CHAPTER 5

DISCUSSION AND CONCLUSION

This research thesis is an outcome of an effort by the researcher to make the children understand and appreciate archaeological collections displayed in the museum and archaeological sites through museum education activities which would act as a supplement to the teaching and learning of formal school curriculum thereby using museum education activities for the popularisation of archaeology as a discipline. Jameson & Baugher (2007) mentions that, "telling children about the past means involving them in the learning process".

The first objective of research was estimating representative museums' presentation of archaeological heritage and the current utilization of the same as a source of education activities. The study provided valuable insights directing the ways and means which can be used in connecting the museum collections and activities that will enhance the archaeological knowhow provided in school lessons or curriculum. Study led to connecting children with museum education activities. There were all sorts of creative outcomes be it in the form of worksheets, posters, models, clay models, sketches and skit that came to surface when the analytical capacity of children was enhanced and they were motivated to observe and interpret the museum object in more comprehensive and authentic form. This study points out that, the curricula based books provided partial understanding of archaeological learning but viewing the original artefacts/replicas leads to more authentic, diverse and meaningful understanding.

Younger generation has fewer experiences than adults but the curiosity they possess about new and unknown ideas and concepts make them dynamic learners. To enable a child to see what people looked like and how they lived, the museum displays and collections can open up a window to history that no amount of text in a book can ever duplicate (Falk and Dierking 2000). The text books (NCERT) were explored during the research and it has been observed that they have developed some efforts in connecting archaeological collections

in museums. This enabled the researcher to chalk down the concepts in the form of activities such as worksheets, hands on sessions, lectures, and site tours and to introduce children to multiple experiences outside the classroom. The experiences for children throughout the study were informative, educative and entertaining and thus the creative outputs reflected the understanding they gained, post the program, offered to them.

A high quality research study for children includes a wide variety of creative methodologies such as observations, discussions, detailed interviews, and embedded activities such as designed games, drawing, and other cognitive and skill developing tasks (Paris 2002). Qualitative studies indicate and relate to the information that focuses on the responses of audience to the museum experience. Thus going through all the museum collections and associated texts, allowed the formation of myriad activities that focused on core idea of learning about the archaeological collections housed in museums of India. The hands on sessions or programs were pre-planned targeted to the age level of students/audience and had all means (questions, activities) of tapping the collection available in front of them to explore, observe and interpret. The children or targeted groups had different experiences in various setups and thus the creative outcomes too varied. They observed and understood the concept and then presented the learnt information on paper or some tactile form. The experiential learning exercises conducted by the researcher were dynamic and motivating for the students and participants to highlight their ideas, while learning and enjoying. Learning can be defined as a relatively permanent change in thought or behaviour, which might include cognition, opinions, skills or mindset (Hohenstein and Moussouri 2018). Children are sponges in absorbing knowledge; however they filter or interpret information using their own sets of rules or framework (Paris 2002).

It is rightly said by Susan Pearce (1994) that the meaning of the past does not reside in the past, but belongs to the present. The linkages that were connecting past knowledge with present day life, was a plus factor to initiate the modules of learning with children. The objects children see, use or experience in everyday life, act as the starter and the orientation sessions conducted in museum, school, site or other informal setups, had the key idea

to create a vision for past civilization of India. It is not an easy task to co-relate or explain which is unseen or not experienced by an individual. So the point of reference is always to begin from known facts to the unknown. The object alone is believed to be sufficiently powerful to engage the visitor and to prompt him or her to make connections with concepts and with the past (Knell et al. 2007).

Various models of *Object analysis* came to light that enabled enhanced understanding of child's cognitive abilities. Objects are loci and one can go in many different directions from them and, in the process, develop skills of close observation, questioning, discussion, description, documentation, comparison, making links and connections (Talboys 1996). Museum objects are invaluable aids to knowledge and thus are effective learning tools.

The study emphasised on effective learning experiences suiting to the collection of selected museums in India. In this context the cultural significance of collection and sites was looked into that made the activities interesting and informative as different places in India had different display setups. Physical contact with ancient objects is one of the most important aspects of archaeology teaching (Dyer 1983). As Paris (2002) indicated that, 'regardless of the object's authenticity, we cannot experience the past directly'. Objects can reflect information of the past but they are not end in themselves. Their connections and associations are to be derived and documented. Many museums provide object replicas which children can handle and experience. This is also an aspect of experiential learning when a child is allowed to feel, see and touch the object facsimile. They get familiar with the appearance of real object and the details that might have been missed behind the showcase display. Although a child should understand that the original object was the very first of its kind so far as it did not previously exist, whereas the replica is a copy of a previously existing object (Paris 2002). As a researcher, I collected replicas that associated archaeological artefacts of Indus civilization and used them as a point of reference for experiencing the real object on display for all educational activities conducted. These tactile resources are seldom used by schools in India. Developing the concept of Heritage corner in Allahabad Museum, Uttar Pradesh and CSMVS, Mumbai

was recorded and found as a great initiative from the museum sector to promote museum education. Also the concept of Mobile Van or Museo-bus served this purpose of taking museum experience to those who cannot come to the museum due to socio-economic or any other related factors. Mobile vans in the National Science Centre, New Delhi; The Government Museum, Chennai and CSMVS, Mumbai were found to be effectively out reaching. These exhibitions were effectively planned to deliver a tangible museum experience in remote areas thus a good resource of dissemination of information.

A central component to the process of assessing cultural significance is talking to the community which interacts with or values the site (Burke & Smith 2004). Tours enable visitors to see the site from a different perspective and help non-archaeologists understand how archaeology helps to tell stories and reconstructs historical meaning more generally (Jameson & Baugher 2007). Heritage tours conducted by the researcher on archaeological sites of Lothal and Dholavira could be claimed as productive as the children made to feel and understand through in-situ explanations at the site and the pre-visit orientation. Many archaeologists and cultural resource specialists are devising new approaches for public interpretation in a variety of settings and the venues for these activities can include visiting an excavation, a reconstructed site, stabilized ruins, museum exhibits, or a site treated as an open air museum (Jameson & Baugher 2007) and site visits acted as an effective strategy for the same. These are also good opportunities to explain the process of archaeology. It is not quite often in Indian context that school teachers take children to an actual archaeological site/dig. The challenge for archaeologists has been to make archaeology "come alive," to present archaeology as the dynamic field (Jameson & Baugher 2007). To some extent the location of site and the lack of proper infrastructure on site, is one among the many reasons. Also children might get bored or may not be able to imagine the archaeological significance of the site and how the objects/artefacts become museum display. To meet this shortcoming, few museums in India (National Museum, New Delhi) have started offering programs that relate to mock trench digging or exploring the sites. One of the most active organisations in India apart from museum is

Sharma Centre for Heritage Education (Tamil Nadu) who have been conducting programs and sensitizing children about archaeological processes and findings. They also published resources or books for children focusing on stone tools and archaeological learning. These sort of active learning approaches are difficult to replicate especially in schools that have dearth of staff or funds but museums could think to take up such activities in collaborations with schools, for developing various educational resources and activities can be initiated. The 5P model below (Fig. 5.1) could be used in explaining the educational learning perspectives in museums.

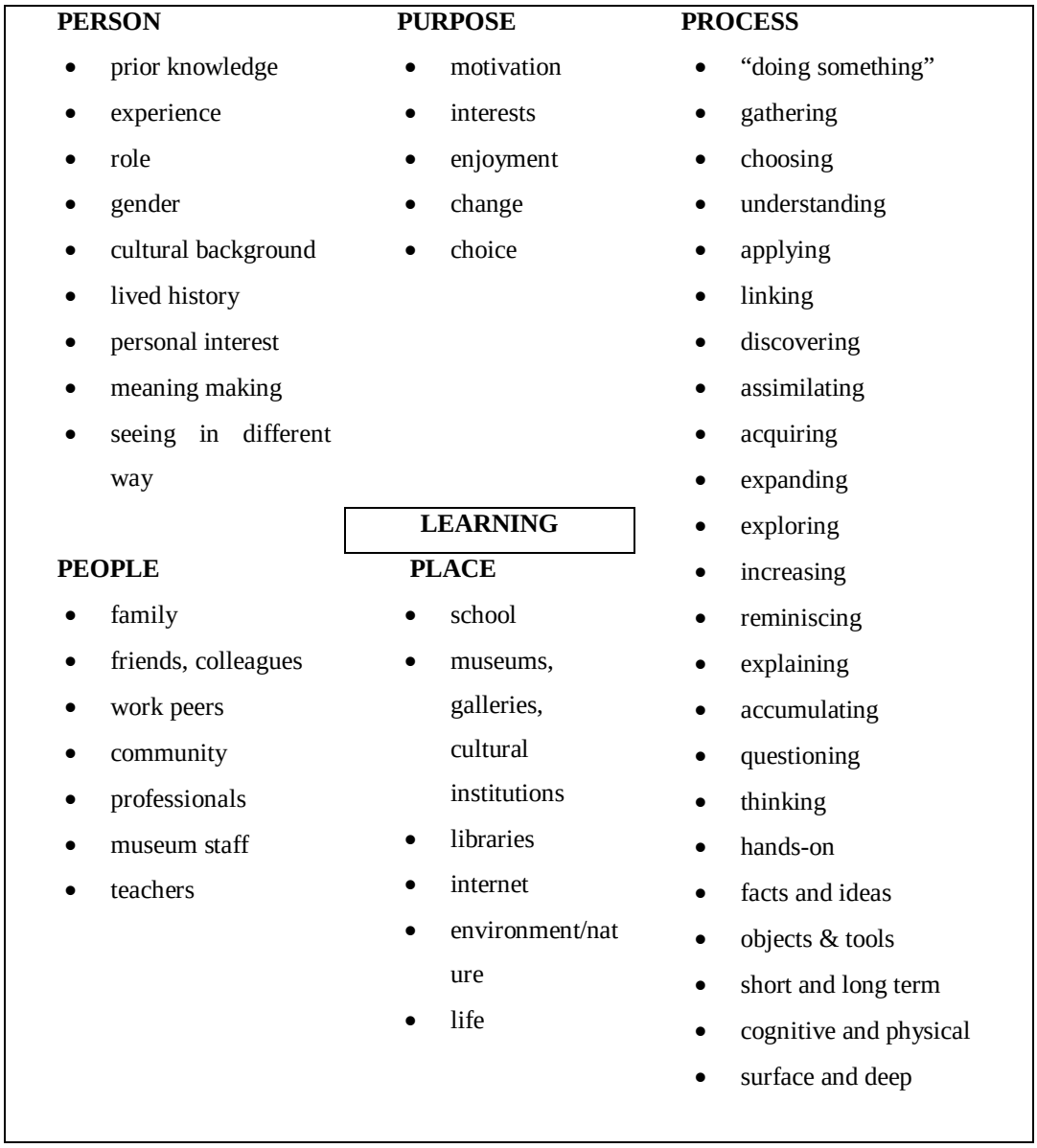

Fig.5.1 The 5P Model of museum learning (Source: Knell et al. 2007)

One among the objectives of research was to survey the interactive methods that are employed to attract different segments of visitors towards museums and their archaeological collections. In words of Henry M. Miller it can be emphasised that important archaeological discoveries and new insights are the result of hard physical work and intellectual toil, and reports and collections are the crucial and indispensible products that possess enduring value. It is through the inspired translation of these findings into effective, long-lasting exhibits that the greatest direct public benefit is achieved and people learn about their past through archaeology (Jameson & Baugher 2007). The capability of a museum collection that enable the visitor to learn about the context and concepts of the objects displayed is myriad and vast. Different visitors derive multiple information and multiple experiences. The transfer of learnt aspects from the viewed collection and acquired knowledge, to a tactile form (such as discussions, interactions, talks, survey forms, worksheets, and models) is somewhat essential to enhance the quality of museum experience. The data in the form of visitor feedback was collected from Allahabad museum, during one of the empirical case study. National Museum, New Delhi has volunteer program feedback form which provides the highlights of quality of museum tour and its effectiveness. Interactive experience comes as reality when visitors get the experience of touch screens, audio visual aids or could participate in programs with docents or resource persons, such as in lectures, talks, art appreciation courses and tours. This can increase the footfall of museum as there are chances of participants to get motivated and to revisit the museum with friends and family.

In Government museum, Chennai and in CSMVS, Mumbai the frequent/recurrent visits of school groups that are intimated through emails indicates the interest of teachers, children and parents to keep their pupils connected to the museum. Regional museums like Amreli, runs short term courses to benefit visitors. Kachchh museum, has frequent visits by local schools where by the students could enhance heritage learning and understanding ancient past. The growing number of audience in all the above said programs indicated the positive reflections on museum were creating in their area of operation. Thus in each year improved strategies, outsourcing of

program executors were inculcated in providing educational services in effective manner.

During the data collection and formulation, the learning models and theories that cognitive study scholars described in context of museum setups and heritage sites namely the Contextual Model of Learning or Informal Learning Environments (ILE) were also studied. Falk and Dierking (2000) elaborate that the Contextual Model of Learning posits that all learning is situated within the series of contexts. In other words, learning is not some abstract experience that can be isolated in a test tube or laboratory but an organic, integrated experience that happens in the real world. They further elucidate that it involves three overlapping contexts: the personal, the socio cultural and the physical.

Scholars like Paris (2002) referred Informal Learning Environments (ILE) as an inclusive term that refers to variety of community settings such as museums, zoos, aquaria, parks and botanical gardens. These (ILE) are generally characterized as learning based on objects and experiences rather than text, perhaps the key distinction between the traditional school and non school learning. But there are opportunities of amalgamation of the two that can effectively enhance understanding of the subject. Archaeologists bring archaeology to public schools through travelling exhibits, lectures, teacher and student workshops, and hands-on activities with artefacts (Jameson & Baugher 2007). As the site is to be interpreted and presented common man (non-archaeology audience) needs different approaches for planning and execution.

The basis of Contextual model of learning was to highlight learning as a process that happens over time. As museums offer free choice of learning it is in the hands of curators, educators and docents who engage audience (especially school students) repeatedly or regularly in order to keep them attracted towards and attached with museums. One tour or trip might not be sufficient to create interest or satisfy the curiosity of children. Thus regular programs that may be offered in consultation with educators at schools may enliven the experience and enhance the sensitization. Discussion linking the activity to information on culture and the archaeological process will help to

move the activity from simply a “craft project” to an archaeological education experience (Jameson & Baugher 2007).

Discovery kits are boxes of materials with instruction that are used in the classroom to educate about topics covered in the museum’s galleries (Jameson & Baugher 2007). It is a common practice in museums of Europe and America where teacher resource packs and tailor made tours are offered for school children. The resources like discovery kits that entail information to be explored and learnt can be put into practice by almost all the museums. A teacher resource pack (Annexure III) was designed by the researcher and attached with the thesis for the reference.

Educators whether in school or museum can be motivated to envision new ways of looking at the past by museum and site visits. By educating and teachers, the museum can enhance learning for students for generations to come. National Museum, New Delhi offers tours to teacher groups (from all over the nation) as a part of their learning modules they inculcate the significance of museum collection in their teaching. Situations using archaeology as the method for making children understand about the past include informal ways in museum learning environments (Jameson & Baugher 2007) where by each situation offers the potential for reaching children.

Policy makers such as Directorate of Education, Government of India have made school visits to museum mandatory as a part of education extension. However, it should move a step further and channelize sources to promote invaluable and irreplaceable archaeological heritage in near future. Many non-government organisations discussed in chapter 2 have been actively collaborating with educational institutions and museums, whereby promoting monument heritage and collections in museums. Offering archaeology in a useful form supplement for classroom needs creates a conduit through which an association of site preservation message can be conveyed (Jameson & Baugher 2007).

Since 2013, the regulation of school visits was managed by National Museum, New Delhi through programs such as Yuva Saathi. The officers were incharge of conducting lectures, gallery tours or simple creative activities like art or

craft that was with an aim to attract school children to museums and sensitize them to the museum culture. College and University students were trained to conduct structured tours for school groups. The post of a Museum Education Officer was created and is active in some museums in India since more than two decades. However, planned tours and regular conduction of educational activities is not common in the case of Indian Museums. In the present scenario of diversified roles and responsibilities of museum education officers, to assist them, museums had started outsourcing young museum professionals, researchers for conducting museum education programs along with field experts or educators. Curriculum-based archaeology programing offers archaeology for education related supplementary needs which better serve as educational outreach proved to be beneficial for the students and also for archaeology's stewardship needs for future (Jameson & Baugher 2007).

Museums in India have the potential to bring change in educational patterns and policies of the country. When visitors are asked why they visit museums, the reasons varied from learning experience, usually described as education, getting information, expanding knowledge or doing something worthwhile in leisure (Knell et al. 2007).

The third objective of the study was to survey representative museums, the existing potential of the museums and wherever there is the absence of regular programs, the best possible use of collection for the learning purpose has been explored and suggested. Chapter 2 provide a summary of programs conducted by the selected museums. Examples were suggested for developing tool kits or programs which can be developed and implemented in smaller museums like Watson museum, Rajkot; Shri Girdharbhai Sangrahalaya, Amreli; Kachchh museum, Bhuj; and the teacher resource pack produced can be used as a portable tool of educating nuances of archaeology in regional museums of the country such as Chandragiri, Amravati, Nagarjunkonda and those having archaeological collections based on the study and survey. As discussed above similar kind of activities could be replicated and conducted in all small scale museums across India could make a difference in the field of museum education and in making museums extend benefit to the society in true sense.

Another objective of research was to practically see the outcome or execution outputs of various activities conducted in different administrative setups of museums including activities conducted on sites with non-governmental institution and checking the effectiveness of practical methods using designed activities. The primary data for the aforesaid objectives, the methodology adopted was the use of basic tools of research such as survey forms, observation of workshops and questionnaires. The empirical case studies in chapter 3 reflect the strategies that were implemented to meet the aforesaid objective. Museum learning is always partially cognitive; it is primarily affective learning, concerned with changes in the interests, attitudes, or evaluations of the learner as much as with the cognitive content (King & Lord 2016).

The educational activities conducted during research through empirical case study provided varied outcomes through worksheets, drawings, description of museum galleries and visual and textual data is elaborately discussed in Chapter 3. The statistical estimation of two of the case studies was attempted to evaluate how the children/participants responded to the activity and the differential aspects of achievement. To estimate the extent of effectiveness of the worksheet method in supplementing and acting as aid in expanding the classroom teaching process, a school visit was organized at the Indus Gallery in the Department of Archaeology and Ancient History, Maharaja Sayajirao University, Baroda during 2012. The students belonged to classes 7^{th} and 8^{th} NCERT board visiting the department were divided into two groups while one group explored Harappan gallery, the second group was engaged in doing a pre-visit worksheet prepared by the researcher, on Harappan seals. The pattern of worksheet was multiple choice questions as well as open ended questions. This mixed pattern of questions, allow children to focus on writing their views openly without stressing much on each and every aspect they can recollect. In a way hints they get enable them to think and respond. Few interesting responses in worksheet are discussed herewith.

The drawing of the Harappan Unicorn seal (Fig. 5.2) was provided in the worksheet for identification. The responses were as below (Fig. 5.3). The number of students who gave different answers is shown in the chart. The pattern of understanding provided an insight to the researcher to discuss more about the same to the students during the gallery talk so as to make them have effective and authentic understanding.

Fig. 5.2 Picture given in worksheet

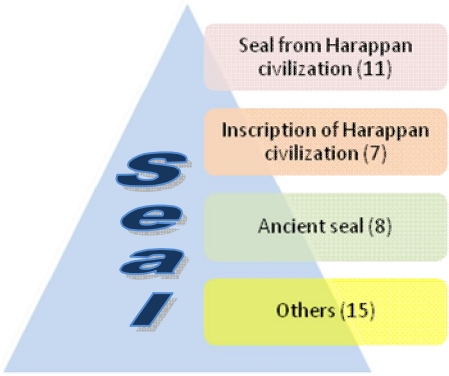

Fig. 5.3 Responses from students

The worksheet had questions related to the various depictions on the seal the symbols, its function, size and raw material (Fig.5.4).

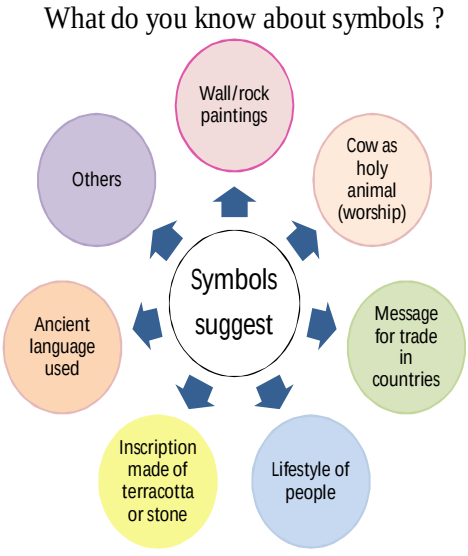

Fig. 5.4: Responses provided by students

Logical effort was made in the worksheet to ask students about description of a seal in their own words. The kinds of responses are shown in Fig. 5.5.

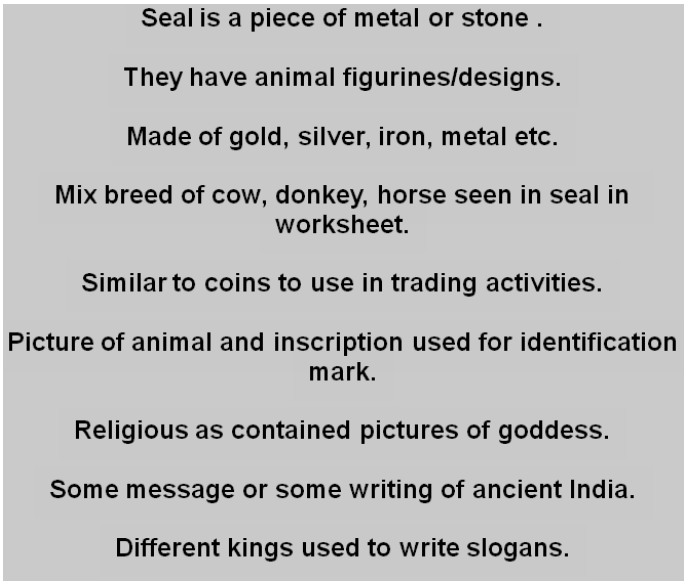

Fig. 5.5 Responses by children

A Powerpoint presentation was provided after the worksheet activity. Students were content after completing the worksheet and seeing the actual seal in museum. The result was inferred from the feedback session that students took along a lot of new information, not received during school. Such brainstorming sessions enable children to think in a different perspective and get interested in a particular subject/field of knowledge.

Activity with Post- museum visit worksheet was also conducted at Department of Archaeology and Ancient history in later visits. In this Post-visit worksheet the pattern of questions and activities were different and included more information related to seal. The students were of NCERT board, so were able to respond effectively. Most of them were able to answer correctly the name of seal (as few pictures of seals are also in their books with information), names of Harappan sites known to them. They had read in relation to this information in Social science syllabus which acted as an added advantage for the post visit activity. Activity sheet was fun and informative yet not like a class test, thus enabled varied outcomes.

Further, to compare the information imparted through Gujarat state board syllabus in school, a group of students visiting Baroda Museum and Picture Gallery (2012) of class 6^{th} and 7^{th} were selected. Due to time constraint, the teacher allowed 20 students out of the total strength of 64 students, to

participate in worksheet activity. Here 20 students considered sample out of 64 that had 10 students each from class 6th and class 7th. Teachers were co-operative and pleased with idea of the researcher and motivated students in completion of worksheet. Students were excited to try out worksheet activity.

The class 6th students had information related to Harappan civilization in their text books, but the seal has been referred as stamps. Information in Gujarat board book of Social science is less elaborate as compared to NCERT syllabus. The responses were collected and are presented below (Fig. 5.6) which class 6th students answered in the worksheet. Class 7th students were aware of some information but their results showed more of confusion rather than understanding about the seal. For instance most of them gave answer that seal might have been made of metal (raw material). This shows that class 7th students were not sure what the seal was neither they were able to confidently recollect about the artefact.

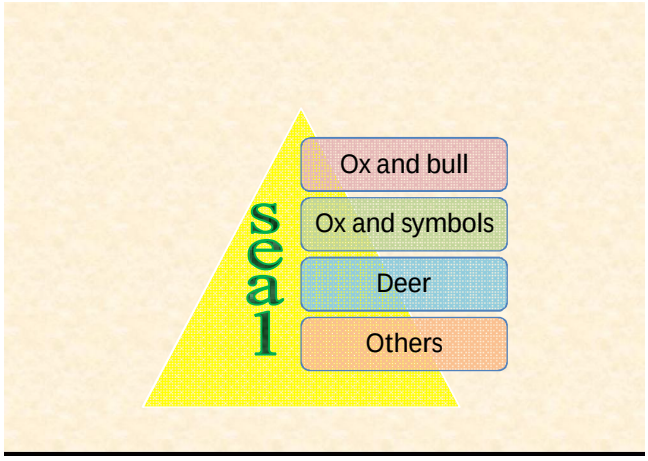

Fig. 5.6 Description of seal picture by students

The responses given by students of class 6th which actually studied Harappan civilization in their Social science textbooks were varying.

- The first question was related to identification of picture and most of the students gave answers like “Mohenjodaro Sanskriti” as an answer.
- Then the description of function of seal was quite astonishing as most of students wrote that it was a plaything.
- About the material children responded that seals might have made of wood. Other options selected were terracotta, selected by most of them.

- The description of seal was not very good as students were not aware about the details of what exactly this artefact was and why it is significant for Harappan civilization. Many of them responded that they don't know the answer properly.

For the second quantitative evaluation of the implication of worksheet was attempted during the empirical case study conducted at the Allahabad museum, Uttar Pradesh. It was focused on three galleries of display namely, prehistoric, sculptures and miniature paintings. After providing an orientation about the collection and purpose of the activity, children engaged in observation and conduct worksheet tasks within the galleries. The activity had almost 30-35 participants each day. Most of them were confident in describing what they observed in the galleries and drew sketches to complement their expressions, which is explained and represented in Chapter 3. The following chart (Fig.5.7) shows the pattern of answer by the students as well as their preferences of display.

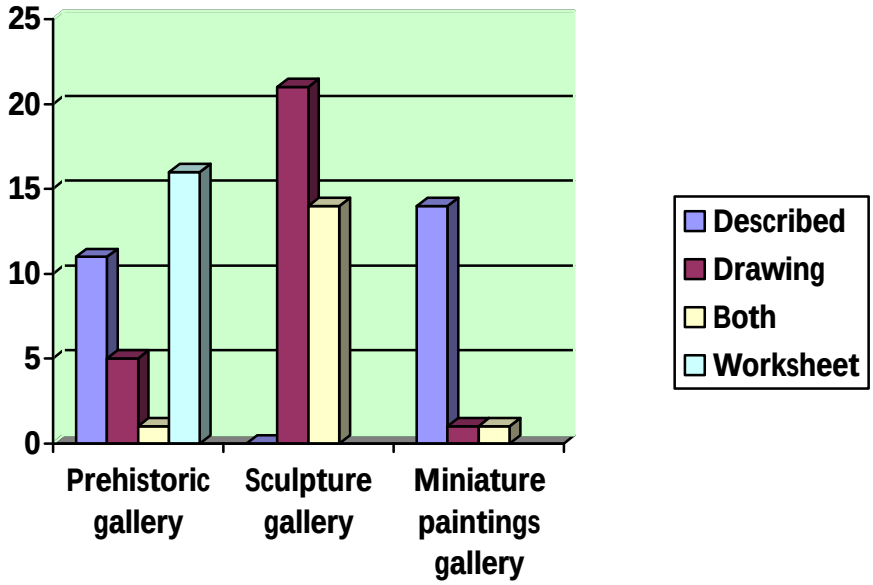

Fig. 5.7 Expression of participants summarised

Through this analysis it can be inferred that by observation of artefacts in museum, participants were artistic and descriptive about the knowledge acquired by this brainstorming hands on session. They tried best to describe

the sculpture or painting and added a special touch of artistic skill to supplement the feedback/output as per their understanding. This reflects that children can effectively use the object as a source of learning in a quick and versatile manner. Children have developed cognitive skills to recreate the display or artefact to express their acquired knowledge. This way child who only described the display can be motivated to create a picture that is visually created in mind. This exercise also enabled the researcher to understand the effectiveness of display and the text (label) through the response of the young visitor. This indicates that, the appeal and effectiveness of the content and display could be improved to give maximum benefit to children.

Similar activities like quizzes or workshops enable to check the effectiveness of syllabus in school teaching. A teacher can act as a very good source of inspiration and information if he/she is himself/herself acquainted with more information and ideas to take children out of the four walls of classroom. Outdoor visit to a museum and such places relieves a teacher from taking classes and in turn creates learning a fun activity. It creates the spark of knowledge that can be gathered out of the periphery of school.

While comparing the museums and archaeological sites from international context that offer programs on archaeology it has been found that, we in Indian context need to go a long way. Archaeological sites in developed countries are active in conducting variety of programs for the same and therefore suggestion for conduction of 'role playing' activities in Indian museums are expressed in chapter 2. People have experiences with objects for many reasons and possess predetermined expectations for what those objects and experiences will hold (Paris 2002).

Heritage attracts the attention of visitors to a location or site by providing a sense of place, a sense of purpose, and a sense of uniqueness for the community or group (Jameson & Baugher 2007). Archaeological research may generate sense of mystery and stimulate the interest in the subject/field of knowledge. In heritage tourism, we harness people's fascination and sense of connection to the past and turn it into a commodity (Jameson & Baugher

2007). Combining heritage with aspects of tourism, aids in promotion and propagation of the cultural sensitivity among the masses. As informal learning environments, museums are increasingly positioning themselves in the market as places for rich learning experiences (Knell et al. 2007).

Thus active participation of children today may concretize the future foundations of the museums in India. Connecting past and learning aspects of the invaluable heritage will act as catalyst in this process. The process of visual literacy of deriving meaning from the archaeological artefacts is not an easy task. As rightly said by social studies curriculum specialist George Brauer that 'educating students about archaeology as part of the life learning experience is an effective and too often overlooked means of bringing the public "on board" as archaeological stewards'. Museums in India have potential to generate opportunities that can propagate and protect archaeological heritage for posterity. The future of museums in India is on a promising path and the aforesaid educational activities will enable the museums to bring more dynamism in their day to day functioning.