media centers: Schools without media centers should at least have access to a digital media center to help learners develop information-handling skills. However, learners without exposure to a traditional media center would struggle to utilise the media center at a tertiary institution. The latest National Curriculum Statement (NCS) emphasises active learning, which requires the utilisation of multi-media resources (print and digital) for information-based research tasks (cf. 2.7.1.2).
	Accessibility of the	In all schools visited for observation, no learner was seen	The media center should be situated in an accessible space on the school grounds.

	media center	struggling to access the media center due to physical inability. For this reason, they were all accessible.	Important aspects are architectural procedures, the size, and the position of the media center on the school premises, as highlighted in the literature review (cf. 2.7.1). A school may for example consider having ramps to accommodate differently abled users.
	Staff and responsibilities	Library committee members from some of the schools in quintile 1 - 3 could not balance their teaching responsibilities with also being a library committee member at the same time. This resulted in the non-allocation of a budget and non-execution of other duties in the media center. This implies mismanagement that might be caused by the lack of a management plan for the media center.	The library committee needs representatives from other teams at school, apart from teaching staff. Those members should be fully committed to the task. Chapter 3 of the National Guidelines for School Library and Information Services (DBE, 2012:11) recommends that the school library committee, with representation from the School Management Team (SMT), teachers and School Governing Body (SGB), should draft a school library policy to ensure that the media center services are well planned and budgeted for. All members must be committed to provide their full support. The involvement

			of the School Governing Body (SGB) in the library committee may influence the SMT and other members of the SGB to allocate a budget for the media center, as they may better understand the needs of the media center (cf. 2.7.2.1).
	Staff qualifications and knowledge about information-handling skills	Most of the library committee members did not have library qualifications and did not know about information-handling skills.	I would like to recommend that the DBE continues with the dual-purpose library project, in which a full-time librarian is appointed to manage school media centers. This project was initiated in Cape Town, as explained in the literature review (cf. 2.6.3).
	Staff training		Secondly, experts could assist schools by training teachers and other library committee members on the integration of information-handling skills and then continuously monitor the implementation of the training. The checklist (cf. Appendix G), interview questions (cf. Appendix H) and observation sheet (cf. Appendix I) may be used as monitoring tools during school visits.

	<p>Outdated multi-media resources.</p>	<p>Outdated multi-media resources: The findings indicated that some of schools visited for interviews had resources that were relevant and supported curriculum, but many resources were outdated (cf. 4.2.3.5). This is not necessarily detrimental to the integration of information-handling skills into the curriculum, because learners can still get information for their research work in the learning areas taught by the school, but resources should also be relevant to the current period.</p>	<p>In addition, this study recommends that schools may weed outdated multi-media resources to provide a space for updated multi-media resources, when they have the budget for it. In addition, they must analyse the needs of the media center, and that will help them to identify which non-fiction resources to purchase to meet the needs of both teachers and learners (cf. 2.7.1.2).</p>
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	<p>Unsupported learning areas by MMRs</p>	<p>Inadequate multi-media resources:</p> <p>In addition, some schools had few resources that supported the curriculum, and these could not cover all the learning areas taught at schools (cf. 4.3.3.5). This is unfortunate, as the possibility exists that learners would get inadequate information for their research topics, and this would therefore impact negatively on learners' performance.</p>	<p>Schools need to allocate a budget to purchase multi-media resources such as books (fiction, non-fiction and reference works), audio cassettes, audio-visual resources, computers (internet and email access), print media, pamphlets, periodicals (magazines, newspapers, etc.), posters and charts (cf. 2.7.1.2) that would support learning areas and languages taught at the school. Resources should also support the extra-mural activities of schools. As explained in the literature review, an annual budget allocation helps to improve the media center collection. In Gauteng province, for example, schools allocate 10% of their annual LTSM budget to purchase media center resources (cf. 2.7.2.3).</p>
	<p>No collaboration</p>	<p>Collaboration to select resources:</p> <p>Some librarians or library committee members did not collaborate with teachers to select resources for the media center.</p>	<p>Collaboration for the integration of information-handling skills is recommended by the DBE (cf. 2.4 & 2.6.4). It worked well in a number of Australian schools, where they developed the library collection as a team (cf.</p>

			<p>2.5). This collaboration is necessary to ensure the suitability of resources for the media center (cf. 2.6.2.3), to ensure that resources support the school’s curriculum, that resources meet the needs of both teachers and learners, and that resources also cover learners’ hobbies or recreational activities. Teachers also need multi-media resources in the school’s media center for lesson plan preparations and their own subject development. This ensures that content areas are enriched using range of suitable resources, both in print and digital.</p>
	<p>Implications for non-collaboration</p>	<p>Non-collaboration: Limited collaboration of librarians or library committee members with teachers has a negative impact on learners. Learners were for example not taught about plagiarism, as some librarians/library committee</p>	<p>The literature review (cf. 2.6.1) highlighted that it is the responsibility of the school library committee to manage the functionality of the school media center. This is emphasised in the National Guidelines (2012:22). The library committee should ensure that the policy of the school media center supports the goals of the school and the school curriculum. This is</p>

		<p>members were shifting this responsibility to the teachers.</p>	<p>highlighted in Chapter 10 of the National Guidelines for School Library and Information Services (DBE, 2012:33). Therefore, the policy should clarify who should teach learners about plagiarism.</p> <p>The study recommends that the school librarians or school library committee can start the integration process by first designing a survey to obtain feedback from all Heads of Departments (HODs) about the relevance of the library collection in terms of subjects/learning areas offered by the school. The joint efforts of developing the school media center collection based on the curriculum of the school may lead to the enhancement of teaching and learning.</p>
<p>2. Accessing skills (Accessibility of information)</p>	<p>Expected evidence from learners' research work: (Clarification of information search</p>	<p>Defining the research topic: Findings from the document analysis show that learners just cut and pasted pictures from existing sources into their research work.</p>	<p>This process could happen in the classroom as an interaction between the teacher and the learners. During this time, teachers may also brainstorm the topic with learners to either create several ideas or develop sub-topics.</p>

	to learners)	This also implies that they were not guided on how to find information relevant to their research by either the teacher or the librarian.	Learners may be advised on the use of media center resources like reference books, for example dictionaries and encyclopaedias to avoid confusion and introduce the topic clearly. They can also be guided on the use of relevant non-fiction resources in the media center.
	(Learners depending on the librarian for information)	The findings from the observation reveal that some learners were assisted individually by the librarian to literally go from shelf to shelf to search for books. This might be because learners were not familiar with DDC numbers, or they just did not know which books might contain their needed information. This is very time-consuming.	The study recommends that schools should make their resources accessible through the library catalogue (manual or electronic). This would mean that after the librarian or the library committee member had classified books by assigning DDC numbers, they should catalogue them, as explained in the literature review (cf. 2.7.3.1). Both learners and teachers should therefore receive instruction on how to effectively use the library catalogue to find relevant resources. The catalogue strategy was used by a school in America and it worked well. In that school, the librarians could search the school curriculum

			<p>database by keyword or skill and discover which information-handling skills were being addressed by individual teachers at different grade levels (cf. 2.6.2.1). Therefore, all schools should have either an electronic library administration system or manual cataloguing system so that the media center collection can easily be accessed by both teachers and learners.</p> <p>Teachers should familiarise themselves with the DDC numbers of their subjects, so that they are able to advise learners on how to locate resources independently of the librarian for research projects.</p>
	(Uncertainty regarding classification of resources)	Some library committee members were uncertain about the status of resource processing in their schools. Uncertainty implies that they may need either assistance or training, and there is a possibility that resources might be wrongly	<p>The appointment of full-time librarians by the DBE would solve the problem, as they would have enough time to process the resources, as seen in the dual-purpose media center project, as highlighted in the literature review (cf. 2.6.3).</p> <p>However, in the absence of full-time librarians,</p>

		<p>processed.</p> <p>According to the study, incorrect processing may mislead learners when locating resources in the media center to do their research tasks.</p>	<p>the number of library committee members may be increased to enable the sharing of media center responsibilities between them. They may include SGB members, for example, as explained earlier.</p>
	(Infrequent use of resources for research purposes)	<p>Learners visited the media center once per term.</p> <p>During the interview sessions, some participants confirmed that learners visited the media center for research purposes once per term only. The possibility is that learners were not given research tasks for all subjects by their respective teachers. This can delay the process for learners to practice and attain information-handling skills.</p>	<p>Increasing the use of multi-media resources depends on teachers frequently assigning research tasks to their learners. The observation was that tasks were assigned quarterly, and these could be increased to weekly research tasks. This is supported by the fact that learners are assessed formally on the content of all subjects. and the assessment is compulsory for formal assessment tasks like assignments, projects, and other research tasks, as learners' promotion to the next grade depends on it (cf. 2.3).</p>

	Evidence of borrowing	<p>Circulation register:</p> <p>The circulation register confirmed the utilisation of resources by learners. Such registers can be manual or electronic. In some instances, the registers could not provide all the information needed for the study, but they did show that each learner was allowed to loan more than three resources for at least 14 days (cf. Figure 3). That would give learners sufficient time to access enough information to complete their tasks. For this reason, the integration of information-handling skills seemed to be possible.</p>	<p>A circulation register can be either manual or electronic, as long as it shows the borrowers' details (name, ID number, grade), information about the borrowed resource (type, quantity, title, author, classification number, accession number/barcode), the lending period (issue date and return date), and the reason for borrowing.</p>
3. Analysing skills (Analysis of information)	<p>Expected evidence from learners' research work:</p> <p>(Relevance of used</p>	<p>Checking relevance of used resources to the research topic:</p> <p>The findings show that all media center resources were relevant to</p>	<p>Selection of relevant resources is important at this stage.</p> <p>Learners should scan and skim resources, understand the content, compare and contrast</p>

	resources to the research topic)	the research topic, and the stated facts corresponded to the research topic. However due to the absence of citations, the study had to look at the pictures cut from sources and attached to learners' work and had to also look at the reference list/bibliography to check the relevance of the resources to the research topic.	the gathered information, and take notes to keep record (cf. 2.7.3.2).
	Expected evidence from learners' research work: (Utilisation of multi-media resources (MMRs) to supplement and not to replace LTSM)	Some teachers replaced textbooks with MMRs, instead of using them as supplementary sources. For example, learners had to answer questions based on an existing case study. The study identified this as a challenge, as this mistake was passed onto learners, as they were also cutting and pasting information to their workbooks.	Most of the teachers might have misunderstood the idea of using other resources besides textbooks when teaching (cf. 4.3.2.1). This also relates to the National Recovery Annual Teaching plan (cf. Figure 5). As explained in the literature review (cf. 2.4.3.2), the teacher must supply learners with topics on which the case study can be based, according to the FET Grade 10 - 11 CAPS Amendment (Department of Basic Education (DBE), 2021b:42).

			<p>The study highlighted that multi-media resources (MMRs) should be used to supplement learning and teaching resources material (LTSM), not to replace them (cf. 2.7.2.2). In addition, the study briefly explained how plagiarism can be avoided (cf. 2.7.3.2) and how the reference list/bibliography should be compiled (cf. 2.7.3.3).</p>
	<p>Expected evidence from learners' research work: (Use of only one type of resource is not acceptable)</p>	<p>Some learners only used one type of resource per research task. They for example only made use of internet-based resources to complete the project/assignment, or only to books to complete the task (cf. Figures 11 and 12). This is not acceptable, as all the resources in the media center should all utilised.</p>	<p>At this stage, interpreting information is the key, where the student may interact with multiple sources in an attempt to argue for and against the topic, as highlighted in the literature review (cf. 2.7.3.2).</p> <p>Learners need to access and refer to all types of resources in the media center, and not only to one type. This is supported by Section 6.2 of the National Curriculum Statement-Curriculum Assessment Policy Statement (Department of Basic Education (DBE), 2021b:79), which emphasises that learning</p>

			should enable learners to have access to and handle information for learning across the curriculum and in a broad spectrum of other contexts (cf. 1.1).
	Expected evidence from learners' research work: (Creating own knowledge)	Learners' work showing citations to avoid plagiarism: Some of the learners' work show that they did not use their own knowledge in their research tasks, as information was cut and pasted onto their work, (cf. 4.3.2.2) when utilising multi-media resources.	Learners should focus on creating or constructing their own knowledge on a topic at this stage. Learners should contextualise information, formulate their own opinions about the topic, have an original interpretation, construct a logical argument, and create their own knowledge (cf. 2.7.3.2). In addition, the study briefly explained how plagiarism can be avoided (cf. 2.7.3.2) and how the reference list/bibliography should be compiled (cf. 2.7.3.3).



<p>4. Communication skills (Communication of information)</p>	<p>Expected evidence from teachers' lesson plans (Lesson plans show utilisation of MMRs)</p>	<p>Lesson plans showing the use of multi-media resources (cf. 4.3.2): There was no evidence that teachers utilised multi-media resources in the classroom context as expected, as their lesson plans did not indicate the utilisation of multi-media resources (cf. Figures 6 and 7). This implies that teachers may not have utilised multi-media resources whilst teaching. This imposes a risk of not exposing learners to the process of integrating information-handling skills into the curriculum whilst they still have a chance to practise it before they reach a tertiary institution.</p>	<p>Teachers should use multi-media resources whilst teaching, to gain experience in the integration of information handling skills, and this should be indicated in their lesson plans. This is clearly illustrated in the National Recovery Annual Teaching plan (cf. Figure 5), which provides an option for the use of multi-media resources such as newspapers, television, radio and magazines by both teachers and learners (cf. 4.3.2.1). It is also confirmed in the literature review, by the National Protocol for Assessment for Grades R - 12, that teachers' lesson plans should indicate the use of resources apart from LTSMs (cf. 2.4.3.1).</p>
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	<p>(Coherence: table of contents being confused with index or reference list/bibliography, but marks still allocated)</p>	<p>The table of contents in learners' research work was used to check the coherence of facts and ideas. The findings show that some of the teachers were uncertain about what a contents page should look like, or its purpose. For example, Figure 15 indicates that some projects started with an introduction, followed by the table of contents, which is structurally incorrect. In addition, the table of contents was confused with the reference list, but marks were nonetheless allocated by the teacher.</p>	<p>The index and the contents page are defined in Chapter 1. The table of contents should indicate a chapter or topic heading, with the correct page number, as explained in Chapter 1 (cf. 1.11). It was disconcerting to find that learners were awarded marks despite the confusion.</p>
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	<p>(Learners being provided with inaccurate instructions for research work)</p>	<p>The study checked if the research work was organised and correlated. The findings show that some teachers provided guidance to learners on how to structure and formulate their research tasks (cf. 4.3.3.6), and learners followed the instructions. This was done according to the DBE's recommendations that learners must be provided with guidance (cf. 2.4.2.2), so that they would know exactly what is expected of them. However, learners were given incorrect guidance (refer to Figure 13) and marks were allocated.</p>	<p>This teacher probably lacked expertise. The literature review in this study provides guidance in relation to the structure of learners' research work (cf. 2.7.3.3).</p>
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5.4 Correlation between the proposed model/approach and the conceptual framework

Table 3: Correlation between the proposed model and the conceptual framework

Defined concepts	Conceptual framework	Proposed model: Information-handling skills (IHS) enhancement model
Information handling skills 	<ol style="list-style-type: none"> 1. Finding 2. Locating 3. Using information effectively and efficiently 	<ol style="list-style-type: none"> 1. Media center readiness for integration of information-handling skills into the curriculum 2. Accessing skills 3. Analysing skills 4. Communication skills
South African Educational/ Curriculum Guidelines/Policies 	<ol style="list-style-type: none"> 1. National Guidelines for School Library and Information Services 2. FSDoE ELITS policy 3. Regulations relating to Minimum Uniform Norms and Standards for Public School Infrastructure 	National Guidelines for School Library and Information Services Amended FET CAPSs National Protocol for Assessment (Grade R - 12) The national Curriculum Statement (NCS): Curriculum and Assessment Policy Statement The National Policy on an Equitable Provision of an Enabling School Physical Teaching and Learning Environment Regulations relating to the Minimum Uniform Norms and Standards for Public School

		Infrastructure.
Multi-media resources 	Use of multi-media resources	Use of multi-media resources
Aim 	To discuss the insights that can be employed to improve information-handling skills of South African secondary school learners	To identify the insights that can be employed to improve information-handling skills of South African secondary school learners

5.4 Significance of the study

The study encourages teachers and learners to be able to access and utilise MMRs beyond LTSM as explained earlier (cf. 2.7.2.3), in order to possess information-handling skills. The study has revealed that the National Recovery Annual Teaching plan (Figure 5), to which teachers may refer when preparing their lesson plans recommends the utilisation of MMRs as supplementary resources to LTSM by all teachers in an everyday classroom context. Therefore, plagiarism should be avoided by all means.

Also revealed by the study is that learners' tasks such as assignments, projects, which should have a research question that would allow learners to access multi-media resources are compulsory for all subjects from grade 9-12 for promotion purpose. Therefore, it is advisable that these research tasks should be given to learners frequently to prepare learners for tertiary education. This will be an intervention to the study problem as highlighted in the problem statement of the study.

The allocation of marks to research tasks is crucial for the study, it is a way of motivating learners to interact more with multi-media resources. It is advisable that teachers should consider awarding higher marks for a research question, as they should be awarded for 'correct answer expected', the 'phrasing of the content/correct answer' and the 'citation' or 'acknowledgement of the owner of the used idea/source'. All of this information is worth more marks per research question.

To sustain the integration process of the information-handling skills into curriculum, there should be collaboration between the school's media center staff and the teaching staff. The school's media center staff should not be composed of only teaching staff, but non-teaching staff who are committed and eager to perform media center duties.

5.6 Limitations of the study

The research was limited regarding the number of documents, policies, and existing research studies. The collection of information from the existing literature was a challenge, as there is no National School Library Policy, which could be providing schools with guidance and recommendations regarding the integration of information-handling skills into the curriculum. In the school library sector, the only relevant document is the National Guidelines for School Library and Information Services, which does not offer much information on information-handling skills. The other documents and policies which this study refers to, for example, the National Protocol Assessment - Grade R to 12 (RSA, 2012), the Survival Guide for FET Phase CAPS (RSA, 2011), National Curriculum Statement-Curriculum Policy Statement (DoE, 2014), the Minimum Uniform Norms and Standards for Public School Infrastructure (RSA, 2013) and the NCS Abridged Section 4: Amended FET CAPSs are curriculum-based documents and policies, which do not make mention information-handling skills. As highlighted in Chapter 1 (cf. 1.1), there is no existing recent research study on the integration of information-handling skills into the curriculum, but the one on the integration of the school library into the curriculum was conducted in 2006.

The study intentionally did not interview teachers about their direct experiences regarding the integration of information-handling skills into the curriculum. In a simple way, one of the aims of the research was to assess the existing evidence in secondary schools regarding the integration of information-handling skills into the curriculum by both teachers and learners. The relevant data collection method to achieve this aim was document analysis. This consequently led to no direct involvement of teachers to address issues that had to do with their experiences. The research instead opted to solicit information from the

library. The study rather involved librarians to reveal the status of the media centers and challenges that teachers might be facing, so that those issues pertaining to teachers' experiences may rather be understood than explained. Therefore, the focus of the study was not on teachers addressing issues, but to address the causes of the issues.

The research was limited to schools that had media centers, as the literature review revealed the improbability of successfully integrating information-handling skills into the curriculum without organized and accessibly housed resources to support the curriculum. For this reason, the study purposely targeted Bloemfontein schools, as most of them had been resourced and supported through different projects, as mentioned in Chapters 1 and 3 (cf. 1.6.3; 3.5.1) of the study. The selection of the six participating schools from two quintile levels (quintile 1 - 3 and quintile 4 - 5) was since the targeted participants were expected to have experience on the integration of information-handling skills. The collected data would therefore cover all quintile levels, each with its own challenges regarding the integration of information-handling skills into the curriculum.

5.7 Suggestions for further studies

Information-handling skills are central to the National Curriculum Statement (NCS) for all grades, as it aims at producing learners that are able to gather, dissect, organise and critically assess information. Learners should also be able to effectively communicate it using visual, symbolic and language skills in several modes. This study revealed the challenges regarding the

integration of information-handling skills into the curriculum at the FET phase. I am interested to find out if GET is experiencing the same challenges.

5.8 Auto-biographical views

This study taught me several things, including multitasking, switching back and forth from personal responsibilities to work-related activities and then back to focus on my study. It taught me to multitask with passion, and it was not an easy journey for me to focus on my study whilst I had targets to achieve in my workplan. Self-discipline was my strength and it helped me to pull through. The journey from defending my title, the online ethics application, collecting data from schools during Covid-19 era and analysing it, was a long one. Above all, it was a positive experience.

At the professional level, the study has revealed a lot to consider in my position of rendering services to schools. It has also provided me, as a school media center advisor, with a different approach to advise, monitor and support schools in ensuring that information-handling skills are integrated into the curriculum. Although there is no published training manual for the integration of information-handling skills into curriculum, the training would be possible when I, as the trainer, refer to this study. I can also use the three data collection instruments, namely the checklist (cf. Appendix G), interview questions (cf. Appendix H) and the observation sheet (cf. Appendix I) as monitoring tools for the implementation of such training. Now that I am more knowledgeable and understand certain concepts better, I feel encouraged to go out there and make a difference.

It is also important to indicate how I experienced the research process. It was an enriching experience. The research process was an amazing experience, and my curiosity was satisfied. I experienced some wow-moments when gaining insights that I was not aware of before. Out of the three data collection approaches I employed, the document analysis was the most interesting to me, when the true situation hit me between the eyes. It felt like a 'moment of truth' that I was not expecting. It was an eye-opener for me, as I realised just how much work waited ahead!

As a Mathematics teacher, it was quite an amazing experience to construct phrases. It was a learning curve to understand that writing facts down on paper seems easy, until you put it into practise. I learnt that even if you have an idea, phrasing it on paper is a different story. It always sounds different, depending how you phrase it. Every detail needs a lot of thinking.

Thinking: This study stretched my mind beyond my imagination and taught me to think critically and analyse everything to find a new and better version of the findings.

Problem solver: I have learnt to take everything that may seem to be a problem as a challenge and see possibilities to solve these at all costs.

5.9 Conclusions

There is a need for qualified full-time librarians in the media centers of secondary schools. A qualified full-time librarian alone, however, cannot make a difference as expected if resources in the media center are either insufficient or do not support the curriculum. Collaboration between teachers and the librarian is crucial.

It is impossible to integrate information-handling skills into the school's curriculum if the media center is not ready. Hence, the process should start with the preparation of the media center (cf. 5.3).

The process of teaching and learning is at the core of the whole process of information-handling skills integration. It is affected by the following factors: subject content, teachers' lesson planning, formal assessment of content, learners' research tasks, relationship between curriculum delivery and the school's media center, as well as the interaction between teaching staff and media center staff.

The success of the integration of information-handling skills into the curriculum of secondary schools depends on the mentioned factors.

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APPENDICES

Appendix A – Approval letter from the DoE to conduct research

Enquiries: MZ Thango

Ref: [Research Permission: B. Nuku education](#)

Tel. 082 537 2654



Department Of Education Email: MZ.Thango@fseducation.aov.za FREE STATE PROVINCE

9 Verster Street Kings Chase 10

Universitas, Bloemfontein 9300

Dear Ms. B. Nuku:

PERMISSION TO CONDUCT RESEARCH IN THE FREE STATE DEPARTMENT OF EDUCATION: MOTHEO DISTRICT

This letter serves to inform you that you have been granted permission to conduct research in the Free State Department of Education within the Motheo Education District. The details in relation to your research project with the University of the Free State are as follows:

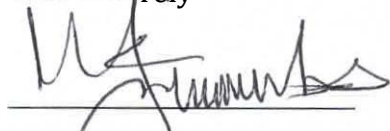
Topic: The integration of information-handling skills into the South African secondary school curriculum.

1. List of schools involved: Grassland secondary school, Grey College secondary school, Kagisho secondary school, Sehunelo secondary school, St Andrews secondary school and St Michaels secondary school.

2. Target Population: One Library Committee member per school, four teachers teaching Business Studies, Social Science, Economics and Languages and learners doing grades 9 to 12 at the selected schools.
3. Period of research: From the second week of February 2022 until 30 September 2022. Please note that the department does not allow any research to be conducted during the fourth term (quarter) of the academic year, Should you fall behind your schedule by three months to complete your research project in the approved period, you will need to apply for an extension. The researcher is expected to request permission from the school principals to conduct research at schools.
4. The approval is subject to the following conditions:
 - 4.1 The collection of data should not interfere with the normal tuition time or teaching process.
 - 4.2 A bound copy of the research document should be submitted to the Free State Department of Education, Room 101, 1st Floor, Thuto House, St. Andrew Street, Bloemfontein or can be emailed to the above-mentioned email address,
 - 4.3 You will be expected, on completion of your research study to make a presentation to the relevant stakeholders in the Department.
 - 4.4 The ethics documents must be adhered to in the discourse of your study in our department

Please note that costs relating to all the conditions mentioned above are your own responsibility.

Yours Sincerely



Mr. MZAMO W. JACOBS
DIRECTOR: QUALITY ASSURANCE, M&E

Mr. M
AND STRATEGIC PLANNING

DATE: 10/11/2021

RESEARCH APPLICATION BY B. NUKU, PERMISSION LETTER 09 NOVEMBER 2021. MOTHEO DISTRICT

Strategic Planning, Research & Policy Directorate Private Bag Bloemfontein, 9300 - Thuto House, Room 101, 1st Floor, St Andrew Street, Bloemfontein, www.fsdoe.fs.gov.za

Appendix B – Ethics Approval letter:



GENERAL/HUMAN RESEARCH ETHICS COMMITTEE (GHREC)

17-Mar-2022

Dear Ms Bomkazi Nuku

Application Approved

Research Project Title:

The integration of information-handling skills into the South African secondary school curriculum

Ethical Clearance number: **UFS-HSD2020/1825/22**

We are pleased to inform you that your application for ethical clearance has been approved. Your ethical clearance is valid for twelve (12) months from the date of issue. We request that any changes that may take place during the course of your study/research project be submitted to the ethics office to ensure ethical transparency. Furthermore, you are requested to submit the final report of your study/research project to the ethics office. Should you require more time to complete this research, please

apply for an extension. Thank you for submitting your proposal for ethical clearance; we wish you the best of luck and success with your research.

Yours sincerely

Dr Adri Du Plessis

Chairperson: General/Human Research Ethics Committee

Bloemfontein 9301 South Africa
P.O. Box 339
Bloemfontein 9300
Tel: +27 (0)51 401 9337 duplessisA@ufs.ac.za www.ufs.ac.za

05 Nelson Mandela
Drive
Park West



Appendix C- Request letter to the principal:

9 Verster Street
Kings Chase 10
Universitas
Bloemfontein
9301
18/03/2022

The Principal
Dept of Education
Motheo Education District
Bloemfontein

Dear Sir/Madam

REQUEST LETTER TO CONDUCT RESEARCH AND INFORMATION LEAFLET FOR RESEARCH

DATES OF THE RESEARCH

Date of research project: April 2022

TITLE OF THE RESEARCH PROJECT

The integration of information-handling skills into the South African secondary school curriculum

PRINCIPLE INVESTIGATOR / RESEARCHER(S) NAME(S) AND CONTACT NUMBER(S):

FACULTY AND DEPARTMENT:

*Faculty of Education
Department of Education*

WHAT IS THE AIM / PURPOSE OF THE STUDY?

The aim is to identify the insights that can be employed to improve information-handling skills of South African secondary school learners. I am conducting the study to achieve the following objectives:

- ☐ to conceptualize information-handling skills in a South African context;*
- ☐ to explore South African policy guidelines concerning information-handling skills;*
- ☐ to assess challenges and evidence for the integration of information-handling skills by secondary school teachers and learners;*
- ☐ to explore the present secondary teacher practices that aim at developing information-handling skills;*
- ☐ and to propose strategies to adequately develop information-handling skills in secondary schools.*

WHO IS DOING THE RESEARCH?

The researcher is Bomkazi Nuku, who is working at the Department of Education in the Motheo Education district under the section called ELITS section to support schools on the establishment and functionality of their libraries. I am doing this study in partial fulfillment of the requirement of the PhD Degree in Curriculum with the University of the Free State. This research is necessary because the existing research proves that Information-handling skills do not receive the desired attention in some secondary schools. Possible reasons have been outlined, namely, the teachers lack of knowledge on information-handling skills, the lack of school librarians and the fact that there is no document to guide the teachers concerned. The implication is that learners in South African secondary schools are still struggling to adequately develop Information-handling skills (Neerpath, 2014:78-79). Also, the existing research shows that the undergraduate students are still not prepared for tertiary education, as “they lack reading, writing and information-handling skills” (Hart and Davids,2010: 4). Despite the publication of the National Guidelines for school libraries (DBE, 2012), there is still a gap as training manual on information-handling skills for teachers is lacking. This study aims to address the insights on step by step stages of the integration of information-handling skills.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

Approval number: UFS-HSD2020/1825/22

WHAT ARE THE POTENTIAL BENEFITS IN THIS STUDY?

The study, with the information got from the participants (schools) may:

- Potentially bring expertise and awareness to all departments and institutions with a library section (Department of Education, Arts and Culture, Tertiary institutions etc.) about importance and practice of the integration of information-handling skills into curriculum.
- Provide a general description of the update regarding the integration of information-handling skills into curriculum in secondary schools in the Free State. This will slightly reaffirm the policy directives for relevant stakeholders in the Free State Department of Education (FSDoE) to assess the situation concerning the implementation of the policies in both curriculum and ELITS sections.
- Additionally, it provides possible causes that could hamper or promote the integration of information-handling skills into curriculum in South African schools.
- Also expand on the experiences of other countries that could contribute to address issues affecting the integration of information-handling skills into curriculum.
- Lastly, it could also assist all stakeholders at the district level to be aware of the challenges faced by schools, in order to learn how they can better assist in making sure that information-handling skills are integrated successfully by schools at all levels.

Research Procedure:

On the first day of data collection, a library committee member or a librarian will be interviewed to get a sense of the situation as well as the challenges the schools might be facing, regarding the integration of information-handling skills into curriculum. He or she will be asked questions like: Do you work with teachers to encourage learners to have reference list/ bibliography and citation in their research work? Do you inform learners about plagiarism? Does your school library has resources that support all subjects? ; Do you think your library resources are suitable for your learners, in terms of age, grade and learning areas? Etc. The interview session will take only 30 minutes.


On the second day of data collection, that is, the week after the interviews, the Business Study teacher, Social science teacher, Economics teacher, any language teacher and the library committee member will be requested to only provide the following: (i) lesson plan and (ii) learner's assignment book or any research-work to check bibliographic information. A library committee member will be asked to provide the (iii) evidence for circulation or loaning of library resources by learners. These documents will be analysed and returned back after 30 minutes.

Thereafter, learners will be observed in the library for 30 minutes on how they access and retrieve library resources.

We will keep the information the school provides during the research process confidential. There are no known risks from being in this study.

Thanking you in advance,

Bomkazi Nuku

Signature: 

I have received a signed copy of the Research information and I understand and allow the Researcher, Ms Nuku to conduct the research at my school.

Full Name of School Principal: _____

Signature of the School Principal: _____ **Date:** _____

I have received a signed copy of the Research information and I understand and allow the Researcher, Ms Nuku to conduct the research at my school.

Full Name of School Principal: _____

Signature of the School Principal: _____ **Date:** _____

Appendix D- Consent letter to the participants

9 Verster Street
Kings Chase 10
Universitas
Bloemfontein
9301
18/03/2022

The Participant
Dept of Education
Motheo Education District
Bloemfontein

Dear Sir/Madam

RESEARCH STUDY INFORMATION LEAFLET AND CONSENT LETTER

DATES OF THE RESEARCH

Date of research project: April 2022

TITLE OF THE RESEARCH PROJECT

The integration of information-handling skills into the South African secondary school curriculum

PRINCIPLE INVESTIGATOR / RESEARCHER(S) NAME(S) AND CONTACT NUMBER(S):

Bomkazi Nuku

0784530194

FACULTY AND DEPARTMENT:

Faculty of Education

Department of Education

WHAT IS THE AIM / PURPOSE OF THE STUDY?

The aim is to identify the insights that can be employed to improve information-handling skills of South African secondary school learners. I am conducting the study to achieve the following objectives:

to conceptualize information-handling skills in a South African context;

to explore South African policy guidelines concerning information-handling skills;

to assess challenges and evidence for the integration of information-handling skills by secondary school teachers and learners;

to explore the present secondary teacher practices that aim at developing information-handling skills;

and to propose strategies to adequately develop information-handling skills in secondary schools.

WHO IS DOING THE RESEARCH?

The researcher is Bomkazi Nuku, who is working at the Department of Education under the section called ELITS section to support schools on the establishment and functionality of their libraries. I am doing this study in partial fulfillment of the requirement of the PhD Degree in Curriculum with the University of the Free State. This research is necessary because the existing research proves that Information-handling skills do not receive the desired attention in some secondary schools. Possible reasons have been outlined, namely, the teachers lack of knowledge on information-handling skills, the lack of school librarians and the fact that there is no document to guide the teachers concerned. The implication is that learners in South African secondary schools are still struggling to adequately develop Information-handling skills (Neerpath, 2014:78-79). Also, the existing research shows that the undergraduate students are still not prepared for tertiary education, as “they lack reading, writing and information-handling skills” (Hart and Davids,2010: 4). Despite the publication of the National Guidelines for school libraries (DBE, 2012), there is still a gap as training manual on information-handling skills for teachers is lacking. This study aims to address the insights on step by step stages of the integration of information-handling skills.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher.

Approval number: UFS-HSD2020/1825/22

WHY ARE YOU INVITED TO TAKE PART IN THIS RESEARCH PROJECT?

The study employed random purposive sampling in order to select 2 or more participants with experience on information-handling skills (Draper, 2013: 4). For this reason, 4 teachers and 1 teacher that is also library committee member from any secondary schools that has a media center, were selected. Since the study made it clear that information-handling skills' integration is possible where there is a media center. The study will be conducted in Bloemfontein, as the majority of primary schools had been prioritized to benefit from many projects, e.g. MEC's schools project, Revitalization of libraries and Reading project, the expired ETDP-SETA Library Internship project, Dual-purpose library project etc. where primary schools received either donation of books or librarian-interns. The concern is whether secondary schools have benefitted in any of these projects. However, the Free State Department of Education (FSDoE) had built media centers in the majority of secondary schools in the whole Motheo Education district. By virtue of your school having the media center with resources implies that you meet the criteria, as described above and therefore qualify to participate in this study.

WHAT IS THE NATURE OF PARTICIPATION IN THIS STUDY?

A Library committee member will participate on interviews for 30 minutes. Then on the following week, document analysis process will be employed and your role, as a teacher is to just provide your lesson plan and 2 assignments from your 2 learners. The library committee member's role is to provide the circulation register. These documents will be analyzed for 30 minutes to check evidence on the utilization of multi-media resources. Afterwards, the learners will be observed in the library.

CAN THE PARTICIPANT WITHDRAW FROM THE STUDY?

Your participation in this study is voluntary and that you will not be charged for not participating. However, your commitment is of great value to the study, as the Department of Education and other institutions with libraries may benefit from your contribution. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. Withdrawal from the study after signing the commitment form is not appreciated even though no charges might be laid.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Your participation is valuable and the information you provide will be shared with the University of the Free State and the Department of Education, however your identity will be presented as anonymous. Here are the possible benefits of the study: The study will potentially bring expertise and awareness to all Departments and institutions with a library section (Department of Education, Arts and Culture, Tertiary institutions etc.) about importance and practice of the integration of information-handling skills into curriculum. To provide a general description of the update regarding the integration of information-handling skills into curriculum in secondary schools in the Free State. This will slightly reaffirm the policy directives for

relevant stakeholders in the Free State Department of Education (FSDoE) to assess the situation concerning the implementation of the policies in both curriculum and ELITS sections. Additionally, it provides possible causes that could hamper or promote the integration of information-handling skills into curriculum in South African schools. Also expand on the experiences of other countries that could contribute to address issues affecting the integration of information-handling skills into curriculum. Lastly, it could also assist all stakeholders at the district level to be aware of the challenges faced by schools, in order to learn how they can better assist in making sure that information-handling skills are integrated successfully by schools at all levels.

WHAT IS THE ANTICIPATED INCONVENIENCE OF TAKING PART IN THIS STUDY?

Participants may not be more open about information as expected, more especially when the conditions are not good. They don't want to be taken as "irresponsible", so they try to protect themselves by hiding some information. To avoid this, I will explain openly from the beginning the purpose of the study and how they may benefit from the study. There is no foreseeable injury or harm in the study.

WILL WHAT I SAY BE KEPT CONFIDENTIAL?

Your name will not be recorded, anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings. Identify who will have access to the data (transcriber/external coder) and how these individuals will maintain confidentiality (e.g. by signing a confidentiality agreement). Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records. Your anonymous data may be used for other purposes, e.g. research report, journal articles, conference presentation, etc. Privacy will be protected in any publication of the information. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report).

HOW WILL THE INFORMATION BE STORED AND ULTIMATELY DESTROYED?

Hard copies of your observation sheets, document analysis and interview records will be stored by me, the researcher for a period of five years in a locked cupboard/filing cabinet in my office for future research or academic purposes; electronic information will be stored on a password protected computer and CD. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. When the hardcopies are no longer in use, they will be burnt so that no one can ever access them. There are no foreseeable risks to the participants.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

No payment or reward will be offered. You will not be expected to spend any funds, including the travelling costs, as the researcher will visit you at your school.

HOW WILL THE PARTICIPANT BE INFORMED OF THE FINDINGS / RESULTS OF THE STUDY?

If you would like to be informed of the final research findings, please contact <Bomkazi Nuku> on <0784530194> or email<Bomkazinuku7@gmail.com>. The findings are accessible for <4pm-6pm>. Should you require any further information or want to contact the researcher about any aspect of this study, please contact <0784530194> or email<Bomkazinuku7@gmail.com >.Should you have concerns about the way in which the research has been conducted, you may contact <0516541457, NtsalaSA@ufs.ac.za> No potential discomfort nor risks of harm to the potential participants.

Research Procedure:

On the first day of data collection, a library committee member or a librarian will be interviewed to get a sense of the situation as well as the challenges the schools might be facing, regarding the integration of information-handling skills into curriculum. He or she will be asked questions like: Do you work with teachers to encourage learners to have reference list/ bibliography and citation in their research work? Do you inform learners about plagiarism? Does your school library has resources that support all subjects? ; Do you think your library resources are suitable for your learners, in terms of age, grade and learning areas? Etc. The interview session will take only 30 minutes.

On the second day of data collection, that is, the week after the interviews, the Business Study teacher, Social science teacher, Economics teacher, any language teacher and the library committee member will be requested to only provide the following: (i) work plan and (ii)

learner's assignment book or any research-work to check bibliographic information. A library committee member will be asked to provide the evidence for circulation or loaning of library resources by learners. These documents will be analysed and returned back after 30 minutes.

Thereafter, learners will be observed in the library for 30 minutes on how they access and retrieve library resources.

We will keep the information the school provides during the research process confidential. There are no known risks from being in this study.

Thank you for taking time to read this information sheet and for participating in this study.

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet. I have had sufficient opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

I agree to the recording of the *insert specific data collection method*.

I have received a signed copy of the informed consent agreement.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): Bomkazi Nuku

Signature of Researcher: _ Date: 18/03/2022



Appendix E1- Child Assent form

TITLE OF THE RESEARCH PROJECT: The integration of information-handling skills into the South African secondary school curriculum

RESEARCHERS NAME(S): Bomkazi Nuku

ADDRESS: 9 Verster Street

10 King's Chase Complex

Universitas

Bloemfontein

9301

CONTACT NUMBER: 0784530194

What is RESEARCH?

Research is something we do to find new knowledge about the way things (and people) work. We use research projects or studies to help us find out more information. Research also helps us to find better ways of helping, or improving a bad situation.

What is this research project all about?

This research project is about helping learners to use the library more effectively when given research tasks by their teachers, and also teachers when preparing their teaching lesson plan.

Why have I been invited to take part in this research project?

To help the researcher to find benefits and challenges you face when using the library.

Who is doing the research?

Ms Bomkazi Nuku, who is working at the Department of Education is doing this project to research and provide possible solutions to the challenges faced by both teachers and learners when searching for information in the library.

What will happen to me in this study?

The researcher will do or say nothing to you. You will just do the research exercise or task your teacher told you to do in the library.

Can anything bad happen to me?

Nothing will happen at all.

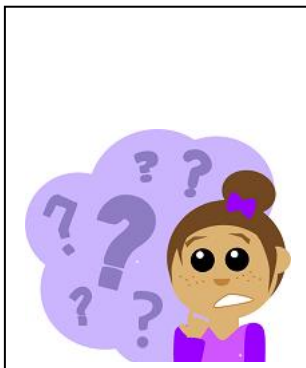
Can anything good happen to me?

When you just do the task your teacher told you to do, you will be helping the researcher to observe the benefits or challenges you may be facing. That will make it easy for the researcher to provide help you need.

Will anyone know I am in the study?

No one will know and no names will be asked or mentioned in this study. The researcher will observe a group you are in and only the information observed about your group will be shared in the study.

Who can I talk to about the study? *You can ask me anything: Ms Bomkazi Nuku at 0784530194*



What if I do not want to do this?

You can refuse to take part even if your parents have agreed to your participation. You can also stop being in the study at any time.

Do you understand this research study and are you willing to take part in it?

YES

NO

Has the researcher answered all your questions?

YES

NO

Do you understand that you can pull out of the study at any time?

YES

NO

Signature of Child

Date

Appendix E2- Participant information leaflet and consent form

TITLE OF THE RESEARCH PROJECT: The integration of information-handling skills into the South African secondary school curriculum

REFERENCE NUMBER: UFS-HSD2020/1825/22

PRINCIPAL INVESTIGATOR: Bomkazi Nuku

ADDRESS: 9 Verster Street

10 King's Chase Complex

Universitas

Bloemfontein

9301

CONTACT NUMBER: 0784530194

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied, that you clearly understand what this research entails and how you could be involved. Also, your participation is entirely voluntary, and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Research Ethics Committee at the University of the Free State and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

The study will be conducted in 6 secondary schools and the total of about 50 participants altogether;

This research project is about helping learners to use the library more effectively when given research tasks by their teachers, and also teachers when preparing their teaching lesson plan. The researcher is doing it because other researchers like , Neerpath (2014: 78-79) discovered that many South African students are underprepared for tertiary education, as they do not have acquired skills in using information and conducting research for school projects.

I will observe the utilisation of multi-media resources by groups of learners in the media center that is how learners benefit or respond to their teachers' research questions, using resources in the media center. The aim is not to only identify challenges, but to draw out good practice. During the observation I will be a non-participant, as I will be looking for a specific evidence from learners' movement. I will observe groups of learners' reaction from all streams, that is a class from the Business studies group, the Social Science group, the Economics group and the Language group. The duration will be determined by the length of an learners' activity. An observation sheet will be used to observe the following: the media center and resources accessibility versus the retrieval process by learners..

No randomization process may occur.

Why have you been invited to participate?

To be part of the group of learners to be observed as they will be doing a research task using library resources..

What will your responsibilities be?

I will just move around the library to observe how groups of learners interact with library resources, and record down my observation on the sheet.

Will you benefit from taking part in this research?

This research will benefit a number of people and organisations for example:

It will potentially bring expertise and awareness to all Departments and institutions with a library section (Department of Education, Arts and Culture, Tertiary institutions etc.) about importance and practice of the integration of information-handling skills into curriculum.

It will provide a general description of the update regarding the integration of information-handling skills into curriculum in secondary schools in the Free State. This will slightly reaffirm the policy directives for relevant stakeholders in the Free State Department of Education (FSDoE) to assess the situation concerning the implementation of the policies in schools.

Additionally, it will provide possible causes that could hamper or promote the integration of information-handling skills into curriculum in South African schools.

Also expand on the experiences of other countries that could contribute to address issues affecting the integration of information-handling skills into curriculum.

Lastly, it could also assist all stakeholders at the district level to be aware of the challenges faced by schools, in order to learn how they can better assist in making sure that information-handling skills are integrated successfully by schools at all levels.

Are there in risks involved in your taking part in this research?

No risks at all.

If you do not agree to take part, what alternatives do you have?

None.

Who will have access to your medical records?

Not applicable

What will happen in the unlikely event of some form of injury occurring as a direct result of your taking part in this research study?

No possible injury will happen

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in the study, and there will be no costs involved for you if you do take part.

Is there anything else that you should know or do?

You can contact the Research Ethics Office at 051 4019398 if you have any concerns or complaints that have not been adequately addressed by your study doctor.

You will receive a copy of this information and consent form for your records.

Declaration by participant

By signing below, I agree to take part in a research study entitled (The integration of information-handling skills into the South African secondary school curriculum).

I declare that:

I have read or had read to me this information and consent form, and it is written in a language with which I am fluent and comfortable.

I have had a chance to ask questions, and all my questions have been adequately answered.

I understand that taking part in this study is **voluntary** and I have not been pressurized to take part.

I may choose to leave the study at any time and will not be penalized or prejudiced in any way.

I may be asked to leave the study before it is completed, if the study doctor or researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) on (*date*) 2022.

Signature of Participant

Signature of witness

Declaration by investigator

I (*name*) declare that:

I explained the information in this document to

I encouraged him/her to ask questions and took adequate time to answer them.

I am satisfied that he/she adequately understands all aspects of the research, as discussed above

I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*)

Signed at (*place*) on (*date*) 2022.

Signature of investigator Signature of witness

Declaration by interpreter

I (*name*) declare that:

I assisted the investigator (*name*) to explain the information in this document to (*name of participant*) Using the language medium of Afrikaans/Sotho.

We encouraged him/her to ask questions and took adequate time to answer them.

I conveyed a factually correct version of what was related to me.

I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) on (*date*)

Signature of interpreter Signature of witness

Dr. S.A. Ntsala (UFS staff member)

0846541457

WHAT IS THIS RESEARCH PROJECT ALL ABOUT?

This research project is about helping learners to use the library more effectively when given research tasks by their teachers, and also teachers when preparing their teaching lesson plans. I will observe groups of learners' reaction from all streams, that is a class from the Business studies group, the Social Science group, the Economics group and the Language group the utilisation of multi-media resources in the media center, that is, how learners benefit or respond to their teachers' research questions, using resources in the media center. An observation sheet will be used to observe the following: the media center and resources accessibility versus the retrieval process by learners.

WHY HAVE YOUR CHILD BEEN INVITED TO TAKE PART IN THIS RESEARCH PROJECT?

To be part of the group of learners to be observed as they will be doing a research task using library resources.

WHO IS DOING THE RESEARCH?

Ms. Bomkazi Nuku, who is working at the Department of Education is doing this project to research and provide possible solutions to the challenges faced by both teachers and learners when searching for information in the library.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received approval from the Research Ethics Committee of UFS. A copy of the approval letter can be obtained from the researcher. The approval number will be provided below.

Approval number: UFS-HSD2020/1825/22

WHAT WILL HAPPEN TO YOUR CHILD IN THIS STUDY?

The researcher will do or say nothing to you. You will just do the research exercise or task your teacher told you to do in the library.

CAN ANYTHING BAD HAPPEN TO YOUR CHILD?

Nothing will happen at all.

CAN ANYTHING GOOD HAPPEN TO YOUR CHILD?

When you just do the task your teacher told you to do, you will be helping the researcher to observe the benefits or challenges you may be facing. That will make it easy for the researcher to provide help you need.

WILL ANYONE KNOW YOUR CHILD IS PART OF THE STUDY?

No one will know and no names will be asked or mentioned in this study. The researcher will observe a group you are in and only the information observed about your group will be shared in the study.

WHO CAN YOU TALK TO ABOUT THE STUDY?

You can ask me anything: Ms Bomkazi Nuku at 0784530194

WHAT IF YOU DO NOT WANT YOUR CHILD TO DO THIS?

You can refuse to take part even if your parents have agreed to your participation. You can also stop being in the study at any time.

PLEASE RETURN

Name of child: _____

Name of Parent: _____

- Do you understand this research study and are you willing to let your child take part in it? Yes No
- Has the researcher answered all your questions? Yes No
- Do you understand that you can withdraw from the study at any time? Yes No

- I give the researcher permission to make use of the data gathered from my child's participation Yes No

Signature of Parent

Date

I, the undersigned Parent, further confirm that–

1. the Researcher has explained the nature, procedure, potential benefits and anticipated inconvenience of my participation in the Study;
2. I have read (or had explained to me) and understood the Study as explained in the attached information sheet;
3. I have had sufficient opportunity to ask questions and am prepared to participate in the Study;
4. I understand that my participation in the Study is entirely voluntary and that I am free to withdraw at any time without penalty (if applicable);
5. I voluntarily provide the UFS and the Researcher with my personal information and consent to the UFS and the Researcher collecting, disclosing and processing my personal information in order to conduct the Study and any related activities in relation thereto;
6. I hereby acknowledge and confirm that I understand the purpose for which the UFS and the Researcher may collect, store, use, delete, destroy, outsource, transfer or otherwise process, as the context and circumstances may require and as contemplated in terms of POPIA, my personal information as set out herein;
7. I am aware that the findings of the Study will be anonymously processed into a research report, journal publications and/or conference proceedings and that my personal information will be aggregated and deidentified at such stage;
8. I also give the UFS permission to share, without notification, the collected data with other researchers at the UFS or other Higher Education Institutions. This permission is dependent on the same principles of ethical research practices, anonymity/confidentiality, safekeeping of information, and other issues listed above applying.

I, the Parent, agree to the recording of the insert specific data collection method.

Full Name of Participant: _____

Signature of Participant: _____ Date: _____

Full Name(s) of Researcher(s): _____

Signature of Researcher: _____ Date: _____

Appendix G: Checklist

The integration of information-handling skills into the South African secondary school curriculum

CHECKLIST FOR DOCUMENT ANALYSIS

Bloemfontein: Quintile 1-3	School A	Science Teacher <input type="text" value="A"/> Social Science Teacher <input type="text" value="B"/> Economics Teacher <input type="text" value="C"/> Language <input type="text" value="D"/>		
	School B	Library Committee member <input type="text"/>		
	School C			
Bloemfontein: Quintile 4-5	School E			
	School F			
	School G			
Grade Teaching				
Job Experience				
DOCUMENTS	CONTENT	Available (Yes or	Findings	Challenges

		No)		
Circulation register	<ul style="list-style-type: none"> Learners use the library Daily Grades Loaning period Non-fiction used 	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		
Lesson plans	<ul style="list-style-type: none"> Teachers' Lesson Plans Indicate utilisation of Multi-media Resources Shows research tasks given to learners Learners' research work 	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		
Assessment tasks	<ul style="list-style-type: none"> Learners have assessment work Assignment or Project or Presentation Shows the reference list/ bibliography The task shows citation 	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		
	<ul style="list-style-type: none"> Marks are allocated to reference list/ bibliography 	Yes <input type="checkbox"/> No <input type="checkbox"/>		

	<ul style="list-style-type: none"> Marks are allocated to citation 	Yes <input type="checkbox"/> No <input type="checkbox"/>		
	<ul style="list-style-type: none"> Accessing skills: Are resources used relevant to the research topic? Are facts responding to the research topic? 	Yes <input type="checkbox"/> No <input type="checkbox"/>		
	<ul style="list-style-type: none"> Analysing skills Construct own sentences or paraphrased? If not, are "quotation marks" used? 	Yes <input type="checkbox"/> No <input type="checkbox"/>		
	<ul style="list-style-type: none"> Communication skills Are facts correlated? Coherence/synergy 	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Integration of 'Information-handling skills' rating		Low/Medium/High		

Appendix H: Interview questions

INTERVIEW SESSION

QUESTIONS ARE DIVIDED INTO 2 SECTIONS:

Section A is compulsory.

Section B is for school library committee member.

Section A: General Information

What is your designation?

How long have you been in this service?

Does your school has a library?

What level of Library qualification do you have?

Does a school has a full-time librarian?

<u>Section B</u>: Library committee member/ Librarian
1. Do you know what information skills are?
2. Do you work together with teachers to select relevant resources for the library?
And citation in their research work?
3. Do you inform learners about plagiarism?
4. How do you advise your learners not to do 'copy and paste' when they complete a research task.

5. Do learners use the library to do assignments or research topics? How often?
6. How do you assist learners to find relevant resources for their assignment topic?
7. Do you advise learners on DDC (Dewey Decimal Classification) ?

8. Do you think learners know what is expected of them from a research topic/assignment by their teachers?
9. What type of information does a 'blurb' of a non-fiction book give?
10. Are your library resources processed according to Dewey Decimal Classification (DDC)? Why or why not?

11. Do you have enough library resources? Explain

12. Does library fiction cover all languages the school is offering?

13. Does library non-fiction cover all subjects the school is teaching?

14. Do you think your library resources are suitable for your learners, in terms of age, grade, learning areas and languages taught at school? Any suggestions?

15. Do you think the school library resources support the school's curriculum? If No, please advise!
16. Do you think school library resources are suitable for learners' age and grades at the school?
17. Do non-fiction support all the subjects or learning areas that are taught at the school? Any suggestions?

18. When and how do learners use the library?
19. Does learners use the library to do their school's projects or assignments? How often?
20. Do you use a circulation register for loaning? If No. why not?
21. Do teachers collaborate or plan with the librarian the research topics to be given to learners? Why not? Please advise!

22. Do you think the school's library has an impact in learner's academic achievement? How?
23. Does the school have a budget to equip the library with new resources? If no, why?
24. What challenges are you facing in utilization of your library resources? Can you suggest possible solution the challenge?

Thank you for cooperation.

Appendix I- Observation sheet

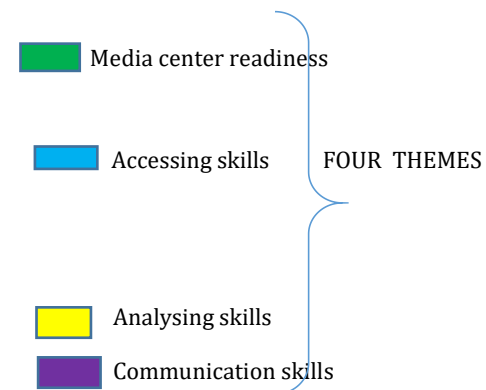
OBSERVATION SHEET FOR LEARNERS IN GROUPS				
Bloemfontein: Quintile 4-5	School A			
	School B			
	School C			
Subject observed	ACCESSING SKILLS			
ITEMS	CONTENT	Available (Yes or No)	Findings Narrated	Challenges

Media center	Well-built/ Converted classroom Easily accessible Librarian/ library person Multi-media Resources Resources with DDC numbers Fiction cover all languages taught at school Non-Fiction cover all Subjects taught at school	Yes <input type="checkbox"/> <input type="checkbox"/> No Yes <input type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> Yes No Yes <input type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> Yes No Yes <input type="checkbox"/> <input type="checkbox"/> No		
ITEMS	CONTENT	Available (Yes or No)	Findings Narrated	Challenges

Media center utilisation	Come as individuals or with a teacher or as groups	Yes <input type="checkbox"/>	<input type="checkbox"/>		
	Consult the librarian	Yes <input type="checkbox"/>	<input type="checkbox"/>		
	Use manual or computerised circulation system	Yes <input type="checkbox"/>	<input type="checkbox"/>		
	Able to find the needed resource	Yes <input type="checkbox"/>	<input type="checkbox"/>		
	Use multi-media resources or focus on one type of resource	Yes <input type="checkbox"/>	<input type="checkbox"/>		
	Non-fiction mostly used	Yes <input type="checkbox"/>	<input type="checkbox"/>		
	Loan resources	No <input type="checkbox"/>	<input type="checkbox"/>		
Take more than 30 min or less	Yes <input type="checkbox"/>	<input type="checkbox"/>			
Accessing skills' Rating		Low / Medium / High			

Accessing skills' Rating Comment	
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Appendix J: Matrix showing themes and sub-themes originated from interview questions, document analysis and observations



No	Interview questions	Document analysis	Observation	Quotations/ Relevant sentences	Sub-themes (Per data-collection method)	Themes (Four Themes)
1.	Does your school has a library?		Custom-built / converted classroom available		Library structure	
2.	What is your designation?		Librarian / library person		Participants' designation	
3.	How long have you been in this service?				And Years of experience	
4.	Does a school has a full-time librarian?				Librarian/ Library committee member	
5.	Does the school have a					

	<p>budget to equip the library with new resources? If not, why?</p>				<p>Versus</p> <p>Schools' quintile level</p>	
	<p>Do you know what information skills are?</p>			<p>Participant A from quintile (1-3): "Uhm...I'm not sure of that...."</p> <p>Participant C from quintile (1-3): ...I think it gives a glimpse of what learners are doing in class...</p> <p>Participant F from quintile (4-5): ..Yes, it's actually a quick credential of the author, the atmosphere...</p>	<p>Skills /knowledge</p>	
	<p>Do teachers collaborate or plan with the librarian on the research topics to be given to learners? If not, why? Please advise.</p>				<p>Collaboration between teacher and librarian</p>	

6.	Do you work together with teachers to select relevant resources for the library?			•	
7.	Are your library resources processed according to Dewey Decimal Classification (DDC)? Why or why not?				Processing of resources
4.	Do you have enough library resources? Explain.	Non-fiction available	Multi-media resources		Use of circulation register
5.	Does library non-fiction cover all subjects offered by the school?	Shows research tasks given to learners	Resources with DDC numbers	Participant A: "No!" Participant B: "No, no Commerce, Consumer Studies.... it's mostly Maths, Physics, Geography, History and few Life sciences." Participant E: "We've got some but not the latest, for example not enough EMS and need updated resources."	Non-fiction supporting subjects

6.	Do you think your library resources are suitable for your learners, in terms of age, grade, learning areas and languages? Any suggestions?	Learners have assessment work (project, assignment etc,)	Fiction covers all languages taught at school		The school's library has an impact on learner's academic achievement	
7.	Do you think the school library resources support the school's curriculum? If no, please advise.		AND Non-fiction covers all subjects taught at school			
11.	Do you think the school's library has an impact in learner's academic achievement? How?					
12.	What challenges are you facing in the utilisation of your library resources? Can you suggest possible solutions to the challenge?				Challenges experienced by schools	
1	How do you assist	Learners use	Come as individuals		Librarians assist	2

	learners to find relevant resources for their assignment topic?	the library?	or with a teacher or as groups		learners to find relevant resources	Accessing skills
2.	Do you advise learners on DDC (Dewey Decimal Classification)?	How often, daily?	Consult the librarian		Librarians assist learners to find relevant resources for their assignment topics	
3.	Do you think learners know what is expected of them regarding a research topic/assignment?	Non-fiction used?	Use manual or computerized circulation system		Clarity of the instructions from the teachers	
4.	What type of information does the 'blurb' of a non-fiction book provide?	Accessing skills: Are relevant resources used for the research topic? Are facts responding to the research topic?	Able to find the needed resource	...I think it gives a summary of what the book is about. Participant A from quintile (1-3): "Uhm...I'm not sure of that... Participant C from quintile (1-3): ...I think it gives a glimpse of what learners are doing in class... Participant F from quintile (4-	The value of non-fiction pages, such as the 'blurb'	

				5): ..Yes, it's actually a quick credential of the author, the atmosphere...	
5.	When and how do learners use the library?		Use multi-media resources or focus on one type of resource		Utilisation of the media for research purpose
6.	Do learners use the library to do their school projects or assignments? How often?	Circulation register (showing use of resources)	Non-fiction mostly used		Manual/electronic circulation register
7.	Do you use a circulation register for lending? If not, why?		Loan resources	Participant A from a quintile 1 – 3 school: “Yes, manual and also online, Prolib system. But,..the system doesn't allow books from outside (donation) to be processed,...only Dept of Arts & culture can process the books”. Participant E from a quintile level 4 – 5 school: “It's all	Use of a circulation register for loans

				<p>computerised on the system, we use Papyrus library admin system".</p> <p>Participant F from a quintile 4-5 level school: "Yes, we have ELA system, the Electronic Library Assistant".</p>		
			8. Take more than 30 minutes or less			
1.	How do you advise your learners not to 'copy and paste' when completing a research task?				Advising learners to avoid copy and paste	3. Analysing skills
2.		Analysing skills: construct own sentences or paraphrased?			Learners research work showing cut and pasted information	
		If not, are "quotation marks" used?			Teachers lesson plans showing use of resources	
1.	Do you think learners know what is	Reference list/ bibliography			Marks are allocated to a reference list	4. Communica

	expected of them	is present				tion skills
2.	from research topic/assignment	Marks are allocated to reference list/bibliography			Correlated facts	
3.		Communication skills: Are facts correlated? Coherence/synergy			Correlated and organised research work	