**MIDLANDS STATE UNIVERSITY**

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# An Appraisal of Museum Education Programmes for Primary School Pupils in Post Colonial Zimbabwe


By

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(R113457B)


A thesis submitted to the Midlands State University in fulfilment of the requirements for the Doctor of Philosophy Degree in Museum Studies


In the Department of Archaeology, Cultural Heritage and Museum Studies


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## DECLARATION

I, Simbarashe Shadreck Chitima, hereby declare that this thesis is my own original work and has not previously in its entirety, or in part, been submitted to any other university for a degree.

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Simbarashe Shadreck Chitima

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## APPROVAL FORM

The undersigned certify that they have supervised, read and recommended to the Midlands State University for acceptance a research thesis entitled, *"An Appraisal of Museum Education Programmes for Primary School Pupils in Post Colonial Zimbabwe",* submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Museum Studies in the Department of Archaeology, Cultural Heritage and Museum Studies, Midlands State University, Zimbabwe.

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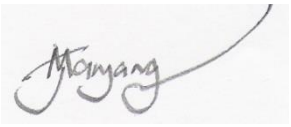

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## DEDICATION

This work is dedicated to my wife and children.

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The study also acknowledges the support received from the Ministry of Primary and Secondary Education in Zimbabwe for granting the researcher the authority to conduct research with teachers and pupils in schools. The researcher acknowledges the feedback gathered from primary school teachers as well as pupils in different schools across Zimbabwe.

## ABSTRACT

This study investigates the success of museum educational programmes in Zimbabwe in facilitating effective learning of curriculum related content amongst primary school pupils. My thesis is that while museums in Zimbabwe have a long tradition of providing education programming, the behaviourist education framework grounding museum education provides few opportunities for primary school pupils to effectively learn. This study is grounded on Sociocultural learning frameworks. Through the use of qualitative and quantitative research approaches, the study gathered that museums are contributing to national education goals by impacting on the social and environmental studies curriculum. The major barriers to pupil's learning are categorised as structural, physical and intellectual. The educational philosophy and some of the instructional media used to impart knowledge to pupils in museums still carry the remnants of the colonial education service. Museums in Zimbabwe base their educational programming on the behaviourist educational framework and this is restrictive to effective learning in informal settings. Behaviourism in museums in Zimbabwe has created a situation where primary school pupils become epistemological slaves only to be deposited with information. The study concludes that they are few opportunities in museums for primary school pupils to effectively learn curriculum content. There is need to decolonise museum education service in Zimbabwe that touches on the educational philosophy, museum exhibition design, narratives, language in use and interpretations as well as methods of content delivery.



**Keywords:** *effective learning, primary school pupils, behaviourist, decolonise, sociocultural, epistemological slave.*

## List of abbreviations used in this thesis

| | |
|---|---|
| AHD- | Authorised Heritage Discourse |
| CML- | Contextual Model of Learning |
| GZWHS- | Great Zimbabwe World Heritage Site |
| GZSM- | Great Zimbabwe Site Museum |
| IKS- | Indigenous Knowledge Systems |
| NMMZ- | National Museums and Monuments of Zimbabwe |
| NHM- | Natural History Museum |
| NMTA- | National Museum of Transport and Antiquities |
| MoPSE- | Ministry of Primary and Secondary Education |
| SCV- | Structured Class Visits |
| SMV- | School-Museum Visits |
| PwD- | Pupils with Disabilities |
| STEM- | Science Technology Engineering and Mathematics Programme |
| MoU- | Memorandum of Understanding |
| ZMM- | Zimbabwe Military Museum |
| ZMHS- | Zimbabwe Museum of Human Sciences |
| ZIMSEC- | The Zimbabwe School Examinations Council |
| ZCFPSE- | Zimbabwe Curriculum Framework for Primary and Secondary Education |
| UNESCO- | United Nations Educational, Scientific and Cultural Organisation |
| UNSDG- | United Nations Sustainable Development Goals |

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# CHAPTER 1

## GENERAL INTRODUCTION AND BACKGROUND

### 1.0 Introduction

This study investigates the effectiveness of museum education programmes in facilitating the learning of curriculum related content among primary school pupils (6-12 years old) in Zimbabwe. Zimbabwe is a former United Kingdom colony whose education system before 1980 was divided along racial lines between the white and African populace (Gomba, 2017; Shizha and Kariwo, 2011). This segregatory education system was consistent, complimentary to and sustained by the supremacist political aims of the white settler colonisers (Gomba, 2017; Kanyongo, 2005; Zvobgo, 1994; Colclough *et al*, 1990). When the country attained political independence in 1980, the government of Zimbabwe made primary school education a basic human right. The educational policies employed by the Zimbabwean government since 1980 are in sync with the principles of the United Nations Convention on the Rights of the Child to Education (1989), that give emphasis on availing educational opportunities to pupils of any race or creed. Gomba (2017:78) posits that although the government made reforms in the education sector effects of colonial education structures still remain in place at present. Shizha (2006) further points out that the post colonial education system in Zimbabwe still perpetuates the colonial models that emphasized the role of the teacher or instructor as the knowledgeable person whilst the learner is seen as a passive recipient of information.

A notable development since 1980 in Zimbabwe however is that, pupils of all races have had equal opportunities to access education from both formal and

informal education settings such as museums. Museum education programmes for primary school pupils have been an integral part of Zimbabwe's education system. The focus of this study is to document what, how and the extent to which primary school pupils learn curriculum content from structured class visits and school-museum visits. Structured class visits and School-museum visits are the most established museum education programmes provided throughout the year by all national museums in Zimbabwe. The study was conducted at five national museums in Zimbabwe and these are the Zimbabwe Military Museum in Gweru, the Natural History Museum in Bulawayo, the Zimbabwe Museum of Human Sciences in Harare, the Great Zimbabwe World Heritage Site in Masvingo and the National Museum of Transport and Antiquities in Mutare.

There are few published materials that cover how primary school pupils learn from museum education programmes (Mawere and Sigauke, 2015; Pwiti, 1994). In Zimbabwe information or feedback about pupil's visitorship trends and pupil's perceptions of museums is found in museum visitor comments books and through the informal observations conducted by museum staff. This study therefore, bridges the information gap on museum education programming in Zimbabwe and about how primary school pupils learn from museums.

Museums afford opportunities for learning that do not occur in other settings (Crowley and Jacobs, 2011; Meiers, 2010). Museums are also an important resource that can be used for the socio-economic development of communities, empowering pupils and the youths as well as enhancing national education standards (Milovanov *et al*, 2017; Hooper-Greenhill, 2007). With the use of real objects in exhibitions there is great potential for museums to provide opportunities where primary school pupils learn curriculum related content. The learning that results from museums includes several outcomes such as affective, social, cognitive and development of skills (Nadelson and Jordan, 2012; Sas and

Smit, 2011; Dewitt and Storksdieck, 2008; Hooper-Greenhill, 2007, 2003; Gammon, 2003:8-22). In this 21st century a growing chorus of voices is calling for more holistic approaches to education that intentionally connects many settings in which pupils live and learn (Halkett *et al*, 2010). There is now need in this 21st century for programming that addresses the educational needs and realities of primary school pupils.

### 1.1 Background to the study

Due to the fact that very little is known about what, how and the extent to which primary school pupils learn from museums in Zimbabwe this impelled the researcher to undertake a pilot study at the ZMM to find out the educational worth of the museum's structured class visits programme to primary school pupils. Further the researcher had conducted prior visits and observed that the ZMM receives so many school pupils through the structured class visits and the major question was if the huge pupil visitorship trend at the museum translated to effective among school pupils. The pilot study was a small scale investigation at the ZMM in January-March 2013 with 25 pupils and 7 school teachers from Cecil John Rhodes, Senga and Mpumelelo Primary Schools. Qualitative research methods were employed in the pilot study, utilising interviews and observations.

It emerged that the museum receives mainly Grade 3 to 7 pupils. Thirteen pupils of Grade 3 and 4 indicated that what they learn through structured class visits has little link with their school curriculum. School pupils also indicated that the content available at the museum promoted the learning of general and museum based knowledges. Observations made by the researcher established that the museum had very few exhibitions as well as content that related to the primary school curriculum. The remaining 12 pupils in Grade 5 to 7 had mixed feelings towards the effectiveness of the structured class visits. Three of the pupils

indicated they learned content related to social and environmental studies. Nine of the pupils interviewed complained that the structured class visits were boring because whenever they visited the museum they repeated the same activities of answering study sheets and watching a film. Study sheets were indicated by school pupils as restrictive to learning because they made pupils to focus more on them as compared to viewing exhibitions of their choices. The interviewed school teachers indicated that some school pupils were refusing to pay for museum visits citing that there is nothing new and interesting at the museum apart from the routine of answering study sheets. Therefore, museum exhibitions at the museum were seen as stagnant and boring. This feedback together with the observations made of pupils in galleries demonstrated that they might be an assumption that receiving huge volumes of pupils in museums is a sign that pupils are learning from the museum yet it might not be the case. The pilot study inspired the researcher to conduct this study to investigate in detail what, how and the extent to which school pupils learned from museum education programmes in Zimbabwe.

School pupils have different cognitive, physical and emotional levels of development and capacities. When school pupils visit an educational setting they are likely to experience learning in different ways and they often face similar or varied types of barriers to their learning. The researcher was also motivated to document the process in which pupils learn from museums and the learning barriers they face as individuals with different learning attributes. In 2005-2006 the researcher once worked at the National Art Gallery of Zimbabwe in Harare as a curatorial assistant and it was observed by the curatorial department that pupils found it challenging to read abstract art. The art gallery then created and designed educational activities that involved practising visual artists to talk more about their art in person. This meant that ways can be found to make the content found in cultural institutions understandable, if the needs of pupils are taken on board and when content is provided through multimodal formats. The experiences

attained during my internship at the National Art Gallery of Zimbabwe also provided the impetus to conduct this study to gather data about the process in which school pupils learn from museum objects and the barriers they face in learning.

The researcher obtained a Post Graduate Diploma in Tertiary Teaching (PGDTE) in 2013 that exposed the one to learning philosophies and curriculum development theories. The researcher subscribes to the idea that learning is influenced by context in which the learner is subjected to. For example, some scholars have indicated that the way adults and school pupils learn in museums differs hence educational establishments are required to design educational programmes grounded on educational theories appropriate for each of these audiences (Hooper-Greenhill, 2007; Kelly, 2007). Many traditional museums have been viewed as perpetuating colonial legacies in the education service they provide particularly the behaviourist educational frameworks (Mataga, 2014; Mufuzi, 2012; Mew, 2012; Mirara, 2006). A number of scholars such as Hohenstein and Moussouri (2017) and Hooper-Greenhill (2007) point the drawbacks of employing the behaviourist educational frameworks as being restrictive to learning in museums. Familiarity with educational theory has made the researcher to come to an understanding that the way school pupils learn is different from adults or as family groups. The experiences of working at an art gallery together with the knowledge gathered through the PGDTE programme motivated the researcher to undertake this study in Zimbabwean national museums to investigate the effectiveness of museums educational programmes in facilitating effective learning among primary school pupils.

## 1.2 Statement of the Problem

Museum education programmes for primary school pupils in Zimbabwe have been provided since the early 1960s (Norris, 2012; Cooke, 1986; Summers, 1968; The National Museums of Southern Rhodesia, 1962). It has also been noted that the education programmes have been limited in scope (Norris, 2012; Pwiti, 1994; Ucko, 1994). However very little is known about what, how and the extent to which primary school pupils learn from museum education programmes.

## 1.3 Aim

The aim of the study is to investigate the effectiveness of museum education programmes in facilitating effective learning of curriculum related content amongst primary school pupils in Zimbabwe.

## 1.4 Research objectives

The first objective of the study was to trace the history and development of museum education in Zimbabwe. This objective was formulated against the assumption that museum education has over the years accumulated different theoretical underpinnings. This objective helped to characterise the nature and theoretical grounding constituting museum education in Zimbabwe.

The second objective was to explore and examine how pupils learn in museum environments. Primary school pupils learn differently according to their grade levels and age, when they are in formal school contexts and when in informal

contexts. This objective assisted to establish pupils' learning needs, what and how they learn, the specific and essential learning conditions in museums as well as the barriers that hinder learning.

The third objective of the study was to establish the learning outcomes after exposure and interaction with museum educational experiences. This objective was formulated against the idea that some researchers have concentrated on measuring hard outcomes and ignoring soft outcomes. Hard outcomes are evidence of factual information and demonstrable skills whilst soft outcomes are change in attitudes, values, emotions and beliefs towards something. However, it is well documented that any museum visit is likely to result in cognitive, affective and social outcomes. This objective assisted in establishing the indicators of learning and the ideal framework to be used in measuring learning in museums.

## 1.5 Research questions

1) What education programmes for primary school pupils are being provided by museums? This question was formulated to establish and describe the education programmes designed for primary school pupils.

2) How do primary school pupils learn in the museum environment in Zimbabwe? This question aimed at gathering data about the profiles of school pupils, specifically to document what they learn, the learning process and learning outcomes after interacting with museum education programmes.

3) What opportunities and barriers are there to pupil's learning? This question intended to gather information about the accessibility and suitability of educational activities carried out in museums.

## 1.6 Significance of the study

As museums are dependent on public funds they undoubtedly will encounter the demand for accountability. Considering the time, energy and resources museums and staff expend on education, one might as well question the value or impact of museum education programmes have on primary school pupils. This study is significant in that it identifies and establishes what, how and the extent to which primary school pupils learn from museums. It will benefit educational institutions such as museums, art galleries and other educational institutions with information about the curriculum learning needs of school pupils, the learning barriers pupils face and expectations of teachers. This information is very critical and important for museums and other educational establishments as it helps them to design learning environments that suit different ages and grades, choose effective methods of delivery of content and information.

Donald (1991:380) highlights that different types of museums promote certain types of learning outcomes and this assertion was made in light of museums in Canada. For example, science or natural history museums have been found to promote knowledge gain and problem solving. Fine art museums have been found to promote intellectual provocation and creativity (Donald, 1991). However, nothing has been recorded about the learning outcomes in archaeological, military, human science, transport and antiquities museums. This study is significant in that it establishes the learning outcomes that these museums

promote. This study also establishes the barriers pupils face in accessing structured class visits and school-museum visits in the five national museums in Zimbabwe. This feedback is significant as it will shape the quality of education programmes museums provide to school pupils.

### 1.7 Limitations of the study

The major limitation of the study is the lack of a comprehensive definition of learning. The researcher has observed that there is lack of consensus among scholars of what learning is in informal settings such as museums. The majority of definitions of learning are embedded within interrelated educational, psychological, philosophical and developmental theories. Learning has been defined as a change in behaviour in response to a stimulus (Hilgard *et al*, 1979). This definition is situated in the behaviourist framework which is synonymous with Ivan Pavlov (1949-1936), Edward Thorndike (1874-1949) and Burrhus Frederic Skinner (1904-1990). The overall idea of learning grounded in behaviourism is that learning occurs through conditioning where the teacher is the sole instructor of knowledge whilst the learner receives that knowledge. Behaviourist grounded definitions of learning have been seen as inapplicable in facilitating effective learning in museums among school pupils for the reason that it promotes one way communication where the museum becomes teacher and pupil a passive recipient of knowledge (Andre *et al*, 2017; Hauan and Kolsto, 2014; Smith, 2014; Storksdieck, 2013; Black, 2012; Talboys, 2011; Hooper-Greenhill, 2007; Kelly, 2007; Falk and Dierking, 2000; Griffin, 1998).

Wenger (1998), Woolfolk (1998) and Hein (1998) have defined learning as a mental activity where the learner is primarily responsible for constructing meaning. Therefore, learning is inherent in humans, occurs when one is able to

negotiate new meanings, fundamentally experiential and social requiring a learner's motivation and energy. The ideas of learning by Woolfolk (1998), Wenger (1998) and Hein (1998) are located in cognitive theories especially the constructivist educational framework where the learner is considered an active agent in meaning making or constructing knowledge. However in this 21st century learning has also been described as not only being restricted to mental schemata.

Research has shown that there are other elements that influence learning in museums such as a learner's culture, language, motivation, agenda, friends and the physical environment (Andre *et al*, 2017; Talboys, 2011). The sociocultural theorists have defined learning as an active engagement with experience and it is both a process as well as a product (Andre *et al*, 2017; Hooper-Greenhill, 2007, 2003; Kelly, 2007; Falk and Dierking, 2000; Vygotsky, 1978). Therefore learning according to the sociocultural theorists is contextual and actively constructed through social mediation with others (Andre *et al*, 2017; Hauan and Kolsto, 2014; Hopper-Greenhill, 2007; Kelly, 2007; Falk and Dierking, 2000).

Learning has also been defined as a lifelong endeavour (Gibbs *et al*, 2007) where learners voluntarily learn throughout their life across contexts. Lifelong learning involves individuals learning from formal, informal and non formal settings voluntarily over time of their lives hence education becomes relevant and meaningful to their lives (Dumont *et al*, 2010:8; Gibbs *et al*, 2007). Lifelong learning has been defined as being self directed where the learner is always in quest for knowledge for personal learning, enjoyment and to develop career skills. The major challenge that has been identified with lifelong learning is that it is very difficult to understand or measure when in life learning would have happened most or the extent to which learners would have learned in different contexts (Illeris, 2006).

Learning is a complex matter and each scholar defines it according to their background understanding or dispositions and political, economic as well as social contexts. In-order to have a working definition this study has adopted the definitions of learning in museums put across by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the United Kingdom Campaign for Learning. UNESCO (2017: 1996) has developed four pillars of learning that include learning to know, learning to do, learning to be and learning to live together (2017; 1996). The emphasis from these 4 pillars is that learning occurs when pupils make meaning of the world, acquire knowledge, physical and social skills as well as affective outcomes. These outcomes assist pupils to comprehend the world, its complexities and to actively participate in the global economy and society. The definition of learning from UNESCO captures the idea that learning leads to the acquisition of competencies (learning outcomes or abilities) to deal with issues and problems affecting society.

The United Kingdom Campaign for Learning (UKCL) has also put across a definition of learning that is in congruent with that of UNESCO. The United Kingdom Campaign for Learning (2016, 2002) defines learning as "A process of active engagement with experience. It is what people do when they want to make sense of the world. It may involve increase in or deepening of skills, knowledge, understanding, values, feelings, attitudes and the capacity to reflect. Effective learning leads to change, development and the desire to learn more" (UKCL, 2016, 2002). The definitions from the UKCL and UNESCO are grounded in the sociocultural educational framework that considers learning as a social process and a product. Therefore, learning is understood to empower pupils with competencies to solve the challenges society is facing.

Another limitation to the study was the fact that assessing learning in museums is a complex undertaking where visitorship is voluntary, unstructured and happening

over time. Learning in museums is different from that provided in formal education settings. There are established education programmes assessment frameworks in formal education settings such as the Benjamin Bloom's taxonomy (Armstrong, 2016; Bloom *et al*, 1956) and Daniel Stufflebeam's Context, Input, Process and Product evaluation model (Stufflebeam and Shinkfield, 1985). The Blooms taxonomy is based on three domains-cognitive, affective and psychomotor to promote higher forms of thinking in education. These three domains have been used mainly in formal educational to structure curriculum learning objectives, assessments and evaluation. The Context, Input, Process and Product (CIPP) evaluation model was developed in the 1960s by Daniel Stufflebeam to systematically provide feedback of the effectiveness of education programmes or projects through utilising mainly formative and summative assessments. The CIPP model is constituted by four components which include the context, input, process and product. The objective of context component is a needs assessment for example the overall environmental readiness of the education programme, examine if the programme goals are attuned to the needs of the learner, assess the relevancy and need of a course and if the time allocated for a course is adequate among other factors concerning the context. The input component deals with the eligibility of the learners to do a course, assess if the teacher is qualified to teach, if the number of teachers corresponds with the number of learners and if the requisite teaching equipment or resources are available among other factors. The process component includes assessing how the programme is being implemented. The product component identifies project or programme outcomes.

The Blooms taxonomy and the CIPP model of evaluation are not effective frameworks in assessing the learning that occurs in museums. This is because museums do not provide a curriculum, visitorship to museums is voluntary or free choice influenced by personal, physical and sociocultural factors such as intrinsic motivation, background culture and disposition, language, visit agenda, interests,

choice and control, exhibitions, friends among a myriad of factors. Museum audiences may visit museums at their own time for fun, leisure, edutainment, for meditation and learning may occur intentionally, unintentionally or may not even occur. The Blooms taxonomy and the CIPP evaluation model mainly apply in formal education where they is a structure that learners are required to go through a course or curriculum bound by time frames and a code of conduct as well as pupils writing examinations at the end of the course to assess if pupils learned. This study therefore, employed the Generic Learning Outcomes (GLOs) developed by the Research Centre for Museums and Galleries (RCMG) at the University of Leicester for the Museums, Archives and Libraries Council in 2003 as a working framework for evaluating learning that occurs in museums among school pupils (Hooper-Greenhill *et al*, 2003, 2002). The GLOs framework is an established learning outcomes evaluation framework in the museum field and provides a basic framework to compile evidence of learning in museums (Andre *et al*, 2017; Hauan and Kolsto, 2014; Hooper-Greenhill *et al*, 2007, 2003, 2002; Falk and Storksdieck, 2005). The GLOs include knowledge gain, skills, attitudes and values, enjoyment, inspiration and creativity, activity, behaviour and progression.

### 1.8 Approaches/ Concepts used in the study

The definition of terms section is included to assist readers to understand words in the context used by the researcher.

**Behaviourism**: This is an educational philosophy that assumes learning occurs through conditioning. In behaviourism the instructor is the focal point who is responsible of teaching pupils who he/she assumes are blank slates (Hooper-Greenhill, 2007, 1994; Saya, 2012). In this study behaviourism is used as an educational framework that is employed in museums and very restrictive to

effective learning as it considers primary school pupils as passive recipients of museum generated knowledges.

**Cabinets of curiosity**- A cabinet of curiosity was a private collection of objects or specimen which was synonymous with the 15-18$^{th}$ century in Europe. The cabinets were either a house or building consisting of objects or wooden cabinet containing specimens or objects believed to have cultural value (Puyear, 2014; Smeds, 2012; Hooper-Greenhill, 1992). In the study, cabinets of curiosity are terms used to understand museum displays that have mixed and different artefacts congested together, with little documentation and employing captions that use jargon or scientific language. This is an outdated method of exhibiting museum collections.

**Carl Linnaean Categorisation:** This is a type of system for categorising natural history specimens (Taxonomy) that was developed by Carl Linnaeus during the 17$^{th}$ century and being used by some museums today (Holzmeyer, 2012). In this study the Carl Linnaean categorisation is used to depict displays in museums that are mounted or arranged according to artefacts with similar traits or characteristics without adequate documentation to fully understand them. Such displays have captions that simply state the name of the artefact.

**Decolonisation**: This term depicts dismantling colonial or imperialist worldviews of being, power and knowledge production (De Villiers, 2018; Mbembe, 2015; Chaterera and Nyawo, 2013; Ndlovu-Gatsheni, 2013). In this study decolonisation is used to connote doing away with Western forms of knowledge production or way of doing things in museums.

**Museum:** In the broadest sense a museum is any institution that collects, conserves and displays the cultural heritage or property of a people for public consumption (Puyear, 2014; Hooper-Greenhill, 1992). In this study the word museum is used to mean all types of buildings and cultural heritage sites housing or consisting of the material culture or cultural heritage property of a people.

**Museology of liberation:** This concept refers to liberating indigenous persons from cultural alienation (Kreps, 2003). This is closely linked to ideas of decolonization. This concept is used in the study to understand the strategies museums are employing or have to employ to increase their relevance and accessibility to the local communities or society that they serve.

**Informal Learning**: In its broadest sense informal learning is any learning that embraces reading, using computers, listening to the radio, visiting libraries among other activities. In this study informal learning is defined as learning using museum objects, exhibitions and information given by curators or tour guides (Hooper-Greenhill, 2007; Falk and Dierking, 2000).

**Pedagogy of the oppressed**: This is a concept that is premised on the approach that education systems should be co-created with those that have been marginalised and dehumanised in-order to provide more equitable access and relevant education. The concept also advocated for the removal of colonial mindset in the way museum education is provided (Mbembe, 2015; Thondhlana, 2015; Chaterera and Nyawo, 2013; Freire, 1972). This concept is used in the study to understand the idea that effective education programmes are those that are co-constructed by the museum, school pupils and school teachers.

## 1.10 Organisation of the work

This work is arranged into 7 chapters. Chapter 2 reviews literature related to the development of museums and the education service. The chapter also reviews the ideology that led to the formation of museums in Zimbabwe and the nature of education programmes provided to primary school pupils. The chapter reviews the decolonisation literature. Chapter 3 reviews museum learning theory. In order to understand museum learning theory the chapter reviews literature available on museum education. This established what has been researched and published about their visit agenda, motivations and learning behaviour. The chapter also reviews the major educational theories including the behaviourist, constructivist and sociocultural frameworks. Further the chapter reviews the learning outcomes and methodologies that have been put forward in assessing learning that occurs in museums particularly among school pupils. Chapter 4 outlines the qualitative and quantitative research methods employed by the study. It establishes the phases that were followed in data gathering and instrumentation employed in the study. Chapter 5 presents data gathered about what and how school pupils are learning in museums. This chapter also presents data gathered from the research highlighting the visitorship patterns and frequency, characterisation of museum education service in Zimbabwe and the impact of museums on the primary school curriculum. Chapter 6 presents data gathered about the learning outcomes realised in pupils based on the Generic Learning Outcomes framework. The chapter also presents data on the barriers to pupil's learning and these are categorised as structural, intellectual and physical. Chapter 7 discusses the educational framework employed in museums in Zimbabwe. The chapter also discusses how school pupils learn from museums or through structured class visits and school to museum visits. This chapter also discusses the impact of museums on the curriculum and makes suggestions on how museums may participate in curriculum development. The chapter initiates a discussion on how museum education can be decolonised from being elitist and out of sync with the current

audiences they serve. The chapter concludes that they are few opportunities in museums for primary school pupils to effectively learn curriculum content.

# CHAPTER 2

## MUSEUMS AND EDUCATION: LITERATURE REVIEW

### 2.0 Introduction

This chapter reviews literature on the history of museums and heritage education from the cabinets of curiosities to the present from an international perspective. This is aimed at establishing the origin and development of museums as well as their ideology with regards to collections acquisition and use. This chapter also reviews literature about the development of museums and heritage education in Zimbabwe. This serves to characterise heritage education since the inception of museums in Zimbabwe. Museums in Zimbabwe have been viewed as inherited colonial institutions and this chapter reviews literature on museums and decolonisation. This aims at identifying areas of the museum which can be decolonised.

### 2.1 Museum collections and educational perspectives

Any attempt to fully define and characterise museum education particularly in Zimbabwe should begin by tracing the development and use of private collections as well as the epistemological perspective foregrounding educational practices of museums since their inception (Hooper-Greenhill, 1992). The educational role of museums is more patent starting from the late $17^{th}$ -$18^{th}$ centuries. So much has been written about the development of museums (Hooper-Greenhill, 1992, 1994; Lorenco, 2003; Delicado, 2010; Smeds, 2012; Black, 2012), but very little literature is available that covers the development of museum education since the antiquarian ($16^{th}$ century) period to date.

The first type of collecting was undertaken by antiquarians and royal families in the 15th and 16th centuries (Hooper Greenhill, 1992:47). Antiquarians are persons who had interest in collecting and studying antiquities such as rare artefacts, books, archaeological material among other objects of art (Dion, 1999; Hooper-Greenhill, 1992). Some of the collections were stolen during military exploits whilst some were collected because they were aesthetically pleasing to the collector. Hooper Greenhill (1992:47) in a book titled "*Museums and the Shaping of Knowledge*" establishes and describes the agents that participated in collecting, the reasons for collecting and the nature of artefacts collected. Hooper-Greenhill (1992:45) posits that they were mainly two types of collectors namely collector-scholar and collector-prince. The collector-scholar (antiquarian) haphazardly amassed collections for study (Hooper-Greenhill, 1992:46). The collector-princes were more obsessed with the element of power and collected for aesthetic purposes (Hooper-Greenhill, 1992:46-47). Examples of collector-Princes were the Uffizi, Gonzaga, Farnese, Medici and the Borghese families in Italy (Hooper-Greenhill, 1992:46). It is clear that collecting in this period was private and the collections were either used for personal study, enjoyment and as symbols of wealth and power in society. Access to these collections was limited to the collector, collector's family and close friends. These collections were not used for any public education programming.

Hooper-Greenhill (1992:47) indicates that these private collections in the late 16th century developed into cabinets of curiosity (Hooper-Greenhill, 1992:47). Cabinets of curiosities were wooden pieces of furniture with several compartments housing collections (Hooper-Greenhill, 1992:11; Smeds, 2012:58). It is clear that the cabinets of curiosity is testimony to the fact that the owners wanted to put some form of order to their collections particularly in the manner in which they would be presented and kept. Access to these cabinets of curiosity was extended for viewing to the aristocracy or the wealthy middle class (Hooper-Greenhill, 1992). Viewing of cabinets was only to be based on observation and

exposure to material. In this period there was no use of collections for public education programming. In any case the collections in the cabinets of curiosity were difficult to interpret or learn from because they were de-contextualised and had little documentation accompanying them as most of the collections were haphazardly collected and arranged. The cabinets of curiosity collections were mixed and congested in display units. For example, natural history specimens, geological collections and archaeological objects could be seen in one cabinet next to each other. Hooper Greenhill (1992:47) points out that the cabinets of curiosity still make up the majority of museum collections in exhibitions and storage around the world. The literature by Hooper-Greenhill (1992) is very helpful to this study because it provides background information that establishes the agents that participated in collecting especially during the middle ages and for what reasons as well as the nature of artefacts collected. Hooper-Greenhill (1992) provides information that can be used to trace the development of museums in Zimbabwe and the motives for collecting.

Cabinets of curiosity in the 17$^{th}$ century evolved to become specialised collections that were used in Universities (Delicado, 2010). Delicado points out that many private collections were donated to universities whilst some were housed in purpose-built museums (2010:3). Some of the collections such as the Ashmolean in England were donated to universities and these turned into university museums (Delicado, 2010:3). The first university museum was opened in Basel in 1671 and with the Ashmolean museum in Oxford as the first natural history museum in 1683 (Delicado, 2010:3). These university museum collections were used as teaching and learning material for medicine, pharmacy and zoology (Delicado, 2010:1). University museums were only within reach of university students, lecturers and scientific researchers. Access to collections in public museums was only limited to mature adults and there was no education programming for school pupils at the time. Delicado (2010:2) further indicates that during this period natural history museums in Europe were able to classify museum collections

using a system developed by Carl Linnaeus called the 'Systema Naturae'. This system of classification enabled objects or artefacts to be grouped into families based on their visible features. The Linnaeus '*Systema Naturae*' allowed objects to be collected and displayed systematically particularly through the use of a binomial nomenclature and taxonomy (Delicado, 2010:2).

Visual grouping resulted in 'sets' with their relationships described through their specific positioning on the table. In menageries, animals were arranged in cages that were positioned in such a way as to demonstrate their family relationships through their placing. The Carl Linnaeus system of categorisation arranged objects with the same traits for easy location and detailed study (Delicado, 2010). The Carl Linnaeus system of categorisation aimed at providing some form of documentation system which many museums in this 21st century still use. The major advantage with this system was that it became easier to study collections from the same context or environment as compared to throwing and mixing objects in the same display cases typical of the 16th century. However this system of categorisation only made sense to scientific researchers, university students and lecturers. University collections provided reference collections especially to medical and natural science tertiary students (Delicado, 2010). Therefore, museum education programming for school pupils was a later development (19th century onwards). Delicado (2010) provides useful information to this study about the development of museums in Europe during the 17th century and the major developments that occurred in the museum circles such as collection developing into specialised collections and the systems of documenting collections in museums.

Museum education programming for mature persons is clearly seen during the 18th century (Ellenbogen, 2018; Smeds, 2012:57). Ellenbogen (2018) posits that in the United States of America during the 18th century museums were viewed as

contributing to new knowledge compared to universities that taught text book knowledge and an increase in museum visitorship by adults was experienced. At the British museum for example access to museums was within the reach of the middle class and museum visitorship indicated a sign of wealth (Senior, 2005). This implies that many museums in Europe during this period were also limited to the rich who had access to museum exhibitions, guided tours, captions and catalogues for learning purposes. The 18th century was also characterised by imperialism where the United Kingdom, France, Germany, Spain, Belgium among others countries had an appetite to annex and colonise other countries to project their political, social and economic will. These European countries believed in the white man being superior over other races hence Africa was in need of European modernity. This supremacist complex also shaped the majority of museum exhibitions in African countries such as Zimbabwe, Zambia, Ghana, Mali and Kenya among other African countries that were colonised (Thondhlana, 2015; Chipangura, 2014; Mataga, 2014; Mew, 2012; Akpomuvie, 2010; Makuvaza, 2002).

During the 18th century, museums in the United States of America, United Kingdom and France provided increased physical accessibility to the nobility but they remained intellectually inaccessible as exhibitions were didactic and remained inventories of specimens requiring scientific investigators to understand them (Smeds, 2010:58; Senior, 2005). What is clear is the fact that during the 18th century school pupils were not part of museum educational programming. During the 18th century museums maintained authoritative, didactic and behaviourist exhibitions (Smeds, 2012:58). These types of exhibitions were mainly designed to instruct hence the museum became the sole transmitter of knowledge whilst museum visitors remained passive recipients of museum knowledges (Smeds, 2012:58). This study benefits from Smeds (2012) through information about some of the advantages and disadvantages of grounding museum education on a

behaviourist educational framework and to link as well as compare behaviourism with other educational frameworks applicable in the museum context.

Museum education programming for school pupils is clearly seen during the 19th century for example in the United Kingdom and the United States of America. Museums in the United Kingdom such as the Leeds City Museum, Manchester Museum, Norwich Museum and Art gallery, Haslemere Education Museum and Horniman Museum provided education programming to school pupils in the 19th century (Carter, 1984:435). School pupils had access to guided tours, study sheets, lectures, museum laboratories and outreach programmes (Carter, 1984:436). School pupils and teachers had access to museum exhibitions and learned through object-teaching. Another development in museums in the United Kingdom was to employ full time education officers who designed tailor made education programmes for school pupils. For example the Victoria and Albert Museum in the United Kingdom employed educational officers to design and administer educational programmes to school pupils (Hooper-Greenhill, 1994). The American Museum of Natural History in New York and the Smithsonian Institution in Washington, DC developed a number of educational spaces in the 19th century where school pupils engaged in hands on educational activities, role play and experimentation to complement museum exhibitions (Lewis, 2018; Hooper-Greenhill, 1994).

In the 20th and 21st century the governments in Australia, France, New Zealand, Germany, the United Kingdom and United States of America recognised the role of museums in attaining national educational standards and curriculum development (Milovanov *et al*, 2017). The Smithsonian Museum in Washington, DC in the United States of America, the Australian Museum and the Louvre in France for example, designed educational programming for primary school pupils

and secondary school students ranging from summer classes, structured class visits, guided tours, holiday art classes, after school museum visits, museum clubs, e-learning facilities and loan kits among other programmes (Milovanov *et al*, 2017; Talboys, 2011; Hooper-Greenhill, 2007).

Technological advances in the 21st century have provided museums in Australia Qatar and Saudi Arabia with opportunities to involve the public in active participation on issues concerning curation of collections and exhibition designing through the use of social media (Ismaeel and Al-Abdullatif, 2016; Decker, 2015; Black, 2012:1-6; Kelly, 2009). The Australian Museum has provided learning opportunities to school pupils and adults through social networking platforms such as YouTube, Flikr, Twitter and facebook (Kelly, 2009). Social media provides users with the opportunity to network and share ideas between themselves and museums. Social media provides users with opportunities to share information, pictures and videos hence learning is afforded by museums through multimedia (Decker, 2015; Xanthoudaki, 2015; Antonaci *et al*, 2013; Falk and Dierking, 2000). Virtual museums have also provided another dimension of museum education. The Virtual Museum of Al Hassa Cultural Heritage in Saudi Arabia provides school pupils with opportunities to learn curriculum related content (Ismaeel and Al-Abdullatif, 2016). Technology provides new ways of learning, networking and a platform for community of learners to share information resulting in learning (Xanthoudaki, 2015:248). Providing content through multimodal formats affords school pupils the opportunity to easily access and learn from museum educational programming.

Some museums in New Zealand such as TePapa Tongarewa and the Australian Museum have taken the initiative to redesign museum exhibitions to suit the needs of the audiences they serve. The New Zealand TePapa Tongarewa redesigned the exhibitions that took a colonial tilt to multi narratives that also

gave voice to the indigenous Maori cultures (Gore, 2002). Museums in the 21st century are required to involve target audiences and indigenous cultures in museum practise in order to design relevant educational programmes that address the educational needs of society (Milovanov *et al*, 2017; Talboys, 2011). The museum education service in some museums in the developed world like the United Kingdom, Australia and the United States of America have inspired many museums in developing countries to design programmes tailor made for different museum audiences. The museum education service in Zimbabwe for example is structured along the British museum education service where structured class visits, loan kits, school-museum visits, quiz and outreach programmes are provided to primary school pupils (Norris, 2012; Nemerai, 2010).

## 2.2 Development of museums and heritage education in Zimbabwe

Museums in Zimbabwe and its education service developed in the colonial era. There are various studies that have been published detailing the development of museums in Zimbabwe (Thondhlana, 2015; Mataga, 2014; Chiwaura, 2015; Mawere and Sigauke, 2015; Muyambo, 2015; Chipangura, 2014; Chaterera and Nyawo, 2013; Fontein, 2006; Ndoro and Pwiti, 1997, 1999; Ndoro, 1994). However, there is scant literature available documenting the development of museum education in Zimbabwe (Norris, 2012; Cooke, 1986; Pwiti, 1994; Summers, 1968; The National Museums of Southern Rhodesia, 1962).

Zimbabwe is a former British colony that was annexed in 1890-1980 (Mataga, 2014; Zvobgo, 1994). The colony was administered by several white Rhodesian regimes. Body-Evans (2017) and Mataga (2014) indicate that the colony was named after Cecil John Rhodes whose British South African Company (BSAC) administration spanned from 1890-1922 (Zvobgo, 1994). The colony was also

administered by the Responsible government in 1923-1953 (Zvobgo, 1994) and became part of the Federation of Rhodesia and Nyasaland in 1953-1963 (Body-Evans, 2017). The colony was also administered by the Rhodesian front headed by Ian Douglas Smith from 1964-1979 (Body-Evans, 2017; Zvobgo, 1994). Therefore from 1890-1979 white settlers in Southern Rhodesia controlled the levers of political and economic power. This also culminated in the construction of infrastructure and formation of cultural institutions such as museums (Body-Evans, 2017; Mataga, 2014; Zvobgo, 1994). The table below (table 1) shows the types of national museums in Zimbabwe, when the museum developed, the city it is located and the nature of collections it holds.

*Table 1: Museums in Zimbabwe and nature of collections.*

| **TYPE OF MUSEUM** | **YEAR THE MUSEUM DEVELOPED** | **LOCATION** | **NATURE OF COLLECTIONS** |
|---|---|---|---|
| Natural History Museum | 1901 | Bulawayo | Natural History |
| Zimbabwe Museum of Human Sciences | 1903 | Harare | Human Sciences/ethnography |
| National Museum of Transport and Antiquities | 1957 | Mutare | Transport and Antiquities |
| The Great Zimbabwe World Heritage Site | Declared a World Heritage Site in 1986. The GZ Site Museum was built in 1960 | Masvingo | Archaeology |
| Zimbabwe Military Museum | 1974 | Gweru | Military Collections |

Museums in Zimbabwe before 1980 sustained a colonial attitude where they collected and created exhibitions that demeaned the African and promoted the dominant culture- a Western Museology (Chipangura, 2014; Mataga, 2014). The majority of research and displays in museums especially those at the ZMM, ZMHS and NMTA took a colonial tilt (Thondhlana, 2015; Mataga, 2014). The origin of the NHM is embedded in the advancement of science, geology and knowledge (Mataga, 2014; Ucko, 1986; Summers, 1968). The development of the ZMHS is located in the colonial discourse of memorialisation of the late royal Queen Victoria in 1901 (Mataga, 2015:168). The NHM, ZMHS and GZWHS were in the formative years under the patronage of the BSAC that contributed much of the resources and funding for their establishment (Mataga, 2014).

The NMTA and ZMM developed as a result of white settler's interest in displaying collections in memory of their close family and friends as well as hunting trophies (Muyambo, 2015; Norris, 2012). The Great Zimbabwe Site Museum (GZSM) was built in the 1960s to display the relics excavated at the monument as well as those found in the landscape. The GZSM was developed as a form of interpretation centre mainly for European visitors to understand the monument but the interpretations found in the site museum were biased towards the colonial government's perspectives of the white men being the dominant race and culture responsible for bringing civilisation or modernity (Ndoro, 1994; Ndoro and Pwiti, 1997; Fontein, 2006). White settlers some of whom had an interest and qualifications in natural history, geology, archaeology and ethnography took up positions at the NHM, ZMHS, ZMM, NMTA and GZWHS where they amassed collections that were used for exhibitions (Mataga, 2014).

Cooke (1986) traces the origins of the NHM formerly known as the Rhodesian museum during the 19$^{th}$ century. The NHM is a product of white settler interest in natural sciences and geology (Cooke, 1986). The development was necessitated

by the desire of the Rhodesian Scientific Association (RSA) to collect the rich natural history specimen in southern Rhodesia (Cooke, 1986:61). In 1900 the RSA held its first Annual General Meeting at which a number of artefacts were put on display in the Chamber of Mines building (Cooke, 1986:61). The museum developed in different stages and in different places. At first the museum rented a room in the Library Buildings in 1901 but due to the fact that the museum collection was growing the museum then acquired a building in Main Street in 1905 (Cooke, 1986:63). The newly constructed museum in Centenary Park was officially opened on 20 March 1964 (Cooke, 1986:65). In 1981 the museum sector in Zimbabwe went through a decentralisation process where each museum was to specialise in certain collections. The museum in Bulawayo became the Natural History Museum specialising in natural history (Cooke, 1986:65).

The NHM has provided educational programming to secondary students and primary school pupils. The educational programmes provided at the NHM included the school-museum visits where school parties accessed and leant from museum displays (Cooke, 1986). This programme included school pupils viewing exhibits and to learn through the information they received from curators or African technicians (The National Museums of Southern Rhodesia, 1962). The museum also provided natural history preservation demonstration sessions for secondary students. This programme assisted secondary students to learn curriculum content related to biology or zoology. The appointment of several honorary curators at the NHM from 1901 ensured that the research arm of the museum was well staffed to conduct expeditions and extensive research on natural history and mineral specimens. The majority of curators were funded to conduct research expeditions across Africa (Cooke, 1986; Norris, 2012). Research was conducted by honorary curators amongst whom were renowned archaeologists, geologists, herpetologists, palaeontologists, ichthyologists, monuments inspectors among others (Norris, 2012; Summers, 1968).

The museum published through the 'Occasional Papers of the National Museums of Southern Rhodesia', Arnoldia, Rhodesiana and Nature journals which became popular with international as well as local scholars and to university and secondary students (Norris, 2012; Cooke, 1986; Summers, 1968). These publications focused mainly on natural history, prehistory and archaeology of the country (Cooke, 1986:64). The research publications produced by the museum were too scientific for the comprehension of primary school pupils. Only a few publications about the prehistory and archaeology of the country were within the reach of secondary students (The National Museums of Southern Rhodesia, 1962). The research output produced by the museum was intellectually accessible to university students and scientific researchers only.

The Queen Victoria Museum later renamed the Zimbabwe Museum of Human Sciences was developed in 1901 and opened to the public in 1903 (Mataga, 2014). The museum started combined with a library under the name-the Queen Victoria Memorial Library and Museum (Mataga, 2014; Gappah, 2011). Gappah (2011) indicates that the museum and library was first located at Girls High School and was later moved to the Old Rhodesia Children's Home in 1960. The museum was to operate on the ground floor whilst the library operated on first floor (Thondhlana, 2015:21). The museum separated from the library in 1951 on which the museum was then later in 1964 moved to the Civic Centre along Rotten Row Road where it is currently located (Thondhlana, 2015). The museum was established to commemorate the death of Queen Victoria of the United Kingdom who had passed away on the 22$^{nd}$ of January 1901 (Mataga, 2014:94). The museum was an outcome of the desire by white settlers to maintain their colonial heritage (Mataga, 2014:94). Funding for the museum was provided by white settlers in the colony (Mataga, 2014:94). The museum operations were controlled by white southern Rhodesians who also defined the narratives that were employed in exhibitions. Museum collections were donated by missionaries, antiquarians, travellers and District Commissioners of the Native Affairs Department and the

police (Mataga and Chabata, 2012:83). Some collections thought to be used for witchcraft were confiscated from Africans through the 1899 Witchcraft Suppression Act (Mataga and Chabata, 2012:86). Further, objects viewed as symbols of colonial defiance were also confiscated such as the Mkwati stick (Mataga and Chabata, 2012:86). This illustrates that the museum exhibitions served to portray the African as uncivilised and the narratives were racially biased towards the dominant culture (Ucko, 1994). In 1981 the museum was renamed to become the Zimbabwe Museum of Human Sciences.

The majority of educational programmes provided to secondary students and primary school pupils at the ZMHS are the same as those described at the NHM. The National Museums of Southern Rhodesia (1962), through its official brochure notes that secondary school students educationally learned through demonstration classes. Primary school pupils had opportunities to participate in school-museum visits (The National Museums of Southern Rhodesia, 1962). The ZMHS has provided teaching material at the museum in the form of films that were produced by the University of Zimbabwe since the 1930s (Kent *et al*, 1978:430). Primary school pupils learned from museum films that included teachings about animals and cultural sites (Kent *et al*, 1978:430). The ZMHS has also provided research material, books and library resources to primary school pupils and secondary students since 1902 (Gappah, 2011). Although the museum managed to produce and make accessible its research publications these were mainly intellectually out of reach to both secondary and primary school pupils (Kent *et al*, 1978:428). The ZMHS has also provided training for school teachers in the form of workshops from the 1960s (The National Museums of Southern Rhodesia, 1962). This was aimed at enhancing the skills of teaching cultural heritage related content. The museum from 1964 had a purpose-built lecture hall and school pupils had the opportunity to make appointments with museum curators for lectures on specific subjects (Thondhlana, 2015).

Muyambo (2015) provides background information of the development of the NMTA and nature of collections as well as exhibitions. The museum was conceived in 1953 by the Umtali Museum Society which was largely dominated by members of the Manicaland Branch of the Southern Rhodesia Hunters and Game Preservation Association (Muyambo, 2015). In 1957 the municipality of Umtali offered the old Silver Oaks building as a temporary shelter for the museum to exhibit on a semi-permanent basis (Muyambo, 2015). The Umtali municipality donated a site in Victory Avenue where a new museum building was built (Muyambo, 2015:21). The NMTA was opened to the public in 1964 (Muyambo, 2015). What is evident from the literature is that museum displays at the NMTA were influenced by white Rhodesians and white curators such as Boultbee, Mennell, Broadley, Methuen, Jackson and Arnold among others (Muyambo, 2015).

The NMTA initiated several education programmes for primary school pupils that included lectures, slide shows, films, excursions and a newsletter that was distributed from 1964. The museum maintained a monthly newsletter that kept teachers and pupils updated on museum events, exhibitions and future plans (Norris, 2012; Muyambo, 2015:19). Museum lectures were provided from 1974 when the museum constructed a purpose-built lecture Hall that was furnished with projectors and other film equipment (Muyambo, 2015; Norris, 2012). The museum also provided lectures and films for primary school pupils and secondary students (Muyambo, 2015; Norris, 2012). The NMTA also provided a reference collection that was accessible to scientific researchers, teachers and pupils since 1960 (Norris, 2012). In the 1970s the museum arranged cultural tours programme for school pupils and developed a Junior Museum Club in 1974 that sought to promote knowledge on collecting and conservation of heritage material (Norris, 2012). The museum club was constituted by primary school pupils. The museum also contributed to education through its research output. The first publication was produced in 1959 called ‘The Herpetology of Southern Rhodesia’ in the Bulletin

of the Museum of Comparative Zoology, Harvard (Norris, 2012). However these publications were too scientific in nature and intellectually inaccessible to primary school pupils. Only scientific researchers and university students intellectually accessed these publications.

The development of the Zimbabwe Military Museum was initiated in the 1960s with the interest of Rhodesians like Mrs Boggie, Mr Fife, Chaplin High School, Army Museum Committee, National Council of Women and the Rotary Club (Ndhlovu, 2015; Thondhlana, 2015:25). These groups with different interests formed the Midlands Museum Association on the 20th of October 1962 to spearhead the formation of a museum in the Midlands and contributed various objects of personal and historical interest (Ndhlovu, 2015:8; Thondhlana, 2015:25). Museum exhibitions took a colonial tilt where the narratives employed served to portray the dominant culture of the Occidental world. Museum education programmes were therefore based on exhibitions that were colonial in nature. The city council availed a site for the construction of the museum on Lobengula Avenue (Ndhlovu, 2015). The museum started with two galleries which were expanded in 1986 (Ndhlovu, 2015). The Zimbabwe Military Museum was opened to the public in 1974 (Thondhlana, 2015:25). The museum was also given land at the Trim Park where it constructed an aircraft hangar in 1983 (Ndhlovu, 2015).

There are very few sources that documents the educational programmes provided to school pupils at the ZMM before 1980. The little literature available is from museum minutes written by R.K Stevens a curator in the 1970s who maintained a militaria collection at the museum. The museum provided museum displays, demonstration classes and loan kits to school pupils and other research organisations (Stevens, 1974). Apart from Stevens (1974) they are no sources that document the other programmes provided by the ZMM until 1987. Nhutsve

(2000) points out that the ZMM made available educational programmes such as cultural tours, guided tours and structured class visits from 1987. Cultural tours involved pupils visiting cultural sites within the region and popular sites included Naletale, Dhlodhlo and Manyanga among others (Nhutsve, 2000). The structured class visits involved school pupils being given study sheets around galleries and working in groups (Nhutsve, 2000).

The Great Zimbabwe World Heritage Site (GZWHS) is a monument made up of dry stone and dhaka structures, a site museum as well as a theme park. The Great Zimbabwe was declared a World Heritage Site in 1986 (Fontein, 2006). According to Fontein (2006:6) the GZWHS by 1891 was receiving European visitors. However, as the site grew more popular with white settlers and European tourists it was decided by the BSAC to employ curators at the Great Zimbabwe monument who were R. Hall in 1902 and Wallace in 1914 (Ndoro, 1997). As the GZWHS grew more popular with European visitors it was also decided to have an interpretive centre that could explain the site to visitors (Ndoro, 1999). The site museum at the Great Zimbabwe monument was built in 1960 and opened in 1961 (Avenue, 1961) with one gallery that displayed relics (Garlake, 1982). The museum building had a library and a reading room that was open all year except on holidays such as Christmas and New Year (Avenue, 1961). The site museum was built to provide information about the Great Zimbabwe monument to visitors (Chiwaura, 2015).

The Site museum was initially built with a library and secondary students had the opportunity to make use of education resources in it (Fontein, 2006; Avenue, 1961). Ndoro (2001:112) points out that initially before independence in 1980 the Site museum at the GZWHS presented the monument as a relic with no relevance to today's socio economic or cultural environment. The displays in the site museum also predominantly made use of the English language as the only mode

of communication and this alienated the majority (70%) of African communities across the country (Fontein, 2006:201; Ndoro, 2001). Another educational strategy employed at the GZWHS was the construction of a theme park called the 'Shona Village'. The Shona village was initially called the Karanga village (Ucko, 1994:276) and it was located near the site museum (Fontein, 2006:203).

The Karanga village was burned down during the second liberation war in Zimbabwe (1966 to 1979) and another village called the Shona village was then built in 1988 on the eastern side of the central ruins (Fontein, 2006:203). This village consisted of displays of pottery making, traditional healer, a blacksmith, carvers and two groups of performing musicians and artists (Fontein, 2006:203). This village was constructed as a way to depict the 19$^{th}$ century life of the Shona who lived at the Great Zimbabwe (Ndoro and Pwiti, 1997:4). The village consists of pole and dhaka structures including kitchen houses, a traditional healer's house and space where traditional crafts are made and sold to visitors (Ndoro and Pwiti, 1997:4). Chiwaura (2015) posits that the Great Zimbabwe was mainly accessible to white settlers and European visitors and local communities were actually being pushed away from living near the site. Pupils from the African populace were restricted from visiting the monument before 1980 (Chiwaura, 2015).

Museums and exhibitions in Zimbabwe were developed within colonial perspectives (Chiwaura, 2015; Thondhlana, 2015; Chipangura, 2014:192). Museum exhibitions were framed within a Western Museology philosophy that sought to portray the white man as superior over other races (Ucko, 1994). Indigenous histories were depicted in museum exhibitions using negative connotations. The majority of exhibitions that grounded educational programming only existed to serve the tastes of white settlers who from the beginning of the development of museums in Zimbabwe donated collections (Chipangura, 2014). The literature reviewed in this chapter indicates that museums in Zimbabwe have

provided limited education programming for school pupils. These include school-museum visits, lectures, films, museum clubs and a reference collection. Secondary students learned from demonstration classes, lectures and school-museum visits. However museum publications were too scientific for the comprehension of primary school pupils and secondary students. Museum education in Zimbabwe is grounded on exhibitions which have been viewed as colonial (Mataga, 2014; Chipangura, 2014; Ucko, 1994). Mataga (2014) also agrees that museum exhibitions and narratives before 1980 were biased towards the white settlers. The classification and arrangement of objects and texts at the NHM for example indicates a tradition that the white man is on top of modernity whilst Africans are backward (Mataga, 2014:135).

In-spite of museums in Zimbabwe providing limited educational programmes for primary school pupils, very little literature is available that documents what, how and the extent to which primary school pupils learn from museums. The majority of research done in Zimbabwe has concentrated on the development of museums (Cooke, 1986; Summers, 1968; Fontein, 2006; Gappah, 2011; Norris, 2012; Mataga, 2014; Chipangura, 2014; Ndhlovu, 2015; Mataga and Chabata; 2015, Thondhlana, 2015). Further another body of research has concentrated on the archaeology of Zimbabwe, the perceptions of the public towards heritage sites and preservation of popular heritage sites such as Great Zimbabwe and Khami (Huffman, 1972a, 1972b, 1981, 1986, 1997, 2007; Cooke, 1974; Summers, 1961, 1969; Collett *et al*, 1991; Collett, 1992; Randall-MacIver, 1906; Mahachi, 1991; Garlake, 1973, 1983; Mabvadya, 1990; Ucko, 1994; Pwiti and Ndoro, 1999; Pikirayi, 1993, 2001, 2006, 2009; Sinclair *et al*, 1993a, 1993b; Ndoro, 2001; Pwiti, 1991, 1996; Pwiti and Mvenge, 1996; Sinamai, 1997; Chirikure, 2007; Chirikure and Rehren, 2006, 2004; Pikirayi and Chirikure, 2011).

There are few published researches that provide information or feedback about national museums and school pupils in Zimbabwe (Mawere and Sigauke, 2015; Pwiti, 1994). Pwiti (1994:340-47) indicates that an 80% increase in visitation was experienced from school groups to museums from 1980-86. This is attributed to the education reforms made by the government that provided equal opportunities to education in Zimbabwe. After 1980 the government in Zimbabwe made primary school education compulsory for all children in Zimbabwe because the education system that existed before was racially biased towards the white settlers. Children from the African populace faced bottleneck opportunities in the education system administered by the colonial government (Zvobgo, 1994). National museums in Zimbabwe gained popularity of providing complementary learning to formal education as teachers seconded from the Ministry of Primary and Secondary education were appointed in the 1990s to work in national museums as education officers (Pwiti, 1994). The appointment of education officers in museums marked an improvement in the delivery of educational programmes that were mainly done by curators during colonial times. National museums in Zimbabwe also occasionally organised workshops for school-teachers to empower them with knowledge which teachers would use to organise improved learning opportunities for their pupils when they visit museums.

Pwiti (1994:345-47) however indicates that the education departments in museums were seriously understaffed in the 1980s and this greatly affected museum education service. For example, each museum had one heritage education officer who was supposed to provide guided tours, conduct outreach programmes, cultural tours, facilitate teacher training workshops among other programmes. Pwiti (1994) provides information about school pupil's museum visitorship patterns in the 1980s, the character of museum education service in the 1980 to 1990s and the challenges museums faced in facilitating learning among pupils. This information is important to this study as it will be necessary and easy to characterise museum education.

Mawere and Sigauke (2015) conducted a study in Chipinge in 2014 involving teachers and primary school pupils. The study aimed at soliciting information about the perceptions of pupils and teachers in rural schools towards museums. The study employed qualitative research and included pupils as well as teachers from 10 primary schools in Chipinge. Only one school indicated that they had visited a museum and had knowledge about what museums do whilst pupils from the other 9 schools knew little about museums as they had not visited any. School teacher interviewed indicated that lack of financial resources inhibited them from visiting museums (Mawere and Sigauke, 2015:329). Mawere and Sigauke (2015:331) conclude that museums in Zimbabwe are silent when it comes to educating and providing learning opportunities to rural primary school pupils. Rural primary schools face a myriad of challenges that includes financial and other resources hence they fail to visit and participate in educational programmes provided by museums.

There is no doubt that museums are important in providing supplementary learning opportunities to primary school pupils and hence improving the national educational standards. Although there is so much literature about the development of museums and education in Europe very little literature exists that documents the development of museums and education in Africa particularly in Zimbabwe before the 19$^{th}$ century. Apart from Pwiti (1994) and Mawere and Sigauke (2015), there is very little research done that documents the educational services provided by museums in Zimbabwe; more-so their educational impact. There is scarcity of literature that details what, how and the extent to which pupils learn from museum educational programmes and therefore, this is the major gap this study fills.

Many African museums especially those in Zimbabwe were created to serve the interests of the white settler communities (Thondhlana, 2015:15). Museum practise and theoretical frameworks have been criticised for aligning to colonial

perspectives (Thondhlana, 2015, Chaterera and Nyawo, 2013). Therefore, they have been calls for the decolonisation of museums as knowledge production centres (De Villiers, 2018; Jagero *et al*, 2016; Mbembe, 2015; Chipangura, 2014; Mataga, 2014; Chaterera and Nyawo, 2013; Ndlovu-Gatsheni, 2013; Maldonado-Torres, 2011; Makuvaza, 2002; Freire, 1972; Fanon, 1963). The following section centres on literature about museums and decolonisation.

## 2.3 Decolonisation and museums

After 1980 national museums in Zimbabwe have made little progress in changing colonial exhibition narratives, displays design and exhibition interpretation (Chipangura, 2014). Jagero *et al* (2016) points out that the majority of captions in museums use jargon and scientific language that is very difficult to understand. Thondhlana (2015) describes national museums in Zimbabwe as 'old wine in new bottles' hence the need for museums to dismantle colonial frameworks still in use. This meant that the exhibitions and the narratives employed have their roots from the colonial period. Chaterera and Nyawo (2013) elaborate that only 1 or 2 exhibitions have been changed or refocused at the ZMM since 1980. Chipangura (2014) agrees with Thondhlana (2015) and Chaterera and Nyawo (2013) that museum exhibitions in Zimbabwe are a colonial inheritance and some of the galleries employ Eurocentric narratives where the white settler as dominant culture were displayed to assert positional superiority over indigenous cultures. Even when the government of Zimbabwe renamed museums after 1980 little was done to refocus exhibitions, interpretations and narratives to include multi narratives and therefore, the change was just cosmetic (Thondhlana, 2015).

This is not a Zimbabwean challenge only and other museums in Africa still battle with issues of decolonisation. For example museums in Zambia, Ghana, Kenya, Botswana, Malawi, Ghana and Mali among other African countries are battling

with issues of decolonising museums from colonial setups (Mufuzi, 2012; Mew, 2012; Akpomuvie, 2010; Mirara, 2006; Arinze, 1998). There are so many scholars that talk about decolonisation but this study reviews the ideas of De Villiers (2018), Mbembe (2015), Ndlovu-Gatsheni (2013), Chaterera and Nyawo (2013), Maldonado-Torres (2011), Wa Thiong'o (1986), Fanon (1963) and Freire (1972). Decolonial thinking has existed since the period of colonisation where many European countries appropriated other countries in Asia and Africa (Mbembe, 2015; Ndlovu-Gatsheni, 2013; Maldonado-Torres, 2011:2; Freire, 1972; Fanon 1963). Europeans employed supremacist systems of governance which alienated indigenous peoples.

In Africa the rise of nationalist movements such as the liberation movements in Zimbabwe gave impetus to engage in armed liberation struggles which gave birth to political independence. However, even after attaining independence the majority of Africans remain colonised (Ndlovu-Gatsheni, 2013). Their education systems and cultural institutions embrace Eurocentrism hence the need for decolonisation from neo-colonialism or coloniality (Ndlovu-Gatsheni, 2013; Maldonado-Torres, 2011). Fanon (1963:43) posits that decolonisation is the creation of a new order, replacing or changing the order of the world (Kreps, 2003: Fanon, 1963:43). Kreps (2003) indicates that former colonial museums in many African countries for example still employ the Western Museology where the major business models and educational frameworks perpetuate the white settler dominant culture and museums in the 21$^{st}$ century are required to embrace the Museology of liberation. The Museology of liberation is where indigenous cultures that experienced poor representation and not given a voice in museum curatorial practise be included in redesigning displays and redressing narratives portrayed in museums during the colonial epoch.

Ndlovu-Gatsheni (2013) and Maldonado-Torres (2011) have postulated several ideas to the decolonisation project. For example they use the word decoloniality instead of decolonisation. In order to understand the term decoloniality, Ndlovu-Gatsheni (2013) and Maldonado-Torres (2011) differentiate decoloniality from colonialism, decolonisation and coloniality. Colonialism is defined as the historical process in history where European nations shared imperial perspectives that led to the invasion and conquest of Africa. This conquest led to the exploitation of natural and human resources and export of excess population for the benefit of empires (Ndlovu-Gatsheni, 2013:13). In contrast decolonisation is a connotation for the withdrawal of colonial administrations that led to political independence of African countries (Ndlovu-Gatsheni, 2013:13; Maldonado-Torres, 2011). Coloniality refers to long standing patterns of power created by colonialism that define knowledge production, culture, labour and relations still in use even after many African countries gained political independence (Ndlovu-Gatsheni, 2013; Maldonado-Torres, 2011). Therefore, coloniality serves colonialism and in the views of Ndlovu-Gatsheni (2015) is maintained alive in books, criteria for academic performance, language we use and the way people think.

Ndlovu-Gatsheni (2013:14) points out that coloniality is the darker side of modernity or it is the despotic residues of modernity. Decoloniality is a concept that arose in the 21$^{st}$ century that observed that many countries still perpetuate and embrace European colonial worldviews of being, power and knowledge production. Attaining political independence in Africa from colonial administrations did not end European ways of doing things and thinking. Decoloniality is the dismantling of relations of power and conceptions of knowledge that generate racial, gender and geo-political hierarchies that came into being during colonisation (Maldonado-Torres, 2011). Decoloniality is premised on three concepts and these include coloniality of power, knowledge and being (Ndlovu-Gatsheni, 2013; 11). Coloniality of power assesses how the

global political is constructed and constituted into the modern power structure. This concept investigates how and the extent to which Africa was relegated from the power structures or non being by the coloniser. Coloniality of knowledge focuses on the politics of knowledge production. This concept raises questions on who generates knowledge in different education contexts. African education systems have for a very long time been subjected to Western defined knowledges and indigenous knowledges disregarded.

Coloniality of being delves much into how Africans were made into subjects and the effects it had on the African way of life. Decoloniality advocates for an inclusive and pluriversal approach to knowledge production (Ndlovu, 2013) where indigenous peoples should be part and parcel of knowledge prodution. Decoloniality is spearheaded by Africans and involves retelling the history of the Africans who have been victims of colonialism or coloniality. It involves redefining knowledge from the vantage point of Africans who have experienced epistemicide. Decoloniality is a call for the democratisation of knowledge production or De-Europeanisation of knowledge. The ideas of decoloniality by Ndlovu-Gatsheni (2013) and Maldonado-Torres (2011) and decolonisation by Fanon (1963) are treated in this study as meaning the same. Fanon's (1963) dialogue about decolonisation as dismantling the once colonised from neo-colonialism is similar to ideas of coloniality expressed by Ndlovu-Gatsheni (2013) and Maldonado-Torres (2011). To avoid confusion and overstretching the research, this study takes refuge in using the word decolonisation to mean dismantling museums from Eurocentricism or Western Museology.

Freire (1972) argues that during the colonial period Europeans engaged in epistemicide. This involved killing the knowledge systems that existed before colonisation (De Villiers, 2018; Hall and Tandon, 2017). European colonisers introduced their knowledge systems but most importantly made the colonised to

view Western knowledge system as the only truth. European education systems modelled indigenous people to imitate the European way of life thus entrenching European values into the colonised's way of life. According to Wa Thiong'o (1986) the process of decolonisation starts with the process of decolonising the mind. Freire (1972) supports Wa Thiong'o (1986) by highlighting that the coloniser knew exactly that the major weapon to colonise Africans is through imposing western knowledge systems. Education is a weapon for social change and the means by which people can perceive, interpret, criticize and finally transform the world about them (Freire, 1972). Therefore, decolonisation has to be achieved through educational projects. Freire (1972) coined the concept pedagogy of the oppressed. The pedagogy of the oppressed referred to the Africans unveiling how they are being oppressed and commit to liberate or transform this oppression into liberation. The second phase of the pedagogy of the oppressed involves Africans removing the myths and beliefs of inferiority left by the coloniser. Education should not become a process of depositing information into school pupils who are perceived as passive recipients of knowledge and this is typical of the behaviourist notions of education (Freire, 1972).

De Villiers (2018:42) points out that there is a drive in the 21st century towards the democratisation and decolonisation of cultural or educational institutions and public spaces. This is evidenced for example by the several student protests around universities in South Africa. Context wise democratisation in the museum setup involves multivocality where local communities are afforded a voice in museum practise. Decolonisation of museums in the views of De Villiers (2018) touches narratives projected through displays to also include multi variant narratives from different museum stakeholders including local ethnic groups. Mbembe (2015) posits that decolonisation is a rejection of the idea that the West defines consciousness and heritage. Although Mbembe (2015) provides a treatise of the decolonisation of university spaces, the views and ideas tabled inspire the decolonisation of museums. For example Mbembe (2015) is of the view that

decolonisation in museums touches on issues related to increased access by people including minorities who have been disenfranchised. Museums therefore, should address barriers to physical, emotional, attitudinal, financial and intellectual access among persons that have been marginalised, segregated and isolated by colonial setups.

Mbembe (2015:6) posit that decolonisation also includes change in colonial names, de-commissioning colonial symbols such as iconography, statues and images. Decolonisation touches the teaching models that have been existence during the colonial period where the teacher took centre stage at instructing knowledge in nonentities (Mbembe, 2015). According to Mbembe (2015:6) these are obsolete pedagogies and there is need to reinvent a classroom without walls in which they is co-construction of knowledge. Decolonisation also touches the standardisation, classification, measurement and grading systems used in educational settings. The majority of formal educational institutions for example have grading systems and definitions of learning that mainly consider hard outcomes. Although it may be difficult to do away with grading systems in educational settings it is imperative that African countries redefine these to include the African Ubuntu educational frameworks (Hapanyengwi-Chemhuru and Makuvaza, 2014).

Chaterera and Nyawo (2013) have initiated a discourse on decolonising museums in Zimbabwe. Museum collections in storage and on display, display design and narratives as well as interpretations of exhibitions in museums in Zimbabwe are a colonial miscellany (Mataga, 2014; Chaterera and Nyawo, 2013). Decolonisation of museums should touch the mental framework of the museum personnel, museum exhibitions, exhibition design, narratives, interpretations and collections in displays. Chaterera and Nyawo (2013) advocated for the refocus or change of museum exhibitions as well as narratives portrayed through exhibitions. This can

be made possible by working in conjunction with indigenous ethnic groups in curation. There is need to decolonise the theoretical frameworks underpinning museum practice in-order to provide relevant and effective learning programmes for museum audiences in Zimbabwe (Thondhlana, 2015; Mataga, 2014; Chaterera and Nyawo, 2013:1-3).

Decolonisation has also been viewed as a complex issue that requires understanding of boundaries. For example, Mataga (2014) and Mbembe are of the view that decolonisation may actually lead to colonisation or encroach into issues of democracy. When many African countries attained political independence everyone including the white settler colonisers became citizens and part of communities constituting the state. Decolonisation issues should allow contributions from everyone in the state so that museums avoid being centres of contestation where some overreacting indigenous communities in the name of creating balanced narratives infringe into the cultural rights of others and eventually lead to the marginalisation of the former coloniser. Mataga (2014) employs the Authorised Heritage Discourse postulated by Smith (2006) which suggests that heritage is a subjective wealth that is constantly used to define what should be valued as heritage by governments. Governments have a huge influence in defining what should be commemorated as heritage and the way museums operate.

The colonial government of Southern Rhodesia (now Zimbabwe) strongly influenced museum narratives in favour of the white dominant cultures and demeaning African cultures. However in the same manner the government in place after 1980 used heritage to define its own version of heritage by renaming cultural institutions and identifying places of cultural value. Therefore, caution should be taken when engaging in decolonial projects to avoid colonising the former coloniser or other ethnic communities. The literature on decolonisation by

the scholars reviewed in this section assists this study with ideas which will be used to make a discourse on the decolonisation of museum education service.

## 2.4 Chapter summary

This chapter reviewed literature about the origin of museums from an international context. Museums in the United Kingdom, United States of America, France, Germany, Italy and Australia during the 15th and 16th centuries started as private collections and developed into cabinets of curiosity where the major use of collections was for personal study and seen as a symbol of wealth in society as well as prestige. Museum collections in the 17th and 18th centuries in the United Kingdom, Australia, United States of America, Italy and France were developed into specialised collections that were intellectually within the reach of mature adults, scientific researchers and university students. Museum education programming for primary school pupils and secondary students was a later development in the 19th century especially in countries such as the United Kingdom, United States of America and Australia. The chapter further reviewed literature about the development of museums in Zimbabwe and heritage education. As a former British colony museums in Zimbabwe were developed by white settlers who modelled museums and exhibitions by employing a Western Museology. The chapter reviewed literature about decolonisation and museums. This literature review is significant in that it provides background information about the education programmes designed for primary school pupils since the inception of museums in Zimbabwe. This will assist to characterise museum education, how school pupils learn and the extent to which they learn from museum education programmes.

# CHAPTER 3

## PEDAGOGICAL ORIENTATION: THEORETICAL FRAMEWORK

### 3.0 Introduction

In-order to fully situate museum learning, this chapter reviews contemporary learning philosophies employed in museums and these are the behaviourist, constructivist and sociocultural frameworks. This is aimed at establishing the applicability of these theories in understanding how school pupils learn in museums. The study adopts the Contextual Model of Learning (Falk and Dierking, 2000) and Ubuntugogy (Bangura, 2005) as effective theoretical frameworks to ground educational programming for primary school pupils. The chapter also reviews literature on the learning outcomes that result from interaction with museum educational programming. This aimed at establishing the methodologies that have been used to measure learning in museums. The Generic Learning Outcomes by the University of Leicester (2003) have been widely used in the museum world to assess and measure the learning that occurs in museums and this study adopts this framework as a tool to measure learning effectiveness.

### 3.1 School pupils and museum trips

The literature available about school pupils on museum trips concentrates on the reasons why teachers and pupils visit museums, factors that influence pupil's learning and the learning outcomes that may be realised in pupils after a tour. Primary school pupils have long been visitors to museums. However little emphasis has been on the experiences of school pupils. Further, whenever

research is done about pupil's learning, it has been through the lenses of the researcher or school teachers because primary school pupils have been regarded as having limited communication skills. Hence school pupil's own voices of what they learn are rarely collected in many studies and this is testimony of a faux pas in accurately reporting pupil's descriptions and experiences of learning (Piscitelli and Anderson, 2001: 271). Therefore, there is minimal literature available that documents the learning processes of primary school pupils in different types of museums and how museums can best facilitate effective learning amongst school pupils. There is need for extensive research into what, how and the extent to which primary school pupils say they learn. In order to fully understand the profiles of pupils on field trips, the following section reviews literature through articulating on the following themes:

1. School pupil's motivations and visit agenda
2. Factors influencing school pupils learning

### *3.1.1 Pupil's motivations and visit agenda*

There are several reasons why primary school teachers and pupils make field excursions such as visiting museums. Primary school pupils and teachers are motivated to visit museums to find information that links and reinforces the curriculum (Bhatia, 2014:151; Melber, 2008; Kisiel, 2005; Orion, 1993). Bhatia (2014:151) studied the perceptions of teachers and pupils towards the Fort Collins Museum in the United States of America and gathered that the major reason teachers as well as pupils want to visit museums is to reinforce the social studies curriculum. The Fort Collins Museum had exhibitions related to the war history of the people who live near the museum and therefore, the museum assisted through relevant content to teach curriculum related content (Bhatia, 2014:152). Bhatia

(2014:191) indicated that the Fort Collins Museum allowed Grade 2 pupils to link with the social studies curriculum through exhibitions and hands on activities provided.

The second reason that motivates pupils and teachers to visit museums is the idea that they will interact and learn from real objects. In many cases in formal education school teachers mainly make use of text books but visiting museums helps them to learn meaningfully using real phenomena. Real objects provide awe, wonder and stimulating starting points for learning in museums (Hooper-Greenhill, 2007, 1994). A good example is given by Hooper-Greenhill (1994) who indicates that the museum environment is different from the formal education setting. A museum that gives opportunities to school pupils to prepare a 16$^{th}$ century meal in a reconstructed kitchen learns more than those who read the recipe in books (Hooper-Greenhill, 2007, 1994). Hooper-Greenhill (1994, 2007) posits that pupils' vocabularies develop when they come face to face with the real artefacts. Museum artefacts provide visual and tactile stimuli which are particularly useful for pupil's learning (Chitima and Mupira, 2017; Bitgood, 2013a, 2009).

Closely linked to the second reason why pupils visit museums for educational purposes is that teachers and pupils like to learn in an unrestricted environment (Parker, 2004; Kisiel, 2005; Falk and Dierking, 1992). The formal classroom has been observed as a restrictive environment bound by a code of dressing and timetable (Hooper-Greenhill, 2007; Kisiel, 2005; Falk and Dierking, 2000). It is known that formal schools work with a timetable, operate with a code and the learning is structured and follows a curriculum. There are opportunities for experiential learning in museums as well as direct contact with objects rather than symbolic exposure to textbooks as in formal school classroom situations (Meiers, 2010; Hooper-Greenhill, 1994; Bitgood, 2013a). This study is an addition to

existing knowledge about pupil's learning in museum environments particularly the perceptions of pupils towards learning in museums as compared to the formal classroom. It will also assert the level of freedom and choice pupils experience when learning from museums as compared to the classroom.

The fourth reason why pupils and teachers visit museums is to physically interact with museum curators and other staff members who are viewed as subject experts. School teachers from the Harlem Charter Kindergarten in the United States of America made a field trip to a farm on the basis that familiarity with farm animals may provide pupils with knowledge of livestock and to meet experts in livestock management (Meiers, 2010:3). The other reason for visiting museums as school parties is to meet an "expert" in the field. Museum staff members as experts in different subjects have been viewed as having in-depth knowledge on cultural heritage. Many pupils and teachers have been observed to visit museums to interact with these knowledge experts to enhance their educational requirements (Meiers, 2010; Kisiel, 2005). Meiers (2010) indicates that pupils are also motivated to visit museums to view a favourite exhibit, to purchase something in the gift shop, to have fun on the bus or to enjoy the break from a normal school routine.

The majority of school teachers believe that field trips provide pupils with opportunities for enjoyment, leisure and learning (Kisiel, 2005). However, not all museum trips made with the intention to learn or to reinforce the curriculum end up with the desirable results. This is because pupils and teachers may approach museums with fact based objectives whilst museum educational programmes aim to impart general knowledge of certain subjects (Meiers, 2010:6). The literature cited above informed the study to consider pupil's visit motivations and visit agenda as influential factors to pupil's learning in museums. This study also

investigated how and the extent to which pupil's motivations and their visit agenda influenced what they learn.

### *3.1.2 Factors influencing school pupils learning in museums*

A study undertaken in Cyprus by Savva and Trimis (2005) explored the responses of school pupils to contemporary art. The study gathered that pupil behaviour is regulated by the social design and nature of educational activities in the museum. For example 81% of the pupils preferred to view three dimensional sculptures over two dimensional paintings. Nineteen percent of pupils cited that they preferred paintings that challenged and pleased their senses. Savva and Trimis (2005) concluded that pupils took interest in three dimensional objects because they were immersed by the elements and principles of design such as size, space, dark and light areas and movement. The research by Savva and Trimis (2005) indicates that the nature of exhibits and the exhibition design influence pupil's choices. This means that social design and elements as well as principles of design play a role in what pupils prefer to view and learn from.

Similar to the findings of Savva and Trimis's (2005) findings, Anderson *et al* (2002) conducted a study with 99 primary school pupils in four Australian museums specialising in art, science and natural and social history. Pupils made recollections of their most amazing and interesting exhibits. Their responses included mentioning big objects, moving items, objects that were odd such as those that were smelly or with sound. Anderson *et al* (2002) further gathered that when asked about their most interesting experiences, pupils' responses always cited experiences that involved active, exploratory and experimenting activities (Anderson *et al*, 2002:220). School pupils preferred leaning activities embedded in the medium of a story. The experience of hearing stories either read or told by

museum personnel were familiar to pupils because museums employed a medium that pupils like and enjoyed (Anderson *et al,* 2002:219-222). Anderson *et al* (2002) study reflects that museum environments and methods of content delivery affect what pupils learn. For example methods of delivery that sought the active engagement of pupils such as telling stories to convey a message were more familiar to pupils and cited as very interesting. Activities that provided opportunities for experimentation, problem solving and hands on provided pupils with learning opportunities. When assessing learning that occurs in museums it is important to include how and the extent to which museum environments as well as the methods of content delivery contribute to pupils learning. This approach is adopted in this study.

Some studies indicate that pupil's characteristics and learning styles influence their behaviour and preferences of exhibits in the museum. Piscitelli *et al* (2003) have investigated how pupils behave and learn from museums in Australia. The study observed pupils in four Australian museums and gathered that pupils of the ages 5-13 years are very active in museums: they are curious, creative, exploratory, capable, energetic, multi-sensory, playful, full of questions, full of ideas, independent, theory builders, knowledgeable and communicative (Piscitelli *et al,* 2003:11). Further, Piscitelli *et al* (2003:12) observed that pupils start their museum visit by rushing around and orienting themselves to the space. School pupils are said to undertake a process of cognitive mapping where they explore exhibitions in random fashion without specifically concentrating on one thing. The study also highlights that after about 30 minutes pupils then slow down and explore more selectively, purposively and quietly. Piscitelli *et al* (2003:13) posits that pupils do not necessarily use exhibitions as they were intended for but rather follow their own interests. School pupils were observed to stop at exhibitions that interest them and enjoy activities that include play and manipulation of materials. The study by Piscitelli *et al* (2003:14) indicates that pupil's personal characteristics influence their behaviour and interests in museums. This study

investigated the pupil's context and the extent to which it influences what and how they learn.

Study sheets have been identified as influencing pupil's learning in museums (Dick, 2014; Nyamupangedengu, 2009; Pollock, 1983). Dick (2014) investigated whether or not the worksheets with high density questions used by pupils in the Johannesburg Zoo promoted curriculum related conversations among pupils. High task density means that pupils are expected to answer many questions in a short space of time hence they did not have the time to look and learn at exhibits of their choices. Some pupils experienced fatigue because the worksheet was very long and it was also found out that there was absence of orientation cues hence pupils spend a lot of time trying to locate the relevant displays. It was noted that the study sheets at the Johannesburg Zoo did not promote observation of exhibits and therefore pupils spent much of the time searching text information sources (Dick, 2014:130). Three things can be learned from Dick (2014). The first thing is that study sheets controlled pupil's movements as they made pupils to concentrate on them. Study sheets that had too many questions requiring pupils to answer them in a short period of time contributed to fatigue among pupils. Thirdly study sheets that did not show the galleries or displays where the answers would be found affected pupil's learning. This study will assess how and the extent to which study sheets contributes to learning among school pupils.

Similar to Dick's (2014) study, Nyamupangedengu (2009) conducted a study in Gauteng province at the Oppenheimer Life Sciences Museum with 8 primary school pupils to investigate the extent to which study sheets promoted learning through viewing the Yebo Gogga Yebo Amablomo exhibition. The most important results from the study were that teachers played a very influential role to pupil's learning. For example teachers who explained to pupils what was expected of them before answering the study sheets assisted to focus pupils on

specific aspects of the museum experience. Teachers who did not say anything before answering the study sheets made pupils to think that study sheets were a secondary activity to do after viewing the exhibition whilst other pupils just completed in silence (Nyamupangedengu, 2009:111). Some pupils were not sure if they were allowed to discuss whilst working on the study sheet (Nyamupangedengu, 2009:111). It was also gathered that some pupils used the worksheets in moderation by answering the study sheets and in some instances viewing the exhibits that interested them. Other pupils exclusively focused on completion of the study sheets visiting only those exhibits that had to do with the questions on the study sheets (Nyamupangedengu, 2009). What can be learned from Nyamupangedengu's (2009) study is that pupils who receive guidance on how they would use study sheets learn effectively as compared to those pupils who are simply left to decide what to do with study sheets.

Contrary to the findings of Dick (2014) and Nyamupangedengu on the effects of study sheets on pupil's learning, Pollock (1983) points that study sheets help to focus pupils on specific issues hence leading to effective learning. Pollock (1983) conducted a study at the Natural History Museum in London with primary school pupils and gathered that the study sheets made pupils to focus on particular elements of an exhibit. Pollock (1983) gathered that study sheets actually helped pupils to learn only the relevant things they were supposed to learn by reducing the number of objects pupils observed and hence focused more on particular objects in an exhibit. This meant that pupils learned a lot from particular objects than to attempt to view and learn from everything. With a host of studies focusing on the effects of study sheets on pupils learning it is imperative in a Zimbabwean context to investigate how pupils make use and the extent to which study sheets facilitate learning. There is no research that has been done in Zimbabwe to assess how and the extent to which study sheets contributes to pupils learning. This study investigated how and the extent to which study sheets as employed by museums in Zimbabwe contributes to pupils learning.

A study carried out in Israel by Dierking and Falk (2006) gathered that tour guides also influenced pupil's museum experiences. The study was carried out at four museums in Israel that included a science museum, a zoo and two natural history museums. The study employed 750 pupils where observations and interviews were used to gather information on what pupils learned. The authors indicate that pupils did not have choice over what they viewed in the galleries because the tour guides took centre stage in everything done in the museum. The tour guides explained and determined the pace taken during guided tours. Pupils were not allowed to go to other galleries by themselves hence they started to be jittery, demotivated to continue and eventually retired to a balcony at the Zoo centre. Dierking and Falk (2006) also gathered that one of the tour guides was asked a question whilst he was explaining an exhibit and was observed being impatient with the pupils whom he discouraged to ask questions. At the two Natural History museums pupils were observed preferring to view stuffed animals and dioramas and deserted the tour guides who explained other displays.

At a Science museum tour guides used scientific language and unfamiliar science concepts that pupils did not understand. This made pupils to be quiet, passive and lose attention. The majority of pupils were also observed leaving groups that had tour guides to view science displays on their own. In the study tour guides that were impatient with pupil's questions displayed an attitude to pupils and this affected negatively their learning. Use of scientific language during guided tours affected pupil's learning as most of the information was beyond the comprehension of pupils. Tour guides influence pupil's movements in galleries and for those that took centre stage in determining the pace at which the tour progressed was viewed as restrictive to effective learning. This study therefore, will observe and investigate how and the extent to which tour guides influence pupil's learning through guided tours which is the chief medium of content delivery under the school- museum visits programme in museums in Zimbabwe.

Tuffy (2011) conducted research at 11 cultural institutions that included the British Museum in London, the Museum of Natural History in New York, The Smithsonian Museum of Natural History, the Smithsonian Air and Space Museum, the National Archives and Holocaust Museum in Washington D.C, the George Washington's Mount Vernon, the DeYoung Art Museum in San Francisco, the SFMOMA Art Museum in San Francisco and the Academy of Arts and Sciences in San Francisco. The study gathered that they are four factors crucial to pupil's learning in museums and these include pre-planning, interaction, task-oriented activities and follow-up. When primary school pupils visit museum for the first time they are usually overwhelmed by the exhibitions and content. The study gathered that teachers that establish the learning objectives of the trip prior to the actual visit assists pupils not to be affected by the novelty factor of the museum environment (Tuffy, 2011:42). Secondly it was gathered that hands on activities contributed to pupil's learning. School pupils that were given tasks to act as tour guides on the days they visited displayed learning outcomes that included hard and soft outcomes. School pupils that were not given some kind of structure were observed wandering about in museums with no specific exhibition to focus on. It was also gathered that teachers who followed up with questions, assignments or quiz two days or a week after the museum visit reinforced what pupils learned. Follow up activities helped teachers measure the extent to which pupils learned in different museums and to fill the knowledge gap. Tuffy (2011) assists this study with information of some of the factors that affect pupil's learning in museums.

There are schools that visit museums with the intention to make self tours. These can best be assisted through the use of mobile devices such as smart phones, geographical location systems and personal display assistants. Cahill *et al* (2011) have designed a software called Zydeco which was loaded on smart phones and personal display assistants. This software on mobile devices was tested in museums across the United States of America and it was meant to assist pupils to

collect and annotate multi-modal data. The software has features that allowed pupils to plan, collect data through taking pictures, review the data and explain the information. It was gathered that handheld devices provided just-in-time mediation and support for pupils during pupil's field trips. The use of mobile devices in museums had the advantage of promoting collaborative learning among pupils (Cahill *et al*, 2011). School pupils enjoyed and learned through experimenting with mobile gadgets that allowed them to record pictures, sounds, take notes, locate museum artefacts and code the information. Cahill *et al* (2011) however noted that new technologies assist pupils to learn in sociocultural contexts but to facilitate effective learning through technology pupils require more structure and guidance. This literature assists this study with information about the opportunities and barriers to learning afforded by the use of new technologies. In this 21st century there is potential for museums to provide learning opportunities if they embrace technology such as the use of mobile devices, social media and virtual museums.

Kennedy and Prager (2008) have researched and published about the built environment that affected school pupils especially of the ages 4-12's learned from museums in the United States of America. Kennedy and Prager (2008) made reference to the Stepping Stone Museum for Children, Maryland Science Center, Museum of Life and Science, Boston Children's Museum and the Health World Children's Museum. Kennedy and Prager (2008:892) mention that museum environments should be designed with the consideration of children's ergonomics. Ergonomics is the process of designing museum environments such as exhibitions and activities so that they fit the people who use them without causing any injury. The first factor is that hands on activities in museums assist pupils to learn meaningfully through the manipulation of puzzles, blocks, games and play. However, manipulatives should be of the right size where knobs should be usable. If manipulatives include parts and pieces, too many parts or pieces can be a management problem and too few can frustrate pupils as they fight over them.

Primary school pupils have been observed to prefer lighter and brighter lighting in the museum (Kennedy and Prager, 2008:895). Dark spaces have been observed to cause pupils feel unsafe and demotivated to view or read captions in such exhibitions (Kennedy and Prager, 2008:895).

Museum captions have also been studied in detail where small font sizes have been viewed to demotivate pupils to read. Texts that are too small are also not intellectually accessible to pupils with visual impairments. Captions that have too many things to read cause visual discord and information overload. Captions that facilitate effective learning have been cited as employing font size 24 where text is even spaced, high contrast with background and use font size from the serif family (Kennedy and Prager, 2008:903). Literature from Kennedy and Prager was used in this study as a basis to measure the effects of museum environments to pupil's learning (2008). Kennedy and Prager (2008) incorporate principles of universal design which are benchmarks of international environmental design of museum environments. This study will assess the physical and intellectual accessibility of museum environments and investigate the extent to which they influence pupil's learning.

The Center for Universal design (1997) developed the 7 principles of universal design that aimed to influence the designing of products and environments so that they are usable by all. The first principle is that of equitable use where museum environments should be designed so that they are accessible and usable by all without segregating others. The second principle is flexibility in use of museum environments where choices in methods of use are provided, accommodate right or left users, facilitate user's accuracy and precision and provide adaptability to the user's pace. The third principle is of simple and intuitive use of the museum environment where complexity is eliminated, accommodate a wide range of literacy and language skills and arrange information consistent with its

importance. The fourth principle is perceptible information where multimodal strategies should be used to communicate information to users. An example is the use of pictures, sound, verbal and tactile among other formats.

The fifth principle is tolerance for error where the museum environmental design should minimize hazards by having signage and warning signs as well as providing visitor comfort and security. The sixth principle is the low physical effort where museum environments and activities should be designed in a manner that does not cause fatigue to visitors. The seventh universal design principle is size and space for approach and use. This principle stipulates that museum exhibitions should be designed in consideration of the sight level concept and principles of ergonomics. The principles of universal design guide the designing of museum environments and educational activities and communications so that effective learning is facilitated. The principles of universal design are also considered in this study in assessing how and the extent to which museum environments are intellectually accessible by school pupils. The principles of Universal design assists this study to understand the kind of learning that occurs in museums and the influence of social design to pupil's learning.

The literature review above about school pupils and museum trips greatly assists to understand the learning theories that have been employed in museums. Museum learning research from the past ten years has concentrated on developing suitable learning frameworks and methodologies of measuring learning among school pupils (Hooper-Greenhill, 2007, Hooper-Greenhill *et al*, 2003; Falk and Storksdieck, 2005; Gammon, 2003; Moussouri, 2002; Falk and Dierking, 2000; Griffin, 1998; Hein, 1998, 1995a). The following sections review literature related to museum learning theory.

## 3.2 Museum learning theory

There are mainly three frameworks that have been associated with learning in museums. These are the behaviourist, constructivist and sociocultural frameworks (Hooper-Greenhill, 2007; Hooper-Greenhill, 2003, 2002; Piscitelli *et al*, 2003; Kelly, 2007, Griffin, 1998).

### *3.2.1 The Behaviourist framework*

The behaviourist educational framework can be traced back to the 18th and 19th centuries with the associationistic conceptions of learning. Behaviourism is synonymous with Edward Thorndike (1874-1949), John Watson (1878-1958), Ivan Pavlov (1849-1936) and Burrhus Frederic Skinner (1904-1990). Behaviourism is a developmental theory that measures observable behaviours produced by a pupil's response to stimuli (Carbonell, 2012). Responses to stimuli can be reinforced with positive or negative feedback to condition desired behaviours. Punishment is sometimes used in eliminating or reducing incorrect actions, followed by clarifying desired actions. Another tenet of behaviourism is that children are born 'blank slates' or '*tabula rasa*'. When applied in the museum, the theory argues that when school children visit museums they are blank slates that require the help of a knowledgeable person to teach them (Carbonell, 2012; Hooper Greenhill, 1996). The behaviourist museum takes a mono dimension or linear approach to exhibition design, knowledge structure and content delivery. A museum that is grounded on the behaviourist approach employs the transmission model of communication (Hooper-Greenhill, 2007, 1999). The illustration below helps understand behaviourism in museums.

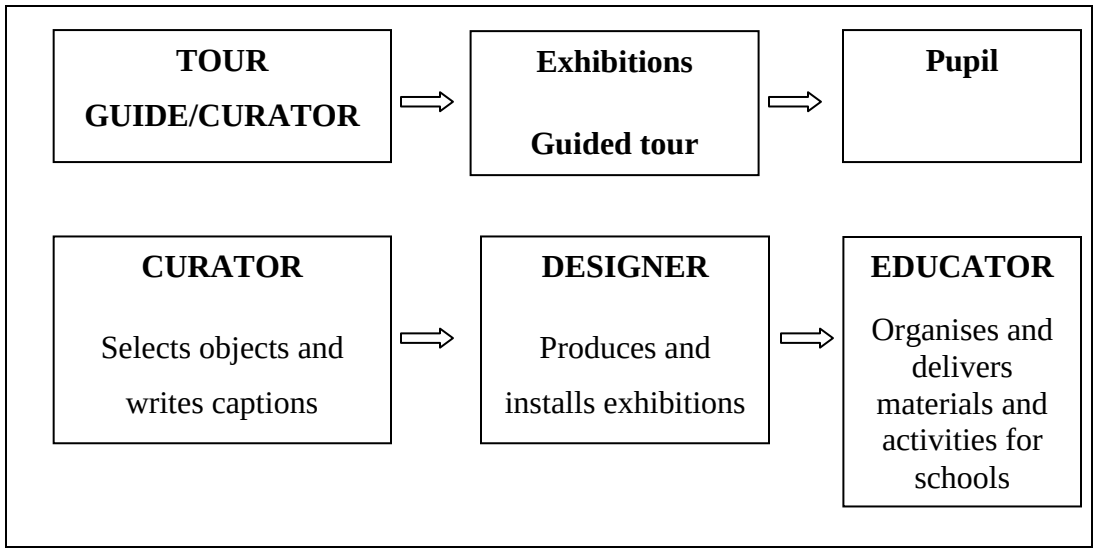


*Figure 1: The Transmission Model (Adopted from Hooper-Greenhill, 1999).*

The diagram above (Figure 1) indicates that the museum is the voice of authority while pupils are considered passive receptors of knowledge. The diagram indicates that the museum is the sole authority in transferring information through their programming and little regard is paid to pupil's prior knowledge, prior experience, visit agenda and motivations, choice and control of the learning process and learning styles. It is assumed that learning occurs when an instructor or knowledgeable person imparts education to those who don't know. The theory is also based upon the idea that learning occurs through conditioning and there are two types of conditioning (Carbonell, 2012; Kelly, 2007; Hein, 1998). These include classical and operand conditioning. Classical conditioning is a technique used in behavioural training in which a naturally occurring stimulus is paired with a response. Operant conditioning (sometimes referred to as instrumental conditioning) is a method of learning that occurs through reinforcements and punishments for behaviour (Hilgard *et al*, 1979). Through operant conditioning, an association is made between behaviour and a consequence for that behaviour (Hilgard *et al*, 1979). When behaviour is followed by a desirable consequence, the

behaviour becomes more likely to occur again in the future. Behaviours followed by negative outcomes, on the other hand, become less likely to happen again in the future (Smith, 1999).

Behaviourism has four major advantages. The first advantage is that some pupils are slow learners or are not academically gifted therefore they will learn more from reinforcement and repetition (Saya, 2012). An example is that a museum might receive pupils who have different levels of understanding or slow learners therefore, when activities are repeated and reinforced the pupils will understand more than if activities are done once. The second advantage of behaviourism is that it will keep the pupils interested in learning by giving a reward for doing well (Surgenor, 2010). When pupils are rewarded it contributes to more motivation and excellent performance as well as buy in into whatever the pupils will be doing in the museum. When pupils are rewarded in the museum maybe through recognition from their teachers or tour guides they are bound to repeat desirable behaviours and understand more of the things they would have done or talked about. The museum can reward pupils through various ways that may include recognising them, passing a positive comment or complement and be given higher order thinking tasks. Behavioural change occurs for a reason and many pupils work for things that bring them positive feelings and for approval from their peers (Saya, 2012). They may change their behaviours to satisfy the desires they have learned to value.

The third advantage of behaviourism is that time is used more efficiently. For example, when pupils visit a museum they are simply taken on a routine that is predetermined and hence saves wasting time and energy on unnecessary things. Pupils will be focused on particular aspects of a museum, exhibition or gallery than to wander and roam about the museum. If school pupils are left to tour the museum without specific things to look at and do, this will lead to time being

wasted. The fourth advantage of behaviourism is that it helps to identify the behaviour being taken by pupils. If the behaviour is negative a knowledgeable person is able to assist timeously whilst the assistance is required. The knowledgeable person or school teacher is able to diagnose the cause of that behaviour, the behaviour taken and what happened after the behaviour occurred. Strategies for addressing challenging behaviours will include: shaping, fading, prompting and modelling (Mimi, 2013). One behavioural approach for dealing with challenging behaviours is called the ABC. The 'A' refers to identifying the antecedent to the behaviour such as diagnosing what happened right before behaviour occurred (Mimi, 2013). The 'B' refers to behaviour and identifying in detail, what behaviour followed the antecedent. The 'C' refers to consequence or what happened when the behaviour occurred. Using the ABC approach to behaviour management helps museum personnel and school teachers know what causes a behaviour (antecedent or stimuli) and what consequence (s), or response, reinforced the behaviour (Mimi, 2013).

Behaviourism has its own fair share of criticism. A behaviourist museum often views pupils as blank slates or as passive recipients of knowledge generated by the curator and tour guide (Kelly, 2007; Hein, 1998). In many instances the curator in a museum defines the message, selects the objects for exhibition, writes texts or captions and passes all this to the display designer as a fixed unit (Hooper Greenhill, 1996). At no stage is the target audience considered or planned for (Carbonell, 2012; Hooper-Greenhill, 2007). Whenever pupils get to the museum they are usually given heaps of information about museum objects from the tour guides (Carbonell, 2012). Little attention is given to their prior knowledge, interests and choices. When pupils are treated as passive recipients they are seen as objects that need indoctrination to understand the information about museums objects (Carbonell, 2012).

The tour guide or curator becomes the focal point from which all knowledge is coming from and the museum becomes the Ivory Tower of knowledge. In this 21st century knowledge is supposed to be shared among pupils in the learning situation (Hein, 1998). The instructor should be a facilitator in the learning process (Carbonell, 2012). Behaviourism assumes that pupils will understand the messages in the same way yet pupils are different (Carbonell, 2012). Pupils have different learning styles (Gardner, 1993). Gardner (1993) argues that some pupils learn meaningfully if music and pictures are used, whilst some prefer to read and write or mathematically solve problems. The behaviourist framework is a typical 18th-19th century educational framework widely used in formal educational settings and not effective in museums (Carbonell, 2012).

Learning should be a shared activity and museums should design exhibitions or activities that facilitate school pupils to construct meaning through social interactions and collaboration with peers. The most satisfying museum experiences for visitors will be those that resonate with their experiences and provide information in ways that confirm and enrich their view of the world (Doering and Pekarik, 1996:20). Pupils are not passive recipients (black box) of information but active meaning makers (Carbonell, 2012; Hooper-Greenhill, 2007; Kelly, 2007; Falk and Dierking, 2000; Hein, 1998; Gardner, 1983; Vygotsky, 1978; Piaget, 1936). Behaviourism is a one-dimensional approach to understanding human learning behaviour and that behavioural theories do not account for free will and internal influences such as moods, thoughts and feelings (Hooper-Greenhill, 2007; Hein, 1998). Behaviourism tends to be shallow in explaining behaviour and learning because it only considers change in observable and measurable behaviours as learning, yet in fact there are various unseen aspects of an individual that are very vital in his or her personalities and learning capabilities.

### *3.2.2 The Constructivist framework*

Constructivism can be traced mainly from the writings of John Dewey (1859-19520, Maria Montessori (1870-1952), Jean Piaget (1896-1980) and Lev Vygotsky (1896-1934) among other scholars. Constructivism is a theory of learning based on the idea that knowledge is constructed by the learner based on mental activity (Vygotsky, 1978). Learners construct knowledge as they learn and interact with the world and are considered to be active agents in meaning making (Zarmati, 2012; Hein, 1998, 1995). Brooks and Brooks (1999) posits that the constructivists view learning as the process of adjusting mental models to accommodate new experiences. Constructivists argue that learning is not the passive acceptance of knowledge which exists 'out there' but that learning involves the pupil engaging with the world. Learning is considered to happen in the mind. A constructivist museum is seen by having exhibits that allow pupils to draw their own conclusions about the meaning of an exhibit (Zarmati, 2012; Hooper-Greenhill, 2007; Hein, 1998, 1995:6). A constructivist museum can also be seen by providing multiple paths and modalities to acquire knowledge (Hein, 1995:6). A constructivist museum will have exhibits that will not have a fixed entry and exit point, where pupils will be responsible for making their own connections with the material and encourage diverse ways to learn (Zarmati, 2012; Hooper-Greenhill, 2007; Hein, 1998, 1995:6).

The constructivist framework has a number of advantages. The first advantage is that educational activities grounded on constructivism allows the school pupil to construct their own meaning and this means that the learner is an active agent in the learning process and not a passive recipient. The second advantage is the opportunity of pupils to make connections with their experiences and prior knowledge (Hein, 1995). Hein (1998, 1995) further argues that meaningful

learning occurs when the pupil needs to connect with their prior knowledge. The third advantage of constructivism is that constructivist exhibits are designed with the needs of the pupil in mind. Museums that employ constructivism makes an effort to design exhibits together with their target audience hence making exhibits more accessible to different groups of people. Hein (1998, 1995:6) argues that constructivism focuses on the pupil and not on the subject to be learned.

Researchers such as Robbins (2002), Hansman (2001), Schauble *et al*, (1997) criticise the constructivist paradigm as predominantly concentrating on cognition as an individual construction. The constructivist theory has been viewed as stagnant and fails to pay attention on how other variables such as the environment, facilitator, interaction, collaboration within pupils, culture and language influence learning (Zarmati, 2012). Falk and Dierking (2000) argues that constructivism has become an ineffective learning philosophy for museums as it does not account for other factors that current research attributes as strongly influencing learning. Currently according to Robbins (2002:5) the emphasis has shifted from cognition to examining how school pupil's understanding and meanings develop within particular social contexts. Effective learning happens to pupils that interact, socialise and collaborate in the learning process.

Learning is also understood to be influenced by our culture, language and within the Zone of Proximal Development (Vygotsky, 1978). Constructivism focuses on the learner yet learning is influenced by the social environment in which learning is happening (Kelly, 2002:11). Zarmati (2012) highlights that constructivism has become a stagnant learning philosophy in Australian museums due to the fact that it only focuses on the individual as learning agent yet educators, teachers, tour guides as well as parents who bring pupils to museums play a bigger role in what pupils learn. Most of the time museums design educational programmes for pupils and the activities done as well as information available often influences learning

(Zarmati, 2012). Further, the way information on objects is communicated influences what the learner will learn (Zarmati, 2012).

There has been a shift from constructivism to the sociocultural philosophy in this 21st century (Hooper Greenhill, 2007; Kelly, 2007; Griffin, 1998). The Sociocultural frameworks such as the Contextual Model of Learning (CML) and Ubuntugogy have been cited as frameworks that best explain how learning unfolds in the museum among pupils and the nature of outcomes to expect when one interacts with an informal setting (Hooper Greenhill, 2007; Kelly, 2007; Griffin, 1998; Falk and Dierking, 2000).

### *3.2.3 Sociocultural frameworks*

Sociocultural frameworks are derived from the ideas of Levy Vygotsky (1978). Vygotsky's (1978) sociocultural conceptions are grounded mainly on two ideas. The first is that learning is mediated by culture and social interaction. Secondly Vygotsky (1978) talked about the Zone of Proximal Development where social interaction occurs between a learner and a more knowledgeable individual assisting in the learning process. The knowledgeable individual assists in the learning process by sharing ideas, concepts and knowledge they have about something hence facilitating learning among those pupils who might have abstract conceptions of issues. Therefore, the major ideology grounding sociocultural educational frameworks is that learning is fundamentally a mediated activity where learners (adults and children) are jointly responsible for their learning (Matusov and Rogoff, 1995). Sociocultural frameworks are grounded on the idea that people usually have meaningful museum experiences if they collaborate, experiment, explore and engage in problem solving. Below are sociocultural models and theories.

#### 3.2.3.1 *Ubuntugogy*

Bangura (2005) developed the ubuntugogy educational framework and this framework is derived from the Bantu word Unhu or Hunhu meaning humanness. Ubuntugogy has been defined as the art and science of teaching and learning undergirded by humanity towards others (Bangura, 2005; Samkange and Samkange, 1980). The first tenet of ubuntugogy is that learning is contextual and socially mediated. Ubuntugogy celebrates the intrinsic worth of unselfishness, sharing, mutual social responsibility, mutual assistance and respect for others (Bondai and Kaputa, 2016; Samkange and Samkange, 2013). This closely aligns to Vygotsky's (1978) ideas of learning where culture and social interaction influence learning among pupils. African culture values the principles of ethics and respect among individuals in the community and therefore, learning occurs through sharing knowledge and skills of doing things. Those who don't know or have abstract conceptions of things will learn from the knowledgeable community members hence learning is occurs through Vygotsky's Zone of Proximal Development. Ubuntugogy advocates for collectivism where pupils learn through interaction and collaboration rather than learning being an individual undertaking.

Ubuntugogy is a framework that aims to facilitate learning of knowledge and skills as well as other virtues that helps to prepare the learner for the world. For effective learning to occur pupils should be presented with content that is relevant to their educational needs, age, physical and developmental as well as cognitive capacities. As Ganyi and Owan (2016) points at, ubuntugogy arranges learning content that is relevant to the needs of the learner and learning is co-constructed between the learner and teacher. Ubuntugogy hence provides relevant content to which pupils meaningfully learn and eventually assist them to create or seek employment after. Museka and Madondo (2012) indicate the idea that ubuntugogy is an approach to learning in which the human character is developed

for a self sustainable life. This is an important aspect of life for example in Zimbabwe where technical vocational skills are being encouraged by the government to achieve political and economic transformation of the country. The major methods of content delivery in ubuntugogy are hands on activities, problem solving, experimentation and exploration and these actively involve the learner in the learning process. The ubuntugogy framework takes place through discovery, problem solving, experimentation, discussion, games, quiz, storytelling, song and dance, poems and rhymes, role play and drama (Samkange and Samkange, 2013:459). Therefore, ubuntugogy is a learner centred educational framework where the role of the teacher is to facilitate learning rather than become the instructor and the learner becoming a passive recipient of knowledge.

The first advantage of ubuntugogy is the fact that learning is socially mediated with others. Learning is not an individual endeavour but it occurs with others and this provides opportunities where a community of learners collaborate in the learning situation (Samkange and Samkange, 2013). Pupils usually visit museums as groups of community of learners and are likely to influence each other's learning through working together to achieve tasks, discussion and exploration (Samkange and Samkange, 2013). This makes ubuntugogy different from constructivism which puts emphasis mainly on learning being a mental scheme. The second advantage of ubuntugogy is the fact that it locates the role of the teacher as facilitator of learning rather than instructor where learners are passive receptors of knowledge. The power structure is that the museum and its visitors are co-creators of knowledge. The third advantage is that Ubuntugogy advocates for the employment of multimodal formats in content delivery. This suits different learners in the museum because pupils have different development and cognitive capacities as well as learning styles. Traditional African education has always made use of participatory mediums of content delivery that actively engages the learner. These mediums of content delivery include song and dance, poetry, drama, role play, folk lore, discussion demonstration, games and experimentation

among other formats. Ubuntugogy can be used to ground educational programming to facilitate effective learning among school pupils in the 21st century.

### *3.2.3.2 The Contextual Model of Learning (CML)*

Falk and Dierking (2000) developed a model that helps to understand learning as it unfolds in museums. An illustration of the Contextual Model of Learning is illustrated below:

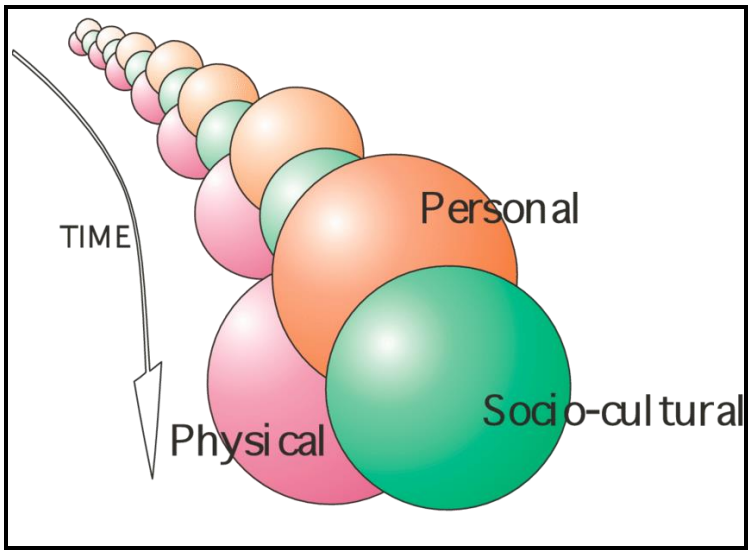


*Figure 2: The Contextual Model of Learning,adopted from Falk and Dierking (2000:12).*

The CML model argues that learning is situated and the nature of learning that occurs in museums is unique. Falk and Dierking (2000) posit that learning is a

process in which three overlapping contexts integrate and interact over time. These three contexts are the physical, personal and sociocultural. The personal, physical and socio-cultural contexts are considered more appropriate in advancing education in museums today.

- ***The personal context***

Falk and Dierking (2000) list five variables in this context that affect and influence how learning occurs in museums. The five variables are: visit motivation and expectations, prior knowledge, prior experiences, prior interests, choice and control. People visit museums for various reasons and with predetermined expectations. These motivations and expectations are what influences people's learning. It has been observed that intrinsically motivated pupils tend to be more successful learners and museums succeed when they attract and reinforce intrinsically motivated pupils (Falk and Dierking, 2000). Pupil's interests also influence what motivates them to learn in museums and can result in positive emotion that encourages action. The personal context includes the learning styles of an individual. For example, a visual learner is likely to learn more when visuals, photographs, graphics are included. As already discussed school pupils have different learning styles and different cognitive development capacities (Falk and Dierking, 2000; Kolb, 1984; Howard Gardner, 1983; Piaget, 1936). Learning should be influenced by an individual's desire to both select and control his/her own learning (Falk and Dierking, 2000).

- ***The sociocultural context***

The variables that influence learning in this context include within group social mediation and mediation by others outside the immediate social group. The Sociocultural theory is a theory in psychology that looks at the contributions that society makes to individual development. This theory is based on three components: culture, language and the Zone of Proximal Development (Vygotsky, 1978). The Zone of Proximal Development is when a knowledgeable peer assists those who do not understand certain issues to learn to learn about through support. Vygotsky (1978) argues that learning is fundamentally a mediated activity where learners (adults and children) are jointly responsible for their learning (Matusov and Rogoff, 1995). Mediation is the key to understanding how human mental functioning is tied to cultural, institutional and historical settings since these settings provide the cultural tools that are mastered by individuals to form this functioning (Wertesch in Steiner and Mahan, 1996).

Vygotsky (1978:57) states that learning appears twice: first on the social level (inter-psychology) and later on the individual level (intra-psychology). Without social and cultural interaction meaning of context and content would not exist. Pupils usually have meaningful museum experiences if they collaborate. Collaborative learning is defined as an instructional method in which students at various performance levels work together in small groups toward a common goal. Collaboration serves as a powerful vehicle of socialisation in human psychological development. Piscitelli *et al* (2003) posit that pupils learn more when they are in the company of family or friends. Pupils are surrounded by other people who interact and communicate with them. As they mature they become part of their social networks (for example school, college, church) that continue to

shape their thinking, learning and development through social interaction (Wang, 2006).

Through collaboration pupils think out aloud. They need this opportunity to think and talk about what they are doing. As they talk they hear themselves and others learn to recognise that which they understand or do not understand. Talking out loud helps pupils clarify their own thinking (Wang, 2006). In a collaborative group pupils are more focused on achieving the task and thus spend much more time on the task in groups than when they would working individually. Wang (2006:151) further asserts that the group situation forces pupils to engage in higher order thinking skills, such as application, analysis, synthesis and evaluation. On the individual aspect pupils will learn more if activities link with their learning needs.

Visitors have been observed to have rich experiences when programmes are organised in order to recognise and build on the diverse norms and values of many cultures. Research has shown that the quality of interactions with others outside the visitor's own social group, for example tour guides, can make a profound difference in visitor learning (Crowley and Callanan, 1998). Learning also involves language and the language we use influences learning. Children learn through talking (Boyd and Maloof, 2000:163), so learners must avail themselves to opportunities for self-expression. Therefore in any learning situation abundant opportunities for talking should be emphasised and encouraged.

- ***The physical context***

According to this model learning is influenced by advance organizers, orientation to the physical space, museum architecture and social design. Learning is 'situated' within a physical context – being bound to the environment in which it occurs. All learning is influenced by the awareness of place. Learning occurs more readily in a supportive environment for example free from anxiety, fear as well as easy navigation from one experience to the next. Falk and Dierking (2000) indicate that visitors react to the physical context of the museum. The physical context includes space, lighting, physical orientation as well as the exhibitions themselves. The architecture and social design affects how visitors learn. Museum buildings that have unique and interesting features have been found to influence positive learning in museums (Bitgood, 2007). Buildings that have enough breathing space, to freely move around offer visitors opportunities to feel free and not restricted. In visitor literature it has been observed that people find live animals and bigger objects interesting as compared to small items (Bitgood and Patterson, 1993).

- ***Time***

Learning is not an instantaneous process of knowledge acquisition and consolidation. Thus experiences occurring after the visit frequently play an important role in determining in the long term what is actually learned in the museum. Falk and Storksdieck (2005) considers five time frames that affect learning and these are the decision making process to visit, the moment of entry into the museum, the times of connections between the visitor and the museum's messages, the moment of exit from the museum and a later commitment where

the museum experience is turned into a lasting difference in the visitor' life. Time is important to learning because people are different and learn different things at different points in life.

This study employed the CML and ubuntugogy as theoretical frameworks. The CML and ubuntugogy are the most suitable learning frameworks that provide a comprehensive understanding of how learning occurs in informal settings such as museums. Unlike formal contexts where learning is considered mainly hinged upon the learning outcomes (the end result of a learning process), the CML and ubuntugogy provides that learning in museums is both a process and a product. The CML and ubuntugogy are applicable in understanding how learning occurs (process) in museums and to explain the learning outcomes displayed by pupils. Learning in museums is contextual and unique because it is affected or influenced by a myriad of factors including personal, physical and sociocultural contexts.

### 3.3 Pupil's learning outcomes

Each country or region in the world has its own set of frameworks that define the expected learning outcomes from an educational unit influenced by their political, economic and social atmosphere or contexts. For example learning outcomes in the formal context are described as specific measurable achievements a school pupil should be able to demonstrate after going through a subject or course unit. In many cases the pupil is bound by a specific code of conduct that include the time in which they are supposed to attend the course, the course works they are supposed to produce, the examinations they are supposed to write in-order to get a certificate of competence in an area. Learning outcomes in formal education are dictated by teachers, schools and examination boards. These entities are responsible for deciding the learning outcomes they want school pupils to

demonstrate. They are no suggestions that school pupils can write their own learning outcomes in formal education. Museums do not provide a curriculum that requires individuals to undergo a course or subject for a given timeframe bound by code of conduct after which certification of competence is issued as reward. Learning in museums is free choice where visitors come to the museum on their own time and with different motives or objectives which may include but not limited to leisure, entertainment, meditation and research. Learning in museums therefore, may be intentional or unintentional and this becomes difficult to measure using formal education assessment frameworks.

Learning in museums has been assessed using both qualitative and quantitative research methods (Bamberger and Tal, 2008; Hooper-Greenhill *et al*, 2007, 2006, 2003, 2002; Griffin, *et al*, 2003; Storksdieck *et al*, 2005; Anderson, *et al*, 2003; Leinhardt *et al*, 2002; Falk *et al*, 2001; Miller, 2001; Lebeau *et al*, 2001; Falk and Dierking, 2000; Leinhardt *et al*, 2002). For example Hooper-Greenhill *et al* (2006) have employed quantitative research approaches where 1643 school teachers and 26, 791 school pupils were involved in museums in the United Kingdom. The longitudinal studies conducted by Hooper-Greenhill *et al* (2006) aimed at establishing the extent to which primary school pupils and secondary students learned from museums in the United Kingdom. The study by Hooper-Greenhill *et al* (2006) provides the extent to which pupils learned from museums in the United Kingdom and the quantitative methodologies employed helped to detail the breadth and depth of learning occurring in museums among pupils.

Chan *et al* (2015), Roberts (2013), Yilmaz *et al* (2013) and Kelly (2007) have employed qualitative research approaches and hermeneutic phenomenology research design to study how museums impacted in visitor's learning. These studies provided data about museum visitor learning perceptions. It has been researched and gathered that combining qualitative and quantitative research

approaches is a powerful way to understand museum visitor's learning from their perspectives (Falk and Adelman, 2003). Qualitative and quantitative research approaches assists to gather data about the perceptions or views, the breadth and the depth of pupil's learning from museums.

Over the past decade research in the museum sector has concentrated on developing frameworks for measuring learning outcomes from museum settings. There are two major studies that articulate frameworks that can be used to measure learning that occurs in museums. The first is Gammon's (2003) framework of learning that stipulates a number of variables to be considered as indicators of learning. These include:

1. Cognitive outcomes
2. Affective outcomes
3. Social outcomes
4. Developing Skills
5. Personal

Gammon (2003) posits that when pupils visit museums they are likely to realise cognitive outcomes where they: acquire new knowledge, reinforce prior knowledge through repetition or direct concrete experience, accommodate or assimilate new knowledge into existing schemas, set prior knowledge into context and learn how to apply existing knowledge. This may also involve experimenting, problem solving, finding creative solutions, connect concepts and draw analogies. Affective outcomes have been described as challenging beliefs, attitudes and values. Affective outcomes can be seen in pupils who demonstrate empathy towards other pupil's viewpoints (Gammon, 2003:4). Social outcomes have been described as developing skills of cooperation, communication and helping others

to learn (Gammon, 2003:4). Gammon explains the outcome of developing skills as problem solving, literacy, being able to appreciate art, skills of research, observation, measuring, classification, testing theories and assessing evidence. Personal outcomes are also explained as increase in self-confidence, self-efficacy, motivation to investigate further, inspire interest and curiosity, increased sense of identity and self-worth. These outcomes as established by Gammon (2003) include hard and soft outcomes that have also been recognised by other scholars as indicators of learning in museums among pupils.

The learning outcomes established by Gammon (2003) align with the Generic Learning Outcomes (GLOs) developed by the Research Centre for Museums and Galleries (RCMG) at the University of Leicester for the Museums, Archives and Libraries Council in 2003. Many studies have employed the GLOs in measuring school pupils learning (Hooper-Greenhill *et al* (2007, 2006, 2003, 2002; Rikinson *et al*, 2004) conducted a study in the United Kingdom where several learning outcomes were realised among school pupils. The study was the first national large-scale study to focus on the learning outcomes of school visits to museums in three regions in England using the GLOs and established the following likely outcomes: Enjoyment, Inspiration and Creativity, Increase in Knowledge and Understanding, Attitudes and Values, Action Behaviour and Progression and Skills. Hooper Greenhill *et al* (2003) indicates that pupils and teachers value enjoyment, inspiration and creativity and knowledge gain in museums. School pupils also find museums useful for school work. Therefore, they learn effectively when they are actively engaged and when the museum experience is fun, exciting and playful.

The Generic Learning Outcomes (GLOs) have been tested and accepted as significant as well as useful across the museum sector as they provide a common structure for research, evaluation, planning and development of the provision for

learning in archives, museums and libraries (Graham, 2013; Sas and Smit, 2011; West Midlands Hub Education Group, 2011; Hooper-Greenhill *et al*, 2007, 2006, 2003, 2002). The GLOs have been used by several museologists and exhibition evaluators to measure the impact of museum educational programmes. This study adopted the GLOs in evaluating learning occurring among pupils in museums as they capture all types of learning outcomes that include affective, cognitive and social as well as development of skills.

### 3.4 Chapter Summary

The chapter reviewed literature related to contemporary theories of learning in order to situate museum learning. These theories included Behaviorism, Constructivism and Sociocultural frameworks. This was done to get a deep insight about how museum visitors particularly primary school pupils learn from museums. The chapter established that in the 21$^{st}$ century museum educational programming for primary school pupils should be guided by sociocultural frameworks such as the Contextual Model of Learning and Ubuntugogy. The chapter also established the Generic Learning Outcomes as most applicable framework in assessing the learning outcomes in museums. The following chapter discusses the research methodology employed by the study.

# CHAPTER 4

## RESEARCH METHODOLOGY

### 4.0 Introduction

This study evaluates the learning that occurs through school-museum visits and structured class visits among primary school pupils. Qualitative and quantitative research approaches were employed to capture the perceptions, breadth and depth of pupil's learning in museums. The study also employed hermeneutic phenomenology as research design in order to get a full understanding of how pupils learn and what they learn in different types of museums in Zimbabwe. Interviews, observations, questionnaires, focus group discussions and photography were employed by the study as research instruments. The study was undertaken from August 2013 to December 2016. It took 41 months of assessing how learning in museum environments was achieved. The study concentrated more on assessing how learning was occurring through structured class visits and school-museum visits. These are the only educational programmes provided by museums throughout the year at all museums and attended by the majority of pupils in Zimbabwe.

### 4.1 Research approach

Museum learning among pupils cannot be measured using instruments from formal school institutions for example end of term examinations, assignments and presentations. Use of formal learning instruments disregard the fact that learning

in museums is free choice and influenced by prior knowledge, prior experience, interest and motivation among other factors (Falk and Dierking, 2000:152). This study employed qualitative and quantitative methods in order to get a full understanding of the perception, breadth and depth of pupil's learning in museums. In using the two research approaches it was possible to gather data about what, how and the extent pupils learned and to statistically document the learning outcomes, pupils' visitorship patterns as well as frequency. Qualitative and quantitative research methods provided a deep insight into school pupil's perceptions or views of learning.

This study employed hermeneutic phenomenology as research design. Hermeneutic phenomenology is a human science which studies persons and the way they view things (Sloan and Bowe, 2014; Van Manen 1997). A person's reflection upon or examination of a situation or experience helps in interpreting the meanings discovered or add value to those types of interpretations (Sloan and Bowe, 2014). Hermeneutic phenomenology seeks to understand how primary school pupils learn from museums that are phenomenological enterprises (Roberts, 2013). The focus of hermeneutic phenomenology is on interpreting subjective experiences of primary school pupils (Kafle, 2011; Sloan and Bowe, 2014). It is an attempt to unveil the world as experienced by the participants through their life world stories (Kafle, 2011:186). The views of primary school pupils were analysed and interpreted as texts expressing what pupils learned in museums.

### 4.2 Population and sample

Data was solicited from 2561 participants that involved 1500 primary school pupils, 1000 teachers, 5 museum directors, 8 curators, 38 tour guides, 6 museum education officers including the senior education officer, 1 display designer and 3

provincial education officers from the Ministry of Primary and Secondary Education. The study used purposive sampling because it concentrated on people with particular characteristics. In order to achieve methodological saturation the researcher employed 1500 school pupils in the study. This permitted the study to gather data about how school pupils learned through SCV and SMV and to quantify the learning outcomes displayed by pupils. This sample also assisted to gather data about pupils learning from all ages and grade levels of pupils visiting the five national museums in Zimbabwe over a period of 41 months. The 1000 school teacher's sample assisted to gather data about what they went through when planning museum trips, why they visit museums with pupils, establish the educational needs of pupils from the teacher's perspectives. These teachers were readily accessible as they accompanied their pupils to museums. Interviews, observations and questionnaires were used to gather data from school teachers.

The study solicited information from museum curators, display designer and tour guides who were accessible or available when the researcher visited the five national museums in Zimbabwe. The study also interviewed 3 provincial education officers from the Ministry of Primary and Secondary Education. Data gathered from interviews was transcribed and arranged in themes. Common patterns were identified from data gathered through focus group discussions, observations, pupil compositions and questionnaires. These patterns were interpreted and described in order to generate meaning.

### 4.3 Data gathering phases and procedures

Data was gathered over a period of 41 months and this was done in 3 phases. The data gathering phases indicate periods in which data gathering was undertaken, the instrumentation used and the procedures followed. Further the phases indicate

the procedures and sample employed in the phases. Phase 1 and 2 ran concurrently as pupils and their teachers visited museums. Phase 3 involved the researcher assessing and evaluating the intellectual and physical accessibility of the museum contexts to primary school pupils and this was based on Kennedy and Prager (2008)'s children's ergonomics, Piscitelli *et al*'s (2003) Children's Museum Experiences Manual and the principles of universal design by the Center for Universal design (1997).

### *4.3.1 Phase 1-Soliciting data from school pupils*

In line with the Contextual Model of Learning by Falk and Dierking (2000) and Ubuntugogy by Bangura (2005) learning is viewed as both a process and a product. The primary purpose in phase 1 was to gather data on how pupils learned in museums and their perceptions of the learning experience. This phase was more concerned with the following questions:

1. How are pupils learning from museums?
2. What is learned by pupils?
3. To what extent are pupils learning?

Data was collected from Grade 1 to 7 primary school pupils at all national museums starting from the first school term to the third term. Primary school pupils visit museums in Zimbabwe throughout the year and therefore it was imperative to collect data from the first to the third school terms. The first term starts in January to April, second term from May to August whilst the third term spans from September to December. A number of instruments were used at this stage that involved entry and exit interviews, listening to pupil's conversations, observations, focus group discussions as well as distributed questionnaires. Specific instruments were used on the different Grade levels 1 to 7.

#### *4.3.1.1* Questionnaires

Questionnaires were distributed to all target museums especially for the Grade 3-7 pupils. The main reason for having pupils' questionnaires was to solicit information about what pupils enjoyed during the museum or cultural site excursion, what they thought they learned and what they expected the museum to provide in their educational programmes. Seven hundred questionnaires (see appendix 1) were distributed to pupils upon entry into museums at the GZWHS, ZMHS, NHM and NMTA whilst at the ZMM they were given after completing study sheets or end of the tours. A one paged questionnaire was designed for school pupils and these were in different languages that included English, Shona and Ndebele to cater for different language speakers. This was also done because some teachers requested some of the questionnaires to be provided in different languages for their pupils.

#### *4.3.1.2 Interviews*

Six hundred and ninety two pupils were interviewed and observed in galleries. An interview protocol (see appendix 2) was designed to interview pupils at entry and exit. Entry interviews with pupils lasted for 15-20 minutes whilst exit interviews lasted about 25-30 minutes. Entry interviews were conducted to gather data about pupil's prior knowledge, visit motivation, interests, agenda and experiences. During the entry interviews pupils were asked if they had received pre-orientation and the general feeling about their trip to the museum. The entry interviews were also conducted to establish the pupils' perceptions of the trip or the museum and this assisted to solicit information about the general museum experience. Exit interviews served to document the views of pupils concerning what they thought they learned, what they perceived to be useful curriculum related content in their learning, what they found to be of interest and establish the extent they connected

school work with museum content. Some schools were not interviewed because they did not spend much time at museums as they proceeded to other leisure destinations.

#### *4.3.1.3 Observations*

This instrument was used to gather data about pupil's learning behaviour. School pupils and tour guides were observed while in galleries. The researcher tracked pupils in galleries to see their movements, body gestures when they encountered museum displays as well as behaviour to analyse if pupils exhibited learning behaviour. Tour guides were also tracked and observed in galleries to examine the type of information they imparted in pupils and the quality of information or tours they gave with regards to different age groups of pupils. The study was more concerned with observing pupil's behaviour to see if they were actively involved in the activities they were doing. The study also observed if pupils initiated their own learning, purposefully manipulated exhibitions or activities, shared ideas with others and helped others use the exhibit.

#### *4.3.1.4 Listening to pupil's conversations*

The study also listened to pupil's conversations in galleries. The purpose of doing this was to witness if pupils displayed behaviour of discussion, made comments and asked questions which are indicative of learning. Discussions that occurred among school pupils during and after the museum visit were recorded. Timing and tracking provided information about pupil's movements, taking note of which routes pupils took, the frequency of stops they made and where they stopped. These variables enabled the researcher to identify patterns of exhibition use and to

explain pupil behaviour patterns. Observations assisted to record pupil interactions, reactions to and behaviour towards specific exhibits. Conducting observations was however time consuming and tiresome considering that the researcher had to be part of the guided tours whenever school pupils arrived at different museums. At the GZWHS the researcher had to atleast tour the whole monument 3 times a day with school pupils. The tours included having to climb the steep hill complex at GZWHS, the Great enclosure, Shona village among other features at the site several times.

#### *4.3.1.5 Focus Group Discussions*

The study conducted a total of 5 focus group discussions, 2 each at the ZMM and GZWHS as well as 1 at the NHM each consisting of 10 school pupils. The focus group discussions lasted for 1 hour each. Focus group discussions were successful in generating data about how pupils view themselves as learners, the barriers they faced and in establishing their needs and expectations as they partake in educational programmes provided by museums. School pupils were also requested (when time permitted) to make brief oral presentations of their museum experiences.

#### *4.3.1.6 Written compositions*

This study analysed compositions written by Grades 3-7 pupils after the visit to the museum. The compositions were collected from school teachers in different schools in Gweru, Bulawayo, Harare, Mutare and Masvingo. It was particularly easy to access and collect the compositions from teachers because after a museum trip, school teachers are usually requested to submit ‘after the museum visit

compositions' written by pupils to school heads. The compositions were effective in soliciting information of whether museum excursions had any impact on pupil's learning. These written compositions were done in English, Shona and Ndebele. A total of 158 written compositions were examined and analysed to see if the pupils captured the ideas expressed in exhibitions. These compositions ranged from one page to three pages and were collected from school teachers in different primary schools.

### *4.3.2 Phase 2-Teachers, museum staff and education officers*

This stage involved soliciting information from 1000 school teachers through interviews, questionnaires and observations. Four hundred teachers were interviewed at all the five museums. Questionnaires (see appendix 3) were distributed to 600 school teachers. Teachers have been identified as one important audience that can assist with information on how pupils learn, what they learn and the extent to which pupils find museum educational programmes meaningful in their lives. Questionnaires were distributed to teachers while interviews as well as observations of teacher behaviour in museums were documented. Formal interviews (see appendix 4) conducted with teachers assisted to gather information related to the planning of museum field trips, their perceptions of museum field trips and impact of museum education towards pupil's achievement. Teachers provided valuable information about how their pupils would like to learn and in identifying areas that need to be improved in order to facilitate effective learning among pupils

The study interviewed 5 museum directors at the ZMM, NHM, ZMHS, NMTA and GZWHS to gather information about the administration of educational programmes, policy issues and challenges museums faced in administering educational programmes. An interview protocol for museum directors was

designed (see appendix 5). In order to gather data about the narratives in exhibitions and the relationship of museum content to the primary school curriculum, interviews (see appendix 6) were conducted with museum curators and education officers. The study also solicited information through interviews (see appendix 7) from 3 education officers in the Ministry of Primary and Secondary Education. These education officers contributed information about the process involved in authorising school field trips and the quality of relationship the Ministry of Primary and Secondary Education has with museums in Zimbabwe.

### *4.3.3 Phase 3-Museum social design*

This phase focused on analysing the impact of the museum facilities, environment, the structure of educational activities and museum exhibitions have on pupil's learning. The museum environment and facilities were analysed mainly based on Kennedy and Prager's (2008) Ergonomics for Children, Center for Universal Design's (1997) Principles of Universal Design and Piscitelli *et al* (2003)'s Children's Museum Experiences Manual. The following questions were explored:

a. To what extent do museum facilities or environments influence learning among pupils?
b. How well do exhibitions, guided tours, lectures, films, study sheets, self tours and e-learning facility match the way school pupils want to learn?
c. What other things in the museum environment apart from those listed above influence pupil's learning?

Observation was the major instrument used in assessing the suitability of museum environment in facilitating learning. The researcher was more concerned about how the physical and intellectual accessibility of museum environments such as exhibitions, educational activities, study sheets, ablution facilities, resting places among other things influenced pupils learning. Further interviews yielded a lot of information from participants since they allowed further probing of respondents. The study interviewed 8 museum curators and 1 display designer particularly on issues related to the museum exhibitions that have been changed or refocused since 1980. Museum curators also provided information about museum narratives and the knowledge which they expected pupils to learn.

### 4.4 Ethical consideration

Ethics are important in research and therefore this research sought consent from participants to be part of the research sample. The researcher made use of an approval form from the Midlands State University to seek authority to conduct research. Permission to conduct research in museums and to involve museum personnel was sought from National Museums and Monuments of Zimbabwe. This permitted the researcher to gain access to museum staff, museum premises, and records as well as the authority to take photographs that were used in this research. Further permission to involve museum staff was also sought from regional museum directors and from each independent member on a voluntary basis. The researcher also liaised with museum education departments to gather data of schools that made bookings to visit museums on specific dates. This was done to make appointments and interviews with teachers or school authorities.

Permission to conduct research with school authorities, teachers and pupils was sought from the Ministry of Primary and Secondary Education in Zimbabwe. A letter was sent through teachers or school pupils to parents whose children were

part of the field trips to seek authority to involve their children in the study. The purpose of the letter sent to parents was to seek authority to involve their children in the study and to take pictures of pupils in museum galleries that were to be used as part of the research findings. Given the nature of museum visitorship patterns it was challenging to get consent from parents whose children visited museums as school parties without making the necessary bookings with museums. In such circumstances, pupils and teachers were made to voluntarily participate in the research. The researcher explained the objectives of the study to all participants before participating in the study. All participants had the right to discontinue at any given time if they felt they were no longer interested and this was either explained orally to them or an ethics clause capturing this was included in the questionnaires.

### 4.5 Reliability and validity

This study was done over a period of 41 months and there was considerable time to assess the learning that occurs in museums among primary school pupils. To ensure reliability of results a variety of research instruments were also used to solicit data from participants and these included interviews, observations, focus group discussions, questionnaires. Reliability of my analyses was provided by my repeated coding and categorisation. To ensure validity of results data collected from pupils, teachers and evaluation of the social design using internationally recognised principles and standards were analysed. Different research instruments were used to gather data from pupils who made repeat visits and this provided reliable evidence of learning. De-briefing sessions with the museum educators following each museum visit and the participation of teachers led to shared views of the events. Museum personnel such as directors, curators, tour guides and education officers were also involved in the study and they provided further perspectives.

## 4.6 Chapter summary

The study employed both qualitative and quantitative research approaches to capture the perceptions, breadth and depth of school pupil's learning from museums educational programmes particularly structured class visits (SCV) and school–museum visits (SMV). A total sample of 2561 participants was employed that involved 1500 pupils, 1000 teachers, 5 museum directors, 8 curators, 38 tour guides, 6 museum education officers, 1 display designer and 3 provincial education officers from the Ministry of Primary and Secondary Education. Data was gathered through three phases. The first phase involved gathering data about pupil's learning where interviews, observations, questionnaires, listening to pupil conversations and analysing after the 'museum visit compositions' were used as research instruments. The second phase which ran concurrently with the first phase involved soliciting information from museum directors, curators, tour guides, school teachers and education officers from the Ministry of Primary and Secondary Education. The third phase involved assessing the physical and intellectual accessibility of museum environments and educational programmes as well as how these factors influence pupil's learning.

# CHAPTER 5

## LEARNING PROCESS: DATA PRESENTATION AND ANALYSIS

### 5.0 Introduction

This chapter presents data gathered about what, how and the extent to which primary school pupils in Zimbabwe are learning from structured class visits and school-museum visits. This served to establish the nature of learning that occurs from these educational activities. The chapter is thematically arranged in categories and the first category presents data about the pupil visitorship patterns and frequency in museums between 2010 and 2015. Data gathered shows that school pupil visitorship has increased since 2010 in all museums although the GZWHS and ZMM record the highest volume of pupils. The chapter presents data about how museum trips are planned from school and the opportunities as well as barriers school authorities and teachers face. The data indicates that schools organise field trips that include going to museums and other resort destinations. The chapter presents data gathered about the character of museum education service in Zimbabwe. This chapter also presents data about the impact of museums towards the primary school curriculum in Zimbabwe.

### 5.1 Response rate

The total number of respondents was 2561. The type of respondents, total number and mode of enquiry (research instrument) used is indicated below (Table 2):

*Table 2: Respondents and the mode of enquiry used.*

| **Type of Respondent** | **Total participants** | **Number of participants and mode of enquiry** |
|---|---|---|
| Primary school pupils | n=1500 | -692 Pupils interviews and observations<br>-5 Focus group discussions (50 pupils)<br>-700 Questionnaires<br>-158 written pupil compositions |
| School teachers | n=1000 | - 400 Interviews and observations<br>-600 Questionnaires |
| Museum directors | n=5 | -5 Interviews |
| Museum curators | n=8 | -8 Interviews |
| Museum education Officers | n=6 | -6 Interviews and Observations |
| Display designer | n=1 | -Interview |
| Museum tour guides | n=38 | -38 Interviews and Observations |
| Ministry of Primary and Secondary Education officials | n=3 | -Interviews |

Given the magnitude of the study the researcher sought assistance in the distribution and administration of questionnaires from museum education officers and tour guides. The researcher interviewed 200 primary school pupils at the ZMM, 113 at the ZMHS, 156 at the GZWHS, 87 at the NMTA and 132 at the NHM. The study managed to interview 692 primary school pupils and the interviews were conducted both at entry and exit of museums. The researcher managed to interview 200 pupils at the ZMM because they were easily available due to the structured class visits provided at the museum. The ZMM visitor records show that the museum on average receives atleast 2 schools and 150 to 300 pupils every day. The other interviews done at other museums were conducted with pupils available on the days the researcher collected data.

There were two forms of questionnaires which were distributed to primary school pupils. The study distributed 150 questionnaires to each museum and therefore a total of 750 questionnaires were distributed to all museums. Seven hundred were returned to the museum where they were collected whilst 50 did not. The study also collected 158 'after the museum visit' compositions from primary schools in Gweru, Bulawayo, Harare, Masvingo and Mutare. These compositions were written upon request by the school authorities. The compositions were collected after 2 weeks of the visit to ZMM. These were a rich source of information that helped document the overall perceptions of pupils towards museums as well as what they learned.

The researcher distributed 600 questionnaires to museums for teachers and all were answered and returned. Questionnaires assisted to solicit data from teachers about their perceptions towards museums and their educational impact to pupils learning. Four hundred primary school teachers were interviewed and also observed in museums to assess the extent to which they influenced pupils learning. The study interviewed 5 museum directors whose interviews lasted for 40 minutes each. The study further interviewed and observed 38 museum tour guides to assess what they go through when they have pupils. The tour guides involved included 6 from the ZMM, 8 from the NHM, 5 from the ZMHS, 4 from the NMTA and 15 from the GZWHS. The study also observed tour guides providing assistance or guided tours to pupils. All 6 museum education officers and 1 display designer were interviewed in museums and their interviews lasted about 1 hour. The museum education officers provided rich information about pupil's visitorship patterns and museum education programmes. Eight curators were also interviewed and observed at the ZMM, NMTA and NHM. The study also interviewed 3 provincial education officers from the Ministry of Primary and Secondary Education. The following section presents data about the pupil's distribution pattern as employed in the study.

*Table 3: Distribution of pupils across museums.*

| **Type of Museum** | **Grade 1** | **Grade 2** | **Grade 3** | **Grade 4** | **Grade 5** | **Grade 6** | **Grade 7** | **Total for each museum** |
|---|---|---|---|---|---|---|---|---|
| **ZMM** | 4 | 8 | 77 | 102 | 96 | 110 | 130 | 527 |
| **NHM** | 3 | 4 | 37 | 42 | 69 | 52 | 76 | 283 |
| **ZMHS** | 4 | 3 | 35 | 27 | 56 | 54 | 51 | 230 |
| **NMTA** | 0 | 4 | 15 | 21 | 30 | 21 | 40 | 131 |
| **GZ** | 3 | 3 | 36 | 70 | 59 | 70 | 88 | 329 |
| **Total per grade level** | 14 | 22 | 200 | 262 | 310 | 307 | 385 | 1500 |

The table 3 above indicates that there were fewer Grade 1 and 2 pupils involved in the study compared to Grade 3-7 pupils. Interviews with 87 (5, 8 %) school teachers at the ZMM and NHM indicated that there is not much for grade 1 and 2 pupils in museums in Zimbabwe. The majority of exhibitions are intellectually out of reach of the Grade 1 and 2 levels. This also included the language used in texts and captions, the nature of content and the educational activities done in the SCV and SMV. The researcher observed that the majority of exhibitions in museums in Zimbabwe were accessible to Grade 3-7 pupils because some of the content was found in their social and environmental studies curriculum. All the 6 museum education officers indicated that the Grade 1 and 2 pupils find it challenging to comprehend museum content and are often left out when educational programmes are designed. For example at the ZMM and SMV are mainly meant for the Grade 3-7 pupils. Although the Grade 1 and 2 pupils may visit or become part of the SMV they are intellectually and physically excluded by nature of museum exhibitions and educational programmes provided to primary school pupils.

In order to make a structured presentation of the data gathered, the results are presented under the following sub headings:

1. Pupil's visitorship patterns and frequency in all museums
2. Planning museum visits and pupil preparation
3. Zimbabwe's museum education service
4. How pupils are learning from museums
5. Museum education and the primary school curriculum

## 5.2 Pupil's visitorship patterns and frequency in all museums

Museums in Zimbabwe have received huge numbers of pupils since 2010 and this is tabulated in the table (4) below.

*Table 4: Pupil's visitorship patterns.*

| Museum | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| **ZMM** | 5008 | 15013 | 12821 | 13616 | 13503 | 14784 | **74745** |
| **NHM** | 7321 | 15346 | 18000 | 15430 | 10768 | 12783 | **79648** |
| **NMTA** | 4590 | 9437 | 7035 | 8204 | 7088 | 6951 | **43305** |
| **GZWHS** | 7450 | 8760 | 9715 | 8001 | 6191 | 14069 | **54186** |
| **ZMHS** | 8944 | 18760 | 13560 | 12915 | 6430 | 8067 | **68676** |
| **TOTAL** | **33313** | **67316** | **61131** | **58166** | **43980** | **117263** | **320560** |

The statistics generated by heritage education officers in all national museums indicated that primary school pupils have long been visitors to museums for educational purposes. The statistics show that from the period 2010-2015 the

ZMM received 74 745 pupils, the NHM 79 648, the NMTA 43 305, the GZWHS 54 186 whilst the ZMHS had 68 676 primary school pupils. Table 4 above shows that museums experienced fluctuating numbers of pupils per year from 2010 and only the ZMM has consistent figures. The ZMM visitor records show that the museum is popular for its SCV where there is a calendar for pupils to visit the museum on specific dates. These pupil visitorship trends are evidence that museums are being seen as vehicles for learning by school teachers and pupils. Museums are being seen as contributing and impacting on the primary school curriculum as they reinforce what pupils learn in the classroom.

At the NHM increase in pupil visitorship has been attributed to three major factors. The NHM is the biggest museum in the country having the largest natural history collection, exhibitions and galleries as compared to other museums in Zimbabwe. The second reason is the museum's proximity to two World Heritage Sites that are Khami and Matopos. Further Bulawayo is strategically located where those schools wishing to proceed to Victoria Falls, a popular World Heritage Site may also prefer passing by the NHM. The GZWHS is also popular because it is a World Heritage Site. Further the GZWHS is seen as a political symbol of national identity both by the government and the public and therefore an important heritage resource which can be used by pupils for educational purposes.

The NMTA receives visitorship from schools especially in Mutare and from other cities where other schools prefer to proceed to popular resort destinations in Zimbabwe such as Nyanga and Vumba among other areas. Nyanga and Vumba are popular for the scenic views, hotels and the chilly rainy weather. The ZMHS receives a sizeable number of pupils because of the nature of field trips planned by schools. Schools prefer coming to the ZMHS, the National Heroes Acre, the famous Chinese Mall in Belvedere, view the high rise buildings in the Central

Business District as well as the Parliament house. The study gathered that school teachers in Zimbabwe plan field trips that allow pupils to view or learn about the cultural and natural heritage as well as the infrastructure found in Zimbabwe. Such kind of field trips assists pupils to learn different aspects of the primary school curriculum especially social, environmental and religious studies.

This study established that during the first school term, museums receive pupils who will be preparing for museum quiz competitions. These quiz groups came as part of SCV and SMV, mainly in small groups in preparation for museum quiz competitions. The study gathered that the Grade 6 and 7 pupils visit museums mainly during the first school term. This is because during the second and third terms the Grade 7 pupils will be preparing for their final examinations from the Zimbabwe School Examinations Council (ZIMSEC). The other grade levels visit any time during the second and third school terms. The calendar at the ZMM accommodates the Grade 5 during the second term and Grade 4 and 3 in the third school term.

As shown in figure 3 below from a population of 1500 pupils, the majority (32.4%) had visited the museum 3 times, 14, 6 % had visited for first time, 30 % had visited twice, 12, 46 % four times and 10, 46 % five times. These statistics show that the majority of pupils involved in the study were second and third time visitors to museums. The second and third time pupil visitors to museums repeatedly went through the SCV and SMV they had experienced earlier in the first visit.

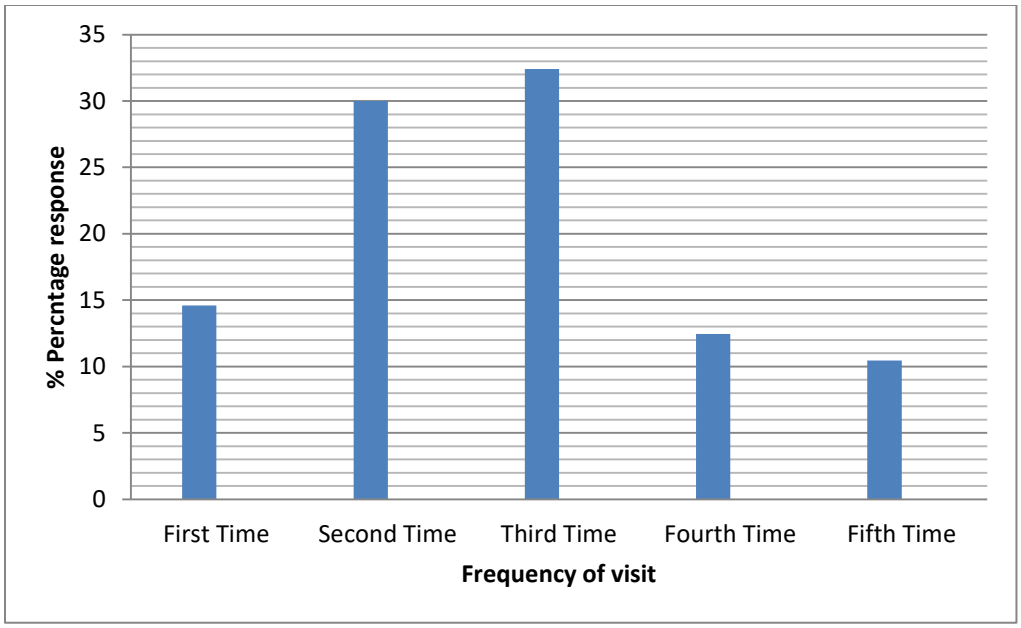


*Figure 3: Frequency of visits by pupils.*

### 5.3 Planning museum visits and pupil preparation

For any museum visit to be possible schools have to seek authorisation from the Ministry of Primary and Secondary Education (MoPSE). A total of 564 (56, 4 %) school teachers and 3 museum education officers indicated that arranging museum field trips, cultural tours or the quiz programme was a very involving process. The MoPSE instructed provincial education structures that no trips were to be made without the authorisation of provincial education offices. This meant that in order for a school in Gweru to visit the GZWHS they were required to seek permission from both the Midlands and Masvingo Provincial Education offices. Schools were also required to satisfy the requirements of MoPSE and these included hiring or using buses that had road permits from the vehicle inspectorate department.

The MoPSE mainly approve field trips at the end of the school terms. Interviews with 2 education officials from MoPSE based in Gweru and Harare indicated that the primary school timetable was congested and it was reasonable for them to authorise field trips at the end of school terms. However, museum trips that were approved at the end of the terms did not effectively contribute to pupil's learning. Most pupils would have forgotten what they learned at school in order to link with museum content. It took those with a vivid memory to remember what they learned at school to relate with museums content if trips were made at the end of second or third terms. When field trips are made at the end of the term pupils do not effectively learn from museums.

Another barrier faced by school teachers in organising museum trips was financial. Museum trips are financed by pupils who pay atleast $ 3 for local trips and $45-00 to $120-00 for trips in other regions in Zimbabwe. For example a school in Gweru with a bus charged $3-00 to the ZMM and this covered fuel costs and entrance fees. For schools that hire transportation the costs could go up and all the costs are met by the pupils or parents. Regional trips were more expensive because the costs included paying for accommodation, food, entrance fees and transport. This financial barrier affected schools that planned field trips in two ways. The first is that pupils who failed to pay were left behind at school or told not to come to the school on the day of the trip. This means that these pupils lose out a lot because their parents would have failed to pay for the trips. The second implication is that trips that are expensive are done once at the end of the year as pupils will be given time to raise the fees required. This meant that pupils will not have the optimal opportunities to effectively learn from the museum trip as compared to a pupil that visits the museum after a classroom learning unit.

The researcher gathered that the choice of destination was vested in the hands of school teachers and school head. There are several factors that were cited as contributing to the choice of a destination:

1. An excursion or trip that was generally affordable by pupils,
2. An excursion that allowed pupils and teachers to visit other leisure destinations,
3. Destinations that provided pupils with learning opportunities,
4. Fulfilment of the museum's calendar especially at the ZMM,
5. If the museum or site had material and content that helped teachers prepare for quiz competitions.

The study gathered from 356 (35, 6 %) teachers that when they planned for museum trips they considered if the cost was affordable to parents. The study interviewed 4 teachers from Mtshingwe primary school who indicated that when planning field trips they considered the economic situation prevailing in the country and assessed if the majority of parents were able to pay for their children. Another factor to consider indicated by 287 teachers was if the field trip included going to other resort destinations. Seven teachers interviewed at the NMTA from a school in Harare indicated that they had come to the museum and proceeding to Claremont Estate apple plantation, Mutarazi Falls, Montclair and Troutbeck hotels and historical sites in Nyanga. School teachers indicated that they wanted their pupils to have knowledge of the natural and cultural heritage in Zimbabwe.

Trips that included visiting a museum and other destinations provides variety to what pupils learn in relation to the primary school curriculum. For example pupils who visit the NMTA would learn topics related to the social studies curriculum particularly topics related to the transport history, the natural and cultural heritage

of Zimbabwe's Eastern Highlands as well as the second liberation war. These pupils will also learn about other topics found in environmental science especially about weather patterns when they visit Nyanga and Vumba. The same pupils will have the opportunity to learn topics related to agriculture when they visit apple plantations in Nyanga and general knowledge about life when they visit hotels in the same region. These trips thus provided optimal opportunities for pupils to learn topics in their Content subject.

A total of 189 (18, 9%) school teachers indicated that they preferred to make visits to museums and cultural sites if it provided the necessary content for the level of the pupils going for the trip. An example is that of 8 teachers interviewed at the GZWHS from a school in Shurugwi who indicated that they preferred destinations where their Grade 6 and 7 pupils learned something related to their school work. The GZWHS provided the relevant learning material for the Grade 6 and 7 pupils whose social studies curriculum included topics on shelter, identity and the study of Shona culture of pre-colonial societies. This assisted pupils to view exhibitions and learn from relevant content and make links to the school curriculum. The study observed that museum trips that are planned to fulfil the curriculum often helped pupils to focus on specific issues in the museum rather than a trip where pupils have no idea of what is expected of them.

Another factor considered by school teachers when planning museum trips was if the field trip helped them plan for museum quiz competitions. One hundred and twelve (11, 2 %) school teachers indicated that they planned museum trips with the idea of getting an opportunity to learn and prepare for museum quiz competitions. The school teachers indicated that they preferred a museum trip that provided an opportunity to get coaching from museum education officers or tour guides and prepare for quiz competitions. The study observed that schools that received coaching from museum staff performed better than those that did not.

Tour guides for example, provided content to teachers and pupils that were more relevant to quiz competitions.

The study established that the majority of pupils that visit museums in Zimbabwe were not adequately prepared for the trips. Preparation of pupils for a trip involves articulating the objectives of the trip and this helps to focus pupils and achieve what is required of them. Preparation of pupils also involves providing orientation to pupils and this helps with providing mapping information of the museum, galleries and exhibitions to focus on most. From a population of 1500 only 152 (10, 13%) pupils indicated that they received pre-orientation. The pre-orientation included the teachers articulating to pupils what they were going to see, how they were going to use museum knowledge and link with their curriculum. For example, 14 Grade 6 pupils at the ZMM indicated that their teacher taught about the second liberation war prior to the trip and this assisted them with information about the gallery they were going to focus on. Therefore, when these pupils visited the ZMM they focused more on the Zimbabwe Military History gallery where they spend about an hour writing notes related to exhibitions.

Another 10 pupils interviewed at the NMTA indicated that they came from a school in Harare. They visited the NMTA because their teacher had told them to gather information related to terrace farming at Ziwa and therefore were glad to see an exhibition of that nature in the museum. The major objective given was to understand what terrace farming meant and how the Ziwa culture preserved the land. These pupils indicated that they mainly wanted to gather data about this before viewing other exhibits. Preparation of pupils assisted to focus pupils on specific issues of the curriculum as provided in museum exhibitions and content as well as to provide a mapping orientation of the museum. Time was managed efficiently as pupils simply went specifically to the gallery they were told to focus on.

The study also gathered that a total of 1348 (89, 87%) pupils indicated that they were not told about the objectives of museum trips or how they were going to relate the knowledge they got from museums to classroom work. There was a view by some teachers that pre-orientation was to be done at the museum by the tour guides. Forty three school teachers across museums believed that tour guides have the role to provide pre-orientation of the museum before entry. School teachers had an opinion that tour guides know better what the museum offers and the map of the museum than them hence they expected guides to play that role. It all worked to the detriment of pupil's learning as tour guides also expected teachers to pre-orient their pupils before coming to the museum. The study established that the orientation given by tour guides before entry into the museum is shallow as it served to inform pupils of the rules and regulations of the museum. The effective type of orientation would involve telling pupils what the museums were about, the activities to be done by pupils, the nature of galleries in museums and how pupils were to find specific content that link with the curriculum. The lack of pre-orientation affected first time pupil visitors as they spent time trying to map the museum and understand the exhibitions displayed.

The majority of these pupils did not carry with them any stationery to write notes. The pupils were not also given some kind of preparation which made them spend more time in museums trying to map the physical orientation of museums. These pupils were affected by the novelty factor of the museum setting. The novelty factor is when pupils try to map what the museum is all about. They waste time by doing so because they will be rushing from one gallery to the next without properly scrutinising displays. School pupils that were not told of the objectives of the museum trips were not optimally prepared for learning. The majority of pupils to museums were not optimally prepared for museum trips by their teachers.

## 5.4 Zimbabwe's museum education service

Museums in Zimbabwe are a colonial inheritance because they were primarily created by white settlers before 1980. In 1980 the Zimbabwean government inherited all the five national museums that have been developed by their predecessors. The NHM was opened to the public in 1901, the ZMHS in 1903, the NMTA in 1957, the GZSM in 1960 and ZMM in 1974. These are the five national museums inherited in 1980 when the country attained political independence from the Rhodesian Front headed by Ian Douglas Smith. Museums were renamed by the government in 1981 to reflect names of an independent country. It is important to note that museums during the colonial period had different names which were changed after 1980. For example the former Rhodesian Museum is now the Natural History Museum in Bulawayo, the Queen Victoria Museum is now the Zimbabwe Museum of Human Sciences, the Umtali Museum is now the National Museum of Transport and Antiquities, the Midlands Museum is now the Zimbabwe Military museum and the Great Zimbabwe is now the Great Zimbabwe World Heritage Site.

It was gathered that museums in Zimbabwe have a long tradition of providing an educational role to pupils. Museum education officers at the NHM, GZWHS, NMTA and ZMM indicated that the majority of museum exhibitions in Zimbabwe that are the major vehicle for educational programmes for pupils were created successively from the 1900s especially at the NHM and ZMHS. In 1980 museums in Zimbabwe were inherited as they were and only a few exhibitions have been changed. A curator from the NMTA indicated that museum exhibitions were inherited as they were although some very few museum displays have been refocused or changed since 1980. It was observed that museums in Zimbabwe have made an effort to change the displays created during the colonial period. However the rate at which exhibitions are being changed or refocused is

painstakingly slow. The majority of exhibitions inherited in 1980 are the same being used to ground educational programmes. School pupils find relevance and learn more from the few permanent exhibitions that were changed or refocused after 1980 more than exhibitions that originate from the colonial period.

### *5.4.1 Exhibitions changed or refocused*

The ZMM refocused the Zimbabwe Military History gallery and the Zimbabwe Republic Police gallery. A few aircrafts were also included after 1980 in the exhibitions found at the Trim Park. The NMTA replaced an exhibition on geology with another focusing on the Eastern Districts cultures in the Beit gallery. The Transport gallery at the NMTA is also largely another 1980 development. Post-independence displays at the ZMHS include an open habitat display, parts of the Stone Age and Iron Age exhibitions were refocused to avoid the racist narratives that were there before 1980. These exhibitions now highlight the theory of human evolution, rock art of hunter-gatherer communities of southern Africa, state systems and iron smelting as well as stone masonry technologies. The NHM has changed and refocused the Hall of Chiefs gallery to Hall of Kings, the snake exhibitions by adding live snakes. The NHM has also enlivened the mammalogy gallery to have a display of hippos in the wetland and wildlife within the wet as well as dry seasons. The museum has included a coelacanth rare fish display and included a mine shaft display in the geology gallery. The Hall of Man exhibition at the NHM is also an exhibition developed after 1980. Although museums in Zimbabwe have done some work to try and change museum displays the majority of permanent displays developed before 1980 still remain the major basis for educational programming. Therefore, museums in Zimbabwe to a larger extent continue to maintain exhibitions that carry the colonial mindset. Some exhibits have inadequate documentation which limits pupil's learning.

### *5.4.2 Museum education philosophy*

The study established that museums in Zimbabwe employ the behaviourist learning framework. This was seen by the museum tour guides who took centre stage in teaching pupils. The nature of the SMV submitted pupils into the hands of the tour guides. When pupils arrived at the different museums they were simply taken through a guided tour where the tour guide provided information to pupils. There were very few instances where the tour guides provided opportunities for pupils to ask questions. In the case of SCV at the ZMM pupils were randomly selected and grouped without input from teachers and pupils. Through SCV and SMV teachers and pupils are dictated to, not given a chance to collaborate and contribute to the learning process. Museum SCV and SMV provide a platform where the tour guides take centre stage, become the instructor whose job is to teach primary school pupils. This reduced pupils to become passive recipients of knowledge.

It was also observed that when school pupils visited museums tour guides did not bother to establish the prior knowledges, prior experiences, visit agenda or motivations and interests of pupils and teachers. By not establishing the prior knowledge pupils had tour guides repeated the same explanations pupils knew and heard the last time they visited. When pupils arrived in museums tour guides who mainly handle visitors provided some kind of pre-orientation where they articulated the rules and regulations of museum. The pre-orientation included telling pupils that there were not supposed to make noise, not allowed to take photographs unless paid for and not to handle or touch museum collections as a conservation measure. The study also observed at the ZMM where a school teacher who spoke after the tour guide's pre-orientation indicated to the Grade 1 and 2 pupils that if they misbehaved the police personnel manning the entrances

were going to arrest them. This deposited fear in those pupils who spent the whole tour quiet.

Pupils participating through SCV and SMV were expected to learn from tour guides and from museum exhibitions. A tour guide interviewed at the NHM indicated that museums have artefacts that were not found in other educational settings and pupils were supposed to react to collections on display as well as learn from them. Museum exhibitions provided the content in which pupils were supposed to learn from. Another tour guide interviewed at the NHM indicated that they expected pupils to react in awe or excitement when they see real snakes which they usually see on television. The study also gathered that tour guides assumed that pupils learned the same way the same content. For example, tour guides expected pupils to learn from the explanations they delivered in many cases using English, scientific language and jargon. When pupils kept quiet listening to the explanations given by tour guides this was interpreted as a sign of learning among pupils. Silence or pupils memorising and regurgitating the information on captions was interpreted as evidence that the tour guides were effectively teaching yet this was not the case always. There were few cases in which tour guides asked questions because they expected pupils to be listening to their explanations. Whether it was silence or pupils responding to tour guide's questions by regurgitating what was written on caption a blanket conclusion was given that pupils understood what the tour guides explained and learned from museum exhibitions. No effort was made to establish which parts or content pupils learned from museum exhibitions and how it linked with the primary school curriculum.

It was also gathered that the majority of exhibitions in museums in Zimbabwe are similar to cabinets of curiosity. The 18$^{th}$ century cabinets of curiosity are known for having mixed and congested artefacts in displays with just the name of the

artefact accompanying the collections. The exhibitions show that they were designed to show the grand status of collections museum hold. These exhibitions show that their creators had the intention to display the quantity and nature of collections they hold. The majority of exhibitions in museums do not have adequate documentation accompanying them. These types of displays limited pupil's understanding since displays had so many artefacts mixed and congested together.

### *5.4.3 Education policy*

Apart from museums in Zimbabwe employing the behaviourist perspective as educational framework grounding museum educational programming museums operate without an education policy. Museums in Zimbabwe make use of a Heritage Education Service manual that was developed in 2010. This manual contains information that is aimed at assisting education officers in museums with information about the different educational programmes they provide to pupils. The manual aims to equip museum educational officers with operational parameters on how they may go about in providing educational programmes for primary and secondary pupils. The study discovered that the Heritage Education Service manual is grounded partly on behaviourism and constructivism.

### *5.4.4 Educational programmes for primary school pupils*

There are 6 main educational programmes in museums in Zimbabwe which primary school pupils learn from. These include:

a. Outreach Programme (OP)
b. Cultural tours
c. Adopt ‘A’ Site Programme (AASP)
d. Museum Quiz programme (MQP)
e. School-Museum visits (SMV)
f. Structured Class visits (SCV)

#### *5.4.4.1 Outreach programme*

The outreach programme was developed in museums in the 1960s and aims at providing learning opportunities to teachers and pupils in remote rural areas. Many schools in rural areas cannot afford to make museum visits that are located in big cities. The mobile outreach programme is provided by museums to both primary school pupils and secondary students as a way of bringing and making the museum accessible to the underprivileged populace. Each museum in its region organises outreach programmes where they may spend two weeks showcasing a tactile collection and education officers interacting or interfacing with rural pupils and teachers. Museum education officers try to find a central place or school that is accessible to other schools within a chosen district. The education officer at the ZMM indicated that a district can have 8-15 schools. All museum education officers expressed that the outreach programme assisted the majority of pupils to understand what a museum is and learn history and cultural heritage. Fifteen teachers interviewed at the GZWHS indicated that it took their school 5 years to raise resources to visit the GZWHS and the outreach assisted them effectively as a teaching resource on issues related to culture and cultural heritage.

However the outreach programme faced several challenges. All museum education officers interviewed mentioned that the outreach programme was being affected by lack of adequate funding and all-terrain vehicles to cover all districts in the various provinces. The education officer at the ZMM noted that the majority of their tactile collections were getting destroyed due to the use of an unsuitable vehicle during outreach. However in most cases the majority of rural schools do not have buses or vehicles to move pupils to the school where outreach teams will be camped. Some pupils walk over 20 to 30 kilometres to the venue where museum outreach teams will be located. When pupils walk these long distances they are susceptible to fatigue and this affects their learning. Further, because there will be many schools within the district at the venue, pupils tend to congest in a single or two classrooms that will be dedicated for outreach exhibitions. The study gathered that since the 1960s museums in Zimbabwe have been experiencing financial challenges to fund outreach programmes and therefore, in some instances trips were not conducted. In other instances outreach was conducted once or twice per year when resources permitted. Even when conducted, outreach teams spent 3-5 days in the field due to unavailability of resources. This meant that the time spent by museum education officers with pupils and museum objects was limited.

#### *5.4.4.2 Cultural tours*

Primary school pupils also learn through cultural tours that developed in museums in the 1960s and this involves pupils visiting cultural sites for educational purposes. Cultural sites in Zimbabwe are under the different regional museums. Schools meet all the costs for cultural tours including transportation and admission fees. The major challenge to cultural tours is of poor road infrastructure to access cultural sites in Zimbabwe. Further, not all schools have school buses and tours are mainly undertaken by well-resourced schools.

#### *5.4.4.3 The Adopt 'A' Site programme*

The AASP was initiated after the NMMZ realised that many cultural sites in remote areas were getting destroyed due to human, animal and natural factors. This programme was initiated in the 1990s in the Southern region before spreading to other regions. By 1994 all regions were implementing the programme. The AASP was an innovative way of managing such sites by giving schools the mandate to take responsibility of sites. These schools in turn used these sites for educational purposes while also taking care of the sites. The AASP has been cited by school teachers and education officers as a successful programme as it provided unlimited access to cultural sites for educational purposes. The education officer at the NHM indicated that schools were contributing by cutting down grass within the perimeter of the cultural sites, employing conservation measures that protected the sites from destruction. The museum education officer also indicated that museums would in some cases buy footballs for these schools and contributing to their development.

#### *5.4.4.4 The Quiz programme*

The quiz programme is another flagship programme provided by National Museums and Monuments of Zimbabwe. The director at the ZMM highlighted that the quiz programme started at the ZMM in 1993 and was later provided by the other museums. Initially, the competitions only reached provincial levels but since 1994 the quiz programme was extended to national level and is held on the International Museums Day on the 18$^{th}$ of May. The quiz programme is accessible to both urban and rural schools pupils and it has various stages, starting at cluster, circuit, district, provincial to national levels. Quiz teams are mainly constituted by museum clubs found in many primary schools and comprise the Grade 3 to7

pupils as well as having 5 to 20 pupils. When pupil's quiz team visit museums they are usually provided with guided tours or may choose to make self tours. School pupils who participate in this programme have ample opportunities to visit museums and cultural sites several times as they progress through the competitions. Museums prepare quiz syllabi that teachers can use to prepare their pupils. In the competitions only three pupils are selected to represent their schools although the quiz team may be made up of more than three students. Schools foot the costs for field trips. Often quiz teams focus on specific exhibits, topics or issues as they attempt to fulfil the quiz syllabus given to them by museum education officers. The study also gathered that some schools may get time to be coached by museum education officers.

The museum education officers in all museums and teachers indicated that the quiz programme faces several challenges. Twelve teachers reflected that quiz questions were very difficult for pupils to answer hence the need for coaching from museum education officers. In many instances pupils face questions that relates to heritage in Southern Africa yet museum exhibitions do not have such information. Teachers strongly expressed the view that quiz questions should be based on Zimbabwe's heritage and the formal school curriculum. Teachers also often face challenges in accessing the quiz syllabus.

The following section centres on a detailed characterisation of the SCV and SMV. These two educational programmes are the most established educational programmes that are provided throughout the year in all national museums in Zimbabwe.

#### *5.4.4.5 Structured class visits*

The structured class visit programme is only provided at the ZMM and it was created at the museum in 1989. The SCV operates with a calendar that is designed in a manner that the Grade 6 and 7 pupils visit the museum during the first term, Grade 4 and 5 pupils visit during the second term and Grade 3. The lower grade levels (grades 1 and 2) may visit the museum but they do not learn meaningfully from SCV because they are no study sheets for this level. The Grade 1 and 2 pupils have the opportunity to access museum exhibitions and a museum film. The visitor booking records kept by the ZMM education department shows that the majority of schools that come for SCV are from Gweru urban and peri-urban. On average a school group can spend about 3 to 5 hours at the museum but some just spend about an hour because they will be proceeding to other leisure destinations.

Study sheets and films are the major medium of instruction used in the SCV at the ZMM to facilitate learning. Forty three school groups observed at the ZMM brought to the museum a whole grade level for example all Grade 4. These are big groups with 100 to 300 pupils on the same day. The majority of pupils in schools in Gweru are government schools that are overpopulated where the teacher to pupil ratio is averagely 1 is to 50 pupils or more. The number of pupils visiting the ZMM is testimony that many schools have become involved in the programme. On another note the study observed that huge volumes of pupils in museums affected the quality of pupils learning. The tour guide to pupil's ratio was 1:50 or more making it difficult for tour guides to effectively supervise, demonstrate and assist pupils in galleries.

When primary school pupils arrive at the ZMM they are given an orientation on the rules and regulations of the museum. Depending on the size of the visiting classes, pupils were randomly divided into manageable small groups of four and given a study sheet to complete. Upon completing the study sheets at the main museum, pupils were made to watch a film. The Grade 3 pupils were shown a film called 'Sarah Helps her friend' whose subject matter is about how sugar daddies lure young children to have sex with them and ruin young girl's lives and the risks of contracting HIV/AIDS. The theme of the film is related to the topic found in the Grade 3 social studies curriculum. The film is about 30 minutes long and three dimensional in nature and pupils took interest in it. The Grade 3 pupils took interest in the film because it is more like a cartoon that teaches life skills.

Grade 4 pupils are shown an animal documentary titled 'Bush school' and this film is almost 1 hour long. The bush school film has sections where pupils learn about animals such as snakes, leopards, vultures and lions. The film aims to inculcate a deep understanding of mammals, birds and reptiles a topic found in the environmental science curriculum. The duration of the film is slightly too long for pupils of this grade level hence some pupils observed displayed signs of relapse in attention and fatigue. Grade 5 pupils are shown a film titled the 'Anglo-Ndebele War'. This film features King Lobengula (1845–1894) a Ndebele king who was lured into a mining deal with Cecil John Rhodes. The Ndebele armies and the British South African Company forces are also seen fighting each other in the Matopos until Lobengula is defeated due to Rhodes' use of superior weapons (guns against spears as used by the Ndebele). This film gives insight into how Zimbabwe was colonised and how the first resistance wars started. The Grade 5 film is about 1 hour 10 minutes long and pupils of this grade level were able to comprehend the content because the film links effectively with the Grade 5-7 social studies curriculum. The film also links with the Zimbabwe Military History gallery exhibition that has artefacts related to the First and second liberation wars.

Grade 6 pupils are shown ‘Londolozi’ which is again an animal documentary. This film showcases animals like the zebra and crocodiles. Pupils are expected to learn more about the natural heritage in Zimbabwe and how it aides tourism. The Londolozi film is about 1 hour 20 minutes long. The duration of the Grade 6 film is too long to attract the attention of pupils especially those who would have started by answering study sheets and end up watching the film. The study observed that by the time the film ended pupils displayed behaviour indicative of fatigue such as being restless. The film relates very well with the primary school environmental science curriculum. This film is not different from that shown at Grade 4 level (Bush school animal documentary). Therefore, the museum is providing a film that does not allow pupils of this grade level to critically think and reason as well as utilise effectively their level of cognitive development.

Grade 7 pupils are shown a film titled ‘Spirit from the Past’ whose subject matter is the Great Zimbabwe World Heritage Site and the archaeology found at this monument. The spirit from the past film is about 1 hour and 25 minutes long. This film is relevant to the social studies curriculum as it helps pupils learn content related to the cultures of the Shona, shelter, traditional dances, archaeology and history of pre-colonial societies. After watching the films pupils are then given questions to answer related to what they had been watching. The SCV allows pupils to have food breaks in between the educational activities of answering study sheets and watching films.

From 2010-2015 the SCVs were attended by 670 primary schools. As earlier alluded to the SCV is popular for its calendar where primary pupils visit the museum on prescribed dates. The museum receives primary school pupils more than other museum audiences like secondary, tertiary pupils as well as family groups. The ZMM is the only museum that has successfully provided structured class visits since 1989. The education officer at the ZMM indicated that the

working relationship they have with the provincial education officer was established in the 1980s and 1990s. Therefore it is now a culture where the museum designs a calendar which is submitted to the MoPSE provincial offices and authorisation is given. The museum education officer further indicated that the provincial MoPSE officer greatly appreciated the role of museums in providing educational opportunities to pupils.

#### *5.4.4.6 School to museum visits*

The SMV developed in the late 1900s and is currently provided by all museums. School teachers may book to bring pupils to the museum on the dates they prefer. At these museums the major medium used to convey content is a guided tour. Under normal circumstances it takes about 2 hours for tour guides to finish touring the ZMHS and the NMTA and atleast 3 hours to provide a guided tour at the GZWHS and NHM. School pupils upon arriving at museums are given pre-orientation of the museum by tour guides. This involves articulating the rules of the museum to pupils.

At the NHM pupils receive guided tours and are asked questions by the tour guide as they move around galleries. The NHM also provides an e-learning platform where pupils can book a lecture with the education officer and also make use of computers at the museum. The e-learning facility helps pupils navigate the internet, research and access online collections provided at the museum. At the GZWHS pupils are given an orientation of the monument at the entrance gate and are taken through the site museum, the hill complex, the great enclosure, the valley complex and the Shona village. If there are many pupils on a particular day, there is no specific structure of how and where to start the tour.

Due to the lack of a substantive education and uniform entrance fees polices, access to museums by pupils is varied. Schools that fail to pay for guided tours are left to view museums on their own. The ZMM charge $2 for admission and this also covers guided tours whenever a school requests. For primary school pupils the GZWHS charges $1-80 for entrance and guided tours. The NHM charges $3 for entrance inclusive of a guided tour provided the school would have booked in advance. The following section characterises how primary school pupils are learning from museums.

## 5.5 How pupils are learning through SCV and SMV

Primary school pupils are learning through study sheets, guided tours, films, self-tours, lectures and e-learning. This study considered the following learning processes in evaluating how pupils were responding to the educational programmes in the museum:

1. Pupil's behaviour indicative of learning and nature of interactions
2. Movement patterns and choice of exhibits as well as time taken on them
3. Pupil's level of participation in educational activities
4. Quality of content received by pupils and effectiveness of method of delivery

### *5.5.1 Study sheets/Activity sheets*

Study sheets in museums in Zimbabwe involve a set of questions that pupils are supposed to respond to by either ticking the answer provided on the sheet or by

way of writing down or drawing the answer. Study sheets are provided at the ZMM, NMTA and ZMHS. All schools that participate in the SCV at the ZMM are given study sheets to answer. The situation is rather different at the NMTA and ZHMS where study sheets are given when school teachers upon request or when school groups are not larger than 40. Study sheets at the ZMM, ZMHS and NMTA are only provided to Grade 3-7 pupils. The education officer at the NMTA indicated that they used to provide study sheets to every visiting school group but due to limited resources they only now provide upon request. Study sheets are used as medium of content delivery and pupils learn through them in different ways.

When pupils arrive at the ZMM they are randomly grouped into groups of 4 pupils. The researcher observed that this grouping of pupils facilitates some level of social interaction and collaboration among pupils. Pupils learned from each other and they all made effort to locate answers to study sheets. When pupils shared information everyone in the group learned from the explanations of others. The nature of collaboration included different pupils groups assigning each other specific tasks of searching for answers in the displays found in galleries. The pupils also learned from each other through discussing their findings. This made pupils to learn from the views of others. The study also observed that pupils learned communication skills, team work and sharing ideas with their group members. Pupils who worked together to achieve tasks also learned through discussion. These conditions made pupils to be actively involved in the learning process.

A group of Grade 5 pupils were observed in the Zimbabwe Military History gallery and overhead conversing over how the exhibitions in the gallery linked with their school work. The pupils were able to link the history of the first and second liberation wars with the content they learned at school. All pupils

contributed to the learning process and were able to tolerate each other's contribution. The answers they collectively agreed on were noted down on the study sheets. The different groups of pupils were also observed talking about some of the artefacts they saw in the galleries. Plates 1 and 2 illustrate how groups of Grade 6 and 7 pupils worked in unison, shared ideas, collaborated in answering study sheets in the ZMM.

*Plate 1: Grade 6 pupils answering study sheet in the Aviation gallery, ZMM.*

*Plate 2: Grade 7 pupils answering study sheet in the Zimbabwe Military History gallery, ZMM.*

The study sheets provided some form of structure that made pupils to focus on tasks and certain exhibitions or displays. When a museum receives so many pupils like 300 a day it is challenging to effectively control them in galleries. Tasking pupils to answer study sheets provided some focus and level of control over pupils some whose behaviour could be classified as delinquent. It was observed that some pupils only concentrated when the tour guide came to check on their progress. The study observed that there were some pupils who engaged in

wrestling, tagging each other, running uncontrollably in galleries and not contributing to the answering of study sheets. This mainly occurred when tour guides attended to other pupils in other galleries. Therefore, to a big extent and with the presence of tour guides as well as teachers study sheets served to focus pupils on specific tasks and learning.

Study sheets provided pupils with different or assorted type of knowledges that included museum based knowledge, general knowledge and curriculum related knowledge. The study sheets at the ZMM contain questions whose answers are found in each gallery at the museum. Four school teachers from Cecil John Rhodes viewed study sheets and the type of questioning as strategic because it introduced pupils to different knowledges. This type of questioning strategy provided pupils with content that covered some few issues found in the Content subject.

Study sheets at the NMTA assisted pupils to focus on specific issues on an exhibit hence allowing pupils to learn more about museum collections on display. For example, a study sheet for the transport gallery at the NMTA request pupils to study diagrams that have missing information. Pupils are then required to fill the missing information. This type of questioning gives opportunity to pupils to study artefacts in detail in-order to find the missing information on the diagrams hence learning more. A group of 15 Grade 7 pupils were observed in the transport gallery at the NMTA. These pupils took about 40 minutes in the transport gallery reading through diagrams and pictures, analysing and critically assessing exhibits as they tried to find the missing information. They went through the wagon inside the transport gallery several times studying it and critically assessing its design in-order to map what was missing on their diagrams. The part where pupils drew promoted learning among the visual learners. Pupils were also seen showing each other what they had drawn and this invited discussion over their choices of

drawings. Study sheets at the NMTA helped to provide learning of museum displays.

The researcher observed that even when pupils collaborated in groups and shared information some struggled to find answers to some of the questions on study sheets. A tour guide at the ZMM assisted pupils in the galleries as they answered study sheets. The assistance given by the tour guide enhanced pupil's learning because the guide demonstrated and explained in detail how exhibits worked. When the tour guide explained pupils jotted down information they received. The group of pupils was also heard asking questions to which the tour guide explained in detail (Plate 3). The assistance given by the tour guide enhanced pupil's learning because of detailed explanations he gave about exhibits.

*Plate 3: A tour guide demonstrating to pupils in the Aviation gallery, ZMM.*

There are a number of challenges presented by study sheets that affected pupil's learning. Study sheets at the ZMM are all in English and not all pupils that came at the museum were proficient in English. The study observed a group of Grade 5 pupils that were in the armoured vehicles hangar. Some of the group members were struggling to read some of the questions. The pupils indicated that they preferred study sheets that were designed in Shona because it was their first language. These pupils had to get assistance from the tour guide as they took long to understand the questions and move on to other galleries. Pupils learn in different ways. Some understood quickly when certain languages were used in the learning situation. Pupils and teachers indicated that there should be use of multi languages in museums.

The researcher also gathered that study sheets at the ZMHS and NMTA (Appendix 10) incorporated the use of Shona and provided opportunities for pupils to draw. This provided opportunities for read and write as well as visual learners to learn meaningfully. These types of study sheets were more intellectually accessible to pupils as compared to study sheets at the ZMM (appendix 8 and 9). Study sheets that incorporated the use of different languages and drawing as medium were more accessible to many as compared to multiple choice study sheets. The study sheets at the ZMHS had several characteristics. The first characteristic is that they were designed using different languages that included Shona and English and this made it easier for different pupils language speakers. The researcher gathered that 134 pupils requested study sheets that were in Shona. Only 87 pupils preferred study sheets that were designed in English and these were mainly coming from pupils from a private primary school in Harare. The study sheets at the ZMHS were given to each individual pupil and the learning that occurred to them was solitary. Pupils were observed drawing and filling answers of their choice.

A major challenge with the study sheets at the ZMM was that they are in multiple choice format (appendix 8 and 9). Multiple choice questions are a hindrance to effective learning as some pupils guess answers. The study sheets at the ZMM provides room for pupils to guess answers as pupils are required to simply tick answers provided on them. This promoted lower order thinking among pupils. The study sheets at the NMTA (appendix 10) promoted both lower order and higher order thinking. The study sheet used for the transport gallery provides diagrams where pupils are asked to identify and name the artefacts looking similar to the diagrams. The study sheet also incorporates spaces where pupils are supposed to provide their responses by writing down their responses and explain or justify their choices of responses.

The study sheets at the ZMM mainly promoted detective skills where pupils locate the answers that are on captions in different displays. Study sheets at the ZMHS had similar challenges where pupils copied answers from their classmates. The researcher observed 45 pupils at the ZMHS that consisted of Grade 3-7 pupils. The group was subdivided into groups of 5 pupils and given study sheets to answer. A group of 10 pupils were observed rushing around the different galleries and when the tour guide requested the study sheets it was impossible for the pupils to make responses and therefore quickly copied the answers from their friends. The 10 pupils did not have time to work as a cohesive group hence meaningful learning did not occur. Such pupils do not meaningfully learn from the museum as they simply rely on other pupil's efforts.

Another observation was that pupils tend to follow the bully or dominant pupil in the group. The 45 pupils observed at the ZMHS had 1 male pupil who demonstrated behaviour of a bully. Seven pupils left their groups to follow the bully who seemed to control everyone. This pupil instructed other pupils to follow him when he talked. This occurred because the teachers sat by the reception

whilst the 2 tour guides were providing guided tours to other school parties that had come to the museum. Therefore, the behaviour displayed by bullish pupil affected or disrupted the learning of others.

Study sheets in museums were viewed as providing little freedom to pupils as they consumed much of the time answering them. The study sheets to some extent controlled pupil's movement patterns in the museum. For example, the 527 pupils involved in the study at the ZMM indicated that the study sheets did not provide them with choice and freedom. Out of the 527 pupils 456 pupils mentioned that study sheets were restrictive as they spend time attempting to answer them. The researcher also observed that pupils answering study sheets at the ZMM were glued to them and after completing the sheets were told to move to other galleries. Pupils did not have ample time to view exhibits of their choice and learn more about them.

### *5.5.2 Guided tours*

All museums in Zimbabwe provide guided tours and it is one of the most established medium of content delivery. Guided tours are provided mainly by tour guides who explain exhibitions to visitors. Through guided tours pupils receive information or explanations about museum displays. The study observed that guided tours mainly assist first time pupil visitors to understand museum artefacts. When pupils arrived at the museum they were introduced to the rules and regulations of the museum. The tour guide then moved from gallery to gallery explaining the exhibitions. After explaining every gallery the tour guide reinforced pupil's learning by asking questions about what they had learned. Pupils were able to link museum content with school work. Guided tours provided a platform where pupils could learn from someone knowledgeable about museum

exhibits such as tour guides and room for dialogue between pupils and tour guides as questions can be asked. For example two Grade 5 pupils provided glowing reports on their learning experience after a tour at the NHM.

> ***Respondent 1:****"I really learned a lot about rock formation and mining. The museum teacher explained well how rocks are formed and we learned that at school. I also learned about mining and the minerals like gold, diamond and lead". (NHM)*

> ***Respondent 2:*** *"The museum teacher was very clear when he talked about lions. He said lions are carnivores meaning they live on other animals. He also said that lions see well during the night more than other animals". (NHM)*

Pupils whose prior knowledge was established had better opportunities to learn. Out of the 38 tour guides observed in all museums providing guided tours 7 guides established pupil prior knowledge before viewing the galleries. This involved asking pupils what they knew about museums or the museum, the extent to which the pupils knew the subjects and content of exhibits and their relationship to what they learned at school. This assisted the tour guides to identify the pupils' knowledge gaps. For example, a tour guide at the GZWHS received 62 pupils from Mushimbo Primary School and started by asking them what they knew about the monument. The tour guide discovered that the pupils were aware of cultural sites like the Great Zimbabwe because they had once visited Mutoko ruins. The tour guide then asked if they knew the societies that lived there and how they built the ruins. Pupils articulated on many legends and stories but did not have any information about the construction of dry stone structures. The tour guide then emphasised and explained more about the different

wall types to the pupils. Establishing pupils' prior knowledge helped the tour guide to focus on filling the knowledge gaps identified during the guided tour.

From the 38 tour guides involved in the study 10 did not even attempt to establish the prior knowledge pupils had. Twenty one (21) tour guides asked questions as the tours progressed. However the questions they asked were purely related to artefacts on display and this did not help to assert the knowledge gap that existed in pupils. For example, a tour guide at the NHM asked questions whose answers were readily available on exhibit captions. Pupils from the group simply regurgitated the answers that were found on the captions. Tour guides who did not bother to ask questions took centre stage as they explained the displays. A tour guide at the GZWHS indicated that pupils come to the museum without knowledge of the GZWHS and it was their duty to educate them.

Tour guides differed in the way they provided guided tours. Some made pupils to role play whilst some rushed pupils through the monument in order to assist other groups of pupils. Primary school pupils that were actively involved in guided tours demonstrated learning outcomes. Evidence of this can be derived from the GZWHS and ZMHS. A group of 17 Grade 6 pupils touring the Shona Village at GZWHS was involved in dancing 'Mhande', a cultural dance popular in Masvingo. Four pupils said that they thought it was evil to be involved in traditional dances. After participating in the dances these 4 pupils indicated that their perceptions positively changed towards traditional dances. Another 10 pupils from the same group were involved in role play at the Hill complex. Pupils were involved starting at the Blood path, where they were made to make salutations and the royal cave where they were also made to shout on top of their voices. Pupils who participated in role play displayed strong cognitive gain outcomes as compared to pupils from other schools who were treated as passive recipient of

information. Four teachers accompanying the group said that their pupils enjoyed and learned a lot about the monument because they were actively involved.

Pupils who had the opportunity to touch collections or managed to manipulate them displayed zeal and interest to learn more about the objects. A group of 32 pupils in Grade 5 and 6 observed at the ZMM showed more interest on the Vickers Viscount plane and armoured vehicles. This was because they were allowed to get inside the Viscount plane as well as the armoured vehicles. One of the pupils that managed to get inside the armoured vehicles said that he learned that the Marmon Herington police armoured vehicles were used during the Rhodesian period to suppress the African nationalists. This was indicative of learning due to fact that the pupils were intrinsically motivated and enjoyed manipulating the museum collections. Examples of the pupils that managed to manipulate the collections are given in Plates 4 and 5.

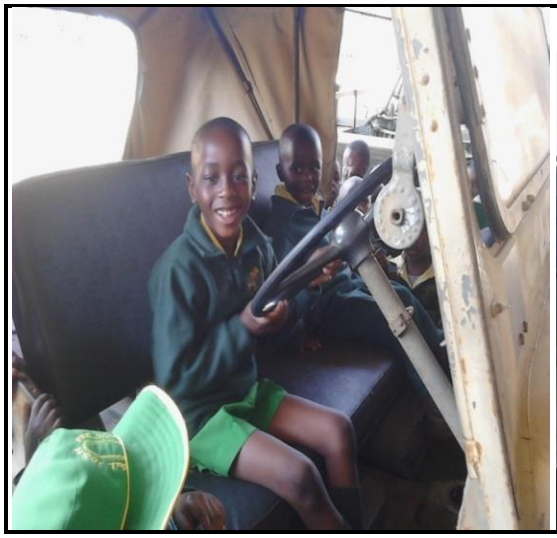

*Plate 4: Grade 3 pupil manipulating the the Willy's Jeep artefact, ZMM.*

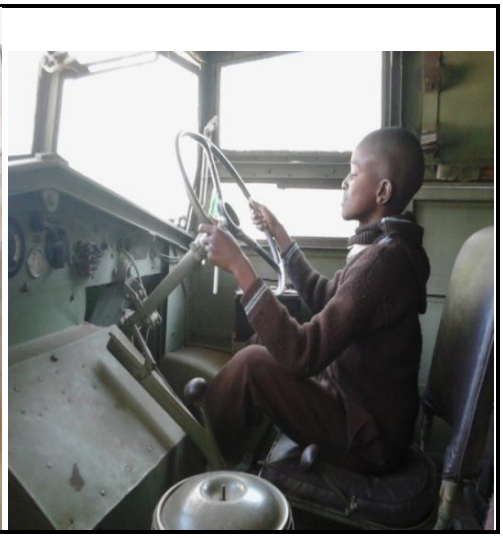

*Plate 5: Grade 6 pupil manipulating Marmon Herington vehicle, ZMM.*

Guided tours that included pupils being given choice and time to view displays of their choices provided opportunities for meaningful learning among pupils. Pupils given time to view exhibitions of their choices after guided tours cited that they enjoyed and learned more because they were able to view what they wanted. A group of 16 Grade 6 pupils were observed at the ZMHS viewing the exhibits of their choice. Nine of the pupils went to view the Shona Village whilst 3 viewed the Mbuya Nehanda exhibition and the rest were at the fishpond viewing live fish. The study observed pupils both at the Shona Village and the Mbuya Nehanda exhibition taking down notes, critically looking at the exhibits and having discussions about the fire inside a Shona Village hut – whether it was real or not and made comparisons of displayed material culture with what had been observed at home and at school. The pupils were emotionally affected after reading a text of how Mbuya Nehanda was killed, a topic related to their social studies subject. The pupils indicated that they understood the role played by spirit mediums during the war and therefore enjoyed reading material related to the Nehanda Nyakasikana poem. The pupils viewing the fishpond in the museum were happy to see live fish moving compared to still life animals exhibited in the museum. All this contributed to enjoyment and strong knowledge gain outcomes.

The researcher observed that when school teachers are engaged and willing to assist their pupils in galleries this increased pupils' opportunities to learn. For example 23 pupils in Grade 6 spend about 25 minutes with their teacher in the Zimbabwe Military History gallery and pupils were focused on reading captions and to learn from real objects on displays. The teacher's presence contributed to the pupils' being focused as they toured the gallery. Pupils were able to ask all the questions they had whilst the teacher responded to them. The teacher assisted to pin point the most important aspects of the gallery and told pupils what they should learn from exhibits. The teacher could select artefacts which pupils were supposed to interrogate critically. For example, the teacher explained how the second liberation war started and specifically told pupils to look at photographs of

persons who contributed immensely during the liberation struggle like Josiah Magama Tongogara, Robert Gabriel Mugabe, Leopold Takawira and Herbert Chitepo among other liberators whose photographs are in the gallery.

The teacher then tasked pupils to research on the specific role played by each liberation hero. The researcher noted pupils writing notes in their note books as they toured the gallery. This meant that the presence of teachers when pupils are given guided tours is important. Pupils feel free to ask any question when they are in the company of someone they are used to and in this case it is their teachers. The presence of the teacher during guided tours assists pupils to learn curriculum content by directly linking relevant material in the museum with that found in the curriculum.

Pupils tended to learn less when tour guides receive many groups of pupils that pay for guided tours. Tour guides often rushed to complete the tour and those pupils who were left behind missed all the explanations. Several reasons were given for this behaviour. The first reason was that they rushed pupils so as to assist other pupils who would have paid for guided tours. The second reason was that it was tiresome to walk slowly otherwise they would spend more than 4 hours doing a single tour. The researcher also gathered that school parties do not usually pay a ‘tip’ and therefore, tour guides do not find reward motivation. The tour guides usually enquired from teachers the time they wanted to spend at the site which would determine the time taken in the guided tour. If a school indicated that they had more than 3 hours at the site some tour guides would try to explain as much as they could about the monument and its features. The interpretations given by tour guides at the GZWHS differed from one individual to the other. One teacher who had come from Gweru with 45 pupils indicated that the explanations they received were different from those they received the previous year when they visited the site. This confused them as to which content to follow.

The presence of teachers helped pupils to link what they learned at school with what they saw at the museum. Some teachers did not participate in the guided tours and left their pupils in the hands of tour guides while they engaged in other business such as marking and doing private business. This in some cases meant leaving their pupils to indoctrination from the tour guide who explained everything at the museums without linking with the primary school curriculum. The majority of pupils liked to view live snakes, life sized objects and exhibits they closely linked with school work. Pupils seemed to learn more when given time to look at exhibits of their choice, at their own pace with their friends after the guided tours.

### *5.5.3 Films*

Films are also used as a medium for content delivery by some museums in Zimbabwe. The ZMM and the NMTA are the only museums that provide films as part of SCV and SMV. Films have been cited by 620 pupils interviewed as an effective content delivery method. Pupils learnt through visuals or pictures and sound. The NMTA films are shown to Grade 3-7 pupils. The NMTA has two films called the 'Last feast of the crocodile' that lasts for about 1 hour. The second film is called 'Water cycle' and this lasts for 85 minutes. The last feast of the crocodile film teaches pupils about the life of crocodiles whilst the water cycle film teaches pupils about soil erosion, food chain, electricity, energy and fuels. All the 131 pupils involved at the NMTA indicated that the films shown at the museum helped them understand topics related to environmental science curriculum. At the ZMM from the 527 pupils involved 489 indicated that the films helped them learn topics related to their social studies and environmental science syllabus. Films at the ZMM assist pupils to learn about child abuse (Grade 3), the colonisation of Zimbabwe (Grade 5) and wildlife (Grade 4, 6 and 7). The researcher observed 56 pupils from Sandara primary school at the ZMM watching

the ‘Anglo Ndebele war’ film. Pupils were energetic and attentive because of the pictures and sound they heard from the film.

Pupils enjoyed seeing Lobengula who had a big belly and the whole grouped laughed. The researcher also observed pupil’s non-verbal language and established that they were sad when Lobengula committed suicide. Pupils expressed that watching films “was the best way to learn” and “one cannot afford to sleep because of the engaging sounds and motion pictures”. These statistics at museums indicate that films are an effective method of delivering content related to the social and environmental studies curriculum. Pupils were more attentive to films because they watched them while seated and relaxed in the auditorium. This was different from moving around galleries that was viewed by some pupils as tiresome.

The only complaint expressed by school teachers interviewed at the ZMM and NMTA was that museums should vary their films so that repeat visit pupils do not watch the same film over and over. Further 23 school teachers interviewed at the ZMM encouraged the museum to buy flat screen televisions and DVD players that provide more quality than using an old television and video cassette recorder. The current equipment is old and affects picture quality hence pupils learning. However films are an effective resource museums use to communicate content related to the primary school curriculum. Films provided read and write learners, kinaesthetic and visual learners with opportunities to learn whilst enjoying motion picture and sound. However as already pointed out when discussing SCV at ZMM films that took more than 40 minutes in duration contributed to some pupils feeling tiredness and a relapse of attention hence affecting pupil’s learning.

### *5.5.4 Lectures and e-learning facility*

Lectures are another method of content delivery provided by museums upon request from schools. During the 41 months of data gathering the researcher recorded 66 lectures that were conducted in museums in Zimbabwe and attended 2 at the ZMHS and NHM. The GZWHS had 16 lectures, the ZMHS 12, the NMTA 14, the ZMM 9 and the NHM 15. This indicates clearly that museums employ the lecture method as a way to facilitate learning among pupils through presentations made by curators and education officers. The researcher observed that pupils engaged in meaningful learning from the presentations that included slide shows, diagrams and artefacts. When the lectures were presented pupils wrote down notes and questions they wanted to ask. The pupils were then given a platform to ask questions after the presentations and got responses and clarifications from the presenters. Lectures assisted pupils to learn from a specific subject in detail and to interface with subject experts such as curators and education officers. Lectures were effective because pupils learned from well prepared presentations that were focused on specific topics. This is different from viewing the whole museum whose content is varied.

The NHM is the only museum with an e-learning facility where pupils that visit the museum can research and use the internet for educational purposes upon request. The e-learning facility is booked to manage accessibility. This facility is connected to the internet so that pupils can use software such as Google search engine, Google-Map and museum collection databases. This has assisted pupils to learn through reference materials in a more detailed manner. A group of 15 Grade 5 and 6 pupils were observed at the NHM using the e-learning facility. For example pupils were given tasks to research about the butterflies found in Zimbabwe. Pupils researched the museum database and came up with more than 1000 references and then also made use of the internet to find descriptions of the

butterflies. This imparted in pupils research skills and enhanced their knowledge of butterflies by seeking detailed information from other sources on the internet apart from publications made museum curators.

### *5.5.5 Self tours*

Self-tours are an option offered by museums in Zimbabwe to provide unhindered access to museum exhibitions. The researcher gathered from the ZMM education officer that self-tours are an option given to school parties that prefer to go it alone to view museum exhibitions. The study observed 17 groups of pupils who made self-tours at NHM (4), ZMHS (7) and GZWHS (6). The researcher however discovered that some schools make self-tours not because they want to. They make self-tours because they would have failed to pay for guided tours. The NHM, ZMHS and the GZWHS charge a fee for guided tours on top of paying an entrance fee. Self-tours provide learning opportunities where choice and freedom are available. Thirty six pupils from Gillingham primary school were observed self-touring at the ZMHS. The pupils were guided by their teachers who explained in detail and linked museum content with school work. The group took about 30 minutes in each exhibition and teachers highlighted how their pupils could make and find meaning in the exhibits.

Exit interviews with 13 pupils from the group showed that they realised strong outcomes of knowledge gain, enjoyment and change in attitude towards the museum. Pupils learned from the explanations given by teachers, who all were willing to assist their pupils by also answering every question they asked. Pupils were also given about 10 minutes in each exhibition to look at displays of their choices. This made pupils to learn in a relaxed manner fully knowing that they would be allocated time to view exhibits of their choices in each gallery. Unlike

guided tours where the guide controlled pupils and determined the pace to be taken in the galleries, self-tours were unrestrictive as teachers concentrated more on helping pupils to link school work with content in museums. Teacher's decisions to allow pupils to look at exhibitions of their choice provided choice and freedom hence this led to effective learning occurring among pupils.

Self-tours facilitate learning when pupils are disciplined and willing to learn and when teachers are knowledgeable about museum content. Six teachers interviewed at GZWHS indicated that they were not well versed with the monument apart from the knowledge they had read from books. Their pupils did not receive any explanations of the monument and therefore the GZWHS trip was reduced to a sightseeing adventure. Pupils in this self-tour group engaged in wrestling and tussling, behaviour not indicative of learning. The researcher also observed 15 Grade 3-5 pupils from a primary school in Gwanda at the NHM. These were first time visitors to the museum and pupils were instructed to view exhibits of their choice. The pupils fleeted from one display to the next so much that they spent an average of 2 minutes per each exhibit before moving to the next.

These pupils displayed this behaviour because they were affected by the novelty factor. Pupils rushed from one gallery to the next and after an hour many of them started to display signs of fatigue and were looking for resting places. This group did not carry with them note books or any stationery and therefore, did not write anything down. Exit interviews revealed that the pupils displayed medium and weak outcome of knowledge gain. For example, when asked what he learned, a pupil said "*I learned a lot of everything in the museum*". This pupil could not pinpoint exactly what it was he learned. Another pupil mentioned that she had seen snakes, minerals and lions.

## 5.6 Museum education and the primary school curriculum

The primary school education system was reviewed in September 2016 and was partly implemented in 2017. This study assessed the impact of museum education against the old primary school curriculum which is also still in use. The primary school curriculum in Zimbabwe involves pupils mainly doing 4 subjects that include Content, English language, Shona/Ndebele and Mathematics. Although the new curriculum has added agriculture as a stand alone subject this is covered in the content subject in the old curriculum. The following section presents data gathered about how and the extent to which museums have impacted on the primary school curriculum.

### *5.6.1 Content*

The content or general paper is constituted of 3 sub subjects that include Religious and Moral Education (RME), Social Studies (SS) and Environmental Science (ES).

#### *a. Religious and Moral Education (RME)*

The Grade 1-7 RME syllabus aims to impart knowledge about the different religions and cultures practiced in Zimbabwe and in other countries around the world. Although the syllabus draws much of its content from Christianity (Bible), the syllabus has fewer topics devoted to African Traditional Culture, Buddhism and Islam. The RME syllabus emphasises in producing a people who can relate well with others, a people who are peaceful and have a sense of responsibility to work with others in society. The syllabus also gives emphasis on creating pupils

who are morally upright and pupils who have respect for their elders. The major topics or themes in the syllabus include: Awareness of God, Jesus Christ, the Holy Spirit, honest and truthfulness, morality, respect, kindness and helpfulness. The syllabus discourages cruelty, jealousy, deceit and rivalry. The primary school RME curriculum has many topics related to Christianity more than any other religion. The methods of delivery in the syllabus include reciting prayers, making use of pictures found in books and storytelling as well as role play.

There is little content in museums covering the majority of the topics found in the RME curriculum. The little content available in museums are exhibitions that talk about African Traditional Religion (ATR) and culture. This topic is mainly reflected through the role of spirit mediums in the liberation struggle and the traditional cultures followed during pre-colonial times at GZWHS. All the five public museums in Zimbabwe have content related to ATR and culture. For example, the ZMHS through the Mbuya Nehanda and Shona Village exhibitions provide content related to ATR and culture. This is being expressed through depicting the role of spirit mediums during the second liberation war and how spirit mediums operate. The Shona village exhibition at the ZMHS relates well to the topic found in the RME curriculum as it displays Shona people's way of life. The ZMM also has a display panel that depicts the role of spirit mediums in the Zimbabwe liberation struggles from colonialism. The GZWHS and its Shona village theme park impart knowledge related to ATR. The NMTA covers a topic of traditional culture through an exhibition on the cultures of the Eastern districts and the NHM through the Hall of Man also covers topics on ATR.

Therefore, the majority of topics in the RME syllabus mainly those that have to do with Christianity, Islam and Buddhism are not covered. The only element of Christianity talked about through exhibitions is the role of missionaries in colonising Zimbabwe and this is found in exhibitions at the ZMM and NHM.

### *b. Social Studies (SS)*

The study observed that the SS syllabus is grouped into four stages: stage one is for Grades 1 and 2, stage two is for Grade 3, stage three is for Grades 4 and 5 while stage four is for Grades 6 and 7. The emphasis of this syllabus is on fostering positive behavioural and attitudinal perceptions, creating a sense of belonging and national identity, developing skills of desirable social attitudes and values in the pupils upon the acquisition of knowledge. The objectives of SS are to develop a spirit of national consciousness, patriotism through interest in and involvement with the affairs as well as the heritage of his/her community in Zimbabwe. The SS syllabus contains 10 topics that include living together, food, shelter, health, rules and laws, transport and communications, clothes, wealth and money, work and leisure, social services and voluntary organisations.

Topics in the SS curriculum being covered by museums include: Zimbabwe's national history, living together, transport and communications, shelter and food, clothing and health. The topic on Zimbabwe's national history is covered in all museums. This is in the form of the first and second liberation wars, the history of pre-colonial societies and cultural sites. The topic on living together is well covered at the GZWHS where pupils learn content related to the monument and how it is related with other smaller Zimbabwe type sites. The topic on transport and communications is mainly and well covered at the NMTA where there is an exhibition of road, sea and rail transport systems. There are few artefacts in the transport gallery at the NMTA about the transport and communications systems of Africans.

The primary school curriculum has content about the communication systems employed by Africans. The topic on clothing is covered in all museums. The

ZMM display communicates information about the clothing worn by soldiers whilst the NMTA teach about traditional cultural clothing through the displays in the Beit Gallery and the Eastern Districts gallery. The ZMHS has content related to the clothing worn by pre-colonial societies particularly and this is seen in the Stone Age exhibition. The Hall of Kings exhibition at the NHM teaches about the clothing associated with the Ndebele people whilst the GZWHS has content related to clothing associated with the pre-colonial Shona societies.

The SS syllabus has a topic on food and shelter and this is also covered at the GZWHS and ZMHS. The Stone Age exhibition at the ZMHS showcases aspects related to the topic on food and shelter. The GZWHS have so much to offer with regards to content related to food and shelter. Another topic in the SS syllabus is on medicine and this is covered at the GZWHS especially at the Shona Village where there is a practising traditional healer and at the NHM in the Hall of Man where content related to the evolution of traditional and scientific medicine is showcased. Museums in Zimbabwe do not cover the following topics found in the SS syllabus: commercial value of minerals or rocks, Non-Governmental or Voluntary organisations, work and leisure, history of other nations and rules and laws of the country as enshrined in the constitution.

### *c. Environmental Science (ES)*

The ES curriculum resonates very well with the RME and SS syllabi. The study gathered that the ES curriculum is constituted by 10 topics that include water, soil, vegetation, animals, health, pollution, energy and fuels, weather and climate, materials and technology, landforms and maps. The emphasis of the syllabus is on making pupils become more conscious of the physical environment surrounding them. The syllabus aims to give pupils an understanding of what makes up the

earth, the landforms within it as well as grooming pupils to preserve the environment and its resources. The ES syllabus emphasises on educating pupils on the importance of the environment they live in and to have an appreciation of their cultural and natural heritage. Further the syllabus aims to inculcate and motivate pupils to take science as a career and this compliments the government efforts of the Science-Technology Engineering and Mathematics programme (STEM).

The study gathered that the topics in the syllabus currently being addressed by museums include: water, soil, vegetation, animals, materials and technology, weather and climate as well as landforms and maps. The majority of the ES topics are mainly covered at the NHM and GZWHS. The NHM has several exhibitions that teach about the importance of the soil in the ecosystem to support human and animal life. The NMTA has a display that teaches about agriculture and this is shown with a display of the Nyanga culture terrace farming. The GZWHS has content that relates with the teaching of the vegetation, soil, animals, landforms and water. For example, tour guides at the GZWHS explained how pre-colonial societies lived with particular reference to where they found water, why they preferred to live where they lived and the importance of the vegetation. Another topic in the syllabus that is partly covered through heritage education is on materials and technology. At the GZWHS pupils are exposed to the knowledge of materials used to construct monuments at cultural heritage sites and related technology of constructing them. The dry stone walls and dhaka structures at GZWHS allow pupils to learn about how pre-colonial societies constructed houses. The topics found in the syllabus and not covered in museums include: knowledge of materials such as plastic, cement, rubber among other materials and the technology of harnessing their potential for the benefit of humans. Other topics not covered by museums are pollution and fuels.

### *5.6.2 English*

The English language syllabus aims to impart in pupils skills of being able to read, write and speak through English language. The English subject is viewed as important because it is an international language used for communication purposes. The syllabus emphasises in creating pupils who are able to effectively communicate hence leading to the socio-economic development of the nation. The English syllabus has 11 concepts that include identifying and qualifying things, relate with others, describe objects, use language specifically, express needs and desires, getting things done and being sociable, expressing personal meaning, ask questions as well as being able to narrate and describe something. The topics in the syllabus currently being covered by museums include oral language development, memory training and read as well as write in English.

Guided tours which are the main method of delivery in museums allow pupils to communicate their ideas with classmates, the tour guides and teachers hence leading to oral language development. When pupils finish touring museums they may be asked to speak about their tours and this imparts skills of memory training. The opportunity to talk about what they learned and enjoyed assists pupils to remember what they would have seen in the museum. Museums also avail opportunities where pupils converse, discuss and collaborate as well as interact with each other leading to social development skills. The majority of captions in museums inculcate in pupils a culture of reading and understanding as well as writing notes. The major barrier in museums is the use of scientific language and jargon especially on captions. Guided tours provided few opportunities for pupil's oral language development and socialisation skills as tour guides took centre stage in giving explanations.

### *5.6.3 Mathematics*

The mathematics syllabus aims at imparting in pupils knowledge and skills to read and write as well as talk proficiently in mathematical terms. Mathematics in Zimbabwe is considered a science and therefore pupils are introduced to a host of mathematical problems to solve. The emphasis of the syllabus is to produce people who can solve scientific problems. Further the mathematics syllabus among other sciences subjects is viewed by government as a vehicle to socio-economic development. Under the Science, Technology, Engineering and Mathematics programme the government in Zimbabwe is considering mathematics an important subject that may lead to the development of the economy. Therefore mathematics is viewed as a vehicle for innovation, creativity, entrepreneurship and science. The mathematics curriculum has the following topics: additions, subtractions, counting, multiplying, estimation, volume, capacity, directions, calculating angle and lines.

Currently there are fewer opportunities if not none for primary school pupils in Zimbabwean museums to effectively learn content related to mathematics or to learn in mathematical ways like additions, subtractions and multiplication through the SCV and SMV. The only few opportunities are related to learning about shapes, estimation and angles. All the five museums have not been able to provide any content or activities that lead to the learning of any topic found in the mathematics syllabus. The few opportunities available include locating information on captions in a timed manner. However, opportunities to engage in other topics of the syllabus have not been catered for.

### *5.6.4 Shona/ Ndebele*

The education system in Zimbabwe includes one local language subject among Shona, Ndebele, Tonga and Shangani. However the primary school curriculum tests pupils mainly in Shona or Ndebele. The emphasis of the languages is to impart literacy skills that would assist pupils to communicate effectively in their first languages. Further the syllabus is aimed at creating a generation that appreciates its culture. The majority of Zimbabweans are either Shona or Ndebele although they are some local languages such as Chi-Tonga, Shangani among others. The Shona or Ndebele syllabus generally teaches pupils to listen, talk, read and write in Shona or Ndebele. The topics and content in the curriculum related to heritage education are: communication, culture, social skills and describing skills. In some cases some tour guides make use of English and Shona or English and Ndebele in their explanations for pupils to understand museum exhibitions. The topics not covered by museums include: reading in Shona or Ndebele. It can be concluded that museums in Zimbabwe are impacting more on the social and environmental studies curriculum. Teachers also expressed that their pupils passed these subjects more than other subjects especially when pupils visit museums.

## 5.7 Chapter summary

This chapter presented data gathered about the visitorship and frequency patterns of primary school pupils to museums. Statistics show that school pupil visitorship to museums has increased from 33,313 in 2010 to 320, 560 in 2015. The chapter also presented data gathered about the factors that teachers and school authorities consider when planning and organising museum trips. The chapter presented data about the nature of the museum education service in Zimbabwe and the

educational programmes designed for primary school pupils. Museums in Zimbabwe base their education service on museum exhibitions which the majority are a colonial inheritance. Museums also employ the behaviorist educational framework which is restrictive to effective learning among school pupils. Museums provide structured class visits, school-museum visits, quiz, museum clubs, outreach, cultural tours and the Adopt 'A' Site programme to school pupils. The chapter presented data gathered about what and how pupils are learning through structured class visits and school–museum visits. Pupils are learning through study sheets, films, self-tours, lectures and guided tours. The chapter presents data gathered about the impact of museums towards the primary school curriculum. Museums in Zimbabwe are impacting mainly on the social and environmental studies curriculum. There are few opportunities for school pupils to learn content related to Mathematics, English and Shona or Ndebele in museums in Zimbabwe.

# CHAPTER 6

## LEARNING OUTCOMES: DATA PRESENTATION AND ANALYSIS

### 6.0 Introduction

The chapter presents data gathered about the learning outcomes realised in primary school pupils when in interaction with SCV and SMV. The Generic learning Outcomes (GLOs) framework was employed in assessing the learning outcomes displayed by school pupils in museums. The chapter establishes that 86.66% of pupils involved in the study displayed medium and weak indicators of knowledge gain and understanding. There were 13.33% pupils that displayed strong indicators of knowledge gain and understanding. The chapter also establishes that 37.13% of pupils indicated they enjoyed learning curriculum related content, 29.6% familiar and live exhibits, 19.33% tactile artefacts and 13.93 life sized objects. The chapter further establish that 49.33% learned intellectual skills, 38% social skills and 12.66% learned how to do something. The majority of pupils (80.86%) had positive perceptions about museums whilst 19.13% indicated that museum exhibitions and educational programmes were becoming monotonous. It is established in this chapter that 82% of pupils indicated they would want to visit museums in the future whilst 98.53% highlighted that they would share their museum experiences with others.

### 6.1 Learning Outcomes

Learning outcomes are products or results of a learning experience. This study subscribes to the definitions of learning as defined by UNESCO (2017: 1996) and the United Kingdom Campaign for learning (2016, 2002). Effective learning is

defined as when pupils actively construct meaning from experience and acquire different learning outcomes such as cognitive, social and affective. These learning outcomes or competencies should assist the pupil to solve problems affecting the society. The learning process is characterised by the pupil being an active agent in meaning making, acquiring competencies through social mediation with others that help to comprehend the world and its complexities. Effective learning should be relevant or address the learning needs of the learner and aim to develop the learner become a productive member of society. Effective learning is not an individual but collective process where a community of learners share ideas and collaborate with each other in achieving tasks. In order to measure the type of learning outcomes that occurred amongst primary school pupils in museums this study employed the Generic Learning Outcomes (see Chapter 3). This framework provided a common conceptual framework and a systematic approach to researching museum based learning and its outcomes.

### *6.1.1Knowledge gain and Understanding (KgU)*

Knowledge gain and understanding is the difference between what pupils knew before and after interaction with SCV or SMV. Knowledge gain and understanding can be broken down into facts learned and concepts or ideas gained. Knowledge gain and understanding can be about knowing information about something, learning facts or making sense of something of museum exhibits. To assess if there has been knowledge gain pupils' self-reports were recorded as well as listening to pupil conversations and observations. Interviews were conducted before entry into the museum and after viewing the museum and when pupils had completed tasks given to them by tour guides. The study also grouped pupil's responses to questions as strong, medium and weak indicators. Strong indicators of knowledge gain and understanding is when pupils indicate in detail through interviews or questionnaires the things they learned. Medium

indicators of knowledge gain and understanding include pupils being able to generally talk about the things they learned. Weak indicators include those pupils who feel they learned something but cannot explain what they learned. An easy explanation of indicators is shown below (Table 5):

*Table 5: Indicators of knowledge gain and understanding (Gammon, 2003).*

| **Strong indicator** | **Medium indicator** | **Weak indicator** |
|---|---|---|
| -Tell or remember the real dates, names, places, events or stories in detail<br><br>-Participate intensively in given tasks, and collaborate with others<br><br>-Pupils being able to listen and ask questions in sequence of related questions. This could also be shown through being able to classify, probe more and ask challenging questions.<br><br>-Pupils that can link what they are learning with prior knowledge. | -State what has been viewed in general terms.<br><br>-Pupils being able to state the main themes of an activity or exhibit.<br><br>-Pupils being able to reflect the language used on exhibits, artefacts in their own words as well as in their own interpretations. | -Pupils who feel they learned something but non-specific.<br><br>-Pupils who rely on other pupil's answers and copy.<br><br>-Pupils that say they learned about something but cannot explain in detail about it |

From the pupil population of 1500 involved in the study three categories of pupils emerged in relation to the levels of knowledge gain and understanding. The majority of the pupils 800 (53.33%) of the 1500 pupils showed medium indicators of knowledge gain and experience, 500 (33.33%) pupils displayed weak

indicators of knowledge gain and understating and only 200 (13.33%) displayed strong indicators of knowledge gain and understanding (Figure 4). The latter pupils exhibited evidence of deeper understanding and conceptualisation of learning could remember the real dates, names of people and events, history and could describe sequences of events. Those pupils who displayed medium indicators of knowledge gain and understanding were able to state that they had learned something but were not able to give detailed stories or reports of what they learned.

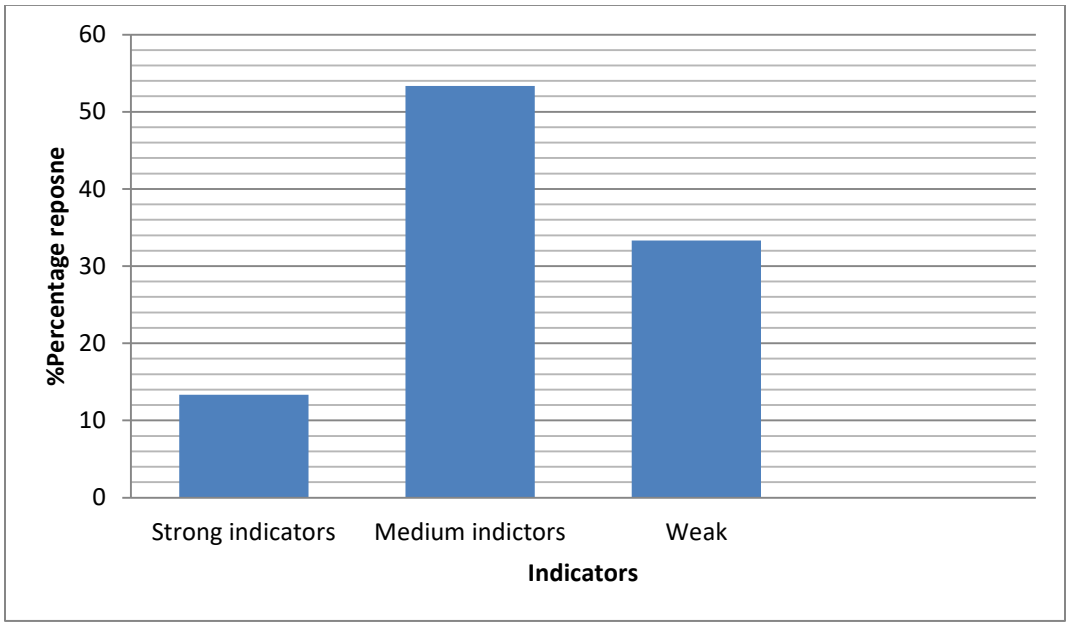


*Figure 4: Indicators of knowledge gain and understanding.*

An example of a response showing strong indicator of KgU is given below:

> ***A Grade 7 pupil's entry interview*****:** *"I only saw Mbuya Nehanda on pictures from our social studies syllabus book. I know that she was a spirit medium".*

***Exit interview***: "*I learned about the 7 heroes of Chinhoyi battle that was on the 28th of April 1966 (The second liberation war) and that Mbuya Nehanda's real name was Charwe and Sekuru Kaguvi's was Gumboreshumba. I also learned about the San people. The San people used to wear animal skin. The San have the strict division of work, the men hunt and the women collected wild food. The great Zimbabwe was built in 1100 AD. I also learned about human evolution especially about the Australopithecus Robustus, Autsralopithecus Africunus, Homo Sapien, Homo Erectus and Homo Habilis.*

An example of a response showing medium indicator of KgU is given below:

***Grade 6 pupil's entry interview:*** *"I know that they are many birds that eat other birds and owls eat rats".*

***Exit interview****: "My experience at this museum was exciting and educational because they (sic) is a bit of things I never knew. Today I learned the names of animals, the names of many birds and the life of Mbuya Nehanda".*

An example of a response showing weak indicator of KgU is given below:

***Grade 7 pupil's entry interview****: "At school we learned about heroes and heroines and our teacher told us that we were going to learn the history of colonialism at the museums".*

***Exit interview****: "I learned that we were colonised".*

#### *6.1.1.1 Factors that contributed to strong KgU outcomes*

This study shows that there are variables that contributed to pupils displaying strong indicators of knowledge gain and understanding. This included the museum, school and personal contexts variables. The first factor that contributed to strong KgU outcomes was the ability of pupils to link classroom content with that found in museums. Pupils who made field trips after a classroom learning unit learned effectively from museums particularly in relation to the topic they did prior to the visit. The study gathered from 32 pupils that visited the NHM that they had done a topic on animals and their ecosystem. These pupils reinforced what they had learned in the classroom about animals and their habitats and were able to link such content with school work. Therefore, pupils learn effectively and display strong KgU outcomes when they revise or do a topic in classroom that is then reinforced with the content found in museums. Pupils tend to learn from a museum visit that is embedded in a classroom learning topic because pupils will be able to remember and link the content.

The second factor that contributed to strong KgU outcomes was willingness to learn. From the 692 (46. 13 %) pupils who were interviewed and observed in galleries 278 (18. 53%) displayed behaviour of willingness to learn. Willingness to learn was evidenced by pupils showing interest in what was being done through the SCV or SMV. This included participating in gallery tours through asking, probing and engaging in discussions indicative of learning. Willingness to learn was seen in pupils who carried their notebooks and jotted down notes so that they do not forget information. In exit interviews pupils willing to learn indicated that the museum visits gave them something to think about or motivated them to learn more. The rest of the pupil's population either came to museums to fulfil the SCV and SMV or viewed the trips as leisure excursions hence were not intrinsically motivated to learn.

The third factor that contributed to pupil's effective learning was museum films. Two hundred and thirty four (15. 6%) pupils at the ZMM and 67 (4. 5%) at the NMTA indicated that they enjoyed museum films and learned several topics linked to the social and environmental studies. Films were cited as a familiar and interesting method of content delivery by teachers and pupils because films involved motion, picture and sound. Museum films provided variety to the exhibitions and guided tours provided by tour guides. The fourth factor contributing to strong KgU outcomes was the use of local languages. Tour guides who made use of both English and a local language such as Shona or Ndebele contributed to effective learning among pupils. This was observed in all museums in that tour guides who made use of multi languages benefited all pupils. Eighty nine (5. 9 %) pupils at the GZWHS for example recommended the use of Shona. These pupils indicated that they effectively understood the explanations that were given in Shona more than in English. Guided tours employing multi languages were more intellectually accessible to pupils.

Pupil's active participation is the fifth factor contributing to strong indicators of KgU. Pupils who were actively involved in educational activities displayed strong indicators of learning. For example pupils at the ZMM that were allowed to operate the armoured car, pupils at the GZWHS that participated in the traditional dances at the Shona Village and role play on the Hill complex all displayed strong indicators of learning. However, during the 41 months of data gathering only 76 (5%) pupils were observed manipulating exhibits in open displays at the ZMM. Some tour guides allowed pupils to touch and manipulate artefacts whilst others did not. This meant that the majority of pupils did not participate in activities that involved manipulation of exhibits or be involved in other activities that required their active participation physically and mentally.

The sixth factor contributing to strong KgU outcomes was the involvement of the teacher. Teachers who appreciated the educational role of museums and had an interest in museum content influenced their pupils learning. From the 400 teachers observed and interviewed in museums 40 (4%) either took rest or sat at the reception. A total of 292 (29. 2%) of the teachers observed in museums quietly accompanied their pupils in galleries whilst 68 (6. 8%) assisted pupils in the galleries. The teachers who provided assistance to pupils asked questions and reinforced what the tour guides had explained about the displays. Their level of participation included asking questions that opened up discussions and reinforcing as well as linking what the tour guide explained about exhibitions. The teachers who accompanied pupils in galleries helped to control pupils and focus them on learning. Naturally when teachers were available even the most misbehaving pupils behaved themselves when compared to school groups whose teachers were not part of guided tours, self-tours and SCV. Therefore, teachers play a big role in facilitating learning in museums.

The seventh factor was the influence of the tour guide. As stated earlier under the learning process, tour guides who made an effort to enquire what pupils knew about museums or about different subject topics managed to establish the knowledge gap in pupils and focus questions and discussions on pertinent topics related to the primary school curriculum. This enabled pupils to learn and apply the information to school work.

#### *6.1.1.2 Factors that contributed to medium and weak KgU outcomes*

Pupils who displayed medium and weak outcomes were mainly third or fourth time visitors to museums. Eight hundred and thirty pupils (55. 33%) who indicated that they were third, fourth and fifth time visitors to museums

constituted the highest percentage of pupils who displayed medium and weak outcomes. For example 455 (30. 33%) pupils interviewed at the ZMM indicated that the museum exhibitions were boring because they had seen them several times through the SCV. Three pupils said they knew where each exhibition and object is located in the museum and therefore there was nothing new that was interesting at the museum. These pupils claimed that they had learned very little because the museum experience was a preconceived one and monotonous. This view was shared by school teachers. Teachers and pupils recommended the museum to be innovative and change some of their exhibitions and activities.

Tour guides were influential to some extent in the way pupils learned. The study gathered that tour guides who were not receptive of pupils hindered pupil's learning. For example, during one of the educational tours at the NHM, a tour guide was unable to answer questions asked by pupils on the different classes of animals which live on land. The tour guide displayed a negative attitude towards pupils and told pupils not ask many questions. This demotivated many pupils and they did not manage to gather as much data as they wanted from the visit. The pupils were heard telling their teachers that the tour guide was actually displaying a harsh attitude towards them. In this situation, it became apparent that the pupils lost confidence in the tour guide's ability to provide authentic knowledge about museum displays.

Museum experiences that took long to complete affected pupils learning as learners experienced fatigue. According to the findings of this study most pupils and teachers mentioned fatigue as a major variable affecting learning. Six hundred and twelve pupils (40. 8%) involved in the study at the NHM and GZWHS indicated that the museum experience was tiresome. For example the GZWHS and NHM experiences required pupils to spend atleast 3 hours to complete. Fourteen teachers interviewed at these museums mentioned that pupils were

active in the first 30 minutes of guided tours but when they exceeded 3 hours it drained pupil's energy physically and mentally. The majority of pupils who displayed strong and medium indicators of learning mentioned the exhibitions they first viewed upon entry into the museum as those they learned from meaningfully.

Five hundred and forty three pupils (36. 2%) indicated that museum trips helped them learn curriculum related content while 755 (50. 53%) felt that they learned general knowledge. Two hundred and two (13. 46%) pupils felt museum content helped them learn museum based knowledge. Museum based knowledge included knowing what museums in Zimbabwe specialised in and the nature of artefacts and exhibitions they had. This provided them with knowledge of the cultural heritage in Zimbabwe. Another 36. 2 % of the pupils felt that SCV and SMV helped them learn curriculum related content linked to social and environmental studies subjects.

### 6.1.2 *Enjoyment, Inspiration and Creativity*

This outcome was the most realised in primary school pupils. Enjoyment could be measured by pupils declaring what inspired them and why? The researcher observed pupils in galleries to see if the time they took to view exhibits reflected their excitement and joy. For example pupils could spend more time on an exhibit, reading captions, interrogating exhibits and critically asking questions they considered important about the exhibit. The pupils who cited that enjoyment was very important to learning indicated that when they visit museums they anticipate seeing interesting things. There were 4 things that were cited as contributing to enjoyment among pupils of all grades. These included tactile

exhibits, life sized objects, familiar and live exhibits as well as curriculum related objects (Figure 5).

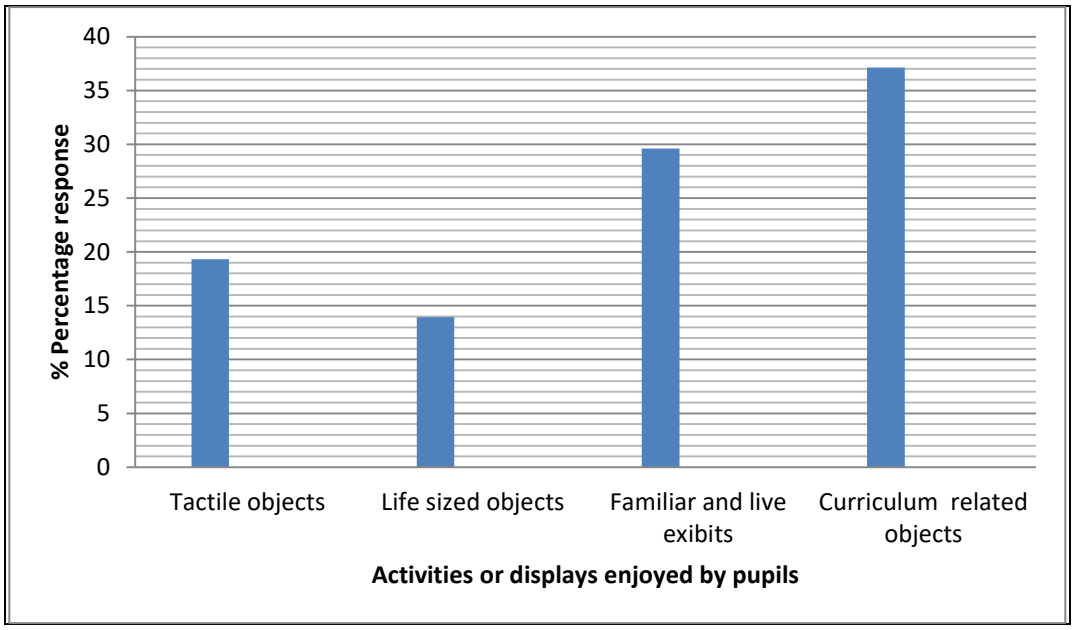


*Figure 5: Exhibits enjoyed by pupils in museums.*

As shown in figure 5, the majority of the pupils 557 (37.13%) enjoyed curriculum related objects and history, followed by familiar and live exhibits 444 (29.6%) and the least enjoyed tactile objects 290 (19.33%) and life sized objects 209 (13.93%). Those who enjoyed viewing and learning about curriculum related objects and history indicated that they were motivated by museum objects to learn more. A sizeable percentage of 37.13% of the pupils enjoyed viewing displays that were linked to social studies and environmental science subjects. Pupil's interests or preferences were also influenced by their parents or close relatives. Some parents have interests in cultural heritage and therefore tend to share their knowledge with their children and this influenced the perceptions of their children towards museum exhibitions. The study gathered from 876 (58. 4%) pupils that

their parents had an influence on what they enjoyed in the museum. Prior to the museum visits some parents had spoken or discussed their experiences with museums, the artefacts their children were going to see and how they would relate to them. For example a pupil interviewed at the ZMHS indicated that both his parents participated in the second liberation war and the parents talked about their experiences hence the pupil was inclined more to view exhibits related to the second liberation war.

Thirteen pupils interviewed at the ZMHS mentioned the fact that since they visited the museum as a school party their teacher expected them to enjoy and learn from things that related to their school work. Pupils enjoyed the Shona material culture (Plate 6) and Shona village display (Plate 7) because they directly linked with a topic on shelter in the social studies curriculum.

*Plate 6: A display of Shona material culture, ZMHS.*

*Plate 7: Grade 7 pupils at the Shona village exhibition, ZMHS.*

Familiar and live exhibits are objects that pupils were used to seeing in their everyday life and exhibits that are live as well as move. The NMTA provided familiar objects for example in the Transport gallery which contains several road, water and train exhibits (Plate 8 and 9). Thirty four (2. 7%) pupils at the NMTA indicated they enjoyed the Transport and Eastern Districts exhibitions more than the other exhibitions. The reasons cited were that the transport exhibition has vehicles they always see on the road, in movies and in books. A Grade 7 pupil interviewed said:

> *"I enjoyed the transport gallery because there were so many interesting cars, models of ships, tractors used long ago and the traditional 'Chikeyi' used in the rural areas. I particularly enjoyed getting inside the train engines. I had never been in a train engine but today I saw the nature of the engine. I was inspired to be a train driver because they seem to be exciting" (NMTA).*

A Grade 5 pupil said:

> *"I enjoyed the old bus in the transport gallery outside. I cannot imagine that an old bus of this kind used to be driven. The bus is very ugly and old but I learned about the different transport systems" (NMTA).*

*Plate 8: A vintage bus exhibit in the open display, NMTA.*


*Plate 9: Grade 1 and 2 pupils in the transport gallery, NMTA.*

The live snakes at the NMTA and NHM aroused great excitement and pupils spent much time at the exhibits more than any other displays. The pupils that were part of the study at the NHM took about 40 minutes to 1 hour viewing the snake exhibition at the museum (Plate 10 and 11).

A Grade 5 pupil said:

> *"I enjoyed the snake exhibition because they were live animals that moved. The snakes included black and green mambas, reticulated pythons, puff adder and viper. We often see these snakes on television on National Geographic Channel but today I saw them with my own eyes and it was interesting to see them move. I heard the museum teacher saying some of the snakes were neuro toxic meaning a black mamba can kill a person in 10 minutes" (NHM).*

*Plate 10: Pupils viewing the live snake exhibition, NHM.*

*Plate 11: A live snake display, NHM.*

Pupils found tactile objects interesting because they could be touched and manipulated. Five hundred and twenty seven pupils (35. 13%) interviewed at the ZMM indicated they enjoyed viewing and learning about the Vickers Viscount plane (Plate 12). The majority of pupils enjoyed getting inside the plane.

A Grade 6 pupil interviewed at the ZMM said:

> *"I enjoyed the Vickers Viscount plane because we got inside and sat in the seats. It was a very interesting experience because I never thought I could one day be in an airplane. We always see such Airplanes on television when the president flies out of the country. I was happy to be in the plane. I actually learned that it can carry 57 passengers and flown by 2 or 3 pilots. The plane is said to have been used by the British Airline but was donated to the museum by Mr Desai in 1986".*


*Plate 12: Pupils getting into the Vickers Viscount plane, ZMM.*

Objects that had life sized dimensions attracted pupils for example, the statues of King Lobengula, Mbuya Nehanda and Sekuru Kaguvi in the ZMM and stuffed animals in the NHM (Plate 13).

*Plate 13: Life sized animal specimens, NHM.*

Seven hundred and ninety eight (79, 8%) of the school teachers involved in the study believed that inspiration promoted learning. One thousand three hundred forty nine (89, 93%) pupils indicated that they were inspired to come back to museums and learn, to do school work and that the museum visit had shaped the career they were going to take. One hundred and fifty nine (10. 6%) mentioned that they had developed innovative thoughts after the museum trip. Pupil's responses that show evidence of inspiration are given below.

A Grade 6 pupil at the NHM said:

> *"I enjoyed seeing the minerals such as diamond, gold, emerald and rubies in the geology gallery. It was exciting to see real gold and diamonds in the museum because we often see them in books at school. You know when I grow up I want to become a miner".*

Another Grade 4 pupil at the NMTA said:

> *"I enjoyed seeing the drawings on a wall and thought to myself that I was better than the children who drew those paintings. I do art at school and I enjoy drawing and painting. When I came to the museum and saw the drawings I was impressed but I know I am better than the artists. When I grow up I want to be famous sculptor like Dominic Benhura".*

A Grade 7 pupil interviewed at the ZMM indicated that:

> *"I was inspired by the Anglo-Ndebele War film and I am going to use the story of the film to write a drama that we will act".*

The study gathered detailed information about school pupils learning experiences through the 'after a visit compositions to the museum'. From the compositions analysed it was gathered that pupil's enjoyment, excitement, motivation and learning starts at home. The study gathered from 158 compositions that school pupils value how they prepare the trip from home to school and from school to the museum and what they do at the museum. Pupils value how they get to museum, the inconveniences at police roadblocks, the food breaks and what they do at the museum. Pupils that are prepared and given lunch boxes, pocket money and experience none or few challenges to getting to the museum displayed intrinsic motivation to learn. All these factors influence or determine the quality of the

museum trip and if pupils will also enjoy. A sample of a Grade 5 pupil after the museum trip composition is given below (figure 6):

***Josphat 5 West***

***A Visit to the Museum***

*I will never forget the day we went to the Military museum. We were many when we boarded the bus to the museum. We sang all the way to the museum and danced I really enjoyed. We were stopped at Maso bus stop by the police and they delayed us, it was boring because it started to be hot in the bus. When we arrived at the museum, we were put into groups. The museum teacher told us about the rules of the museum and as usual we were given sheets with questions to answer. We were put into groups of four and toured the museum. We were interested with Mbuya Nehanda, Sekuru Kaguvi. Oh my God, we saw Lobengula had a big stomach we all laughed. Imagine he had a bid stomach. We answered the questions and saw pictures of freedom fighters in the museum. I really liked the guns in the museum. They say they were used during the war of liberation. I learned a lot about the colonisation of Zimbabwe. We also saw a big painting that was showing the Rhodesian flag being brought down and the Zimbabwe flag being raised. I was interested in getting into the Air Zimbabwe plane and we requested for photos to be taken. I also enjoyed my lunchbox and bought ice cream with the money my mother had given me. I enjoyed this day.*

*Figure 6: Grade 5 after the museum trip composition, ZMM.*

In summary enjoyment, inspiration and creativity promote learning among pupils. Learning has always been associated with enjoyment and this provided the necessary ingredients that motivated pupils to put effort in the learning process.

### *6.1.3 Skills*

This outcome measures if pupils have the capacity to know how to do something, being able to do new things, acquire intellectual skills, acquire information management skills, social skills and communication skills (Hooper-Greenhill *et al*, 2003). The skills are described as follows:

1. Intellectual skills (communication, reading, thinking critically and analytically, being able to present a reasoned point of view, weighing up different forms of evidence, numeracy, giving a presentation)
2. Social skills (meeting people, being friendly, team working, showing an interest in the concerns of others)
3. Knowing how to do something

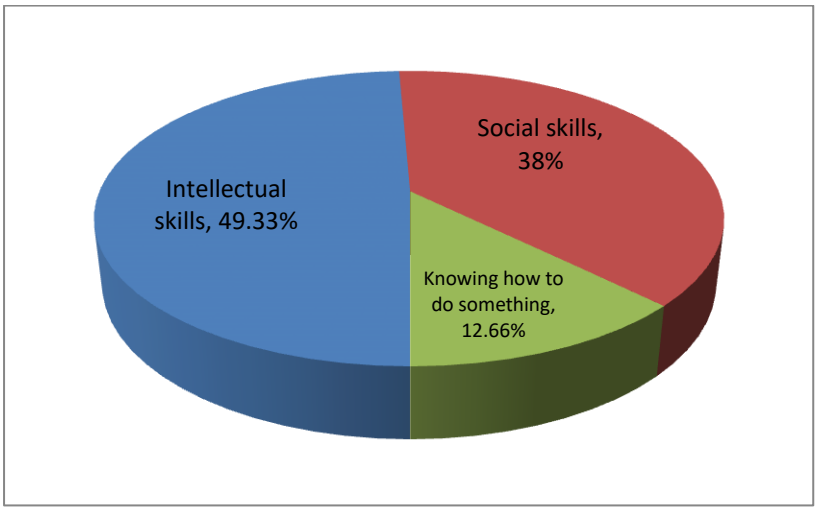


*Figure 7: Percentages of skills learned.*

As shown in figure 7 above, the majority of the pupils 740 (49.33%) had improved capacity in intellectual skills, 570 (38%) had improved social skills and the least 190 (12.66%) were aware of how to do something. These results show that SCV and SMV programmes in museums in Zimbabwe promote intellectual skills more than any other skill. After participating through SCV and SMV pupils had enhanced skills in reading, writing, analysing information critically and being able to present a reasoned point of view among other intellectual skills. The primary communication strategies used by museums in Zimbabwe are exhibitions whose content is used by pupils to acquire knowledge about the objects. Captions helped pupils to locate information about objects and understand them better. Observations done by the researcher indicate that captions increased pupil's literacy skills. For example, pupils observed were able to read the captions and locate answers required to fill in study sheets and this promoted intellectual skills. Pupils were also made to watch film allowing them to pick and report on the most important themes. Pupils could write notes on their own basing on the captions.

Pupils given study sheets tasked themselves to look at the whole gallery looking for answers, discussed and shared information about what they saw and viewed at the ZMM. Further, some tour guides allowed pupils to present or report about what they had learned in the museums and this promoted the acquisition of communication skills. Below are some pupils responses that display intellectual skills learned:

> ***Respondent 1:****"I have learned to look at the artefacts in the Zimbabwe Military History gallery and why the museum arranged the exhibits the way they did. I understood through the information on captions that chronologically presented the colonisation of the Zimbabwe. This is why they started with the Rudd Concession" (*Grade 7, *ZMM).*

***Respondent 2:****"I am now able to differentiate between archaeology and ethnography, natural history and military museums" (Grade 6, ZMHS).*

Structured class visits and school-museum visits promoted social skills like being able to work together, interact and collaborate with each other in museums. The SCV and self-tours effectively promoted social skills as pupils were grouped to work towards answering study sheets. In spite of the pupils who participated in SCV being randomly selected and put in groups they managed to work together to achieve the tasks given to them. Out of the 17 self-tours made at the NHM, ZHMS and GZWHS 12 included pupils and teachers discussing and interacting. This gave an opportunity to pupils to say out their minds, what they knew about displays hence learning social skills of effectively relating to each other. Pupils also were receptive of other pupil's opinions. The capability of pupils to share information with their teachers and tour guides is a reflection of social skills learned.

The SMV facilitated little opportunities for pupils to socialise with each other because tour guides in museums influenced opportunities for social interaction. From the 203 guided tours observed by the researcher 123 (60. 59%) of them were provided by tour guides who provided few opportunities for pupils to interact and discuss. The tour guides took centre stage as they explained everything they knew about exhibitions whilst pupils just jotted notes down. Eighty (39. 40%) of the guided tours provided involved the tour guides asking questions, allowing pupils to respond and discuss exhibits. Therefore, only 40% of guided tours promoted social skills.

Guided tours provided at the NHM, ZMHS, GZWHS and NMTA allowed pupils to be free to speak with each other, their teachers and the tour guides. Through

sharing information and working together pupils also displayed emotional skills where they showed empathy and were accommodative to other pupil's views. However museum educational programmes promote fewer physical skills where pupils are given opportunities to manipulate objects and make things. This is the major challenge in all museums where educational materials provide fewer opportunities for interaction and manipulation of objects. The GZWHS allowed pupils to participate in the Shona Village dances such as 'Mhande' cultural dance that promoted physical skills and learning in pupils.

Another part of the pupil population (12.66%) mentioned that they were able to do something after the visit. Some of the pupil responses expressing this factor are given below:

> ***Respondent 1:****"I have managed to source more information by interviewing the curator of geology and I will read and use the information when I get home". (Grade 5, NHM)*
>
> ***Respondent 2****: "I am a reserved person but through the opportunity I was given by the museum teacher I managed to present information about the Shona Village". (Grade 6, GZWHS).*

### *6.1.4 Attitudes and Values*

The attitudes and values outcome measures change in perceptions about museums and museum content. Pupils should be able to give reasons for actions and personal viewpoints. Change in attitude and values may lead to increase in empathy, capacity for tolerance and increased motivation (Hooper-Greenhill *et al*, 2003). One thousand two hundred and thirteen (80, 86 %) pupils had positive perceptions about museums and whilst only 287 (19, 13 %) mentioned that

museums exhibitions and educational programmes were becoming monotonous. Pupils were asked if they their perceptions towards museum changed after the museum visits.

There were about four things that were cited as contributing to pupils change in perceptions. Some pupils came to the museum with negative perceptions but those changed after viewing museum exhibitions and participating educational activities. For example, three pupils became part of the people who participated in performing Mhande, a traditional dance at the GZWHS. One of the pupils indicated that she was always told by her parents and church friends that traditional dances were evil and associated with demonic spirits. However when the pupil visited the GZWHS and gathered information from the museum tour guides as well as the dance crews at the Shona village she discovered none of that was true. The pupil is seen below dancing Mhande traditional dance in Plate 14.

*Plate 14: Pupils dancing 'Mhande' at the GZWHS.*

Some pupils indicated that their perceptions of museum exhibitions changed after manipulating museum objects or seeing live snakes and some of their responses are given below:

***Grade 6****: "I always come to the ZMM because our teachers bring us here. Today's trip was different because for the first time I got the opportunity to get inside the Willy's jeep". (ZMM)*

**Grade 7**: *"I often hear my friends saying the museum is a very interesting place and when I came I was very curious to see what the museum offers. I really learned a lot about the snakes I saw here. I now know that snakes are a protected species in Zimbabwe and that we should not kill them". (NHM)*

Forty-seven pupils indicated that they would like to visit museums again to learn topics related to social and environmental studies curriculum. The study gathered that when pupils visit museums they come with different agendas. Ten pupils interviewed at the NMTA cited that they had come to the museum as a leisure trip and to acquaint themselves with the museum but after the tour of the museum they realised that the museum had so much content they could learn from and use for school work.

Another group of pupils mentioned that their perceptions and attitudes changed after visiting museums because museums were unique learning environments with real objects as compared to school where they made use of books and see pictures of things. Some even mentioned that the museum was a more relaxed learning environment compared to the classroom. Pupil's responses are given below:

**Grade 5**: *"I liked learning at the NHM because they are live animals and this is different from the school laboratory where everything is preserved in jar bottles". (NHM)*

***Grade 4**: "The museum teacher explained clearly about the people who built Great Zimbabwe and I learned a lot. I also enjoyed the bush environment at the Great Zimbabwe because I like outdoors". (GZWHS)*

The study also gathered that some pupils indicated that their perceptions changed negatively after the museum trips. The 287 (19.13%) pupils had negative perceptions of museums because they were bored by repeating the same things they had been doing and seeing for more than once. The most affected pupils in this category were those pupils who visited museum more than twice. Interviews with 134 (8. 9%) pupils at the ZMM indicated that the museum educational activities of answering study sheets and watching a film had become boring. These pupil's negative perceptions originated from the lack of variety in terms of the activities done at the museum with primary school pupils. Some 153 (10. 3%) pupils were generally disgruntled with the museum exhibitions in all museums that remained the same for more than 30 years. These pupils also indicated that the old exhibitions did not have enough information to explain the full context of artefacts in exhibitions and this situation mainly affected pupils on self-tours. This means that there are a good number of pupils who feel that museum educational programmes require improvement either by introducing variety in the manner they are delivered or redesigning museum exhibitions.

### *6.1.5 Activity, Behaviour and Progression*

This outcome referred to what people do, what people intend to do, what pupils have done, reported or observed and a change in the way pupils do things (West Midlands Hub Education Group, 2011). The study under this outcome asked pupils to give responses to the following questions:

1. I would like to visit the museum again- 1230 (82%)
2. I will share my museum experience with others- 1478 (98, 53%)

The study established that 82% of the pupils involved in the study indicated that they would like to visit museums again whilst 270 (18%) said they would not. Pupils mentioned that they would like to visit museums again because they learned from curriculum related content the museum provided through exhibitions. Pupils mentioned that field trips afforded them a chance to visit other enjoyable tourist destinations like the Matopos, Nyanga, Victoria Falls, and Wildlife conservancies among other places. They preferred destinations where they accessed natural and cultural heritage. Therefore, 18% of those who said they would not bother to visit again consider museum exhibitions as now boring because they do not change and the educational activities remain the same. This is the same point mentioned above under the section on change of attitudes and values. Museum exhibitions and educational activities have remained the same for the past twenty years and this has made them seem boring. Museums by maintaining such exhibitions and educational activities had demotivated some of the pupils and for them museum trips are not worthwhile.

One thousand four hundred and seventy eight (98, 53%) of the pupils involved in this study mentioned that they were going to share their museum experience with

their teachers, family, friends and classmates. Each pupils had atleast one or more galleries or exhibitions whose information was worth sharing with others. The researcher observed some of the pupils taking pictures of each other in museums while some school parties hired photographers to take photographs of pupils. Twenty two (1, 4%) pupils did not indicate if there were going to share their museum experiences or not. The major finding is that pupils indicated they would share their experiences with parents, friends and close relatives meaning that they had in some way memorable experiences.

## 6.2 Barriers to effective learning

This section discusses the barriers within the educational programmes such as SCV and SMV that hinder effective learning among pupils. The barriers have been identified by pupils, teachers and the researcher. These barriers are grouped as structural, physical and intellectual.

### *6.2.1 Structural barriers*

As already indicated, the SCV is a programme where the museum accommodates pupils on specific dates as designed by the museum education officer. Schools are supposed to bring their pupils to the museum according to a calendar designed by the museum. Four teachers interviewed at the ZMM indicated that the dates they are given are imposed on them hence they visit the museum to fulfil the gesture of having been invited to the museum. The teachers suggested that these dates should be set in collaboration with teachers for effective learning to occur among their pupils. Often suggested dates for a school to make use of the museum may not be suitable and teachers will be teaching on other topics that may not be

directly linked with what the museum is offering. Primary school teachers indicated that pupils were going to learn effectively if they visited the museum after learning a specific issue or topic at school that links with museum content.

Sixty-nine (6.9 %) of the teachers who participated in this study at the ZMM indicated that study sheets are important to focus pupils on specific issues and knowledge gaps but they restrict pupil's movements to what they want to view themselves. All pupils interviewed at the ZMM mentioned that study sheets were restrictive to pupil's choices and interests. Further, considering that schools that visit museums have limited time, pupils end up not having enough time to view and learn from other things the museum provides. Once pupils are given study sheets they end only concentrating on them. Another challenge observed was that at the ZMM when pupils are given study sheets they only end up concentrating more on the captions as compared to the time they take on artefacts in display.

The random grouping of pupils by the tour guides is not done with the assistance of school teachers. This had the problem that some pupils are slow learners and would learn with others who are intelligent. The study established that some groups were constituted by slow learners or deviant pupils only or few deviant pupils who will disturb those willing to work on tasks. Plate 15 below shows an illustration of a pupil who was a slow learner and his group left him wandering about the galleries. In some instances such pupils will be those considered to be special class (pupils with cognitive disabilities) in schools and are left alone.

*Plate 15: A grade 6 pupil isolated by group members, ZMM.*

When pupils are randomly picked the pupil given the study sheet to hold and tick answers is bound to be the only serious person in the group. The rest of the group members may follow their friends in other groups or simply spend time looking at exhibits of their choice.

### *6.2.2 Intellectual Barriers*

Intellectual barriers are caused by the inaccessibility of the exhibit concept, publicity material, labelling, placement and layout of exhibits (Kennedy and Prager, 2008; the Council of Museums, Archives and Libraries, 2001). The most notable intellectual barriers observed in the museum context included understaffing and tour guides who were not receptive to pupil questions. Museum records show that museums are receiving huge numbers of pupils and therefore the few tour guides in museums are failing to cope. It has already been pointed (in Chapter 5) that the ratio of tour guides to pupils is 1 to 50 in many instances especially at the end of school terms. When tour guides handle many pupils this

affects the quality of time and material they would give to pupils. As mentioned earlier, the GZWHS receives more than 500 pupils a day during the end of school terms all requiring a guided tour. This simply means that tour guides work under pressure and are likely to compromise the quality of information they would give pupils in order to assist all pupils.

One hundred and eight five (18, 5%) teachers complained that museums are understaffed and 4 museum education officers concurred with this observation. At the NHM the researcher observed a school from Gwanda waiting for more than an hour to get a guided tour. The teachers and pupils complained of time wasting and were tired of sitting in the bus waiting for a tour guide. By the time the school received a guided tour pupils were already displaying signs of fatigue. The GZWHS engaged unseasoned or part time tour guides during the end of second and third terms but this did not circumvent the shortage. As already pointed out, in some cases the few tour guides got overwhelmed hence they rushed pupils through in order to assist other school groups.

Another challenge alluded to earlier is the fact that museum tour guides in many cases receive mixed groups of pupils that are constituted by different grade levels of pupils. For example, a school may bring 15 pupils and the group has 8 Grade 7, 4 grade 5 and 3 Grade 1 pupils. Such a group is difficult to group and provide separate guided tours. The reality is that museums in Zimbabwe cannot afford to have three tour guides to provide three separate guided tours. Tour guides may eventually end up taking the whole group and this is when the challenges begin. The first challenge is that these pupils have different cognitive capacities, understanding as well as style of learning. In some cases the researcher observed 2 tour guides at the ZMHS at pains trying to explain in simple detail to Grade 2-6 pupils about human evolution. Tour guides face challenges in handling such groups, especially when trying to tone down language to suit the different grade

levels. The tour guide finds it challenging to select the type of content and depth of the content to give to such a group. All museums in Zimbabwe receive these types of groups.

Primary school teachers and pupils complained that the study sheets provided by the museum were only in English and a number of primary pupils sought assistance from the tour guides or teacher or the researcher to help explain some of the questions. Primary teachers and pupils indicated that different languages should be used in captions and study sheets. Further the captions accompanying exhibits are in English and in many instances the depth of language and jargon used is out of reach of other pupils especially the Grade 1-4s. The questioning style on the study sheets only promoted lower order thinking. Study sheets from Grade 3-7 promote lower order thinking as they only require pupils to tick answers that are provided on the study sheets. There are no questions that require pupils to think critically. All primary school teachers involved in the study at the ZMM mentioned that the majority of questions on study sheets had no link with the primary school curriculum. Some study sheets such as the Grade 6 one do not have answers on captions. This made pupils to waste time trying to find answers that are not there.

Another challenge with study sheets at the ZMM is that they contain more questions that promote the learning of general knowledge more than curriculum related questions. The ZMM study sheets show that out of 16 questions the Grade 3 pupils could only relate 6 of the questions to the school curriculum. The rest of the 10 questions provided information that was not examinable in the school education system. The Grade 5 and 6 study sheets have more general questions more than curriculum related questions. The study sheets at these levels provide little information that is related to the school curriculum as compared to general knowledge or content examined at school. Therefore, pupils spend much time

learning things that they do not make use after the visit with regards to the school curriculum. This is shown in table (6) below.

*Table 6: Study sheets at the ZMM.*

| **Grade level study sheet** | **Total number of questions** | **Curriculum related questions** | **museum based knowledge questions** | **General knowledge questions** |
|---|---|---|---|---|
| Grade 3 | 16 | 6 | 7 | 3 |
| Grade 4 | 24 | 11 | 3 | 10 |
| Grade 5 | 32 | 9 | 3 | 20 |
| Grade 6 | 40 | 13 | 4 | 20 |
| Grade 7 | 40 | 17 | 4 | 19 |

Captions that accompany artefacts in exhibitions make use of scientific language and jargon that the majority of pupils find challenging to comprehend. Each museum in Zimbabwe had these types of captions. For example at the ZMHS the Human evolution and natural history displays have captions that make use of scientific language and jargon that Grade 1-4 pupils found challenging to understand. The captions accompanying displays in some of the armoured vehicle and guns hangers at the ZMM have the same challenge (see Figure 8 below).

ANTI-AIRCRAFT HEAVY MACHINE GUN

THIS WEAPON IS A 14.4MM KPV ANTI-AIRCRAFT HEAVY MACHINE GUN ISSUED TO THE SOVIET ARMY IN THE 1960S. IT WAS DESIGNED BY VLADIMIROV TO USE HIGH VELOCITY ROUND USED FOR PTRD-41 DEGATYAREV ANTI-ARMOUR WEAPON. IT IS A RECOIL OPERATED WEAPON WITH A QUICK CHARGE BARREL AND IS MOUNTED ON A ZPU 1 TWO WHEELED ANTI-AIRCRAFT MOUNTING. THIS WEAPON COULD BE USED AS AN INFANTRY SUPPORTING WEAPON FIRING ARMOUR-PIERCING INCENTIARY AND TRACER TYPES OF BULLETS. WEAPONS OF THIS TYPE WERE ISSUED TO THE LIBERATION FORCES IN THE 1970s BY THE SOVIET UNION (RUSSIA) AND WERE USED IN OPERATIONS FROM MOZAMBIQUE AND ZAMBIA.

*Figure 8: An anti-air heavy machine gun caption employing jargon, ZMM.*

Closely related to language as a barrier are captions in museums that employ small font type and spacing. One hundred and twenty three (8, 2%) pupils at the NHM for example indicated that the font sizes on captions in the mamalogy, ichthyology, geology, herpetology and ornithology galleries were too small. The same challenge of small font sizes were also cited at the ZMM in the Aviation gallery, the NMTA in the Mezzanine gallery and the ZMHS in the Stone and Iron Age exhibitions. Further museums have displays that are accompanied by captions with large quantities of text or information which pupils were not keen to read to the end. For example in the ornithology exhibition at the NHM and the Stone Age exhibition at the ZMHS employ captions that have a lot of text which primary school pupils did not manage to finish reading and comprehend. This contributed to information overload and demotivated pupils to continue reading.

Some exhibits such as the Staghound, 6 pounder, Morris Quad tractor and some artillery guns in station 8 at the ZMM do not have write ups or the right information on them yet there are questions about them on study sheets. The ZMM education department gives pupils free marks on those five questions because they know there are no answers on the artefacts. Therefore, when there are no guided tours to further explain these exhibits it becomes very challenging to pupils to understand more about the objects.

A number of artefacts do not have adequate documentation in all National Museums. In many cases objects on display just have a scientific name of the artefact and do not have adequate information that pupils can use to fully understand what they are (Plate 16 below). For example the majority of displays at the NHM in the mamalogy, geology and ornithology amongst other displays have inadequate documentation accompanying artefacts. This made pupils to struggle to gather information and to effectively understand artefacts. Pupils were often more concerned about where museum artefacts came from, who used them, what is the capacity of such objects, which culture owns the objects and what is the significance of the objects to pupils. The little information available did not help respond to these questions and it became very difficult for school parties that failed to pay up for guided tours and had to self-tour.


*Plate 16: A display with inadequate documentation of birds, NHM.*

Some exhibits in the ZMM, NHM, NMTA and ZMHS galleries are congested with artefacts and text. The display cases have been left by white settlers who designed museum exhibitions taking the form of cabinets of curiosity. In the Aviation gallery at the ZMM, artefacts and text are congested in displays (Plate 17). The display has flags, uniforms, captions, medals, photographs and models. Plate 18 shows so many bird species displayed using the Carl Linnaean type of categorisation, a display style associated with cabinets of curiosity. The same problem was also cited by 98 (6. 5%) pupils at the NHM in the geology and ichthyology galleries among other galleries (Plate 18). Congested objects overwhelm and demotivate pupils as there are too many things to look at.


*Plate 17*: S*howing a congested display case, ZMM.*

*Plate 18: Showing a congested bird display case, NHM.*

Museum displays that take the form of cabinets of curiosity affect pupil's learning because they are congested causing visual discord, information overload and confusion as pupils cannot understand them. Museums in Zimbabwe receive most pupils at the end of second and third terms causing congestion of hall ways, galleries and attractive display cases (Plate 19). As a result pupils start looking for other objects to view and this means they lose out on the explanations given by the tour guide. Some pupils scramble to write notes written on captions while tour guides cannot provide specialised assistance to pupils.

*Plate 19: Pupils congested at the armoured vehicle hanger, ZMM.*

Another intellectual barrier was that study sheets at the ZMM had answers on specific displays or artefacts like the Quad tractor. This contributed to pupils congesting on these displays hence making pupils fail to gather information on time as they all attempted to gather responses to study sheets. A group of 15 Grade 6 pupils (Plate 20) were observed overcrowded at a Quad tractor trying to have a look at the label accompanying the artefact that had an answer.

*Plate 20: Grade 6 pupils overcrowded on a caption at the ZMM.*

School parties spend varying degrees of time in museums or at cultural sites. Another barrier to learning already presented in this chapter is pupil fatigue. As indicated earlier pupils were more attentive in the first 30 minutes to 1 hour but museum experiences that took longer than this caused fatigue among pupils. For example at the ZMM, to complete the study sheets and view exhibitions at the Trim Park as well as watching films consumes not less than 4 hours.

School parties that spend less than an hour in museums contributed negatively to pupil's learning. Some schools visit museums and proceed to other leisure destinations. For example, a school in Gweru may visit the ZMM and proceed to the Railway museum at Dabuka or Antelope Park and in Harare a school may visit the ZMHS and proceed to the Zimbabwe Broadcasting Authority, Parliament and the Heroes Acre in one day. This means that the time spent at each site or institution is controlled and restrictive of any meaningful learning. Five school teachers from a school in Gweru instructed tour guides at the NHM to provide a guided tour and finish within 1 hour because they wanted to proceed to the Matopos World Heritage Site. In order to have a complete tour of the NHM requires at least 2 or 3 hours this meant that pupils were rushed through the galleries and hence affected their learning.

The level of mounting of some of the exhibits at the ZMM, NHM, ZMHS and NMTA is too high for pupils especially those in Grades 1, 2, and 3 pupils find it very challenging to view them. Some of the display cases in the Boultbee gallery in the NMTA and the Ichthyology gallery at the NHM are mounted 1 metre above the ground and the lower grades find it challenging to access the exhibits (see Plates 21 and 22). This is compounded by the fact that the text accompanying some of the artefacts in the high level showcases is too small to read. International standards especially according to Universal Design Standards (Centre for Universal Design, 1997) display cases for pupils should not be mounted over 1 metres high from the ground.

*Plate 21: Display case mounted one metre above the ground, NMTA.*

*Plate 22: Display case mounted one metre above the ground, ZMM.*

### *6.2.3 Physical barriers*

The structure of the programme and the way it is administered may be a hindrance to effective learning among pupils. The majority of museums in Zimbabwe are not disability friendly as they do not provide intellectual, physical and emotional access to pupils with disabilities. The museum SCV and SMV educational programmes in Zimbabwe do not cater for pupils with disabilities (PWD). For example the ZMHS, NHM and part of the NMTA have stairs in galleries. Tour guides in museums are not trained to provide sign language interpretation and museum captions are not in Braille for the blind pupils. This is a big challenge that has made the majority of pupils with disabilities not visiting museums or being left behind at school when other pupils make field trips. These are the reasons why very few PWDs visit or participate in museum educational programmes. Jairos Jiri Gweru visited the ZMM in July 2016 and the tour guide found it challenging to deal with pupils who have hearing impairments. The Jairos Jiri teachers who had accompanied the pupils had to chip in with sign language to explain exhibits to pupils. However the teacher cited that some things were very difficult to explain using sign language and pupils had to also rely on seeing artefacts themselves.

Another barrier is that some museums do not have resting places or areas where pupils can sit and write or comfortably work on. Some pupils could be seen working from the floor (Plates 23 and 24), struggling to support their note books and others resorted to using the display cases for support. However, other museums like the NMTA provided pupils with hard surfaces such as clip boards which pupils used to properly write their notes (Plate 25).

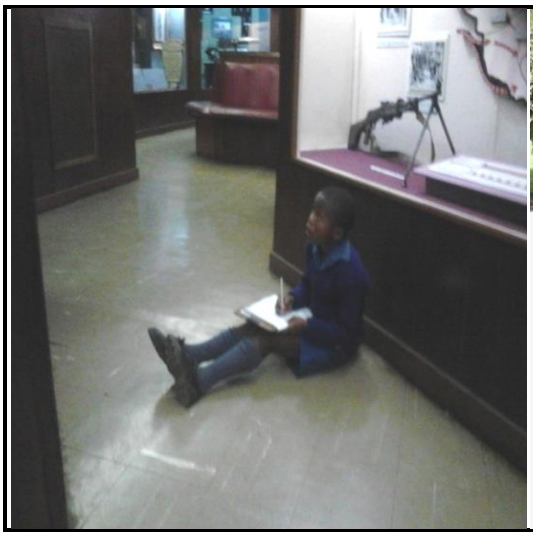

*Plate 23: Grade 5 pupil writing notes on the floor, ZMM.*

*Plate 24: Grade 6 pupils writing notes on the floor, ZMM.*

*Plate 25: Pupils using clip boards to write notes, NMTA.*

The study observed that museums do not have well-built areas where pupils can sit and take a food break. In most cases pupils are kept in open spaces where they sit on the ground and risk getting dirt as well as diseases (Plates 26 and 27).

*Plate 26: Pupils sitting on patchy grass taking a break, NMTA.*

*Plate 27: Pupils sitting on a quarry surface taking a break, ZMM.*

Another barrier to learning was/is inadequate ablution facilities for pupils at all National Museums. During peak periods pupils took turns to use the few toilets available and spent much of their time trying to get a chance to use the bathrooms. Teachers and pupils cited this as a barrier because toilet facilities were one of the most important facilities for pupils at a museum. The pupils' overall museum experience was affected by the unusable toilets at the cultural sites.

### 6.3 Chapter Summary

The study employed the Generic Learning Outcomes to assess the learning outcomes displayed by pupils. The Chapter shows that the majority of pupils (86.66%) displayed weak and medium indicators of cognitive gain whilst a smaller number (13. 33%) displayed strong indicators of learning. In terms of

cognitive gain very few pupils effectively in museums. It was also established in the chapter that school pupils (37.13%) enjoy learning curriculum related content, tactile objects (19.33%), familiar and live exhibits (29.6%) and life sized artefacts (13.93). This means that school pupils on museum trips visit museums with the aim to learn curriculum content but unfortunately museums in Zimbabwe have very few exhibitions and content relating to the primary school curriculum. The structured class visit and school-museum visits mainly promote the learning of intellectual skills (49.33%), 38% social skills and 12.66% learned how to do something. It is also established in the chapter that the majority of school pupils (80.86%) found museum visits positive in providing learning opportunities whilst 19.13% viewed as boring the structure of educational activities done through SCV and SMV. School pupils value the learning opportunities provided through SCV and SMV and it is established in the chapter that 82% of pupils want to visit museums in the future, whilst 98.53% highlighted that they would share their museum experiences with others. However there are various structural, intellectual and physical barriers that hinder effective learning among pupils.

# CHAPTER 7

## DISCUSSION AND CONCLUSION

### 7.0 Introduction

This study set to investigate how school pupils learn curriculum related content from museums, establish the learning outcomes and barriers to pupil's learning. In order to fully comprehend how primary school pupils learn from museums this chapter first discusses the opportunities and restrictions afforded by the behaviourist framework being employed by museums in Zimbabwe. This chapter also discusses the effectiveness of museum education programmes in facilitating the learning of curriculum content among school pupils in Zimbabwe. This assisted to identify and examine how and the extent to which the museum environment, pupil characteristics, teacher's qualities and parent context influence pupil's learning. It is concluded in this chapter that they are few opportunities for school pupils to effectively learn curriculum content because museums in Zimbabwe still maintain the majority of exhibitions and employ theoretical frameworks inherited from the colonial period. Therefore a discussion on how museum education can be decolonised is made in this chapter.

### 7.1 Museum educational philosophy

National museums in Zimbabwe originated from the colonial period whose mission was to nourish the tastes of the white settler connoisseurs. Cecil John Rhodes and other successive Rhodesian colonial administrations who were the major proprietors played a very instrumental role in the establishment of museums in Zimbabwe. Cooke (1986) and Summers (1968) point out that Cecil

John Rhodes for example provided much of the funding for museum operations at the Natural History Museum and Zimbabwe Museum of Human Sciences. Other museums such as the ZMM, NMTA and GZSM were developed out of the desire of white settler communities to showcase their dominant cultures or interests. During the colonial period everything that happened in the museum including collecting of artefacts, exhibition design and interpretations were done with a bias towards projecting the white man as superior over other races. Collecting and the display of indigenous histories and artefacts in museums was done in a negative manner to show the world how barbaric, evil and uncivilised Africans were hence in need of European modernity (colonisation). Museum practise during the colonial period was inspired by Cecil John Rhodes' racial belief of asserting the white man as the dominant race. Therefore, museums before independence in 1980 were an extension arm of the colonial administration.

Smith (2006) put across the Authorised Heritage Discourse (AHD) theory that converse the fact that the government in place influences and define what should be valued and preserved as heritage. Cecil John Rhodes and succeeding colonial governments after 1923 had the conviction that it was their responsibility to define what should be valued as heritage. In simpler terms this meant that museum collections and exhibition narratives were to project positional superiority of the white settlers over Africans. Therefore, museum exhibitions during the colonial period effectively served their purpose and that is to project the African histories and culture with a negative connotation. Whenever displays of African cultures were displayed for example at the ZMHS through the Stone and Iron Age exhibitions the African was projected as barbaric and uncivilised (see Ucko, 1994). This is not surprising because there is substantive evidence that colonial governments have sought to sustain their racial dominance using museums (Mew, 2012; Mufuzi, 2012; Mirara, 2006). Mufuzi (2012) indicates that during the colonial period in Zambia the United Kingdom used museums as institutions to project and sustain their colonial administrations. Mew (2012)

shares the same views as those of Mirara (2006) that white settlers in Ghana and Mali used museums to project their racial dominance over indigenous cultures (2012). Gore (2002) also point out that the United Kingdom played a big role in colonising Australia and New Zealand and used museums as institutions to subjugate and marginalise indigenous cultures by instigating displays that reflected racial segregation. The Australian museum and the New Zealand TePapa Tongarewa museums were developed to project white supremacy over the Aborigines and the Maori cultures. Through exhibitions indigenous cultures were projected as nonentities.

Museums in Zimbabwe have since the late 1900s provided education programming to primary school pupils. The major museum education programmes for primary school pupils in museums in Zimbabwe include structured class visits, school-museum visits, museum clubs, outreach, quiz as well as the Adopt 'A' Site programmes. These programmes are grounded on the museum exhibitions that this study has proclaimed to be colonial inheritance. Museums in Zimbabwe embrace the behaviourist learning framework. The behaviourist nature of museums in Zimbabwe is seen by the following characteristics. Museums through exhibitions employ the transmission model of communication (Carbonell, 2012; Hooper-Greenhill, 2007; Kelly, 2007; Hein, 1998). Museums are the voice of authority that determines knowledges which are taught to pupils whilst school pupils are considered passive receptors of knowledge. The idea of the behaviourist museum is that museums are the expert knowledge instructors and pupils are blank slates (tabula rasa) or are there to be educated about the cultural heritage in Zimbabwe. School pupils are subjected to the teachings and knowledges produced by museum curators and tour guides. The transmission model in museums in Zimbabwe is synonymous to Paulo Freire's (1972) Pedagogy of the Oppressed. Freire (1972) posits that museums that employ behaviorism are oppressive institutions that aim to deposit their knowledges into pupils whom they regard as ignorant and blank vessels. Such

museums teach reality as complete and unchangeable, assumes that pupils are objects that merely exist in the world to be taught about their cultural heritage. A museum that employs behaviorism creates a situation where the school pupil becomes an epistemological slave that exists to be indoctrinated with information.

When SCV and SMV are conducted pupils are simply told what to do and follow the tour guides whom they and their teachers consider to be knowledgeable. The study sheets for example, have been designed so that pupils react to them and even during guided tours museum guides are the sole explainers of information. Further when school pupils interact with the SCV they are simply selected and categorised into groups of 4, be given a study sheet to answer and watch a film. School pupils have little control over the learning process. School pupils are just toured through the museum or cultural heritage site and this renders them to be recipients of information regurgitated by tour guides. Museum tour guides who mainly handle visitors take centre stage at explaining collections to pupils without identifying their prior knowledge, interests and experiences. Tour guides also determine the pace, choice of exhibits, language and the activities pupils do through SMV and SCV.

The behaviourist framework disregards pupil's choices, preferences and interests. School pupils have rich prior knowledge and experiences when they visit museums and therefore not subjects of indoctrination. School pupils are subjected to pre-packed knowledges prepared by museums. School pupils are subjugated and tuned to accept knowledge from one source as in this case from the museum perspective and this is no different from the colonialist beliefs that there is one worlds view and it only comes from the museum as experts and teacher. Tour guides assume that all pupils receive the messages they give in the same way yet this is far from the truth. Pupils have different developmental and cognitive capacities, learning styles, preferences, interests, and motivations. When these are

not taken into consideration as what is happening in museums it is difficult to achieve effective learning. Therefore, the manner in which SCV and SMV are run renders school pupils to have no say about what they do and how it is done. They are given ‘canned answers’ or stories prepared to be given to people who do not have any information about the museum or monument.

Pupils are not blank slates to be filled with information considering that pupils are exposed to history and archaeology books, research material, catalogues and may have heard stories about museum objects or artefacts from other sources like their teachers, parents and close relatives. School pupils are also exposed to other formal and non formal contexts such as formal schools, television, the internet and outdoor contexts hence come to museums with rich prior knowledge and experience. Museums in Zimbabwe have since independence remained the most authoritative voice on cultural issues and are reluctant and not willing to share that authority with their public. Guides may be teaching pupils their own biases, misinterpretations and unauthenticated prepared knowledges. This was gathered at the GZWHS where 6 teachers and 5 pupils in Grade 7 indicated that each and every time they visit the monument they hear different stories indicative of the biases and dispositions of tour guides. The problem with this kind of attitude is that museums in Zimbabwe are administering education programmes that are ineffective and out of sync with the educational needs of the current generation of primary school pupils. There is opportunity for museums to facilitate effective learning among primary school pupils if they discard their elitist approaches of seeing pupils through ‘dim’ lenses and instead relinquish this authority and act as facilitators of learning as well as collaborating with their pupil audiences (Carbonell, 2012). Museums that employ this learning theory consider themselves the hub of knowledge that needs to be communicated to those less knowledgeable public and have been accused of being authoritarian (Cameron, 1968). Hooper-Greenhill (2007, 1994) states that in the behaviourist model the power relations are too obvious. The theory places museums as the most powerful agent in

transmitting knowledge yet contemporary theories of learning such as the sociocultural theories place little emphasis on behaviour change as a sign of learning (Gomba, 2018; Hooper-Greenhill, 2007; Kelly, 2007; Falk and Dierking, 2000).

The second behaviourist trait is that museums promote operant conditioning. Burrhus Frederic Skinner ($18^{th}$ -$19^{th}$ century psychologist) is the proponent of the operand conditioning concept that argues that people learn through environmental stimuli and reinforcement. Museum exhibitions are seen as the stimuli to which pupils are supposed to be conditioned in order for learning to occur. Therefore after interaction with museum objects museums view exhibitions and the interpretations they give as learning has occurred. Museums expect pupils to be in awe and amusement after they see artefacts which they normally do not have at school. Further operand conditioning views learning as occurring through positive reinforcements whilst undesired behaviour requires negative reinfocers leading to behaviour extinction. However interacting with museum environments does not simply translate to learning they are other factors that influence pupil's learning as those listed in the Contextual Model of Learning by Falk and Dierking (2000) and Ubuntugogy (Bangura, 2005). Factors such as the personal and sociocultural contexts influence learning in museums. For example if a school pupil is not motivated to learn no learning will occur. Some pupils learn from their friends through interaction, exploration and collaboration and not only interacting with authentic artefacts displayed by museums.

Operand conditioning also includes the issue of positive and negative reinforcements. In the case of museums in Zimbabwe positive reinforcers leads to pupils being given a good comment or compliment and this is aimed at encouraging or motivating pupils to repeat desired behaviours. A good example can be taken from the NHM where the study established that pupils are asked

questions during guided tours and they respond by citing what is written on the captions. To the tour guides when pupils regurgitate exactly the information on captions is a sign that pupils have learned and therefore the tour guide rewards pupils with a good compliment and move to the next gallery. At the ZMM pupils who manage to answer the study sheets are given compliments and higher marks as rewards. However the study gathered that some pupils guessed the answers since the study sheets are in multiple choice format. Some pupils even copied answers from the study sheets of their classmates and when these manage to pass museum personnel are tempted to think that pupils are learning. Surgenor (2010) posits that although positive reinfocers such as rewards may encourage and motivate pupils it is difficult to assess if they would have learned effectively. An example is those observed at the ZMM and ZMHS who copied responses from their classmate's study sheets. School pupils that fail to pass study sheets are given lower marks and in many cases they may be scolded by their teachers. This is negative reinforcements aimed at discouraging a repeat of the failing behaviour.

Mimi (2013) has indicated that operand conditioning has the advantage that through reinforcements it is easy to identify pupils who might be facing challenges in the learning process such as slow learners or those with cognitive impairments. Another advantage of behaviourism is that it only benefitted first time school pupils. First time pupils learned from the explanations given by tour guides about the collections on display through the lenses of the museum and this avoided the novelty factor. However the opportunity for tour guides to observe and single out pupils who face learning challenges have been observed to be very slim. This is caused by several factors that include the fact that some schools spend little time in museums as they would proceed to other leisure destinations. Further it is difficult to notice or assess pupils who might be facing learning challenges considering the huge visitor trends of school pupils to museums. When a tour guide provides a guided tour to atleast 50 pupils, it is a mammoth task to single out pupils who might have learning challenges. At the GZWHS for

example, the majority of the tours involved the tour guide rushing through to finish the guided tour in order to provide the same services to other schools who would have paid for guided tours.

The third behaviourist trait in museums is that museum experiences promote rote learning or memorisation. Pupils are continually made to respond to a stimulus. Museums in Zimbabwe continue to provide the same educational activities for pupils to remember things. Rote learning does not allow pupils to analyse, examine, synthesise or think for themselves. Thus pupils do not genuinely understand the material they learn, fail to grasp the uses of the reasoning behind and the meaning of knowledge presented to them. Rote learning was seen when pupils simply regurgitated answers written on the caption and failed to answer questions that did not have direct and clear answers on a label but which required them to think. Further in many cases for example at the GZWHS, docents paced at a quick speed and most often just captured the name of outstanding features and nothing more. However just knowing the name of an object is not effective in understanding cultural objects. The study sheets at the ZMM that are in multiple choice format promoted rote learning and guess work. Subjecting pupils to this kind of educational activities lead to little learning happening. The behaviourist approach assumes that learning occurs when pupils are continually made to respond to a stimulus. Museums in Zimbabwe continue to provide the same educational activities for pupils to remember things. Rote learning only allows pupils to memorise what the teacher says or those things written in the text book.

Monti and Keene (2016) posit that behaviourist exhibitions are designed to motivate viewers and interpretation gives a linear set of goals. The forth behaviourist trait in museums is that the majority of exhibitions in museums take the form of cabinets of curiosity utilising the Carl Linnaean type of categorisation ($18^{th}$ century type of museum display). The cabinets of curiosity have been designed to have mixed collections in-order to motivate the viewer to learn about

the different collections that have similar traits. In terms of learning this type of classification system causes congestion of collections in the same display case and mixture of unrelated collections in one display. These types of displays affected pupil's learning because they cause visual discord, information overload and congestion of unrelated artefacts in the eyes of primary school pupils.

The Carl Linnaean type of categorisation arranged artefacts by order of similitude and taking an encyclopaedic or book approach to how objects are displayed and documented. It is difficult for school pupils to make meaning out of just a name of an artefact or object especially during self tours. Such displays lack adequate documentation for pupils to effectively understand them because the little information available is from one source (the museum perspective). Displays that employ the Carl Linnaean type of categorisation are only understood by scientific researchers and naturalists or history specialists. All natural history displays in museums for example are typical $17^{th}$ and $18^{th}$ century displays which are mainly accessible by university students, lecturers and scientific researchers. The captions in such displays in museums are not intellectually accessible to pupils of the ages 6 to 12 years. Inadequate documentation on exhibits is a major challenge that bedevils museums today. School pupils want to know the name of object, information about their provenance, who used them, how they came to the museum and their significance to Zimbabwean cultural heritage in-order for them to clearly relate these objects in their curriculum and lives. The artillery open air displays at the ZMM for example have no captions indicating their name and provenance. As mentioned before, museums in Zimbabwe are a colonial inheritance and little research has been done so far to effectively document some of the collections they have. Lack of documentation of objects affects pupil's learning in museums negatively. Objects are decontextualized leading to rote learning where pupils may just remember the name of an artefact and nothing more. There is no connection that pupils can make in relation to what they learn at school to the cabinets of curiosity displays in museums.

It is imperative that museums in Zimbabwe re-consider the behaviourist learning framework they are employing because it is restrictive to effective learning. Having noted the strong, medium to weak learning outcomes and the disruptive behaviour of some pupils during museum visits, the most effective approach to museum learning in Zimbabwe is the sociocultural frameworks. Sociocultural learning frameworks include the Contextual Model of Learning by Falk and Dierking (2000) and Ubuntugogy by Bangura (2005). The CML and ubuntugogy espouse that learning is social and mediated over personal, physical and sociocultural contexts. Effective learning is a negotiated process based on models of cultural transactions (Andre *et al*, 2017; Hauan and Kolsto, 2014; Storksdieck, 2013; Talboys, 2011; Hooper-Greenhill, 2007; Falk and Dierking, 2000). The CML suggests that pupil or personal qualities are imperative to consider if learning is to happen. For example, the pupil's visit agenda, motivations, interests, choice and control over the learning process. The museum or learning environment also influences what, how and the extent to which pupils learn. The museum environment includes exhibitions, museum architecture, physical and intellectual accessibility of museum facilities among other factors. Ubuntugogy is an educational framework that considers learning as a social and collective effort where learning is mediated by physical and sociocultural context. Ubuntugogy advocates for learning that addresses the learning needs of the learner and provides learning opportunities through multimodal formats. The methods of content delivery include hands on activities, learning by doing, storytelling, oral literature, imitation or demonstration, games and folklore among other multimodal formats (Samkange and Samkange, 2013).

There are several benefits of employing the CML and Ubuntugogy frameworks. The first benefit is that museums will continue to attract pupils as future visitors because they will be providing content related to the curriculum. Further museums will continue to attract primary school pupils who will view museums as providing hands on and minds on learning opportunities through exposure to

real artefacts as well as educational activities that allow pupils to learn socially something not usually found in other formal and non-formal contexts. Secondly museums will provide relevant and effective educational programming to primary school pupils hence contributing to national educational standards. Thirdly museums will contribute to the production of a competent human resources hence leading to socio-economic growth of the country and globally.

### 7.2 How school pupils learn

The United Nations Sustainable Development Goals (2015-2030), goal number 4 articulate that countries the world over should ensure inclusive and equitable quality education to children by 2030. Goal 4 further states that countries should provide accessible equipped learning environments for children as early as Early Childhood (ECD), primary and secondary education. This is also in sync with the principles articulated in the 2015-2022 Zimbabwe Curriculum Framework for Primary and Secondary Education (ZCFPSE) that inclusive quality education should be provided from early childhood. Therefore Zimbabwe has managed to achieve some of the demands articulated in the United Nations Sustainable Development Goals (SDGS) and those of the ZCFPSE by providing access to school pupils. In fact the first aim listed in the ZCFPSE is to promote awareness of heritage, history, culture and traditions. This aim was designed to make Zimbabweans to develop and promote their ethnic identities, tolerance of other cultures through learning about each other's arts, crafts, music and dance, rituals, cuisine and apparel rooted in Indigenous Knowledge Systems (IKS). In post colonial Zimbabwe the government has made tremendous effort in reforming the education sector so that all children in Zimbabwe access formal and informal education from as early as Early Childhood.

Museum records show that school pupils contributes the largest percentage of museum visitors. From the statistics of pupil visitorship patterns and frequency it can be said that school pupils and teachers find museums valuable in the learning of curriculum content. The following section discusses how pupils are learning from museums. There are four contexts that have been observed to influence pupil's learning from informal learning settings and these are the pupil's, teacher, museum and parent contexts.

### *7.2.1 Pupil's characteristics*

School pupils are the agents to the learning process and therefore have certain qualities that influence what and how they learn from museums. Pupils willing to learn have been seen to display strong cognitive knowledge gain and understanding and affective outcomes. Pupils willing to learn are self-motivated and require little monitoring from tour guides and teachers resulting in effective learning. In this study pupils willing to learn were observed putting effort in the learning process that included critically analysing objects on display, participating in educational activities, socialising, engaging in discussions with their classmates, interacting and responding to questions asked by the teacher or tour guide.

Museums in Zimbabwe find it challenging to provide satisfying experiences to repeat pupil visitors. School pupils in Zimbabwe visit museums whilst very young especially when they are under the Early Childhood education level. This means that pupils are familiar with the permanent exhibitions in museums and the educational activities done. Repeating the same activities is dull and monotonous and this affects negatively how and what pupils learn. This is exacerbated by the fact that the majority of museum exhibitions have remained the same since 1980,

hence viewing the same material becomes boring. This is the reason why some pupils did not pay for field trips citing the same challenge. Museums risk losing a large base of pupil's visitorship in the future if the status quo remains.

Museums do not need to complicate matters but they can simply enliven by changing exhibits' location, repaint or take some of their collections in storage and replace the current ones on display. Therefore, when funding is problematic museums may re-design them. Museums may engage in contemporary collecting and this has potential to add new and assorted collections which the current museum audiences find relevance in. However contemporary collecting requires extensive research and consultation with local communities and other stakeholders such as relevant government ministries. There is also need to include hands on manipulation of objects, repaint, rearrange displays and remove unnecessary objects. This will attract pupils and teachers as the museums would have reinvented themselves by simple enlivening.

The NMTA put up a new exhibition in the Beit gallery in 2016 about the Eastern Districts cultures. This was seen as motivating by pupils and teachers because the content connects to the pupil social and environmental studies curriculum. The NHM, the NMTA have since provided displays of live snakes that pupils take interest on because they are interactive leading to enjoyment. This has made the museum more popular with pupils because pupils enjoy exhibits that include live and moving items. However the live snake exhibition could be enhanced more if the museum for example has a baby python that could be touched and felt by pupils. There is need to design various activities and use different mediums for content delivery apart from guided tours, study sheets and watching films. Teachers and pupils advocated for activities that includes play because primary school pupils are known to like and learn through play, experimentation and exploration.

Captions in museums provide information that accompany artefacts and act as a surrogate lecturer (Black, 2012). The amount of information found on exhibitions captions differs from museum to museum. The majority of captions in museums have been left by white settlers who manned museums before 1980 and these took a shop type of display design. The shop type design is when a caption has only the name of the artefact in English or another local language. This information is not enough for pupils to effectively learn from museums. Poorly documented objects affect pupil's understanding of objects on displays in museums especially schools that make self tours.

Pupils learn from things they are familiar with as well as topics that link with their curriculum. It is important for museums to develop appropriate programmes for pupils that link to the primary school curriculum. Programmes for pupils should take into consideration different learning styles. In understanding more about learning styles those who handle pupils may find inspiration from David Kolb's Learning Styles model (1984) and Howard Gardner's (1983) Multiple Intelligence theory. It is good practice that programmes and activities for pupils are done with the assistance of teachers or child care givers. Priest and Gilbert (1993) describe a collaborative approach between teachers and museum staff at the Museum of Science and Industry in the United Kingdom, where workshops were held to plan learning experiences for the pupils that would link the visit to their class work. They concluded that pupils learn by relating their experiences to existing school based knowledge.

Museums in Zimbabwe provide few opportunities where pupils can learn different skills such as physical skills and knowing how to do things as well as intellectual skills. Talboys (2011: 128) and Meiers (2010:28) indicates that museums can promote intellectual and physical skills if they include activities that involve role play, manipulation of materials, experiments, activity based sessions and

demonstrations. Talboys (2011:128) posits that demonstrations provide examples and models which pupils can use for learning purposes. Museums in Zimbabwe can provide demonstrations of varying kinds and examples of these include pottery, metal work, stone masonry and weaving. Further museums may employ activity based sessions that allow pupils to produce work from 'hands on and minds on' activities where pupils can be given tasks to produce work and models.

Role play involves taking on a role and living through a variety of experiences common to that role. Pupils may dress in a representative costume associated with village life of that period. Re-enactment may involve those same pupils acting out a specific event in village history with students taking specific roles as in a play (Talboys, 2011:128). These activities promote skill outcomes (Talboys, 2011:128). These educational activities if employed provide variety hence avoiding monotony of repeating the same educational activities such as answering study sheets and guided tours.

Films are an important resource museums use to communicate their content and one of the methods that facilitated learning among pupils. Films provided read and write learners, kinaesthetic and visual learners with opportunities to watch educational material. The study asserts that films provide variety and their themes address topics in the Content subject. Museums in Zimbabwe should vary their films so that they do not become monotonous to pupils. The current equipment is old and affects picture quality hence pupils learning as pupils have a poor perception of museum material. Upgrading projection equipment to include flat screen televisions and DVD players that provide more quality would enhance experience.

In this 21st century the majority of pupils are conversant with technological advances. It is not surprising that pupils as young as ECD can operate computers and smart phones as well communicating through social media. The new primary and secondary school curriculum in Zimbabwe places technology at the centre of learning. School pupils have been requested to use computers and smart phones as part of the curriculum to connect to the internet. The NHM has provided connectivity to the internet and museum databases pupils have learned a lot about museum collections. Antonaci *et al* (2013) posits that there is potential in the 21st century of museums to reach out to school pupils through virtual museums and social media. The NHM seems to be the only museum making use of facebook for example to communicate and gather information from their audiences. Museums in Zimbabwe can take the initiative to participate actively on social media because this is where the majority of pupils, the youths and adults spend much of their time on. Therefore, social media and virtual museums are potential spaces that can provide opportunities for effective learning without even physically visiting museums.

Museum educational programmes are not accessible to pupils with disabilities. Pupils with visual and auditory impairments are left out of SCV and SMV because they are no facilities such as Braille, sign interpreters and audio-video gadgets. Chitima and Mupira (2017) have established that museums in Zimbabwe provide minimal emotional, physical and intellectual accessibility to pupils with disabilities. There are no trained staff members to communicate in sign language and no Braille captions for pupils who are visually impaired. This study also established that pupils with disabilities found it challenging to fully participate in SCV and SMV. For example, slow learners were isolated and left to wander about in galleries because they were seen by their classmates as incapacitated to partake in these educational programmes. Museums do not have accessibility policies and this has contributed to the lack of will to effectively address issues of physical, emotional, financial and intellectual accessibility. Museums and other educational

establishments are encouraged to seriously think about inclusion if they want to achieve the SDGs and principles of the ZCFPSE. The British museum for example provides audio way finding maps and catalogues and tailor made rest rooms for the blind (Chitima, 2013:104). There is a lot that museums can learn from Salmen's Nine Building Blocks to accessibility (1998).

Museums in Zimbabwe can reinforce what pupils learn by conducting post visit programmes at schools. It is not a surprise that when pupils return to school their memories of the museum visit and what they learned fade with time. Therefore, post visits can be made whose aim is to cement what pupils learned and enjoyed. Pupils can also be requested by their teachers to present reports of what they learned at the museum whilst others listen and learn (Connolly *et al*, 2006). School teachers may create platforms where pupils can ask questions pertaining to the trip, and use these questions to assess what pupils have learned (Davidson *et al*, 2010; Price and Hein, 1991). Educational establishments that wish to provide effective learning should regularly evaluate their education programmes. Evaluation of programmes helps to gather feedback and understand more about pupil's education needs and what works and what does not work particularly on the implementation phases of education programmes. Evaluation of educational programmes is supposed to be done to ascertain if goals of the programme were met or not. This stage enables museums to improve or expand the programmes so that they effectively offer opportunities for learning among school pupils.

### *7.2.2 Teacher's intrinsic worth*

The teachers are so central in the learning of primary school pupils in the museum environment. The majority (70%) of school teachers in Zimbabwe plan museum trips. However the degree at which they assisted pupils to learn from museums differed. What is evident is the fact that more than 45% of teachers did not

articulate to their pupils the objectives of the trip. A teacher can assist pupils by making a pre-visit to the museums, research how their pupils may be assisted and what their pupils will learn. Few teachers had an interest in cultural heritage and contributed immensely to learning among their pupils. These teachers properly researched, articulated the objectives of the trip to pupils and actually gave them topics to research on. Pupils that are not prepared for the visit display weak indicators of learning as compared to those given a pre-orientation. Davidson *et al* (2010) suggests that advanced preparation of pupils and establishing a link with the curriculum with the field trip are the most influential factors in pupil's learning museums. School pupils who receive cognitive and process orientation learn more than those who were not given orientation (Meiers, 2010; Falk and Dierking, 1992; Balling *et al*, 1980). The study established that the majority of the pupils just came to the museum without knowing what was expected of them educationally. Pupils that received pre-orientation were better prepared, better equipped and motivated to learn.

The majority of school teachers have a pre-conceived perception that pre-orientation will be given by tour guides. However the orientation given by tour guides in museum in Zimbabwe is shallow and only serves to stipulate the rules and regulations of the museum. Without adequate pre-orientation such as providing orientation cues and link of museum content with school curriculum for example made the majority of pupils in museums wandered about, unfocused and not sure how they were going to use the information they learned in museums at school. Meiers (2010:10) highlights that pre-orientation assists to reduce the novelty factor. The novelty factor is when pupils spend much of their time trying to map what the museum is all about hence wasting time and energy. Pre-orientation equips pupils with knowledge of what they will see in the museum hence reducing the novelty factor and how to link school work with museum content (Meiers, 2010:11). Reiss *et al* (2016) have indicated that museums in the United Kingdom and United States of America provides pre-orientation through

websites and train teachers on how to prepare their pupils in order to maximise learning opportunities through museum trips. Even when school pupils visit museums in these countries museum personnel provides orientation of the museum, give information about the activities pupils will do and the movements to be taken so that school pupils are not affected by the novelty factor. Therefore, school pupils will learn effectively through the pre-orientation given by the teacher or museum personnel.

Balling *et al* (1980) suggest different styles of providing pre-orientation to pupils. The cognitive style emphasise the concepts that pupils will encounter during their visit to the museum. The process skills type of orientation teaches pupils how to observe museum artefacts and make meaning. The practical orientation informs pupils how they will move in the museum. This offers pupils the necessary mapping of how the museum environment is arranged. Balling *et al* (1980) highlight that pupils who are given practical orientation display outcomes of knowledge gain because they are better focused on what they will see, do and use the museum rather than wander about the museum.

Orientation sessions are useful for school teachers and pupils who are likely to be repeat visitors or who will be spending some time in the museum. The museum can provide maps or leaflets with plans of the building's layout. This makes teachers and pupils comfortable and be at ease without fear of getting lost or missing anything. Museums in Zimbabwe can provide catalogues and maps that serve as a mapping system for pupils especially first time pupil visitors. Museums in Zimbabwe can also employ backstage tours in which pupils are given the opportunity to see those parts of the museum not normally open to the public. These work better with smaller groups and need to be tightly controlled (Talboys, 2011:127).

It has been found out that preparation for teachers is important to a successful field trip (Meiers, 2010; DeWitt and Storksdieck, 2008). Training teachers will equip them with knowledge and skills of what is expected on their part to facilitate effective learning from museums. The Botswana National Museum for example has developed a series of workshops for teachers to sensitize them on the educational value of museums (Rammapudi, 2010). Museums in Zimbabwe used to provide teacher workshops during the 1990s. The workshops programme helped teachers to know how they and their pupils may learn from museums, prepare themselves, research and gather learning materials that would benefit their pupils during field trips. Workshops also helped teachers to select convenient dates to visit museums. In Zimbabwe only a few teachers visit the museums and liaise with the education department on how to prepare their trips.

When teachers come to book for guided tours they do not ask and research on how to properly plan for the benefit of pupils. Teachers anticipate that their pupils will get adequate assistance from museum personnel yet this is not the case. Workshops assist to conscientise teachers on what is expected of them in facilitating effective learning among pupils on field trips. For example, pupils learn more and effectively when their museum visit is embedded in a school learning unit (Griffin, 1998). The museum visit should preferably occur towards the end of the first half of the learning unit's program. In so doing pupils will be able to link what they had learned at school with museum content because the learning unit will still be vivid in their minds. Therefore, when teachers are not aware of this it results in pupils not getting opportunities to effectively learn from museums. The study gathered that the SCV calendar stipulated the dates on which school parties were supposed to visit the museum but this was cited by some teachers to be restrictive to effective learning. The museum SCV calendar does not relate to specific learning units in session and requests schools to come to the museum on specific dates designed by the museum. As a result pupils often struggle to recall what they learned at school in detail in order to link it with the

new knowledge they gather at the museum. When teachers are empowered with information through workshops for example they will know that reviewing or making a recap of curriculum topics before the museum visit contributes to effective learning among pupils. This requires teachers to use an advance organiser approach and to work together with museums in planning field trips for the benefit of pupils (Meiers, 2010:15).

The best way to ensure that pupils are having an experience consistent with their previous knowledge and experience is for the classroom teacher to be actively involved with guided programmes (Tal and Morag, 2007). Research has found out that the presence of the teacher is important in improving pupils focus during guided tours (Tal and Steiner, 2006). Teachers who demonstrated willingness to assist pupils contributed to pupil learning. A teacher may assist pupils by accompanying them in galleries when guided tours are being conducted. The presence of the teacher is always valuable because teachers help control the class as well as ask pertinent questions that would be eye opening for pupils. Teachers helped break the ice by starting to ask questions when pupils just kept quiet. Teachers observed also helped identify and name pupils to respond to the tour guide's questions since no one of the pupils was willing to raise their hands for fear of giving the wrong answer. Some teachers observed at the NHM and ZMM helped to compliment the tour guide's explanations to suit their pupils learning styles hence facilitating learning.

This was different from teachers who placed their pupils in the hands of the tour guide. The majority of teachers see school excursions as a day off the tight school time table. In many instances the tour guides would just give information from one gallery to the next without establishing if pupils were following. Teachers being with their pupils ensured pupil's attention and focus and not to engage in play that was not indicative of learning. Teachers who left their pupils in the

hands of the tour guides contributed less to pupil learning. The teacher may help pupils find the relevance of the museum trip in their learning by linking it to their school work. Teachers who did not assist their pupils in galleries contributed to a greater extent to having pupils display weak knowledge gain outcomes. This is detrimental to pupils learning as they also see field trips as leisure.

Meiers (2010:7-8) suggests that providing support and training for classroom teachers should be a primary objective of museums. In many instances as the study established many teachers have no idea of how they may prepare their pupils for field trips or how to use the museum effectively to facilitate learning among pupils (Phipps, 2010). The attitudes of pupils towards the field trip, and the amount of learning that takes place, will be a direct reflection of the attitude of the teacher and the purpose for which the field trip was conducted (Griffin and Symington, 1997). It has been researched and established that teachers who are familiar with the museum and who go their own way to research how best their students will learn from field trips contribute to pupils being better equipped (Meiers, 2010; Falk and Dierking, 2000). There is great need for museum teacher training in Zimbabwe. Museums can conduct workshops that educate teachers about how they may help pupils prepare for field trips, how they may find the museum beneficial and how pupils may link with the school curriculum.

### *7.2.3 The parent context*

The parent or close relative is a context that requires to be mentioned as influencing pupil's choices and learning. Parents have an enormous influence on their children's education for several reasons, but most importantly because they are their children's first teachers (Gratz, 2006). The education that children receive is very much dependent on the education that their parents received when

they were children. Research shows that the literacy of their parents strongly influences the education of their children (Gratz, 2006). Children are influenced by their parents through three different ways and these include modelling, reinforcement and instruction (Hoover-Dempsey and Sandler, 1995). This study has found out that parents who were cognitively and personally involved in their children's learning shared and discussed with their children about their museum experiences. They also assisted with reading material and other resources which their children found helpful and useful in their learning. Therefore, home kits help to conscientise parents about the cultural heritage in Zimbabwe and this may go a long way to cultivate a taste for heritage and culture in Zimbabwe.

Dempsey and Sandler (1995) posit that parents ask their children how their day was and taking time to review the child's home work (1995). Parents also influence their children's educational outcomes by reinforcing specific learning aspects by giving their children interest, attention, praise and rewards related to behaviours fundamental to varied aspects of school success. Parents can command, order or request their children to engage and behave in certain ways (Hoover-Dempsey and Sandler, 1995:322). Parents with misconceptions or negative perceptions of museums may influence their children to align with their views. The study established that parents contributed to what pupils viewed or took interest in. The majority of parents shared their experiences about certain subjects or issues that influenced their children's perceptions of exhibits in the museums. This is the reason why some pupils interviewed mentioned that their parents associated traditional or cultural dances with demonic spirits. Some pupils cited that what they learned was influenced by the experiences and careers of their parents. Some parents discussed and shared their opinions about cultural heritage prior to their child's museum trips. These views are so imposing that pupils get influenced by their parent's stories because they are very loyal to their parents (Gratz, 2006).

When parents speak positively about museums and particularly about exhibits and objects, their children may be motivated to look at them. The background of the family as well as their culture influence what pupils learn. Parents that come from Christian backgrounds may view museums as associated the preservation of dead people hence dissuading or discouraging their children from participating in cultural heritage. There are several initiatives that museums may employ to influence the parent context and cultivate a taste for cultural heritage in parents. Museums may design home packs which can be used by parents to help their pupils teach about cultural heritage. Museum home packs have the capacity to provide detailed information about museums and artefacts that can change the views of parents and close relatives who might have negative perceptions about museums. Home kits can be written in different languages providing the parent with the pertinent and important information about museum objects and histories and this strategy has various advantages to the museum and the pupils. The home kits may go a long way to enhance parent's understanding of cultural heritage.

Museums may also produce public documentaries that may be presented on national television and radio. Museums in Zimbabwe are starting to produce such documentaries after a long period of silence due to financial challenges. There is a platform on national television called 'Heritage Today' that seeks to market and conscientise the public about the cultural heritage in Zimbabwe. This programme will go a long way in supplementing the marketing and communication efforts of NMMZ in making cultural heritage known to the public. These programmes can assist parents and their children to learn about NMMZ and its mandate. Further Blackford (2009:16) posits that museums can create a family homework assignment worksheet that pupils can work with those at home to identify the cultural heritage around their homes and what they understand about cultural heritage. The family homework assignment can be used by museums to measure the views and perceptions towards cultural heritage (Blackford, 2009).

### *7.2.4 The museum environment*

Primary school pupils are people with diverse physical, emotional and intellectual capabilities. The structure of museum education programmes should be designed after taking into consideration the emotional, cognitive and cognitive capacities of pupils. Piscitelli *et al* (2003) have found out that pupils of the ages 6-9 years (Grade 1-4) are very energetic and like to learn through play as compared to logical problem solving or concrete thinking. In a study conducted in Museums in Brisbane, Australia it was found out that pupils always liked to manipulate objects, experiment and will only rest when tired (Piscitelli *et al*, 2003:12). The Grade 1-4 pupils tend to learn meaningfully when museum educational programmes involve bodily engagement, through touching and manipulating. This will stimulate higher levels of attention, focused behaviour such as questioning and explaining among the grade 1-4 pupils (Piscitelli *et al*, 2003:12-14). There is evidence that tactile and kinaesthetic experiences hold pupil's attention and hence allow great learning of subject matter (Patterson, 1997).

The SCV and SMV have very limited hands on activities. Pupils are simply brought to the museum to be preached to about cultural objects. However scholars such as Kelly (2007), Piscitelli *et al*, (2003) and Hooper-Greenhill (2007) advocate for hands on and minds on activities. Learning by doing (invent, construct, paint) gives pupils the opportunity to work with different materials, learn about their characteristics and function, while it also stimulates their imagination and creativity (Piscitelli *et al*, 2003). Kennedy and Prager (2008) have suggested that the Grade 1-4 pupils have an attention span of 20-30 minutes where they will be very attentive to things. Anything that goes beyond that without a break or not working with interactives leads to a relapse of attention among this age group. When the Grade 1-4 work with toys, tactile collections or

manipulate exhibits their attention span may extend to 40 minutes (Bitgood, 1997).

The Grade 5-7 pupils are physically, emotionally and cognitively developed that they can comprehend abstract thinking, engage in complex problem solving and use language in sophisticated ways (Piscitelli *et al*, 2003). Piscitelli *et al* (2003) recommend educational activities that incorporate problem solving, arouse critical thinking, collaborative work and communication for the 10-12 years. The 10-12 year olds pupils have a longer attention span of 40 minutes to an hour. Therefore, primary school pupils learn more when museum content is provided in multimodal formats. Museums in Zimbabwe can enhance their educational activities by employing hands on minds on activities such as interactive exhibitions where pupils push knobs and buttons, hand cranks and other controls (Kennedy and Prager, 2008:892).

The World Museum in Liverpool has an educational programme called the Ameny's adventure that introduces primary school pupils to the Ancient Egypt gallery using a written story of a small boy called Ameny. The gallery allows pupils to learn from wearing Egyptian old costumes worn by Kings, smell things, work with toys and listen to Egyptian music. The Walker Art Gallery in Liverpool has an educational programme where pupils participate in the 'Big Art for Little Artists' programme. This programme allows pupils to dress up, read stories and create their own artworks (National Museums of Liverpool, 2011). Lindsay Wildlife Museum in the United States of America has an educational programme that allows pupils to touch live animals and learn from them.

In 1997 the Botswana National Museum introduced an educational programme called the 'Museum-in-a-Box' that encouraged hands on activities (Rammapudi,

2010:93). The activities at the launch of the programme included woodcarving, painting, leather tanning and working, ostrich eggshell decoration and necklace, ear ring and bracelet-making; all activities facilitated by local craftsmen (Rammapudi, 2010:93). The Lusaka National Museum in Zambia has an educational programme called 'Imbusa Mukalale' where school pupils are taught about life skills, AIDS/HIV, counselling and promoting education on sexuality and Zambian traditional teachings (National Museums Board – Zambia, 2018). The Livingstone Museum in Zambia provides school competitions in traditional performing arts, co-ordinating storytelling sessions in local villages and at the museum, facilitating an open forum on waste management, mobile exhibition on climate change to schools, schools environmental quiz and debate programme and an education programme for youths using traditional methods for today's challenges. All the educational programmes provided by these museums involve hands on activities, performance and visual arts and games.

Beck (2012:4) posits that if museums are to meet their responsibility as places of learning then they need to incorporate different ways of teaching their audiences. They should also find new ways to incorporate creativity and human forms into the museum experience. One way to do this is through the use of storytelling and oral histories, which offer a personalized and very individualistic perspective by participants of events, like no other branch of science can. Storytelling as a method of content delivery allows "listeners to relate the most vivid images from the stories they have heard or tell back a memory the story evokes in them", (NCTE, Guideline on Teaching Storytelling, 1992).

The study also noted that museum's educational programmes in Zimbabwe have fewer learning opportunities for pupils with physical and sensory impairments. Museum tour guides are not trained in sign language and it is problematic for them to handle primary school pupils with various types of disabilities. Museum

educational programming in Zimbabwe is inaccessible to pupils with disabilities. By not providing educations to pupils with disabilities museums are violating Zimbabwe's Disabled Persons Act of 1992, the United Nations Conventions on the Rights of Persons with Disabilities of 2006, the Salamanca Statement and Framework of Action: Access and Quality of 1994, the 1989 United Nations Convention on the Right of the Child and the resolutions of the 1990 World Conference on Education for all: Meeting Learning Needs. Museum personnel can get training on disability issues from Non Governmental Organisations. The NMTA for example participated in workshops conducted by 'Nzeve' an organisation that teaches on disability issues such as handling the deaf persons. In this case museums can also get training from Disability People's Organisations to understand how to handle primary school pupils with impairments who have been excluded from effectively learning from museums because they are fewer facilities that facilitate their learning such as Braille and tour guides with sign language skills.

When designing exhibitions and educational resources museums should take into consideration ergonomics. Museum spaces and exhibition design should not lead or cause injury to school pupils and therefore museums should provided safe and accessible educational activities to all users including those with disabilities (Kennedy and Prager, 2008; The Centre for Universal design, 1999). Kennedy and Prager (2008:904) suggest that designing for wheelchair users in the museum benefits all visitors because exhibit spaces tend to open up, providing ample room for everyone to move about comfortably. Kennedy and Prager (2008) further indicate that museums should provide room for two wheelchairs to pass at all points (minimum 1.82 m [6 ft]), and wheelchair turnaround space (minimum 1.82 m [6 ft] radius). By employing principles of universal design museums in Zimbabwe can plan educational programmes that include students with disabilities.

The scientific language and jargon used on captions cannot be comprehended by lower grade levels. Shona and Ndebele pupils for example understood more when these local languages were used. Chipangura (2014) has long observed that museums in Zimbabwe mainly use English as the language of communication and this has been found to be very limiting to effective learning. Chipangura (2014) advocated for the use of indigenous-languages in exhibitions. There are some pupils who learn meaningfully when learning content is designed in their first languages. Zimbabwe is home to more than 10 different indigenous languages and museums can design catalogues and brochures that use these languages. These catalogues may be used to enhance museum experiences by being used to provide orientation cues. Museums should make use of different languages when providing content to pupils so that they all learn. Nolasco (2010) and Ricablanca (2014) concur that the use of a different and familiar languages in content delivery is more effective because pupils are used to them.

The use of first languages promotes inclusion in education and improves the quality of education by building on the knowledge and experience of primary school pupils (Ricablanca, 2014). First language based education has a positive impact on educational and learning outcomes. The use of first languages enables pupils in museums to immediately construct and explain without fear of making mistakes, articulate their thoughts and add new concepts to those that they already know (Nolasco, 2010). Museums should be able to design captions and extended texts using the major vernacular languages. Guided tours should also incorporate vernacular languages for pupils to meaningfully engage with museum content.

The font sizes on captions in museums especially on displays of natural sciences are too small that they demotivated pupils to read. To encourage reading and understanding of captions museum are required to employ at least 24 point font size so that they are readable (Kennedy and Prager, 2008:904; The Centre for

Universal design, 1997). The information on captions should also be adequately spaced between lines and use high contrast with the background and using fonts from the serif family facilitates reading (Kennedy and Prager, 2008:904)

Talboys (2011:134), Kennedy and Prager (2008:891) posit that pupils enjoy museum experiences when tour guides have pleasant customer care skills. Currently the majority of tour guides in museums have attained ordinary level qualifications only hence training them will go a long way to enhance pupils learning. Internal training is aimed at familiarising staff members with internal structures and procedures in the museum as well as increasing their confidence and working efficiency more quickly (Talboys, 2011). All museum staff should be kept abreast with latest developments in education so that they understand what is going on when pupils visit and appear to be doing bizarre things (Talboys, 2011:134).

Guided tours are effective when the tour guides are able to establish the knowledge gap and respect all visitors considering that they also bring some kind of knowledge and rich experiences. Currently tour guides struggle to provide meaningful learning when they have mixed groups of pupils in guided tours. When tour guides are trained they are equipped to handle mixed group of pupils and become competent in facilitating learning. For example, the tour guide should be able to know how to relate with a mixed group of pupils whose cognitive, physical and emotional development are different. The study sheets at the ZMM make pupils concentrate more on them more than on displays. Pupils spend much of the time glued on the study sheet at the expense of viewing and learning from artefacts. Study sheets should be designed in a manner that allows pupils to interface with exhibits. This may happen by including questions that ask pupils to analyse exhibits as the case at the NMTA. To analyse the effectiveness of worksheets museums may employ a study sheet analysing instrument.

Nyamupangedengu (2009) developed a study sheets analyses instrument which is constituted by 10 characteristics that include: task density, orientation cues, information source, level of choice, cognitive level, response format, question format, classroom connection, social interaction and site specificity.

The task density is the first characteristic that refers to the amount of work learners are asked to complete and this takes into consideration the number of questions on the study sheet and the number of displays the learner is supposed to visit in order to complete the study sheet. Task density helps to measure the amount of time a pupil is supposed to attend to each question in relation to the duration of the tour or a museum display. This helps ascertain if they is very little time to answer each question or the opposite. High task density is when the study sheets have so many questions and tasks so much that it occupies pupils until the tour completes. This however negatively affects pupil's learning as pupils will be occupied and fail to view exhibitions of their choice. Study sheets considered to be of low task density is the most recommended as it gives opportunity to pupils to complete the study sheets and view exhibits of their choice thus taking care of the pupil's personal context. The second characteristic is the orientation cues that include information or features in a study sheets that help pupils to map the museum or find the location of galleries and displays that study sheet pertains to. Orientation cues on the study sheet can be made by having texts, maps, gallery or station numbers and names as well as pictures of artefacts. Therefore, an effective study sheet should have orientation cues that assist pupils to know the gallery or exhibitions whose questions and tasks are on the study sheet. Failure to have orientation cues affect pupil's learning as pupils will struggle to find their way in museums and inefficiently use their time.

The third element is the information source where the pupil is supposed to find the information or answer. Such sources may include reading captions, observing

objects, from tour guides, from the school teacher, by doing a practical activity and from prior knowledge. Effective learning occurs when the study sheet focus students more on the object more than the text on captions. Object dependent tasks assist pupils to construct their own knowledges and learn from real objects. The level of choice is the forth characteristic and this refers to the number of answers available to a task. Some study sheets avail only one correct answer whilst others provide several answers. Some study sheets require pupils to write responses basing on their prior knowledge or what they learn from museum artefacts. Therefore availing several choices and asking pupils to justify their answer leads to effective learning. It allows pupils to factor in their prior knowledges or information they would remember later.

The cognitive level is the fifth characteristic that refers to the type of questioning done on the study sheet. There are study sheets that promote lower order, medium order and higher order thinking. Lower order questioning simply requires pupils to tick answers or make simple recall, whilst medium order questions require an understanding of facts that will enable the pupil to process the information. The medium order thinking also requires pupils to sieve hidden meanings in given information. Study sheets that promote higher order thinking require students to observe, examine exhibits and write their conceptualisation reports of exhibits. An effective study sheet would incorporate a questioning style that incorporates all these orders of thinking. The response format is the sixth characteristic that refers to how pupils are supposed to respond to the study sheet. Some study sheets request pupils to simply tick answers, draw and fill responses, state orally and discuss and touch or do a practical activity. Pupils put little effort when study sheets questions simply require pupils to tick answers provided as in the case of the ZMM. Oral discussion group discussions enable pupils to learn from each other and to socialise. Study sheets that require pupils to draw introduce variety and promote detailed learning of artefacts. Inclusion of tasks that require pupils to draw encourages pupils to observe and examine exhibits in detail and it caters for

pupils with different learning styles. An effective study sheet should include a variety of responses that include oral, pictorial, action and written.

The question format is the seventh element focuses on whether the study sheet includes open ended and close ended questions. Open ended questions permit pupils to speak freely and to share more than just facts. Open ended questions allow pupils to provide multiple solutions or perspectives to things and promote complex thinking. Closed ended questions have the advantage that they can be answered quickly hence allowing pupils to look at exhibits of their choices. An effective study sheet will employ a mixture of open ended and close ended questions. The eighth characteristic is the classroom connection that focuses on the extent at which the study sheet connects with the primary school curriculum. The study sheet should have questions that relate to the curriculum for pupils to learn curriculum related content. Effective study sheets are those that are designed by museum in collaboration with teachers. Teachers are a valuable resource as they can provide information of the depth and breadth of the curriculum topics done by pupils.

The social interaction is the ninth element and refers to when a study sheet includes opportunities for pupils to interact and socialise provides ingredients for pupils to learn from each other. A study sheet that promotes social interaction leads to intellectual, social and communication skills outcomes among pupils. Pupils should be able to discuss and share findings and experiences. Large groups tent to congest displays hence some pupils may find it challenging to closely access museum exhibits. Care should be taken to group pupils into manageable teams in order to facilitate learning. The tenth characteristic is the site specificity that refers to the extent to which pupil tasks in a study sheet are based on a specific exhibit. When a study sheet is not based on a specific exhibit it is said to have low site specificity. It means the pupils tasks can be accomplished in a larger

area. High site specificity means that the pupil's tasks can be managed on a specific exhibit or artefact. High site specificity serves to focus pupils hence leading to effective time management and detailed learning of an exhibit. Low site specificity gives room to pupils to look at a wide range of exhibits in the museum. It is recommended that study sheets should be high site specificity and this promotes the learning of content in more detail and examination.

### 7.3 Museums and curriculum development

School pupils and teachers find museum content closely related to social studies and environmental studies curriculum. Museums in Zimbabwe are contributing to a large extent to the learning of the content subject. There is little content found in the museums that promote learning of English, Shona or Ndebele and Mathematics. The majority of permanent exhibitions were created during the colonial period hence museum exhibitions promote colonial history and general knowledge which is not examinable by the Zimbabwe School Examination Council (ZIMSEC). Museums in Zimbabwe can promote the learning of English, Shona or Ndebele through various ways. Primary school pupils may be given story lines and teaching of a gallery or exhibition and then made to provide guided tours to their friends and teachers using the different languages. This promotes oral language skills in pupils. Pupils may be involved in activities that involve pupils to learn through song and dance, poetry, storytelling and role play using specific language as required by the facilitators. Pupils may be made to have discussions or focus group discussions on specific issues or subject in the museums where they will be required to communicate their views using language. In order to provide effective learning of English museums may be required to collaborate with school teachers. The Georgian National Museum in Tbilissi has collaborated with German teachers to facilitate the learning of the German language through a programme called 'Why Museums Now'. The project led to

the development of textbook themes like “Eating and drinking”, “Celebrating festivals” and “Status symbols” in German (Goethe Institut, 2017). Therefore museums in Zimbabwe have potential to provide different platforms where pupils can be given opportunity to speak and write in different languages.

In order to offer optimal opportunities for the learning of the other subjects apart from the Content subject museums should redesign their educational activities. For example to facilitate the learning of Mathematics pupils can be made to calculate the dimensions of the armoured vehicles and tell the difference between objects. Pupils can also be made to count and match shapes and make patterns. At the National Slate Museum in Britain, there are several programmes that promote mathematical calculating sessions. The museum houses the largest water wheel and primary school pupils are made to find the height of the tower by using angles and an ancient device called an astrolabe. Pupils can also be made to mathematically describe the shape and patterns of artefacts. The Louvre Museum in Paris makes use of smart phones and new technologies to learn about mathematics and geographical positioning; pupils are made to locate displays or specific objects using readings and mathematical values. In the 21$^{st}$ century museums in Zimbabwe can make use of similar new technologies such as geographical positioning systems and smart phones in the museum which promote mathematical reading of coordinates, making calculations, determining distances of things, as well as multiplications. Museums in Zimbabwe can employ games and team building activities such as Scavenger Hunts where pupils may be given a list of artists to locate in the museum and calculate how apart these artefacts are to each other.

There are many opportunities that may be availed to school pupils to learn all subjects effectively from museums. The large increase of pupils visiting museums demonstrates that museums have a special place in their school work. School

pupils have been able to find and learn from real objects and information not readily found in books and from school teachers. There is potential for school pupils to effectively learn curriculum related content from museums in Zimbabwe. There is need to strongly involve museums in curriculum development at national level, strong synergy between museums and the MoPSE and decolonise museum education service.

As it stands it seems it is the task of the MoPSE to ensure that national education standards are attained. Museums at government and policy level are not recognised as important players in providing learning opportunities of curriculum content. This is demonstrated by the fact that museums were not invited in curriculum planning and development. School visits to museums is wholly an initiative from formal schools. Only the ZMM through its education department made individual effort to liaise with provincial education officers from the MoPSE where schools participate in the SCV. The primary school curriculum in Zimbabwe is mainly done by the Curriculum Development Unit and the Zimbabwe Schools Examination Council. Museums have never been actively and fully involved. This has contributed to issues related to culture and heritage studies being considered as an afterthought since 1980. Since the country attained independence in 1980 cultural heritage studies have been a component in the history subject at ordinary level. However with the new reviewed primary school curriculum one could have anticipated to find a standalone subject on cultural heritage but this is not so. Aspects or content related to heritage is found in the content subject as was with the previous or old curriculum. Cultural heritage as a standalone subject is only found in the secondary school curriculum.

When the Ministry of Primary and Secondary Education works in tandem with museums this is likely to contribute to better opportunities being availed where pupils will utilise to learn curriculum related content. Currently the working

relationship between museums and MoPSE is weak. This is attributed to the lack of cohesiveness at government level in having government ministries working together effectively in achieving national educational standards. It is important that cultural heritage studies are done at primary school level because this helps cultivate a taste and appreciation of heritage in Zimbabwe. This will also translate to an increase in future visitorship from pupils who would use museums for educational purposes. Therefore, the lack of active engagement of museums in curriculum development has contributed to lack of adequate information on the importance of cultural heritage institutions as learning settings. Further it has led to some MoPSE officials not having adequate buy in on the importance and educational role of museums to student's learning. As indicated by some school teachers some MoPSE officials view museum visiting as an afterthought as they are not willing to authorise field trips after the end of school terms. They do not see the fact that museum education feeds into formal schooling.

In the United Kingdom museums have engaged in partnerships with other government education departments. For example, museums have developed partnerships with the Department for Culture Media and Sport (DCMS) and the department for Children, Schools and Families (DCSF) with the aim to deepen relationships between these institutions in providing quality educational opportunities for school pupils and families (Hooper-Greenhill, 2007). This partnership has also resulted in museum visits being included in the primary school curriculum. This partnership assisted in the funding of different educational initiatives and programmes that benefited pupils and communities. There is great potential for museums and the MoPSE to provide effective learning opportunities if they partner together through a Memorandum of Understanding (MoU). This will enable museums to be involved as an important partner in curriculum development. The Israel Ministry of Education acknowledges the potential of museums in providing educational opportunities to pupils and therefore has been involved in funding museum educational programmes in Israel

(Tal *et al*, 2005:921). These museums are funded on condition that they show evidence that they receive visitorship from school pupils and number of educational programmes they provide.

The government is an important player in the cultural and arts sector. Museums in Zimbabwe face a myriad of challenges in providing adequate resources to finance educational programmes. It seems as if the economic atmosphere in Zimbabwe has contributed to the governments in Zimbabwe to consider museums an afterthought hence museums have received a tight budget to enable NMMZ to provide the necessary resources for educational programming. The economic recession in Zimbabwe since 1998 has worsened and affected museum operations. Due to lack of adequate finances museums have failed to provide outreach programmes and post museum visits to reinforce what students would have learnt from museums. Lack of finances has also caused museums to scale down the number of educational activities for pupils. For example, to provide tactile exhibits to pupils in museums is an effective method of delivery but the collections requires being conserved and maintained.

The financial challenges have been made worse with National Museums and Monuments in Zimbabwe (NMMZ) being under several ministerial jurisdictions. They have been under the Ministry of Home Affairs and the Ministry of Rural Development, Promotion and Preservation of National Culture and Heritage, the Ministry of Sports, Recreation, Arts and Culture and back to the renamed Ministry of Home Affairs and Culture, resulting in unstable funding and lack of policy commitments from different ministries of government. In order for NMMZ to effectively discharge its mandate there is need for the government to adequately resource the institution. NMMZ can also find other means of resourcing themselves such as networking with other museums in the region and in European countries. The British Council (2006:12) has done research into

cultural sector in Zimbabwe and has also observed that museums have scaled down their operations due to the economic collapse. Therefore, the study recommends the museum sector to move away from the dependency syndrome to self sustainability through resourcing.

Zimbabwe's harsh foreign policies towards European countries such as Sweden, Norway and the United Kingdom who are the major sponsors of education programmes in Africa has made it difficult to get funding from these countries. The country used to enjoy funding opportunities from Norwegian, Swedish funding bodies and European Union but these have long since shifted focus to other developmental projects in other countries due to Zimbabwe's politics and the government's foreign policy towards European countries.

Museums can also seek funding from foreign embassies, initiating fundraising initiatives and exchange programmes with other museums. Museums in Australia have also partnered with the education sector, government and community to find creative ways to enhance the education of school pupils (Australia Council for the Arts, 2003). This was made possible through the Education and the Arts Strategy 2004-2007 which facilitated the setting up of networks and collaborations between all players involved in providing education services in Australia (Australia Council for the Arts, 2003). The Natural History Museum in Bulawayo for example received several computers from the French embassy that they use for e-learning facilities. The museum also benefitted from the French embassy that provided interactive kiosks which enhanced museum displays and access to information related to artefacts on display. The NMTA has networked with Swedish museums where they shared expertise and resources that led to formation of the Hotspots concept in museums in Zimbabwe. Museums that host Hotspots engage in contemporary collecting hence adding collections that are relevant to the communities served.

Museums can also benefit from engaging in exchange programmes where staff members can go for national or international workshops and training on issues related to providing relevant and effective learning opportunities for museum visitors. Staff members can be trained on various issues related to documentation of collections using latest software on the market. This will go a long way in assisting museums to adequately document the inherited collections they have both on display and in stores hence leading to increased intellectual access of information by pupils. Museums in Zimbabwe can also benefit from initiating funding strategies such as having auxiliary services to supplements their budgets. Auxiliary services include raising funding through cafes, curio shops, book shops, internet cafes, cinema facilities and providing facilities that can be hired out for conferences and weddings. The ZMHS, NMTA, ZMM have some of these facilities but they are not optimally utilised. For example they mainly sell at a small scale refreshments, souvenirs and museum publications. The NHM has a purpose built food cafe, book shop, cinema facilities that the public access during the weekends and the museum rents out its facilities for conferences and weddings. The GZWHS has a purpose built curio shop and accommodation facility that generates some form of revenue. There is need for museums in Zimbabwe to engage in social entrepreneurship in-order to fund for their operations. The money generated from these initiatives will provide financial muscle to undertake extensive research, contemporary collecting, documentation, conservation and exhibition designing. All these areas when properly funded will lead to museums providing educational programming that facilitates learning among pupils who have diverse needs.

### 7.4 Decolonisation of museum education

After 1980 the government in Zimbabwe sought to redefine what was valued as Zimbabwean cultural heritage. This involved putting emphasis in the protection of

cultural sites that were defined as originating from Zimbabwean indigenous cultures. This is the case with Great Zimbabwe which was seen as a political symbol and source of national identity. In post colonial Zimbabwe liberation heritage is another form of heritage that has been given attention and valued as an important type of heritage. The country has seen several reburials being done of the second liberation war participants being reburied. In 1981 the government renamed all national museums to reflect and be identified with an independent country. All these efforts were initiated in the effort to dismantle colonial structures and systems that existed in government departments, educational settings and institutions. These initiatives are all evidence of the AHD where the government in place influences and strongly determine what should be valued as heritage. In the case that Zimbabwe has another government with different tastes, background and perspectives it highly likely that they would be influential in defining what should be valued as heritage.

The government and National Museums and Monuments of Zimbabwe (NMMZ) have made efforts to transform museums from being viewed as colonial institutions by renaming museums and changing as well as refocusing some of the exhibitions that portray a colonial trajectory. Museums in Zimbabwe have recognised that the majority of displays that ground museum educational programming are out of context. For example, out of 8 galleries or exhibitions the ZMM has managed so far to refocus the Zimbabwe Military History and the Zimbabwe Republic Police exhibitions. The airplanes such as the Vickers Viscount and a few Airplane engines in the Trim Park are but just a few additions to the existing exhibitions inherited in 1980. Refocusing of exhibitions includes adding a display or few displays cases to an existing exhibition with the aim to achieve a balanced narrative. The NMTA has so far managed to completely change the exhibition that was in the Beit gallery to have an exhibition on the Eastern Districts cultures as well as installing new technologies in the exhibition. The museum has also added a display case in the Boultbee exhibition on guns to

depict a narrative about the second liberation war. Although the Transport exhibition at the NMTA is a 1980 development the majority of artefacts (vintage cars) are collection left behind by colonial settlers. The Transport gallery includes a few artefacts from the indigenous cultures depicting the transport systems used by Africans. Therefore, out of 4 main permanent exhibitions including natural history displays only one exhibition was completely changed at the NMTA whilst a few additions of displays were included in the transport and guns exhibitions.

The ZMHS has also made an effort to refocus the Stone Age and Iron Age exhibitions and making additional displays such as the Shona Village and displays about the Shona material culture as well as the rock art in Zimbabwe. Several display cases have also been changed or added in the natural history exhibitions at the museum. The NHM has made several efforts to refocus its exhibitions. For example the museum has refocused the Hall of Chiefs gallery to Hall of Kings, included a live snake exhibition and added a mine shaft model in the geology gallery. The NHM has also included a coelacanth rare fish display, added in the mammalogy gallery a display case of hippos in the wetland and wildlife within the wet as well as dry seasons. The Hall of Man exhibition was also refocused to have a balanced narrative. It can be said that the majority of displays or permanent exhibitions at the NHM remain unchanged as compared to those that have been refocused. At the GZWHS the exhibitions in the site museum are all exhibitions created from the late 1980s-2000. All these efforts in changing or refocusing colonial exhibitions are testimony that museums in Zimbabwe have seen that the inherited exhibitions are no longer in sync with today's generation of audiences. Museums have also included temporal exhibitions that touch on varied topics ranging liberation heritage, sports and contemporary issues affecting the society in Zimbabwe.

However 38 years after attaining political independence museums in Zimbabwe have maintained the majority of exhibitions developed during the colonial period. All the effort invested by government and NMMZ came short. Munjeri (1990:15) posits that even after 1980 when the country attained its independence, there was no "storming of the Bastille". This meant that little was done to change the majority of colonial exhibitions and frameworks that inspired museum education service. Munjeri (1990) further point out that 1972 NMMZ Act remains operational in museums even up to today. Several scholars have also pointed out that museums in Zimbabwe still operate within the realm of the Western Museology (Jagero *et al*, 2016; Thondhlana, 2015; Chiwaura, 2015; Chipangura, 2014; Mataga, 2014; Chaterera and Nyawo, 2013, Makuvaza, 2002; Ndoro, 1999; Pwiti, 1994; Ucko, 1994). It is these exhibitions that have been used to ground museum education programming since the inception and development of museums in Zimbabwe. The majority of permanent exhibitions in museums are not identifiable with, relevant and understandable to current museum audiences in Zimbabwe.

There are several reasons why museums in Zimbabwe have not fully decolonised or changed museum exhibitions. The reasons range from inadequate financial resources, lack of strength of will and policies as well as new commitments. Zimbabwe has faced an economic recession since the late 1990s. The idea is that when the government and NMMZ failed to change museum exhibitions before that then it became difficult to do so from the 2000 to date. The country has never regained its economic footing since 1998. Lack of political will from the government and NMMZ itself has contributed to the status quo. This includes not having national laws and policies that guide the implementation of such change. Decolonisation of museums in Zimbabwe has thus been a regional effort. Museums in their respective regions have put different commitments to changing inherited exhibitions whilst some put moderate effort. The NMTA for example, has made strides to completely change an exhibition in the Beit gallery whilst

other museums like the ZMM have refocused and added a few display cases in an existing exhibition developed in the colonial period. Museum commitments have also widened and regional museums have since 1980 engaged in several projects that include maintaining and restoring cultural sites as well participating in liberation heritage projects something that did not exist in the definitions of heritage described in the National Museums Act.

Museums operate with a Heritage Education Service Manual and do not have an education policy. An education policy is an important document to any museum wishing to provide effective educational programmes for school pupils. The museum education service is best set out in an official written education policy supported by a job description, an action plan, a risk management plan, and any other constitutional requirements (Talboys, 2011:57). Talboys (2011:57) cites that the education policy fulfils a number of important roles. These include setting out the aims and objectives of the education service, providing a context in which that education is to operate and a framework within which it is possible to identify specific tasks and programmes of work. The policy codifies priorities, expectations, available resources and user groups and enabling accurate evaluation to take place (Talboys, 2011:57). This policy must be endorsed by the managing body of the museum and in this case the NMMZ Board. The education policy should augment the aims and objectives of the museum's research programme, collection management, staff training, exhibition, conservation policies, design and fundraising as well as working in its own right (Talboys, 2011:58).

This study argues that even after attaining independence museums have remained elitist and embraces the Western Museology. Smith (2015) states that decolonisation of museum education challenges three colonial concepts in the museum. These concepts inform museum exhibitions and include the boundary,

the captions and the meta-narrative. Museums need to relook at their exhibitions, education philosophy grounding museum education service, language and interpretations (De Villiers, 2018; Smith, 2015:2; Mataga, 2014; Ndlovu-Gatsheni, 2013). Mbembe (2015) points out that decolonisation of museums should also include the education philosophy grounding educational programming. Museums education in Zimbabwe is grounded on the behaviourist educational framework. The structure of the majority of museum educational programmes for primary school pupils developed during the colonial period such as SCV, museum clubs, outreach and cultural tours have been maintained even up to now. Decolonisation of the museum education service should start with the educational framework being employed. The Western Museology entrenched in museums reflect that all educational content and the way it is delivered have been done by white settler curators who believed they had the responsibility of teaching and educating visitors about the cultural heritage in Zimbabwe. As Mbembe (2015) points there is something wrong if museums continue to provide educational content designed to meet the needs of the colonialist in the post colonial era. Museums have long embraced Eurocentric canons which attribute truth only to the Western way of knowledge production. For Wa Thiong'o (1986) museums should locate their educational framework from African culture. Ndlovu Gatsheni (2015) indicates that decolonising museum education is to reform the educational philosophy grounding museum education service with the aim of creating a more open critical cosmopolitan pluriversalism.

The second port of call is to decolonise museum exhibitions. Museum displays during the colonial period served their purpose. Displays aimed to project the dominant culture and demean indigenous histories. This Museology is irrelevant to Zimbabweans because the western idea of museums tends to present the African past as static and almost meaningless to the people they are meant to serve (Ndoro and Pwiti, 1997; Ucko, 1994). As Ndlovu-Gatsheni (2013) indicates colonialism in Africa was inspired by the view that the African is barbaric, evil

and uncivilised hence the need to conquer and administer them. European colonisers viewed themselves as superior over other races and therefore it was their responsibility to deliver Africans from darkness. As museums developed the colonial view inspired knowledge production in museums. Museum exhibitions were thus a rendition of the thought that the African is backward and in need of European modernity. Therefore, the narratives in exhibitions were inclined to celebrate the imperialist or European forms of dominance over the heathen Africans.

Museum exhibitions in Zimbabwe as established take the form of cabinets of curiosity and these promoted the Western Museology. This is where Chaterera and Nyawo (2013) point out that museum exhibitions should also be decolonised. The indigenous people or local communities are key stakeholders in contributing narratives in museums so as to have a balanced representation and relevant museum exhibitions that identify with its current visitors (Jagero *et al*, 2016; Ndlovu-Gatsheni, 2013; Chaterera and Nyawo, 2013). Lonetree (2012) agrees on the fact that museum's collecting practices have been modelled in the 18$^{th}$ century Western Museology where a small white community perpetuated the dominance of Europeans over indigenous people. In this 21$^{st}$ century museums are required to become inclusive entities and all embracing of all cultures including minorities. Decolonisation of museum exhibitions may include refocusing museum narratives and do away with narratives that tend to celebrate the dominant cultures to having balanced representation. It should however be taken into consideration that decolonisation of museum exhibitions requires a budget if museums want to change exhibitions (Lonetree, 2012).

Museums can also engage in contemporary collecting. Contemporary collecting has the potential to make museum collections base assorted with different artefacts coming from different museum stakeholders. Smith (2005:431) indicates

that indigenous cultures are an important stakeholder in museum work and if included will provide valuable assistance with regards to how decolonisation should happen. However Smith (2005) cautions that it is challenging to work with indigenous communities to design exhibitions and produce narratives. Given the plurality of ethnic groups in any given space, each group has its own stories and artefacts they want exhibited.

Mataga (2014) describes museums in Zimbabwe in the post colonial period as sepulchres because they continue to contain and rehash colonial history and narratives. For example, the majority of captions and the language they employ alienate the majority of Zimbabweans. The language used on captions and through guided tours has also been considered to be another facet in the museum that require to be decolonised (Mbembe; 2015; Chaterera and Nyawo, 2013). Museums in Zimbabwe to a larger extent make use English as the major mode of communication through its educational programming. English is a colonial language and therefore, captions as well as extended texts should be redesigned to include other indigenous languages so that museum interpretations become intellectually accessible. Chipangura (2014) and Makuvaza (2002) recommended the use of diverse indigenous languages like Shona, Ndebele, Tonga, Nambya, Chewa, Kalanga, Shangani, Sotho, Venda and Xhosa. Although in some museums for example at the NHM have captions that contain shona or Ndebele names of artefacts but the majority of the captions make use of English and scientific language. All natural history displays at the NHM, ZMHS and NMTA make use of English on their interpretations. It is a known fact that pupils learn effectively through their first languages (Gomba, 2017; Jagero *et al*; 2016; Chipangura, 2014; Ndlovu-Gatsheni, 2013).

Decolonisation of museum education should also touch the methods of content delivery. Guided tours and study sheets are methods that promote the pedagogy of

the oppressed where the pupil has no say over the structure of educational programmes. In guided tours tour guides select and define the knowledge to be given to pupils. The study sheets provide little choice and hence are instruments of monopoly. They are other active methods of making pupils take ownership of their learning and these are not limited to role play, games, drama, song and dance, folk lore, music and interactives.

There are several examples which may inspire museums in Zimbabwe to decolonise themselves. In New Zealand the Maori cultures have been successful in carrying out decolonisation of their museums. This is attributed to the fact that they have designed and passed national acts and policies that governed museum practise. In countries such as New Zealand several laws have been passed to redress and dismantle colonial frameworks in use in museums. Gore (2002) points out that New Zealand adopted the Maori language Act in 1987 that adopted Maori as a language. This meant that even museums were required to make use of the Maori language in interpretation of museum displays. In the 1990s New Zealand passed a number of Acts that include the Museum of New Zealand Te Papa Tongarewa Act 1992, the Canterbury Museum Trust Board Act 1993, the Otago Museum Trust Board Act 1996, and the Auckland War Memorial Act 1996 (Gore, 2002). These Acts aimed at guiding museums of how they may go about collecting and redesigning their exhibitions with respect to local indigenous cultures such the Maori. These Acts recognise and provide the guidelines that museums in New Zealand should apply when dealing with representation of Maori cultures and the type of educational programming for them. Each of these Acts recognises and provides for Maori consultation and input into museums and cultural heritage. There is need therefore, for laws or policies that should be designed to guide museum practise in Zimbabwe. The 1972 National Museums and Monuments of Zimbabwe Act is no longer in sync with the 21$^{st}$ century needs of museums in Zimbabwe. The Act needs to be updated and education policies formulated and adopted.

The Nairobi Museum in Kenya has managed to decolonise itself from the colonial mindset by engaging the different ethnic groups in Kenya (Mirara, 2006). Kenya is a former United Kingdom colony that was administered by members of the East African Natural History Society. These colonial settlers according to Mirara (2006:2) engaged in collecting natural history and cultural artefacts. The museum exhibitions were colonial in nature and these were designed by very few white settlers in the colony. In 2005 a workshop was organised with museum stakeholders where it was suggested that the decolonisation of the museum was to include museum exhibitions, their narratives, to include indigenous languages in interpretations and engaged in contemporary collecting of artefacts from different ethnic groups in Kenya (Mirara, 2006). The museum further designed an education policy that stipulated that all permanent exhibitions were to be changed after 10 years so as to avoid monotony (Mirara, 2006). Temporary exhibitions were proposed in the policy not to last not more than 6 months. The museum engaged in a staff training and development programme where museum personnel were sponsored to visit other museums in Malawi and in the United Kingdom to learn about exhibition designing and designing public or educational programming for different audiences taking into consideration the current trends in the world.

To ensure constant reviews of their educational programmes the museum often host workshops with tertiary institutions and government educational departments, the Kenya Institute of Special education that train teachers on disability to solicit their input (Mirara, 2006:9). This effort is put to make museums and their educational programmes physically, financially and intellectually accessible to all audiences including school pupils and those with disabilities. The museum has also developed several visitor facilities that include a shopping mall, a bank, hotel, resting places, luggage area all accessible without paying an admission fee. The Nairobi Museum in Kenya has modelled itself into a

super star museum that may be seen as all inclusive and many African countries may learn something from this.

Kreps (2003) posits that decolonisation of museum education is not only about restoring indigenous people's rights to and control over the management of museums and in redefining narratives. It is about liberating their thinking so that multi-narratives are recognised (Kreps, 2003). Decolonisation of museums education service includes multiple voices, representing a broad range of perspectives and bodies of knowledge (Kreps, 2003). As such, it can be observed that decolonisation is grounded in the rights of the local indigenous people (Nyawo and Chaterera, 2013:215). School pupils stand to learn effectively when museum education in Zimbabwe is decolonised and museum education is grounded on sociocultural learning frameworks that afford learning through multimodal formats.

## 7.5 Conclusion

Museums in Zimbabwe have provided educational programmes since the 1960s and today receive large volumes of primary school pupils through SCV and SMV. However, there are limited opportunities for primary school pupils to effectively learn through SCV and SMV as the museum education service is grounded in the restrictive behaviourism framework. Museums in Zimbabwe risk losing pupils as future visitors if they continue to provide repetitive educational activities and monotonous exhibitions that have overstayed their lifespan. By employing the behaviorist framework museums in Zimbabwe have created a situation where school pupils have become epistemological slaves that exist to passively receive museum packed knowledges.

Museums in Zimbabwe have interesting artefacts that school pupils enjoy and would like to view leading to hard and soft outcomes. The majority of pupils displayed more affective outcomes such as enjoyment as compared to hard outcomes such as knowledge gain and understanding. Museums in Zimbabwe are to a large extent promoting soft outcomes (change in attitudes, perceptions, inspiration, enjoyment, creativity) more than hard outcomes (knowledge gain and understanding, skills, activity). The primary school curriculum in Zimbabwe is examinable at the end of the Grade 7 level. The Grade 7 ZIMSEC examinations examine the competence of pupils on hard outcomes (knowledge gain and understanding) of curriculum issues and concepts. ZIMSEC is biased towards the display of hard outcomes as an indicator of excellence in academia. Therefore, the educational programmes in Zimbabwean museums are not effective in facilitating the learning of hard outcomes which are examinable by ZIMSEC. Museums in Zimbabwe are mainly impacting on one curriculum subject, the content or general paper subject. There are fewer opportunities for pupils to learn content related to Mathematics, local languages and English from museums. Museums have the capacity to facilitate the learning of Mathematics, English and Local Languages as they have the relevant artefacts, what is required is to design activities that are relevant in the teaching of these subjects. Another reason why museums are not having enough impact on the primary school curriculum is that their educational programmes have been designed without the input of school teachers and school pupils.

This study developed a framework that provides ideas to museums, art galleries and other educational establishments that wish to design education programmes that facilitate effective learning among school pupils. The ideas expressed in the framework are grounded on sociocultural educational frameworks such as the Contextual Model of Learning and Ubuntugogy. The framework is constituted by four components that include 1) Establish pupil's curriculum learning needs, 2) Design accessible and developmentally appropriate programmes, 3) Design

reinforcing study packs for teachers and parents and 4) Employ assessment and evaluation mechanisms.

1. **Establish pupil's curriculum learning needs**

Structured class visits and school-museum visits continue to be provided by museums but no assessment of the curriculum needs of pupils has officially been done and published. A large number of pupils displayed weak indicators of learning knowledge gain and understanding based on the Generic Learning Outcomes. To show that school pupils visit museums with the anticipation to learn curriculum related content it was established in the study that 37, 13% indicated that they enjoyed learning curriculum related content and history.

The religious studies curriculum in Zimbabwe is deeply rooted in Christianity and therefore the majority of topics done by pupils relate more with the Christian Bible. Pupils are taught to understand Bible stories with particular reference to the Holy Trinity-God, Jesus Christ and Holy Spirit. Pupils are also taught other stories found in the Bible to inculcate moral values in pupils. The social studies curriculum aim to teach pupils topics related to living together, food, shelter, health, rules and laws, transport and communications, clothes, wealth and money, work and leisure, social services and about voluntary organisations. The environmental studies curriculum aims to teach pupils topics related to water, soil, vegetation, animals, health, pollution, energy and fuels, weather and climate, materials and technology, landforms and maps.

The English subject aims to teach pupils topics related to being able to use English in identifying and qualifying things, relate with others, describe objects, use language specifically, express needs and desires, getting things done and

being sociable, expressing personal meaning, ask questions as well as being able to narrate and describe something. The Mathematics subject aim to teach pupils topics related to additions, subtractions, counting, multiplying, estimation, volume, capacity, directions, angle and lines. The Shona or Ndebele syllabus generally teaches pupils to listen, talk, read and write in Shona or Ndebele. These are the curriculum learning needs of primary school pupils and in order to provide effective learning opportunities museums need to be aware of these issues. School teachers and pupils on museum trips visit museums with the hope to learn curriculum content that would complement the theoretical aspects of the curriculum they learn at school. Effective educational programmes for primary school pupils should take into consideration the curriculum learning needs of pupils. This assists to design educational programmes that are relevant to school pupils and that address their learning needs. When the new curriculum in Zimbabwe is fully implemented it means museums should also take it into consideration and address topics found in subjects such as information and communication technology, visual and performing arts, agriculture, physical education, sports and mass display as standalone subjects done by primary school pupils.

**2. Design accessible and developmentally appropriate programmes**

It was also established in the study that school pupils especially those from the lower grades (Grade 1 and 2) and pupils with disabilities have found it challenging to physically and intellectually access museums as well as education programming. Some of the exhibitions at the ZMHS, NHM and ZMM for example are physically inaccessible to the Grade 1 and 2 because some exhibitions are mounted 1 metre above the floor. Further they are no Braille captions or sign language interpreters in museums for example to assist pupils with sensory impairments. Therefore, it is important for institutions that provide educational programming for pupils to design educational programming that takes

into consideration the developmental, emotional and cognitive capabilities of primary school pupils.

The study also established that primary school pupils especially the Grade 1 to 4 are very energetic and like to learn through play as well as manipulate artefacts. This age group learn effectively when educational programmes involve bodily engagement and this will stimulate higher levels of attention. The study has also established that the Grade 1-4 pupils enjoy museum films that involve cartoon like characters or formats as well as animal documentaries. The Grade 5-7 pupils are physically, emotionally and cognitively developed that they can comprehend abstract thinking, engage in complex problem solving and use language in sophisticated ways. Educational programming for the Grade 5-7 should incorporate problem solving tasks, arouse critical thinking and collaborative work.

The study also established that primary school pupils of all ages and grade levels enjoy learning from live animals and life sized objects. The study also established that pupils that accessed the e-learning facility at the NHM displayed strong indicators of knowledge gain and enjoyment as they made use of computers and the internet. Technology is an important instrument to make museum content available to pupils. Museums may find technological gadgets useful in providing content through new technologies, social media or by going virtual. Effective learning occurs in practical, relevant and engaging ways. Hands on Minds-on activities involve museums providing hands on activities that require pupils to problem solve hence their cognition is highly involved whilst making and manipulating material. After making something pupils may be required to conceptually report how they produced something. Therefore, primary school pupils learn more when museum content is provided in multimodal formats. Multimodal content delivery formats provide accessible and inclusive ways of

engaging pupils of different age and grade levels whose physical, emotional and intellectual development are different. Pupils may not learn effectively if museums assume that pupils learn the same.

### 3. Design reinforcing study packs for teachers and parents

The study established in that school teachers influence pupil's learning. Teachers that had an interest in cultural heritage, those that articulated to pupils the objectives of the museum trip and those that accompanied and participated actively during guided tours contributed to effective learning. From a population of 1500 only 152 (10, 13%) pupils indicated that they received pre-orientation from their teachers. This means that 89.86 of the pupils were not told of the objectives of the museum trips and these pupils demonstrated medium and weak knowledge gain and understanding outcomes. There is potential to facilitate effective learning when teacher study packs are designed to assist teachers with information about how they can fully utilise and provide learning opportunities on field trips. The study packs aims to provide information of the cultural heritage in Zimbabwe and how teachers may plan and organise museum trips that assists school pupils to utilise and learn. The study packs provide information which teachers can use to marry with school related work to enhance the teaching of subjects done in primary school.

It has also been established in this study that parents and close relatives influence school pupil's learning. For example parent's cultural beliefs and understanding shaped the misconceptions they had about cultural heritage. A school pupil interviewed at the GZWHS indicated that her parents viewed traditional dances as evil but after participating in 'Mhande' dances at the Shona Village the pupil had positive perceptions. Some close family members have different experiences and

views about the cultural heritage of Zimbabwe and these are shared to the child or pupil before or after the museum trip. If the views are negative these tend to influence the pupil's perceptions towards museums for example. Therefore when study packs for parents or close relatives are designed this will enhance the information available about cultural heritage in Zimbabwe. These study packs serves to inform parents and provide extra teaching material they may use to assist their children on issues relating to cultural heritage. The packs also serve to improve parent's cultural tastes towards museums and the exhibitions they hold. Museums may publish their research and design these study packs for the benefit of teachers and parents.

4. **Employ assessment and evaluation mechanisms**

Evaluation and assessment mechanisms are important in establishing the success of the educational programmes. Assessment and evaluation provides feedback with regards to the effectiveness of the structure of educational programmes and implementation. The study established that museums in Zimbabwe base their feedback of pupils learning using informal observations, interviews and visitor comments books whose feedback are never published. Assessment and evaluation is a never ending process which exists at every stage of the educational design process and implementation stages. Front end, formative, remedial and summative evaluations are very important for educational establishments in assessing the effectiveness of education programmes. Assessment and evaluation serves to inform museums of the things that may require immediate improvement. Museums that wish to provide effective learning among primary school pupils may also find post museum visits to schools informative as they gather data about how and the extent pupils learned from museum educational programming.

This framework provides ideas or steps that museums and any other education institution may take to inform the designing of educational programmes that facilitate effective learning among school pupils in this 21st century. Effective learning occurs when multi-modal learning approaches in social contexts are provided and encourage exploration, choice, challenge, control and collaboration. Effective learning happens when school pupils can link and find relevance of what they are learning with their school work. Effective education programmes should considered school pupils as active agents in constructing meaning. The educational role of the museum cannot be understated as effective museum education programmes have the potential to improve as well as contributing to the production of cultured and competent human resources.

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## Appendices

*Appendix 1*

**Semi-Structured Questionnaire for Primary School Pupils**

***(Please tick or write your answer in spaces provided)***

1. **Which primary school do you go to?**.....

2. **What grade are you in?**

Grade 1 ☐ Grade 2 ☐ Grade 3 ☐ Grade 4 ☐ Grade 5 ☐

Grade 6 ☐ Grade 7 ☐

3. **Indicate your sex:** Male ☐ Female ☐

4. **Did your teacher talk about what you were going to see and learn today?**

   Yes ☐ No ☐

5. **After taking a tour of the Museum or Site how was your experience?** eg exciting, interesting, thrilling, educational, boring, uninteresting, tiresome etc

   **-Please briefly describe your experience**

   .....

   .....

   .....

   .....

   .....

6. **What was of interest to you?**

   .....

   .....

   .....

.....

.....

7. **What do you think you learned today?**

.....

.....

.....

.....

.....

*Appendix 2*

**Interview Protocol for Primary School Pupils**

***Entry interview questions***

1. Are you excited and happy to be at this museum?
2. Where do you go to school and what grade are you?
3. Have you once visited this museum or any other museum in Zimbabwe? If so what was the experience like?
4. Why have you come to the museum today?
5. What ideas and concepts do you have about the museum and its contents? What is your perception about the museum?
6. Did your teacher talk about what you were going to see and learn?
7. What do expect to learn today? What do you know of that?

***Exit Interview questions***

1. How was your experience?
2. Did you make sense of what you were seeing and doing?
3. What was of interest to you?
4. Did you enjoy working in groups?
5. What new have you learned today?
6. What old did you know about the museum and objects?
7. How is what you learnt today going to help you in your school work and in life?
8. Have you done anything at home or school that has anything to do with what you have been learning?
9. To what extent does the content, activities and events through the education programmes link with what you are studying at school?
10. Did you face any challenges in accessing educational material and content?
11. What do you think the museum can do to improve its education programmes?

*Appendix 3*

**Questionnaire for Primary School Teachers**

My Name is Simbarashe Shadreck Chitima, a registered Doctoral student with the Midlands State University. I am undertaking a research which seeks to conceptualise museum education and specifically to establish its educational worthy to primary school pupils. The researcher kindly requests you to assist with information towards this topic. Information obtained from this questionnaire shall be treated with confidentiality and will be used for academic purposes only. For any enquiries about this research you can contact the researcher on mobile number 0776323503 or email to sgchits@yahoo.com.

Please kindly tick where appropriate and fill in your responses on spaces provided.

1. At which school do you teach?

   .....

2. Which class grade do you teach?

   Grade 1 ☐ Grade 2 ☐ Grade 3 ☐ Grade 4 ☐

   Grade 5 ☐ Grade 6 ☐ Grade 7 ☐

3. Indicate your sex? Male ☐ Female ☐
4. How long have you been in the teaching fraternity?

   .....

5. How many times have you brought pupils for structured class visits, guided tours and or participated in the museum quiz and outreach programmes?

   0-5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years ☐

   20-25 years ☐ 25-30 years ☐ 30-35 years ☐

6. Why do you bring your pupils for structured class visits or school-museum visits?
   a. Because it links with a topic I am teaching ☐
      State topic.....
   b. Because it links with a subject I teach ☐
      State subject.....
   c. Because everything provided by museums links with primary school curriculum ☐
   d. Provide pupils with a different learning environment ☐
   e. Just to occupy pupils whilst we do our own work ☐
   f. It is just a school culture that we bring pupils to the museum ☐
   g. Forced by the school authorities ☐
   h. Other.....

7. What challenges do you face in planning class visits to the museum?
   Financial ☐ Administrative ☐ Tight School schedule ☐
   If other specify.....
   .....

8. What are the learning needs of your pupils when you visit this particular museum?
   .....
   .....

9. As a teacher do you find value in the educational programmes provided by the museum? Yes ☐ No ☐ Partly ☐

If No or Partly elaborate your answer.....

.....

10. Is the content, activities and information conveyed in museum education programmes relevant to the class you teach?

    Yes ☐ Partly ☐ No ☐

    Elaborate if you wish to explain your response

    .....

    .....

11. If you have brought students on similar excursions more than once do you think museum education has had positive changes to your pupil's performance, achievements or attainment?

    Yes ☐ Partly ☐ No ☐

    a. Knowledge gain ☐

    b. Pupils to think critically ☐

    c. Pupils able to link prior knowledge with museums ☐

    d. Demonstrate ability to use information learned from museums ☐

    e. Can engage in prolonged discussion on what they learned from museum programmes ☐

    f. Can interpret museum content or part of an exhibit ☐

    g. Change in beliefs and attitudes after the visit ☐

    h. Are pupils able to work in groups to achieve tasks related to museum content ☐

i. Get motivated to learn more ☐

If there are any other learning outcomes you have observed in pupils state them

.....

.....

| **Type of Programme** | **What you think can be done to improve the programme** |
|---|---|
| Structured Class Visits | |
| School-Museum visits | |
| Outreach programme | |
| Quiz | |

*Appendix 4*

**Teacher Interview protocol**

1. How long have you been in the teaching fraternity?
2. Have you participated in planning museum or field trips? If yes what do you consider when choosing a museum or destination to visit with pupils?
3. How many times have visited museums?
4. Do you think pupils learn from museums and how?
5. Which learning outcomes have you realised in pupils after a museum visit?
6. Which barriers are there to pupils learning?
7. What do you think can be done to improve museum education programmes in order to effectively facilitate learning among pupils?

*Appendix 5*

**Interview Protocol for Museum directors**

1. Can you kindly explain how this museum and exhibitions developed?
2. Can you kindly explain how museum education service developed at this museum?
3. Which educational programmes are provided at this museum?
4. How do primary school pupils learn from these programmes?
5. Which learning outcomes have you seen pupils displaying after interaction with museum exhibitions at this museum?
6. Does the museum operate with an education policy? If yes how has the policy assisted in providing guidelines of providing educational programmes? If no what challenges do you face in providing educational programming?
7. Which administrative challenges do you face in providing educational programming to pupils?
8. What do you think should be done to enhance the educational programmes in museums?

*Appendix 6*

**Interview Protocol for Museum Curators and Education Officers**

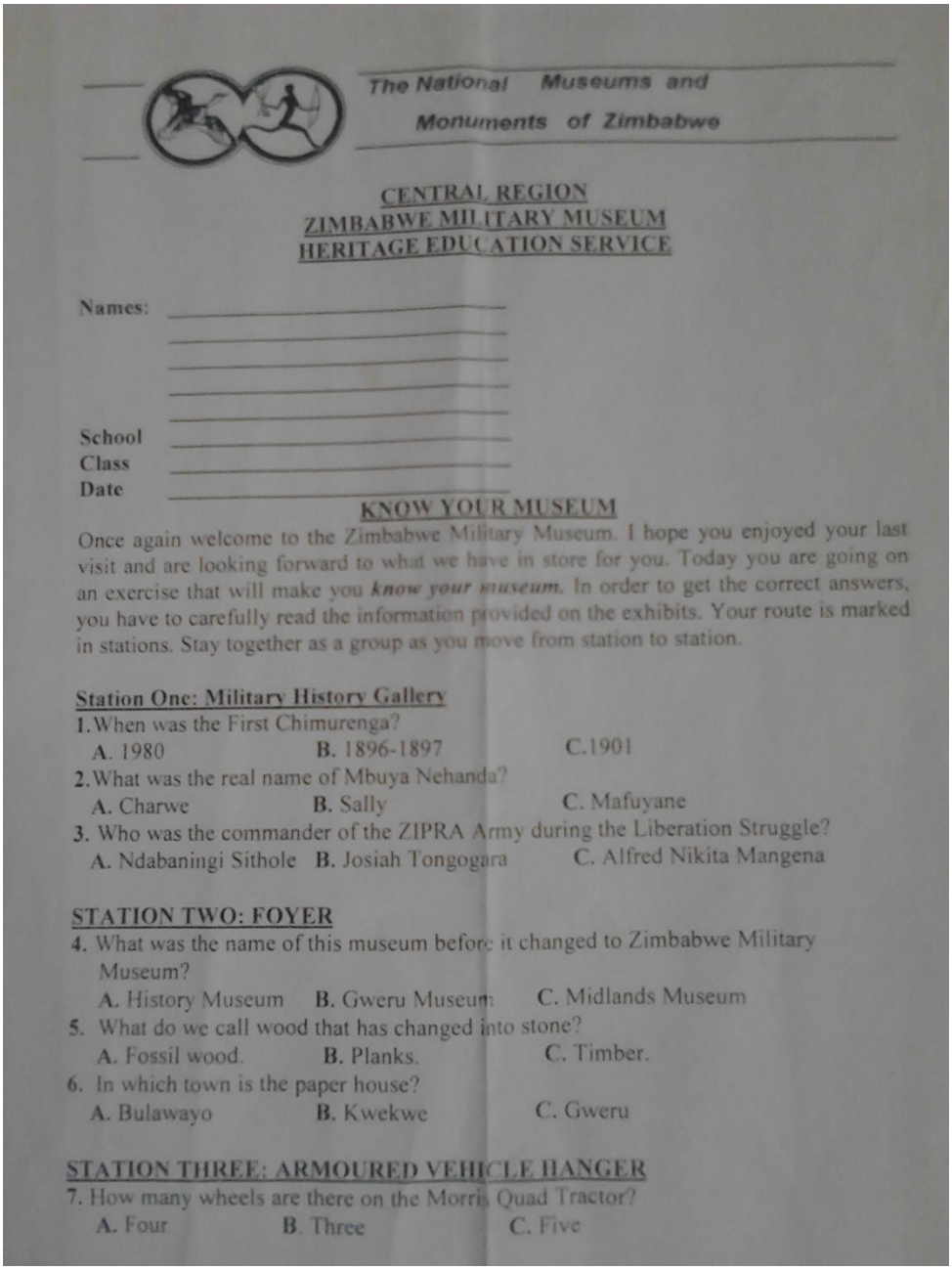
1. When did you join the curatorial or education department?
2. How big is the staff compliment in your department at this museum?
3. How do pupils learn from museum exhibitions?
4. Which part of the year do you receive many primary school students?
5. Which educational programmes does the museum provide for primary school pupils? Can you explain the structure of these programmes?
6. When did these educational programmes started to be provided by your museum?
7. What are the objectives of each one of the education programmes?
8. To what extent are you involved in planning these tours and programmes with teachers or schools?
9. Have you ever conducted a needs assessment of pupils as well as teachers and if so what did you gather?
10. To what extent do you think your programmes match how pupils want to learn?
11. What challenges do you face in administering the education programmes?
12. What mechanisms do you have in place to assess if effective learning is occurring among pupils?
13. How do you know if a programme is successful?
14. To what extent do you think your programmes link with the primary school curriculum?
15. In what way do you think structured class visits and the School-Museum visits programmes can be improved to provide effective learning conditions?
16. What do you like to be doing that you are not doing now?
17. Does your department operate with an education policy to regulate and govern your programmes?

*Appendix 7*

**Interview protocol for Education officers in the Ministry of Primary and Secondary Education**

1. What is your relationship with the National Museums and Monuments of Zimbabwe?
2. How and to what extent do you cooperate with museums in the planning and conduct of museum trips?
3. Which procedure is followed by teachers when seeking authorisation to plan and travel with pupils for field trips?
4. To what extent do you value the educational role of museums in Zimbabwe?
5. At what level do you include museums in curriculum planning?
6. What do you think can be done to enhance the educational value of museums to pupils?

***Appendix 8***



The National Museums and Monuments of Zimbabwe

CENTRAL REGION
ZIMBABWE MILITARY MUSEUM
HERITAGE EDUCATION SERVICE

Names: _____

School _____
Class _____
Date _____

KNOW YOUR MUSEUM

Once again welcome to the Zimbabwe Military Museum. I hope you enjoyed your last visit and are looking forward to what we have in store for you. Today you are going on an exercise that will make you ***know your museum.*** In order to get the correct answers, you have to carefully read the information provided on the exhibits. Your route is marked in stations. Stay together as a group as you move from station to station.

Station One: Military History Gallery

1. When was the First Chimurenga?
   A. 1980 B. 1896-1897 C.1901
2. What was the real name of Mbuya Nehanda?
   A. Charwe B. Sally C. Mafuyane
3. Who was the commander of the ZIPRA Army during the Liberation Struggle?
   A. Ndabaningi Sithole B. Josiah Tongogara C. Alfred Nikita Mangena

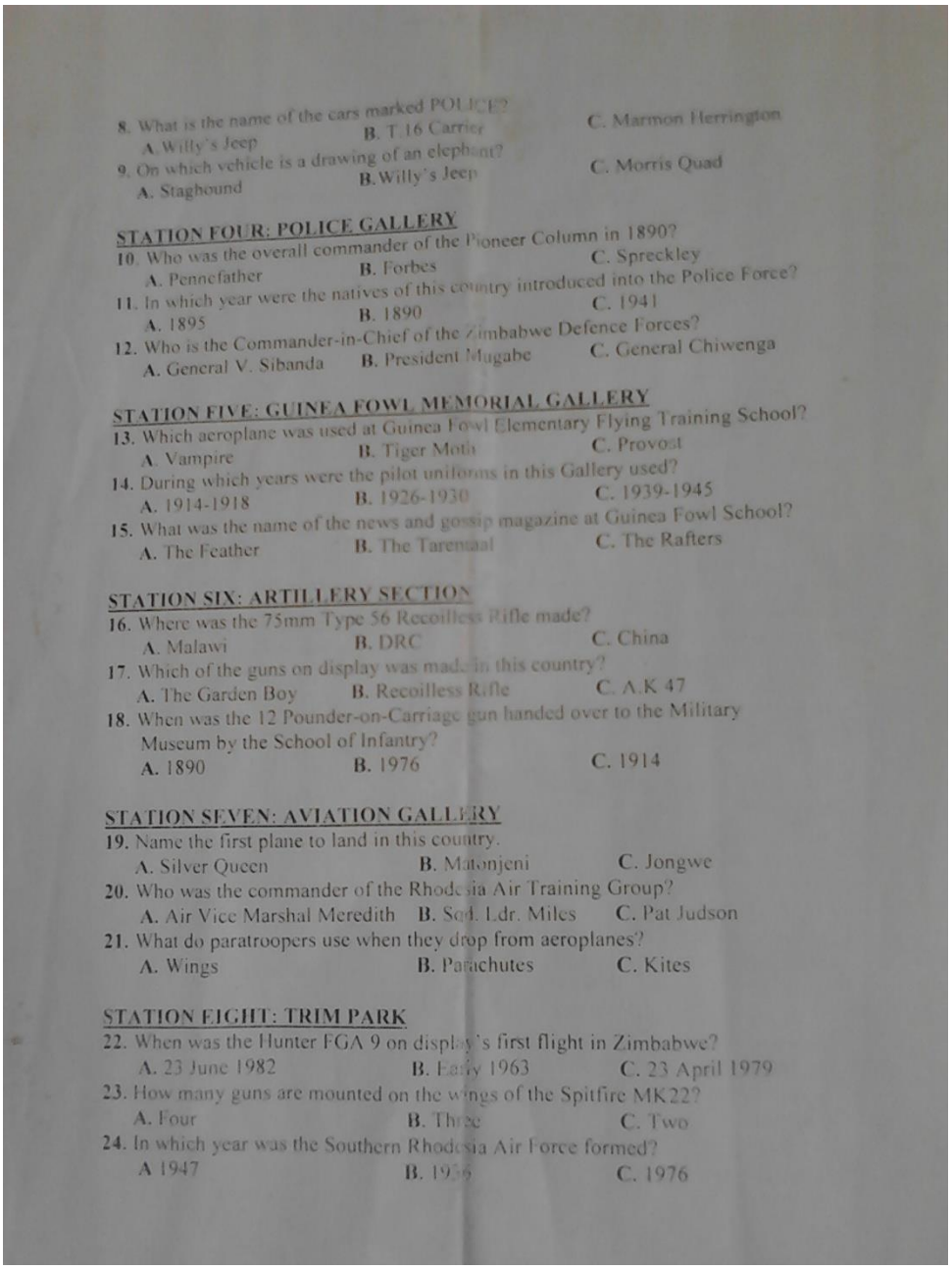
STATION TWO: FOYER

4. What was the name of this museum before it changed to Zimbabwe Military Museum?
   A. History Museum B. Gweru Museum C. Midlands Museum
5. What do we call wood that has changed into stone?
   A. Fossil wood. B. Planks. C. Timber.
6. In which town is the paper house?
   A. Bulawayo B. Kwekwe C. Gweru

STATION THREE: ARMOURED VEHICLE HANGER

7. How many wheels are there on the Morris Quad Tractor?
   A. Four B. Three C. Five

***Appendix 9***



8. What is the name of the cars marked POLICE?
   A. Willy's Jeep  B. T.16 Carrier  C. Marmon Herrington
9. On which vehicle is a drawing of an elephant?
   A. Staghound  B. Willy's Jeep  C. Morris Quad

STATION FOUR: POLICE GALLERY

10. Who was the overall commander of the Pioneer Column in 1890?
    A. Pennefather  B. Forbes  C. Spreckley
11. In which year were the natives of this country introduced into the Police Force?
    A. 1895  B. 1890  C. 1941
12. Who is the Commander-in-Chief of the Zimbabwe Defence Forces?
    A. General V. Sibanda  B. President Mugabe  C. General Chiwenga

STATION FIVE: GUINEA FOWL MEMORIAL GALLERY

13. Which aeroplane was used at Guinea Fowl Elementary Flying Training School?
    A. Vampire  B. Tiger Moth  C. Provost
14. During which years were the pilot uniforms in this Gallery used?
    A. 1914-1918  B. 1926-1930  C. 1939-1945
15. What was the name of the news and gossip magazine at Guinea Fowl School?
    A. The Feather  B. The Tarentaal  C. The Rafters

STATION SIX: ARTILLERY SECTION

16. Where was the 75mm Type 56 Recoilless Rifle made?
    A. Malawi  B. DRC  C. China
17. Which of the guns on display was made in this country?
    A. The Garden Boy  B. Recoilless Rifle  C. A.K 47
18. When was the 12 Pounder-on-Carriage gun handed over to the Military Museum by the School of Infantry?
    A. 1890  B. 1976  C. 1914

STATION SEVEN: AVIATION GALLERY

19. Name the first plane to land in this country.
    A. Silver Queen  B. Matonjeni  C. Jongwe
20. Who was the commander of the Rhodesia Air Training Group?
    A. Air Vice Marshal Meredith  B. Sqd. Ldr. Miles  C. Pat Judson
21. What do paratroopers use when they drop from aeroplanes?
    A. Wings  B. Parachutes  C. Kites

STATION EIGHT: TRIM PARK

22. When was the Hunter FGA 9 on display's first flight in Zimbabwe?
    A. 23 June 1982  B. Early 1963  C. 23 April 1979
23. How many guns are mounted on the wings of the Spitfire MK22?
    A. Four  B. Three  C. Two
24. In which year was the Southern Rhodesia Air Force formed?
    A. 1947  B. 1939  C. 1976

***Appendix 10***

The National Museums and Monuments of Zimbabwe

MUSEUM SCHOOL PROGRAMME PART 2

FIRST NAME .....SURNAME.....

GRADE.....SCHOOL.....

TRANSPORT GALLERY ( GRADES 3 -5 )

Go to the transport gallery . From the list below , put a circle around the items you can see displayed.

Train, printing machine , bus, coach, car, wagon, donkey, motor bike, tractor, lorry, bicycle, sledge, fire engine, scotch cart.

1. Which of these is the earliest form of transport?.....
2. Look for the wagon called the half –tilt and suggest the animals which would be used to pull it? .....
4. Where did the first train into Mutare arrive from?.....
5. Which is the oldest motor car displayed?.....
6. Below is the wagon called a half tilt . Fill in anything that is missing.