

# Environmental education model that utilizes high presence sensation media

## 高臨場感メディアを利用した環境教育モデル

近清 武/株式会社マイクロミュージアムラボラトリー, 小木哲朗/慶應義塾大学 システムデザイン・マネジメント研究科  
 Takeshi Chikakiyo<sup>1</sup>/micro museum lab inc.  
 Tetsuro Ogi<sup>2</sup>, /Graduate School of System Design and Management, Keio University  
 \*<sup>1</sup>chikakiyo@micromuseum-lab.com, \*<sup>2</sup>ogi@sdm.keio.ac.jp

**Abstract:** In modern society, people have little connection to nature, resulted in fewer nature experience to them. The scheme below complimented it by building environmental education model that utilize various type of hands-on visual media. Also by connecting science museums, schools and local nature with aiming "Learning from Environment", it revitalizes science educational community mostly representing local museums. We have done an experiment to a high school with local government assistance, and it showed an effectiveness of this scheme.

**Keywords:** Science communication, Science museum, Educational technology, Design strategy, Information design, Dome Screen, High presence sensation media

### 1. Introduction

In our time we have a little chance to get hands-on nature experience. Not only in the school education, but also in the general household, people feel that issue of environmental education is a matter that is unrelated to those oneself.

A lot of information of an attractive global environment exist, but material of immediate or surrounding natural environment is insufficient. At the large image media showed in science museums, environmental programs are not a few, but hands-on experience can only be found in limited or unique places.

By utilizing feature of high presense sensation media, we could solve above issues and create opportunities to learn immediate environment, science and art in integrated way. Here is an experimental model that has been built with Saitama Prefecture Education Center.

### 2. Concept

By using high presence sensation media's experience, the aim is to build learning structure through education program about immediate nature and global environment which is inspired by and based on social interaction between students.

### 3. Dome image and Environments

The dome image below is example of immediate forest environment taken by high school students.

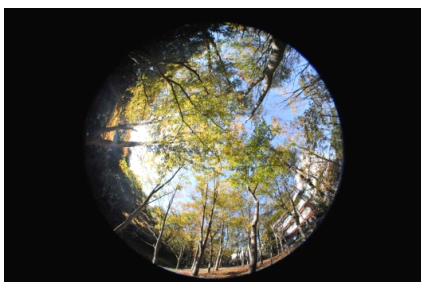


Figure 1; Dome Image sample of Forest

### 4. Framework of environmental education model

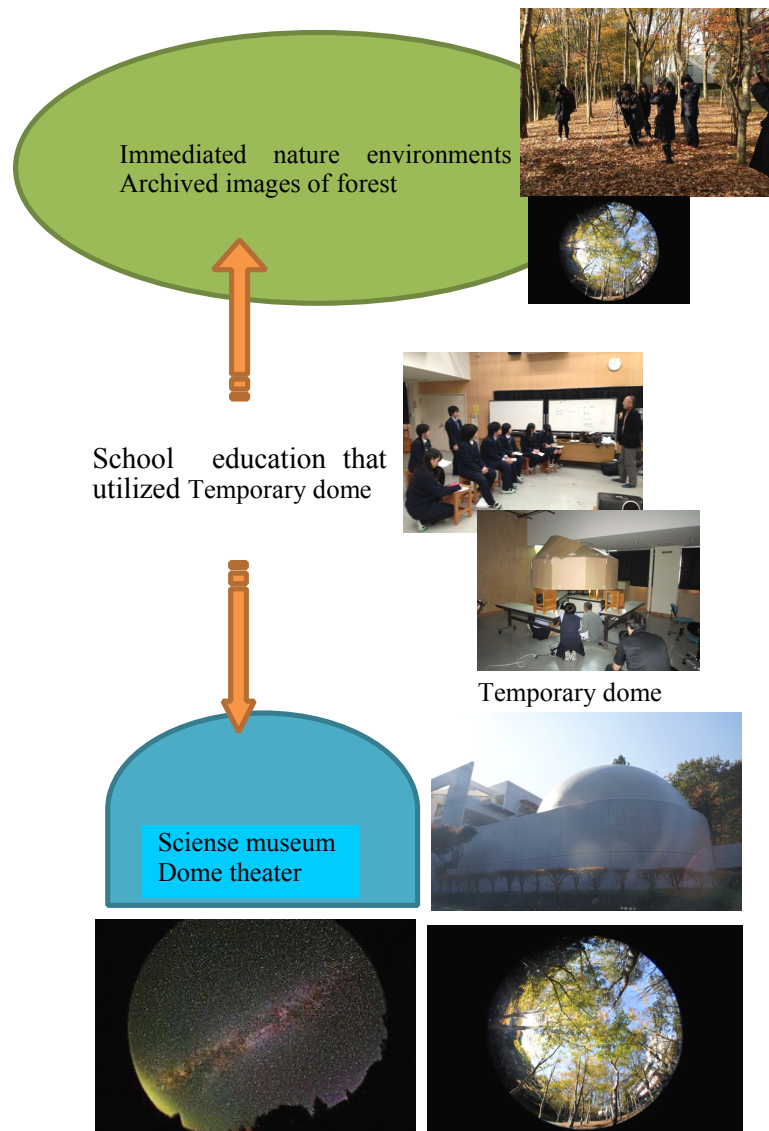


Figure 2: Framework and Concept Image

Planetarium or large scaled visual media is equipped at many national and local science museums for cosmic space and starry sky programs. But this media can be also utilized to enjoy simulated experience about natural environment. And it can be positioned as a network media by connecting school education and science museum to understand immediate environment. In the end we aim to nurture “comprehensive perspective” of nature, science and art.

We have designed framework of process, or workflow from production to presentation comprised of following; Hands-on experience on nature in the local community, and Communication design training using video shooting, and then Showing those deliverables at dome theater as well as school.

By the nature of things, in order for students to correctly understand view of the global environmental issues, we believe that it is important to have cultivating interest on immediate nature and bringing up the mind of respect for it.

Then student creates piece of work, and they are put together for showing at dome theater of science museum. It will help to learn a diversity of each regional environmental issue. And when this expands to global project, it will eventually create a link between neighborhood, nationwide and international viewpoint for environment. This is why we started the project.

In the field using panorama image technology, we aim at realization of the communication which raised presence more using the camera in which 360 panorama animation photography called FREEDOM360 is possible.



Figure 3: Freedom 360

#### 4. Conclusions

As a way to understand large scaled environment like forest, student feedback shows they get more easy-to-simulated experience of the forest when they use high presence sensation media compared to existing ordinary one.

As a way to understand large scaled environment like forest, high presence sensation media features easy-to-simulated experience the forest, compared to the existing ordinary media.

This experiment leads to development of program to learn about global environment which they can learn from a familiar immediate environment and gain comprehensive perspectives through local network.

Furthermore it also leads to development of integrated program which consist of education program learning perspectives of global environment & network and visual media expression.