Object-Based Learning In Museum

Obinna Emeafor
Department of Archaeology and Tourism, University of Nigeria, Nsukka.

Diminyi, Christopher A.
Department of Tourism Studies, University of Calabar, Calabar, Nigeria.

Duru, C. Henry
Department of Leisure and Tourism Management, Institute of Technology and Management, Ugep, Cross River State, Nigeria.
ABSTRACT

The study examined museum education from the perspective of object-based learning which encourages participants to construct meaning by way of interacting with museum objects. Data for the study were sourced through secondary sources such as books, journals and public library, and were analyzed using thematic analytical procedure. Findings show that object-based learning is relevant to children, adults and family groups. Object-based activities in museums provide children with experiential learning where the cumulative effect of the experiences contributes to their social and cognitive development, enhances their interpersonal interactions, and plays vital role in the development of children’s higher mental functions. Object-based learning and family groups presents opportunity for strengthening family ties, and for social interactions, and can stimulate exchange of information and reactions among members of a family group. Findings also show that adult visitors to museums are likely to construct personal meanings from what they see and as they interact with museum objects since they may have prior understanding or perceptions about museum, thus, museum professionals can use front-end research to uncover these meanings. To guide visitors’ learning in museum and to improve museum educational services, it is suggested that museums should develop educational policies and apply educational theory through specific pedagogy.

Key Terms: Museum, Museum Education, Object-based Learning

1. INTRODUCTION

Learning is the process of acquiring knowledge and skills, modifying and strengthening existing knowledge through study, practice, experience and teaching. Learning is a main aim of education. There are various ways of learning: audio-visual, visual, learning by listening and speaking, learning by feeling and touching, learning from experience, learning through the intellect, and object-based learning.

Museum education whether intra-mural or extra-mural, is always characterized by the use of objects in the learning process. Indeed, a hallmark of museum education is the opportunity to learn from objects. The basis for using objects in learning is to break educational content into small chunks that can be reused in various learning environments. Each learning object can be taken independently; therefore, learning objects are self-contained. Furthermore, object-based learning allows the use of feeling and touching in the learning process, this brings about experiential learning – a form of learning that cannot be reproduced otherwise.

Kenneth Murray in 1927 made a collection of Nigerian works of art with the intention that the artworks could be used as teaching aids (Okpoko, A.I. 2006). This action exhibit the fact that, he recognized the usefulness of objects in the learning process. Today, the use of instructional materials or teaching aids in schools is becoming popular; school authorities have realized the importance of using objects as teaching aids. Museum as learning laboratory is very relevant in this regard, because learning in museums is object-based.
Every object has a bunch of information surrounding it. Objects can engage people’s attention, stimulate thought and reflection, arouse curiosity, and can be used to initiate discussion and make connection to people’s experiences. “Direct interaction with objects allows for visual and kinesthetic learning that can be far richer than text alone” (Borun in Paris ed. 2002:247).

Museum objects are not just objects; they are also the embodiment of aspects of people’s culture, such as the artistic ingenuity of people. Objects in museums are rare and unique, that is why museums are referred to as “cabinet of curiosity” (Weil 1995). Museum objects are powerful learning materials, they can stimulate intense levels of ‘wanting to know’ and can unleash strong emotions in people. The aim of this paper is to discuss museum education with special reference to object-based learning in museum.

1.1 CLARIFICATION OF CONCEPTS

1.1.1 MUSEUM

The International Council of Museums (ICOM), defines ‘museum’ as “… a non-profit making permanent institution in the service of society and of its development, which acquires, conserves, researches, communicates and exhibits, for purposes of study, education and enjoyment, material evidence of people and their environment”. Again, Knuston and Crowley (2005:4) understood museum as “cultural (institutions) that house research collections, which represent cultural beliefs and that offer visitors a rich social, leisure time experiences where learning of museum sponsored content may be an outcome”. From these definitions, it can be deduced that museums are public institutions, their functions are to collect, preserve, conserve, study, interpret, and exhibit objects of historical, cultural and educational importance.

1.1.2 MUSEUM EDUCATION

According to Udubrae in the Museologist Volume 1 of 1997, “museum education is the in-depth transfer of pertinent cultural information using museum exhibits, and its process is not only evaluated in terms of what is impacted but also how it is received and further transferred”. Museum education is a kind of informal learning, whereby visitors through instructions or self-discovery, enrich their knowledge about museum and museum collections, and also understand the significance of these historical and cultural objects to past and present times. Museum education also seeks to influence visitors experience in a way that leaves them better than they were.

1.1.3 OBJECT-BASED LEARNING

Also known as object-based investigation, this is an approach to learning which encourages participants to construct meaning by way of interacting with objects. The interaction culminates in observations or remarks, questions and inferences which trigger additional inquiry.
2. A BRIEF HISTORY OF MUSEUM EDUCATION

“Education as a crucial museum function has been recognized as long as there have been public museums” (Hein 1998). Museum education came into being with the emergence of public museums, which was an eighteen century phenomenon. Hudson (1975:6) is of the opinion that the spirit of enlightenment of the eighteenth century led to the recognition of the need for equality of opportunity of learning. This meant that collections which had hitherto been reserved for the pleasure and instruction of a few people would be made accessible to everybody. As a result, public museums were established so that people could gain access to museum collections for pleasure and instruction. However, it was not until the nineteenth century that museums would expand into a significant public institution.

In the opinion of Hein (1998), museums of early nineteenth century were primarily used to showcase the power and wealth of government of countries that engaged in the business of imperialism. The museums displayed “imperial conquest, exhibited the exotic material treasures brought back to Europe by colonial administrators”. Wittlin (1949) supports this assertion by Hein (1998) stating that the museum of Napoleon at the Louvre displayed the booty of imperial conquest; every new campaign necessitated opening a new gallery to house the material shipped to Paris after the battles.

Hein (1998) further states that by the latter half of the nineteenth century, industrialization was on the increase, pushing population to the cities, governments also became more aware of their responsibilities for social services and education. Museums were seen as one of the institutions for the education of the masses; it was equally perceived that museums could help people appreciate the value of modern life. Museum exhibitions, for instance, were used to lend support to public campaigns for health education, to demonstrate achievement in science and technology, and as entertainment for people.

At about the same time, public school movement in the industrialized countries began to develop, paving way for the provision of what Hein (1998) referred to as “a uniform education base for the labour force”. Still in the writing of Hein (1998), public schools, unlike the museum, developed standard curriculum, the schools were able to open up discussions on the objectives of schools, how to run the schools in order to achieve aims and goals, and how to compare results to stated objectives. The public schools, towards the end of nineteenth century, had incorporated assessment system and evaluation of school systems. By the end of the nineteenth century, public schools had overshadowed the educational functions of museums; attention then shifted to how museums could support the educational activities of schools. This was well captured by James Paton, former superintendent of the Glasgow Art Gallery and Museums, as cited in Hein 1998:

We are now on the threshold of other important changes in connection with scientific and secondary education; and in the efficiency of all these educational movements, the museum of the city should be an important factor. It ought to be the centre around which institutions cluster, the storehouse where they could draw the material examples and illustrations required on the lecture table and in the class-room.
At present, museums have generally become great source of informal education, providing flexible and relaxed atmosphere for learning, as against the strictness associated with formal classroom learning. A more interesting thing about museum education is the use of objects in learning.

3. CHILDREN LEARNING WITH MUSEUM OBJECTS

Museums provide children with informal learning environments where they have the opportunity of experiential learning through object-based activities. The cumulative effect of these experiences contributes to their social and cognitive development. This is supported by Resnick (1987) when he stated that learning in informal settings, for example museum, emphasizes “shared cognition, tool manipulation, contextual reasoning and situation-specific competencies”.

For effective children learning in museums, museum officials should ensure the availability of children friendly environment, which will enhance their physical and mental alertness for the learning session; this is particularly necessary for pre-school children. During museum visits, pupils accompanied by their teachers, are presented with the opportunity of handling and exploring museum exhibits. By exploring material culture, pupils can learn about object and its relationship to other objects, eras, cultures and people. In this method of learning, pupils interact with museum exhibits, the unique tangibility of these artifacts can motivate curiosity among children and with questions, pupils discover the role of these objects and their relevance to past and present times.

Object-based learning in museums also enhances children’s interpersonal interactions, and plays vital role in the development of children’s higher mental functions. Children’s need for object-based learning cannot by overemphasized, because as Borun in Paris (Ed.) (2002) has argued, “development research usually assigns object-based learning to an elementary stage of thinking that is concrete rather than symbolic …”. Since the mental ability of children is nascent, the use of objects in teaching helps children to create mental pictures of what is being taught.

Formal classroom teaching of aspects of Nigerian history, for example, Nigerian/Biafran Civil War, can be complemented by an excursion to National War Museum, Umuahia. The war museum, according to Tony Duruaku (2005) is located at the site of a large underground complex housing a radio transmitting station and war rooms of the defunct Biafra. The setting of this museum will definitely unleash strong emotional reactions on the pupils; the feeling of wartime is totally created when the pupils begin to interact with “carcasses of once awesome fighting machines and aircrafts” (Duruaku 2005). This experience will certainly stimulate learning and make more indelible impression on the pupils more than any formal classroom teaching of the topic.

Having said these, it is pertinent for us to note that a major responsibility of museum education officers is to understand children psychology with special reference to how they learn. Paris and Susanna in Paris (Ed.) (2002:45) are of the opinion that children sometimes ask questions, but often their inquiry is internal or
reflective. Therefore, museum educators, with the help of teachers, should find ways of encouraging pupils to make their questions open; they should also encourage conversations about objects and try to use objects to make connections to pupils’ experiences.

In museums, there are various learning patterns that can be done using objects. Pupils can start their museum learning by taking a visual inventory of the museum exhibit, describing the physical characteristics of the objects under study. Physical characteristics refer to concrete qualities like shape, colour, design and decoration etc. After the preliminary stage, comes a detailed exploration of the objects which will definitely lead to asking questions. Questions that may arise include the following:

- How was the object made, when, by whom and why was it made?
- What was the significance of the object in the past?
- What is the significance of the object today?

The nature of question asked will ultimately determine the type of answers provided. Museum education officers should answer questions in a way that will provoke discussion in a vast array of topics, including historic, cultural, social, artistic and scientific subjects.

For practical purposes, some suggestions for generic questions that may relate to any objects are provided in what follows:

**Physical Features**
- What colour is it?
- How heavy do you think it is?
- What shape is it?
- How big is it?
- Describe its surfaces

**Construction**
- What is the object made from?
- Is there more than one material?
- Has the shape of the object been affected by the materials used to make it?
- How has the object been made? How do you know?
- Is there anything missing from the object? How can you tell?

**Function**
- Can you work out what the object was used for?
- What clues are there?
- Can you tell whether the function of the object has changed over time?
Does the object give any clues about who might have used it?

**Design**
- Does its design suit its purpose?
- Does the object have any decoration (patterns, designs or markings)?
- Why has it been decorated?
- How has it been decorated?
- Does it have any writing on it?
- What does it tell us?

**Context**
- What can the object tell us about the society in which it was made and used?
- Are there any clues to tell us how old the object is?
- What do we know about its previous history?

(Source: Albany Institute 2005).

The organized visit does not start and end at the museum door; it should be integrated into the school’s education. It should also be enjoyable. Very little research into either the school group or children has been undertaken; often this is because it is difficult to assess meaningful results. However, if museums are to ensure that museum learning is not acting as a ‘turn off’ for children, it must know how they feel about museum (Maclean 1997:114)

### 4. MUSEUM OUTREACH PROGRAMME

Learning from museum objects is not restricted to museum environment; pupils who are not privileged to visit museums can benefit from museum extension services, or museum outreach programme. ‘Outreach’ is defined as an organization’s involvement with, or influence in the community particularly in relation to education, and social welfare. For museums, this involves work with audiences using museum collections, but staged in non-museum locations (Panaki in *The Museologist*, Vol. 3, 2000/2001, p. 70). An example is the outreach programme of the National Museum of Colonial History, Aba. The museum focuses on the period of colonization in Nigeria with photographic illustrations of Nigerian under colonial rule. This museum of colonial history has a lot of programmes both intra-mural and extra-mural. Some of the programmes are: guided tour, organized school visit to the museum, Saturday Art Club, holiday programme, organization of film shows, loan services, and visit to schools etc.

Museum education officers in the National Museum of Colonial History, Aba, visit schools on invitation from teachers or headmasters to deliver lectures and show complementary films. Museum outreach programmes can be integrated into school curriculum so that lectures delivered by museum educators and display of objects in portable exhibition (mobile museum services) can enhance pupil’s understanding of aspects of national history,
like Nigeria under colonial administration. Where portable exhibitions are not possible, drawings and paintings may be used as alternatives.

**4.1 OBJECT-BASED LEARNING FOR ADULTS**

Adults also learn from museum collections. Museum education officers should understand that there are remarkable differences between how children learn and how adults learn. This is corroborated by Swift (1999b:51), quoted in Okpoko, A.I. (2006:30):

> There are certain basic characteristics which distinguish adult learners from children and these must be taken into account when planning for adult learners that is, for their practical needs and services. For instance, adult learners have different motives for learning, different experiences and personal circumstances. Hence, these adults who have developed preferred ways of learning (mostly independent and self directed) learn through choice not compulsion, and may choose to stop at any point. They also have clear objectives and expectations of learning and well-established attitudes, values and beliefs.

From the foregoing, it is clear that adult museum learning is more demanding than that of children. For museums to satisfy the educational needs of adults, therefore, they must strive to meet the demands of contemporary education. “Museum professionals must consider ways to introduce their institutions to the adult public as sources of intellectual enrichment, as places where learning can be spontaneous and personal, and as opportunity for growth and thinking as well as being” (American Association of Museums, 1984:71).

Education in museum should not been seen as only the structured or routine museum educational programme, like guided tours, workshops, exhibition; but should also include “everything that occurs in … museums to show and interpret the collection to the public or create and promote the museum’s image is considered part of the museum’s educational function” (American Association of Museums 1984:63). This is re-enforced by Hein (1998):

> … Everything that the visitor experience contributes to the educational role of the museum. The architecture of the museum, the arrangement of the galleries, the style of the signage welcoming visitors (or the lack of orienting devices!), the composition of the staff, all contribute to communicating a museum’s educational policy.

Adult visitors to museums are likely to construct personal meanings from what they see and as they interact with museum objects. It will be a big mistake on the part of the curators to view the adult museum learner as a novice. Curators have to realize that adult visitors may likely have prior understanding or perceptions about museum, and these perceptions will definitely influence what they learn and how they learn. The knowledge which adult museum visitors bring to museums may be right or wrong; the knowledge may not correspond with what experts know to be valid. It, therefore, becomes necessary for museum professionals to find out what visitors already know about museum subjects. One way to do this is to “conduct front-end research to uncover widespread misconceptions and treat them in exhibitions” (Borun in Paris Ed. 2002). This is very important because widely shared misconceptions twist or impede understanding, in which case, there is no learning.
To guide visitors’ learning in museum, it is suggested that museums should develop educational policies, but a viable and effective educational policy will also mean the application of theories of education, or at least an in-depth knowledge of these theories. Under educational theories, museums are faced with such questions as: “What to learn?” (theory of knowledge); How to learn? (theory of learning), and how to teach? (theory of teaching or pedagogical strategies).

In Psychology and Education, learning theories are attempts to describe how people and animals learn, thereby, helping us to understand the inherently complex process of learning. There are basically three main perspectives in learning theories: behaviorism, cognitivism, and constructivism (Learning Theory (Education) 2016).

Behaviorism (radical behaviorism) is an approach to Psychology which supports that learning is the result of operant conditioning. The word ‘operant’ refers to the way in which behavior ‘operates on the environment’. A behavior may result either in reinforcement which increases the likelihood of that behavior occurring again; or punishment, which decreases the likelihood of the same behaviour recurring in the future (Learning Theory (Education) 2016).

Cognitivism, which is also known as Cognitive Information Processing (CIP), seeks to explain learning in terms of the functioning of the mind; it accepts the existence of internal mental states, and argues that these states can be described and analyzed. Constructivism, on the other hand, views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge (see Dewey 1938). Learning in this regard, involves constructing one’s own knowledge from one’s experiences, it promotes students’ free exploration within a given framework or structure, for example, learning with objects.

Epistemology or theory of knowledge is the branch of philosophy that studies the nature, methods, limitations and validity of knowledge and belief. Much of the debate in this field has focused on analyzing the nature of knowledge and how it relates to similar notions such as truth, belief, and justification. Epistemology primarily addresses the following questions: “What is knowledge?” “How is knowledge acquired?” and “What do people know?” (Learning Theory (Education) 2016).

Pedagogical strategies (theory of teaching), on the other hand, deals with the methods and styles of teaching. It is the job of museum educators to identify the best methods of teaching museum visitors. In theory of knowledge, museum professional will decide on what they want visitors to learn, depending on the actual mission of the museum. If the museum wants to impact knowledge based on realism – “that knowledge exists independently of the learner” (Hein 1998), it will definitely focus exhibition policy on the structure or nature of the subject being displayed. This means that exhibition is not organized with the primary aim of what meaning the visitors may construct from the display.

On the contrary, museum may want to transmit knowledge based on idealism; this is where the ‘constructivist theory’ comes into play. Whatever the visitors learn from museum is dependent not on external reality, but on
what meaning they construct from an object or entire exhibition. To achieve this, the idealist curator will more likely arrange an exhibition in a way that will allow various interpretations from visitors, one way to do this is to show multiple perspectives.

4.2 OBJECT-BASED LEARNING AND FAMILY GROUPS

We often have the erroneous view that learning is only related to formal classroom teaching. Far from that, a substantial size of what we learn is part of the process of growing up as a member of a social group (Borun in Paris (Ed.) 2002:245). For example, we do not have to enroll in school before we can learn how to eat, cook, dress, greet our elders etc. This informal pattern of learning is called “socially situated” (Lave and Wenger 1991).

Family as the first social group which a child comes in contact with has always been defined as “the smallest unity of society”. This is where learning begins for every child. In the context of this study, however, the use of the term ‘family’ does not necessarily mean ‘nuclear family’, it also refers to any small multi-generational group visiting the museum; for example, children with their adult companions who may or may not be related to the children. But why do nuclear families visit museums?

Some parents may see museum visit as an opportunity for their children to complement what they learn in school through “authentic artifacts and knowledgeable experts” (Paris and Susanna in Paris (Ed.) 2002:40). Others may visit museums as a way of strengthening family ties, and for social interactions, while some other groups may see museum visit as a form of leisure.

Inside the museum, museum objects stimulate exchange of information and reactions among members of a family group. The museum exhibits, in the words of Borun in Paris (Ed. 2002:245), “acts as a catalyst to conversation among family members”. Children may not be able to read complex texts, and therefore, rely on adults among them for interpretation and explanation; this will facilitate the learning of children. Adult members will equally learn, or at least improve their knowledge on certain museum subjects.

Exhibit developers should make sure that museum exhibits intended for family groups are arranged in a manner that will allow group access and conversation. This is one way to maximize the learning potential of museum collections.

4.3 DIGITAL OBJECT-BASED LEARNING

In the struggle to justify its existence, and more especially, to take its rightful position among educational institutions, many museums have introduced digital rendering of museum objects which can be viewed on the internet. With more than 5,000 museum available online (Davis 2000, in Eternal Egypt 2005), the digital display of museum objects on the internet has presented instructors as well as learners with the opportunity to view more objects in virtual visits to museums as compared to physical museum tours.
Although digital display of museum collections is limited in its ability to bring about emotional reactions and curiosity, it, nevertheless has its own advantages.

Digital technologies make it possible for learners, and users in general, have relatively easy access to an almost limitless number of objects. These technologies also make it possible to surround the objects with rich sets of contextual information that can inform the appreciation of the object, suggest analogies from other experiences and objects, and stimulate thinking on related topics. Technologies make it possible for learners to build on objects to develop new information sources tailored to their needs and to create their own information objects. The collaborative potential of digital technologies also facilitates sharing and exchange of communication about objects (Frost in Paris ed. 2002).

In Egypt, a digital guided tour is one of the latest innovations of Cairo museum. The digital guide is a handheld computing application which “represents the next generation of assistive technology in museums, going beyond traditional audio-only devices to offer in-depth text, images, and animations to contextualize the artifacts encountered as visitors move through the museum” (Eternal Egypt 2005).

The basic goal of the digital guide, according to Eternal Egypt (2005), is to facilitate museum visitors’ experience without deterring from personal interaction with the museum collections. Visitors have many alternatives, they can choose to get along with tours established by the museum, observe the museum objects in a less structured way, by artifact ID’S, by room, by artifact images, or by taking individual recommendation from museum professionals. For every artifact on the digital guide, the visitor has the option to read more in-depth information, view other visual representations of the artifact, or move on to the next artifact. As visitors move through the museum, the IBM text-to-speech engine narrates important connections between artifacts and larger themes in Egyptian History; and for complex topics, animations are used to supplement textual descriptions and images.

The digital device stores a log of the museum objects and the places that the museum visitor has either selected or encountered while on the digital guided tour. At the end of the tour, a personalized printed record of the visitor’s tour is generated, in this way; a custom catalog is created and presented to the visitor as the ultimate personalized souvenir of one’s visit to the museum.

5. SUGGESTION AND CONCLUSION

A characteristic feature of museum education is the use of objects in learning. Objects as we have seen can stimulate thought, reflection and curiosity. Museum objects are powerful learning tools; they may lead to transfer of cultural and historical information on to museum visitors.

Museum education is increasing in significance; therefore, museum managers must strive to improve on what museum can offer educationally. It has been suggested that one way to improve museum education services is the application of educational theory and development of educational policy. But the analysis of theories is not
sufficient; a complete educational programme will also require the application of theory through a specific pedagogy. Absence of teaching skills will seriously retard learning in museums.

In developing educational policy, certain questions have to be answered: “What is the aim of the education?” “To whom is it directed?” “How does it relate to other social and political institutions?” “How can visitors’ learning be assessed?” If these suggestions and many more are synthesized, museums may well become the champion of informal education.

6. REFERENCES


