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The educational value of school-museum visits (SMV) to secondary school learners in Zimbabwe.

Simbarashe S. Chitima[a]

[a] Midlands State University, Zimbabwe

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ABSTRACT

Zimbabwe's school curriculum recognises the importance of learning through heritage institutions. National museums in Zimbabwe have been providing heritage education since the late 1900s and educational programmes such as the SMV are still being provided. This study investigated how the SMV empowers secondary school learners to learn curriculum content. This study was undertaken from 2018-2021. The study employed qualitative research approaches. The study reveals that secondary school learners are learning selected aspects of the Heritage Studies, History, Geography and Science curriculum. The major barriers to learning among secondary school learners are the use of outdated permanent exhibitions, rigid and limited method of content delivery, less informed and enthusiastic teachers. National museums in Zimbabwe operate grounded on a behaviourist educational framework, which is restrictive to effective learning in museum settings. Furthermore, the museum's use of permanent exhibitions inherited from the colonial period, lack of will and financial resources to change or refocus exhibitions were found as militating against effective learning among secondary school learners. Thus, the outdated exhibitions and limited methods of content delivery utilised by national museums are no longer in sync with the educational needs of current generations.

KEYWORDS: curriculum content, learning, heritage education, methods of content delivery, colonial frameworks

CONTACT: Simbarashe S. Chitima chitimass@staff.msu.ac.zw

Introduction

Guardians pay for field trips so that their children have educational and entertaining field excursions. Lacoe and Painter (2020) posit that museum field excursions have the capacity to enrich secondary school learners to learn curriculum related content. Field trips conducted in Zimbabwe involve learners getting the opportunity to visit destinations such as recreational centres, popular heritage sites, museums and monuments among other sites. Museums and cultural heritage sites are popular with learners because they learn through all senses-visual, auditory, touch, smell and taste (Hlengwa & Zaca, 2018). Barragree (2007) indicate that secondary school learners educationally benefit when museums link their exhibitions to learner educational needs. Guardians invest money and preparation time in sending children on field trips hence expect to see value for their money. School teachers expend effort in organising museum field trips with the aim to expose learners to informal educational settings hence expect museums to provide accessible learning environments.

The National museums in Zimbabwe have been providing heritage education since the late 1900s, and one of museum's established programmes for secondary school learners is the school-museum visits (henceforth SMV). The SMV is structured in a manner that schools visit museum stations where they will have opportunities to learn through guided tours and access real artefacts. There is scant literature, however, documenting how secondary school learners educationally benefit from SMV. Thus, this study investigated how secondary school learners were learning curriculum content through the SMV.

Structure of the secondary school curriculum in Zimbabwe

A curriculum is the sequenced sum total of all learning experiences and opportunities provided to school learners in the formal context (Mulenga, 2018). A curriculum is constituted by course content, and standard base sequence of planned experiences designed for learners in a formal educational context. The Zimbabwe's Ministry of Primary and Secondary Education Curriculum Framework (MoPSE) (2015) list the secondary school curriculum in Zimbabwe as being constituted by subject areas in the arts and humanities, science and technology as well as commercials. The major subjects found in the secondary school curriculum are shown below:

a) **Minority languages**-*there are various marginalised languages in Zimbabwe and the basic concepts of the curriculum topics include: being able to read and write through minority language, understanding literature, texts, storyline, plot and subplots, conflict management, characterisation in texts, literary techniques, heritage, cultural values and beliefs and creative works.*

b) **Mathematics-***curriculum topics include: real numbers, sets, financial mathematics, measures and mensuration, graphs, variation, algebra, geometry, statistics, trigonometry, vectors, matrices, transformation and probability.*

c) **Heritage Studies-***curriculum topics include: socialisation, identity, cultural heritage, national history, national heritage, the constitution of Zimbabwe, rights and responsibilities, production, distribution of goods and services as well as global issues.*

d) **History-***topics done include: Zimbabwean history, origins of mankind, ancient civilizations of Africa, slavery and the slave trade, early European contact and colonisation, nationalism, world wars, regional and international cooperation, socialism and communism, Zimbabwean constitution, democracy and human rights.*

e) **Agriculture, Science and Technology subjects-***topics done include: agriculture, water, soil, vegetation, animals, health, pollution, energy and fuels, weather and climate, materials and technology, landforms and maps, crop husbandry, farm structures, machinery and agribusiness, cytology and plant morphology.*

f) **Information and Communication Technology (ICT)-***topics found are: hardware and software, applications, data representation, communication networks, internet technologies, security and ethics, systems analysis and design, algorithm design and problem solving.*

g) **Combined Science** *(Chemistry, Physics and Biology): topics done include chemicals, cells, laboratory rules, nutrition, respiratory system, transport systems, reproduction in plants and animals, health and diseases, matter, acids, bases and salts, oxidation and reduction, industrial processes, organic chemistry, measurements, force, energy, magnetism and electricity.*

h) **Foreign Languages-***topics done include: literature, genres of literature, literary elements, set texts, setting, plots, themes, characterisation, literary techniques and critical appreciation.*

i) **Geography**-*topics done include weather and climate, landforms, ecosystems, natural resources, energy and power, map work and geographical information systems, minerals and mining, environmental management and land reform.*

j) **Visual Art and Performing Arts-***topics undertaken include: history of visual arts, music and dance in Zimbabwe, African art, art production processes, aesthetic awareness and art appreciation, art and technology, art business, dance techniques, creative composition and intellectual property.*

k) **Commercials**-*topics done include: production, trade, consumer protection, business organisation, enterprise, finance and banking, insurance and assurance, business communication, transport, supply chain management, warehousing and marketing.*

l) **Food Technology-***topics to be done include kitchen and equipment, food, nutrition, cooking methods, meal planning and food service, food contamination and preservation, consumer education, enterprising, health and physical development.*

m) **Textile Technology and Design-***topics found in the syllabus include grooming and personal hygiene, equipment and safety, fibres, yarns, textile design, patterns, construction process, embroidery, care and maintenance of clothes, consumer education, enterprises and clothing production.*

n) **Building, Wood and Metal Technology and Technical Graphics-***topics include: building tools, machines, computer aided design, graphics design, workshop calculations, electricity, joinery, health and safety, upholstery, carving, materials technology, bonding, site works, design and drawing, quantities, finishes, services, ornamentation, illustrative techniques and geometry.*

SMV Field Trips

This section reviews literature on learning and how secondary school learners learn in informal educational settings. Learning has been defined through various lenses grounded on psychological, philosophical and developmental theories. The most popular theories are behaviourism, cognitivism and sociocultural frameworks. For example, the behaviourism theorists define learning as change in behaviour in response to motivation or stimulus (Carbonell, 2012). Behaviourism has its roots from the experiments done of rats and dogs that were conditioned to behave in certain ways by Ivan Pavlov (1849-1936) and Burrhus Frederic Skinner (1904-1990). The Behaviourist framework views learners as blank slate waiting to be educated by the teacher. When pragmatically used in the museum, secondary school learners will be treated as blank slates that require instruction from museum tour guides and curators (Chitima, 2019). The behaviourist framework is widely employed in formal educational settings (formal schools) that are bound by a curriculum, code of conduct and where learners enrolled in a school are obligated to do a specific number of subjects.

Cognitivism has its roots from Gestaltism by Wolfgang Kohler in 1912. Gestaltism states that people use their senses and previous experiences to gain knowledge about the world around them (Avendano, 2022). Cognitive theories come in various outfits and these include Piaget's Cognitive Development theory, Bandura's Social Learning theory and Vygotsky's Constructivism. The general definition of learning by cognitivists is that learning is a process of metacognition or mental schemata where the learner is an active agent in constructing meaning (Vygotsky, 1978; Zarmati, 2012). Cognitivists view learning as the process of adjusting mental models to accommodate new experiences (Brooks & Brooks, 1999). However, cognitivism has been criticised for over-concentrating on metacognition and failing to acknowledge other factors that influence learning among secondary school scholars.

The sociocultural theory has its roots from the writings of Lev Vygotsky (1978). Vygotsky believed that the way people interact with others or in a community of learners and the culture in which they live shape their mental abilities. There are three fundamental concepts in the Socio-cultural framework and these are:

1. *Learning occurs through social interaction-social interaction between the learner and his/her peers and the teacher is foundation on what and how the learner will think and do in the learning process. School learners learn when they socialise with each other and engage in discussions (Bangura, 2005). Socialisation plays a critical role in the development of higher order thinking. Informal learning settings such as museums empower learners to learn in unrestricted social environments because they are free choice or voluntary learning settings compared to the formal classroom tied by a curriculum.*
2. *Language is a necessary tool in the learning process-Vygotsky held that through the use and mediation of language (tools, signs, semiotics, systems of counting, works of art etc) co-construction of knowledge is facilitated. Learners appropriate and adopt as well as internalise socially available tools to assist in future independent problem solving. Language is used for communication in social settings.*
3. *Learning occurs through the Zone of Proximal Development (ZPD)-the ZPD is a concept that Vygotsky (1978) popularised as another channel in which people such as high school learners acquire knowledge. The ZPD is the distance between the developmental level of the learner and the level of potential development under the guidance of a knowledgeable person. Learning occurs through the Zone where a learner is able to independently perform a task after being guided by someone who has knowledge of it. All learning therefore, is happening through interaction of people in social settings.*

The sociocultural framework is better placed in understanding learning that occurs in museums. Museums are informal social educational settings that people visit voluntarily and where museum educational activities are not tied to a museum formal curriculum. Some people visit museums with their loved ones, as family groups, individuals and as researchers. The learning that occurs in museums does not result in people getting certificates as what happens in formal schools. Learning in museums is defined as a process of active engagement with experience where learners may realise increase in knowledge gain and understanding and skills, enjoyment, change in values and attitudes (Falk & Dierking, 2000; Kelly, 2007).

Secondary school learners in Zimbabwe are people of 13-16 years and these have their level of physical, cognitive and emotional development different from primary school pupils. Steinberg (2005) highlights that secondary school learners attain a self-regulating and self-directed mind that enables them to

think abstractly. The cognitive development of secondary school learners involves understanding concepts abstractly, reason from known principles, consider many points of view and have experienced improved thought process (Steinberg, 2005).

The language and communication milestones of secondary school learners involves understanding long and complicated instructions, ask for clarifications, understand figurative language and make predictions based on information available (Steinberg, 2005). Secondary school learners are said to be highly social and this enables them to learn from their peers. Lapuz and Fulgenzio (2020) indicate that the cognitive capacity of secondary school learners enables them to learn effectively through problem-based learning. Therefore, Steinberg (2005) and Lapuz and Fulgenzio (2020) provide information about the cognitive and communication capacities of secondary school learners. This information serves to provide understanding of the thinking patterns of secondary school learners and how they enjoy learning henceforth this should inform educational programme developers.

There is scant literature about secondary school learners and field trips. Moyo (2017) studied the constraints in which schools teachers and learners faced in trying to facilitate the learning of social studies curriculum. The study was undertaken in the Gwanda District in Zimbabwe with three secondary schools, and it revealed learning barriers during field trips that included, time, finance, teacher incompetence and learner mischief among other factors. The most cited barrier was teacher incompetence especially the lack of know-how and motivation. Many teachers have less information of how they can maximise learning among high school learners during field trips. Another barrier gathered in the study was the sheer teaching loads that teachers had which made them fail to plan and structure field trips that enabled effective learning. The study recommended the training of teachers in planning effective field trips and to solicit for parental support so that field trips are a success as well effective in facilitating the learning of curriculum content among learners (Moyo, 2017).

Lee et al. (2020) studied whether pre-visit preparation and post-visit activities improved learning among secondary scholars during field trips in the United States of America. The study gathered that pre-visit preparation which included school teachers visiting cultural heritage sites prior the actual visit assisted them to know what and how high school scholars would learn. This also assisted to identify resources that their learners could access and book with the destination site. Pre-visits and preparation enabled school teachers to prepare their learners

for learning prior the actual visit (Lai, 1999). Behrendt and Franklin (2014), Myers and Jones (2004) posit that school teachers are very influential in learner's learning under field trips.

School teachers who planned in advance and make effort to visit museums and other heritage places to find out how their learners will learn, contributed to effective learning. Behrendt & Franklin (2014) highlight in order to facilitate effective learning under field trip the teacher should visit the venue first to learn the layout and its suitability as well to understand the educational activities are deployed. During the trip it has been found that teachers that assist learners during guided tours contributed to effective learning unlike passive teachers (Chitima, 2019). Field trips need to be reinforced by other post educational activities so that students are well scaffolded (Behrendt & Franklin, 2014; Myers & Jones, 2004). Information pertaining to preparation, during the tour and post visit scaffolding educational activities informs this study with the crucial variables that have the capacity to promote or hinder learning.

Lai (1999) studied the benefit of field trips to secondary geography learners in Hong Kong. It was gathered that field trips provided richer learning experiences as compared to formal classroom learning. Field trips were also found to provide learners with freedom, see things in new perspectives and learning in groups. Learners displayed strong outcomes of knowledge gain during field trips and field trips provided learners with real life experiences. The study by Lai (1999) indicates that the need for post visit activities which help scaffold learning.

Ferreira et al. (2019) have studied how secondary school learners from Finland and Brazil learn out of the classroom. The study found that secondary school learners learn through the development of portfolios and tasks assigned to them. For example, learners were assigned to produce a portfolio or gallery of pictures of things which they thought linked with the curriculum.

Each of the learners understudy produced a portfolio of ideas which expressed how they interpreted curriculum topics. The study also found out that secondary school learners' learning is characterised by social interaction with their peers. For example, before learners undertook tasks, they sought views and ideas from their peers or at-least discuss what they intended to do. This goes on to show that the people around learners have great influence over what secondary school learners learn, what and how they learn. The study reveals that secondary school learners enjoy learning through action-oriented learning

where they engage in practicals. Practicals enabled learners to test their theories and conceptions of the world, experiment and explore as well as solve problems.

Hurst et al. (2013) indicate that secondary school learners learn effectively when social interaction is enabled. Hurst et al. (2013) also posit that teachers and tour guides talk for the greater part of learner's learning yet progressivists and socio-culturalists believe that learning is a social construct. It was gathered that secondary school learners learn effectively through social interaction because it enabled learners to learn from their friends through discussions and interaction. Giroux (2004) is known for popularising the concept of critical pedagogy which challenges dominant Western ways of education. Central to Giroux (2004) ideas are that the curriculum and methods of delivery employed by educational settings including museums should match the learning styles of learners, participatory and relevant to their educational needs. Secondary school learners learn effectively when museums deploy methods of content delivery that deliberately aim to involve learners to participate effectively. According to Giroux (2004) the content learned by learners should be relevant to their educational needs and curriculum.

Methodology and the analytical framework

This study employed qualitative research and phenomenology research design. Museums are phenomenological enterprises where visitors have the opportunity to socialise and share information. Secondary school learners generally have the similar attributes and share the same livid world as well as experiences (Finlay, 2009). This study was undertaken in 2018-2021 at all the five national museums in Zimbabwe. The reason for selecting the five national museums was done to get a holistic picture of high school scholar's learning grounded on different museum stations offering different types of content and exhibitions. For example, the Natural History Museum (Bulawayo) has live snakes on exhibition whilst the Zimbabwe Military Museum (Gweru) has real war tanks and guns. Thus, the study aimed at capturing what and how high school learners learnt subjected to these different forms of collections. The study population and sample included 154 secondary school learners, six school teachers, three education officers from the Ministry of Primary and Secondary Education (MoPSE), three heritage education officers, four Museum Directors, seven Museum Curators, 13 tour guides and three display designers. The study employed purposive sampling where participants regarded as having information about the study area were included in the study.

The study employed interviews, observations and facility assessment and listening to learner's conversation as data gathering instruments. The study was conducted through two stages. The first stage involved conducting interviews with secondary school learners, teachers, museum staff and MoPSE officers. An interview protocol was designed to interview learners at entry and exit points. Entry interviews with learners lasted an average of 20 minutes whilst exit interviews lasted about 30 minutes. Entry interviews were conducted to gather data about learner's prior knowledge, visit motivation, interests, agenda and experiences. Exit interviews served to document the views of learners concerning what they thought they learned, what they perceived to be useful curriculum related content during their visit, what they found to be of interest and establish the extent they connected school work with museum content. The study also listened to learner's conversation during guided tours to assess learning talk and behaviour. Stage 2 involved undertaking an assessment of museum facilities, social design and educational activities for accessibility. This assessment was grounded on Principles of Universal Design (Centre for Universal Design, 1997) and ergonomics (Kennedy and Prager, 2008). The assessment was done to check the accessibility (physical and intellectual) of museum atmospherics.

Analytical framework

This study was guided by the Contextual Model of Learning (CML) developed by Falk and Dierking in 2000. Falk and Dierking (2000) indicate that learning in museums is influenced by three major contexts and these are the personal, physical and socio-cultural. The personal context looks at the learner's personal characteristics, cultural and inherent dispositions. Intrinsically motivated learners are likely to meaningfully learn compared to visitors that are not motivated to learn. Museum visitor's whose visit agenda and interest are to learn are likely to learn effectively (Falk & Dierking, 2000). Thus, the learner's characteristics (willingness to learn, attitude and aptitude) influence what and how much they learn from museums.

The physical context is the museum infrastructure, social design and exhibitions, facilities and equipment. Falk and Dierking (2000) found that museums that have poor architectural design and exhibitions that are physically as well as intellectually in-accessible affect museum visitor's experiences. Make shift museum buildings are usually ranked poor by visitors as lacking ambience and

this demotivates visitor to continue with museum tours. Chitima (2013) posits that museums with steps in galleries, no rest places, exhibits mounted too high and with unreadable captions are intellectually and physically inaccessible to learners with impairments. Museums not offering Braille facilities or tour guides with no knowledge of sign language were found to negatively affect learning among learners with sensory impairments (Chitima, 2013). Museum tour guides that are courteous and willing to assist learners in museums facilitate learning among museum visitors compared to those that seen as rude and unmannerly (Chitima, 2019).

The socio-cultural context looks at group interaction and mediation. The structure of educational activities that deliberately provide room for socialisation, discussion, experimentation, problem solving and manipulation of material have been found to provide opportunities for learning among scholars (Chitima, 2019). Learning in museums result in the acquisition of outcomes such as knowledge gain and understanding, skills, enjoyment, change in perceptions and values (The University of Leicester, 2003). These competencies should enable learners to solve problems bedevilling society. The CML is the most applicable framework that best provides how learning in museums occurs

Results

The following section is structured thematically following three themes: Trip typology in Zimbabwe, how secondary school learners learn and barriers to learning of the curriculum.

a) Trip typology in Zimbabwe

Field trips in Zimbabwe can be categorised into two types, and these are hybrid and museum trips. The hybrid type of trip involves secondary school learners visiting several sites for educational purposes including passing through museum sites. An example is that learners and their teachers may visit a popular dam or hotel and the museum within the single trip. Thus, learners are being exposed to different learning settings. The second type of trip undertaken by secondary school learners includes only visiting museum stations or heritage sites.

The hybrid type of field excursion usually takes several days while the school-museum visit may take a day. Thus, it was gathered that the two types of field trips undertaken by school learners and teachers included single trip

to the heritage institution and the hybrid trip. A provincial education officer from MoPSE mentioned that they usually approved school trips at the end of school terms when there is less pressure in schools. Three teachers interviewed indicated that the choice of destination rested on its prominence, suitability of facilities available and educational resources available. For example, the Great Zimbabwe World Heritage Site (Masvingo) was reported as a symbol of national prominence that also has resources to learn curriculum content in History, Heritage and Social Studies.

b) How secondary students learn

Secondary school learners learn when they are prepared and given pre-orientation, have the opportunity for socialisation, manipulation of artefacts, assignment presentations, lectures, role playing and performances. As gathered in the study, very few school teachers had the opportunity to meaningfully prepare their learners for field trips apart from just informing them of the field trip. It is revealed that out of the 154 secondary school learners coming from six schools, only two teachers from two schools provided meaningful pre-orientation to their learners which involved revising subject topics in preparation for the museum tour.

It was gathered that 23 learners acknowledged to have been prepared and given pre-orientation. These teachers empowered learners by telling them what was expected of them during the SMV. Thus, learner preparation and pre-orientation given to learners which included revising major concepts and topics found in the curriculum, indicating to learners what they were supposed to do at the destination site and telling learners how they were going to travel from school and at the destination site helped them learn. This preparation enabled learners to be geared for learning and to know the itinerary of the trip.

Learners who were given pre-orientation at school differed with those learners that did not receive the same in that they carried with them the requisite learning material on the tour such as note books, pens and were intrinsically motivated to learn. Learners took notes from tour guides and exhibit captions. The majority of learners who were not oriented at school spent the better part of the tours taking 'selfies' with their smart phones. Through entry interviews with 23 learners who were given pre-orientation at school, it was gathered that they had information about some of the museums and heritage sites, and the

urge to understand more about it. Learners that did not receive pre-orientation at school prior the field excursion acted as novices and treated the trip as leisure.

The study observed that generally, all learners learned through social interaction with their peers, tour guides and teachers. It was also gathered that learners acquired knowledge and skills through primary socialisation from people within their immediate environment and these were friends. Some tour guides were observed during guided tours asking learners questions and giving tasks to do. This enabled learners to work in pairs or groups to achieve the tasks at hand, having discussions of how to do it and the findings gathered. The talk and interaction enabled learners to learn from each other.

Another form of socialisation involved learners asking tour guides, heritage education officers and curators questions about exhibits and artefacts. This permitted dialogue to ensue which helped learners to learn and share from those that had information about museum collections and exhibitions. Another form of socialisation involved learners and teachers that were part of the guided tours stimulated discussions which actually assisted to link the curriculum with some of the museum exhibitions.

The study gathered that the type of socialisation which assisted learners to learn curriculum content was between learners, and learners with school teachers. Socialisation that occurred between learners and museum staff members enriched learners with museum and general knowledge. Another type of socialisation that helped learners to learn content related to the Heritage Studies and History involved learners and the 'living heritage' at the Shona Village at Great Zimbabwe World Heritage Site (GZWHS). This type of socialisation enabled learners to gather information through oral interviews with the practitioners of the Mhande traditional dance. Three tour guides interviewed at the GZWHS and Zimbabwe Military Museum (ZMM) highlighted that secondary school learners were found to learn through discussion.

Learners who had the opportunity to manipulate artefacts (e.g. at the ZMM and NMTA), role play and participate in song and dance such as at GZWHS displayed hard and soft outcomes. From a population of 154 learners that were involved in the study only 67 had the opportunity to manipulate artefacts at the ZMM, GZWHS and National Museum of Transport and Antiquities (NMTA). At the ZMM learners were able to manipulate the armoured vehicles and the Viscount airplane while at the GZWHS learners managed to participate through role play and dances at the Shona Village.

Manipulation of artefacts and active participation which involved bodily movements contributed to knowledge gain and understanding as well as enjoyment. From the study, 54% of the learners mentioned they preferred learning through touching collections especially those in open spaces and engaging in other participatory content delivery methods such as song and dance, role play and experimentation. However, eight tour guides mentioned that the SMV had limited opportunities for learners to touch collections because that would contribute to the deterioration of objects. Five tour guides on the contrary allowed learners to get inside and touch some of the collections in open displays and this enabled deep understanding of materials.

Furthermore, the 54% of the learners also indicated the need for practicals in-order for them to learn curriculum related content effectively. One teacher cited that experiential learning was an effective method of content delivery but unfortunately, the SMV had fewer opportunities to learn through practicals, experimentation and problem solving. Results from engagement with the learners indicated that 35% enjoyed learning through dioramas, life sized artefacts and live animals (e.g. snakes) exhibited at the NHM and NMTA. Results showed that 10% of learners indicated they would learn meaningfully if museums educational programmes had opportunities for debates, portfolio production and topic presentations.

Another group of made up of 10% of the learners booked for a museum lecture. They indicated that they learned a lot about insects. Learners further indicated that the museum curator and heritage education officer made presentations that assisted them to understand more about the subject especially when the lecture was followed by visiting an exhibition on this topic. The presenters made use of slide shows, diagrams and artefacts. Learners were given the opportunity to ask questions, and this allowed learners to get clarifications and detailed explanations. According to 10% of the learners, lectures were found to be effective as they learned from well prepared presentations that were focused on specific topics.

Through interviews learners mentioned that they learned selected aspects of Heritage Studies and History particularly topics on Zimbabwean political history at the ZMM and NMTA as well as an exhibition about Mbuya Nehanda at the Zimbabwe Museum of Human Sciences (ZMHS). It was also gathered that learners learned environmental sciences related topics at the GZWHS, ZMHS and Natural History Museum (NHM). Seven learners interviewed at the NHM

indicated that they managed to learn aspects of geology, botany and zoology. From the learners who came to one of the museum stations specifically to learn about science subjects, 8% of them mentioned that they managed to learn about the soil, vegetation and animals, as well as landforms which were aspects of the agriculture curriculum.

Learners who visited the NHM and ZMHS had the opportunity to learn aspects of the geography curriculum such as weather and climate, natural resources, minerals and mining. Learners that visited the GZWHS learned aspects of Visual and Performing Arts at the Shona Village. Although the ZMHS has one display on traditional food items, it assisted learners to learn an aspect on food science. Generally, it was observed that there were no exhibitions and educational activities that were designed to facilitate learning of Mathematics, Minority Languages, Foreign Languages, ICT, Combined Sciences, Commercials, Textile Technology, Building, Wood and Metal Technology, Science and Technology.

Barriers to learning

The first barrier observed was the challenge of some teachers not fully participating in tours and in the preparation of learners. From the six school teachers involved in the study only 33% of the teachers had managed to provide pre-orientation to learners. Through interviews with the four teachers, it was gathered that they perceived the role of orientation to be the responsibility of museum staff. It was further gathered that the other 18% of the teachers had less information on what they could do to optimise their learners for effective learning. Another observation was that the pre-orientation given by tour guides was insufficient to provide physical and intellectual support and accessibility to learners.

The orientation given at museum stations rested on articulating on the rules and regulations and a brief history of the museum. The orientation given at entry by tour guides was cited by 54 learners as insufficient to allow physical and intellectual accessibility. This challenge was exacerbated by the lack of an orientation map or way finding system at museum and heritage sites. It was only the NHM that had a map system of its galleries on selected panels but these were not clear and catchy for learners to notice.

The second barrier observed was that tour guides gave little regard to learner's prior knowledges and experiences. Upon entry at museum stations, tour guides did not put effort to establish the knowledge gap that existed between them and learners. This was found by repeat museum learners as contributing to

boredom as the stories given by tour guides were a repetition. Learners who had visited the GZWHS before mentioned that tour guides simply regurgitated what they gave them in the previous trip and that they perceived them as blank slates. Tour guides were observed as the focal point and controlled learners very much. They determined which exhibits or feature to explain and the pace to take. Reportedly, there was little room for learners to ask questions at museum stations. For example, the GZWHS receives an average of 30 schools a day especially during the end of school terms. Tour guides are overwhelmed by such big visitor numbers as such make quick dashes with learners across the monument which result in learners hurriedly touring the site. Two heritage education officers indicated that the guided tour was the major and only activity which learners managed to experience museum sites. However, they went further to indicate that there were under resourced to purchase technological gadgets to aid in the presentation of heritage and facilitate learning.

The SMV provided little freedom for secondary learners to view exhibits and do activities of their choices. The SMV is structured in a way that tour guides have power to the learning situation. The content and activities that learners do is largely decided for them by curators and tour guides without learner and teacher input. As such when learners arrive at museums stations there have little choice to view exhibits of their interests at their own pace. School learners indicated that semi-structured educational activities were better in facilitating learning.

Another barrier was that museum education service is grounded on the outdated permanent exhibitions in museums. The majority of permanent exhibitions are a colonial inheritance and as such the content and narratives within them speak colonial stories. These stories were found to be promoting museum based and general knowledge compared to curriculum related content. Thus, the majority of exhibitions in museums are no longer in sync with the educational needs of current museum visitors or audiences. It was also mentioned by learners that the text on exhibition captions were too small to read leading to learners getting demotivated in using them. Furthermore, some captions utilised jargon and scientific language which was found to be in-comprehensible by some learners. It was also observed that the majority of museum facilities were not accessible to secondary school learners with disabilities. All school teachers highlighted that they left out learners with disabilities because they were no inclusive facilities for them. For example, no tour guide was able to communicate through sign language, and exhibitions did not have Braille as well as museums not having

first aid kits in case of emergency. The majority of museums and cultural heritage lack wide doors recommended for use by those on wheelchairs and ramps. In contrast museum galleries are full of steps and other barriers that make students with disabilities find it challenging to deal with. All museum directors mentioned that museums were under resourced hence they took long to refocus exhibitions. One director bemoaned the bureaucracy involved in applying for funds to carry out documentation and to change exhibitions even if their museums generated income through admission fees.

The methods of content delivery within the SMV were viewed by school teachers interviewed as limited. The SMV predominantly makes use of oral explanations and very few opportunities exist where learners learn through other ways. Oral explanations alone were viewed by secondary school learners as rigid and controlling.

Discussion

There are limited opportunities for learners to learn curriculum content in museums and this is due to contextual factors. Effective learning of curriculum content among secondary school learners occurs at two main stages. The first stage is the priming stage and this predominantly occurs at school between the teacher and learners. The second stage is the immersion stage which is determined by museum atmospherics and the educational programme undertaken. Table 1 depicts the factors influencing learning in museums among secondary school learners:

- Priming Stage-School and Personal Contexts
  - » Preparation of learners (mental preparation)
  - » Pre-orientation (focus and motivation cultivation)
- Immersion Stage-Museum Context
  - » Physical and intellectual orientation
  - » Relevant level activities
  - » Active methods of content delivery
  - » Semi-structured programming

Table 1: Factors Influencing Student's learning in Museums (Source-Author)

The priming stage is the preparation stage where the teacher should or is expected to take an active role to facilitate learning among learners. Falk and Dierking (2000) indicate that the teacher is an important cog in the learning process and their presence helps control learners and to link curriculum content in galleries or after the tour. In order to facilitate effective learning, the teacher should research in advance and establish how his or her learners will learn from the selected destination site. This research assists the teacher to establish if the educational activities and resources found at the destination are suitable to facilitate learning of the curriculum. The second step is for the teacher to revise the major topics done through the term in order to assist learner's recall of what they learned during the course of the term and be able to link with museum content. The teacher can facilitate curriculum learning by articulating to learners the objectives of the trip and offer physical and intellectual pre-orientation. It has been gathered providing pre-orientation prepares the learner mentally (Chitima, 2019; Myers & Jones, 2004).

In Zimbabwe, many teachers have less information of how they can contribute to effective learning of the curriculum using field trips to heritage sites (Moyo, 2017). However, school teachers are very influential persons in facilitating learning during field trips (Behrendt & Franklin, 2014). As gathered by this study, school teachers that researched in advance contributed to effective learning. As recommended by Behrendt and Franklin (2014), a school teacher should visit the venue first to learn about the layout and adequacy of educational activities employed in museums.

The second stage is the immersion stage which mainly happens at the museum or heritage site. Upon arrival at the destination site learning is influenced by the physical and intellectual orientation of the venue. The physical orientation includes the museum's social design-accessibility to gallery spaces and facilities, the nature of visitor facilities and equipment used. The intellectual accessibility of the destination site is evaluated by establishing if the content and educational activities are accessible. As established in the findings, museums and heritage sites are inaccessible to learners with disabilities. Chitima (2013) indicate that the majority of national museums in Zimbabwe desire to be seen as inclusive by having ramps outside the entrance but yet inaccessible inside. As gathered, steps, ramps without grabbing rails and lack of Braille facilities hinder effective learning. Further, museums have no portable and printed way finding mechanisms to enable their audiences navigate easily through the galleries and sites. The lack of way finding systems led to fatigue among learners and this

challenge was made worse by the lack of adequate resting places (Myers and Jones, 2004). In Zimbabwe it is only the NHM with adequate resting places.

Intellectual orientation can be provided by teachers and tour guides by illustrating to learners how they can navigate through galleries and what each gallery enables them to learn. Intellectual orientation serves to provide cues to learners what is contained in galleries and monumental features and how learners will learn from them. Providing physical and intellectual orientation assists to avoid the novelty factor (Behrendt & Franklin, 2014). The novelty factor is when learners wander about clueless in galleries or spend the whole tour going up and down trying to figure out what the site is all about.

Secondary school learners have an attention span of between 40 minutes to 1 hour. However, this span can be increased when educational activities involve practicals, hands-on minds-on activities and manipulation of artefacts. Educational activities in museums should match the different capacities of learners. Therefore, oral guided tours are insufficient to facilitate effective learning of curriculum content among secondary school students (Steinberg, 2005). National museums in Zimbabwe are currently deploying limited methods of content delivery and there is need to adopt other methods that include experimentation, exploration activities, song and dance among others. These methods of content delivery are in tandem with the sociocultural educational framework that advocates for active methods and support experiential learning (Falk & Dierking, 2000; Vygotsky, 1978).

Currently museums are employing the behaviourist educational framework and this is restrictive to effective learning. The behaviourist framework is seen by tour guides taking centre stage in guided tours and learners becoming passive recipients of information. Tour guides dictate what learners learn and they do not recognise as well as make effort to establish learner's prior knowledges and experiences. The behaviourist framework assumes that secondary school learners are blank slates and hence require to be schooled (Carbonell, 2012). The educational framework and the permanent exhibitions still in use in museums are a colonial inheritance hence these are no longer in sync with the educational needs of current generations. The SMV programme is a colonial inheritance. There is need for museums to adopt current and applicable educational frameworks such as the sociocultural framework to their heritage educational service. This also calls for the employment of other effective methods of content delivery and change of exhibitions to speak stories that current generations can

relate to. For example, interactive exhibitions which deliberately ask learners to work with computers and smart gadgets will contribute to learning.

The SMV programme provides little room for learners to look at displays of their choice at their own pace. The SMV is structured in such a way that every activity done is decided for by museum staff and learners are controlled. The most effective educational programmes are those that are semi-structured that gives room to learners to look at exhibits of their choice (Behrendt & Franklin, 2014; Chitima, 2020). It is further argued that effective educational programmes are those that allow learners to interact and learn from socialisation. Learning in museums is a social construct and hence socialisation is the main process that promotes learning among students Hurst et al., 2013). Learner's interaction and socialisation through the SMV has enabled some learning to occur. Socialisation that occurs between students themselves, learners and tour guides and teachers all contribute to learning. Learners learning can be enhanced when there are opportunities for feedback sharing.

Conclusion

Museums through the SMV are facilitating learning of aspects of Heritage Studies, History, Geography and Science related curriculum content. There are limited opportunities to learn Foreign, Minority Languages, Mathematics, Agriculture, ICT, Visual Arts, Chemistry and Physics, Commercials, Food Technology, Building, Wood and Metal Technology and Technical Graphics, Textile Technology and Design subjects. The major reasons why heritage education in Zimbabwe is not effective in facilitating the learning of curriculum content is because it is grounded on behaviourism, outdated permanent exhibitions and utilising old and rigid methods of content delivery. Therefore, Zimbabwe's heritage education service is situated in the Western Museology. There are few opportunities for secondary school learners to learn curriculum content as compared to general and museum-based knowledges. The oral explanations are limited because learners learn through different learning styles.

Secondary school students learn effectively when they are actively involved. The most suitable educational framework to ground heritage education are contemporary learning frameworks including the Contextual Model of Learning and Sociocultural frameworks (Falk & Dierking, 2000). These frameworks recognise that heritage education happens in social settings hence it is a social process. Effective learning occurs when secondary school students

have the opportunity to interact, socialise, discuss, manipulate objects, engage in practicals and problem solving among other active methods of content delivery. Learning on field trips should not start at the museum but at school with the assistance of trained teachers hence there is need for teacher training. School teachers are an important cog in learners' learning and there is need for collaboration between museum staff and teachers in order to optimise student's learning.

Recommendations

- Museum educational programmes to be developed with the input of learners and teachers,
- Museum curators, display designers and heritage education officers should develop inclusive or accessible educational activities that cater for learners with disabilities,
- Develop heritage educational programmes that are relevant to the school curriculum,
- Training of tour guides and school teachers in pedagogy.

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