

Utilization of Digital Contents in Exhibition Methods for a History Museum Outreach Program

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(歴史系博物館のアウトリーチ活動におけるデジタルコンテンツを活用した展示手法)

区分：甲

論文内容の要旨

This research project draws from understanding museums as places for education and recreation: fulfilling two main duties by offering visitors with information about the museum collection, while also providing them with an enjoyable experience. Digital technologies have supplied museums with tools to facilitate the above, by transmitting information efficiently in ways that would keep the interest of visitors.

Additionally, this study expands on the concept of outreach programs, museum initiatives that look for ways to reach and share knowledge outside their installations, often to schools. Outreach programs implement real objects or replicas of the museum collection for handling, along with paper-based materials that can be used in the classroom. However, there is a need to study ways to implement digital content into these programs.

This research project aims to study approaches for the development of content for a history museum outreach program using digital technologies. It is hypothesized that this would provide an experience to serve students both for educational and entertainment purposes. The significance of this project lies in investigating ways to bring the knowledge of the museum to schools that cannot have easy access to them, as they could also benefit greatly from the knowledge of greater scale museums.

The method of this study applied an iteration approach; according to this approach content is first developed based on previous theory, then tested and improved upon drawing from test results with target participants.

In this study, we aimed to bring an experience of learning about history through museum materials for elementary schools, for this reason tests with students of the corresponding ages were carried out. As the outreach program contents are positioned in the elementary school curriculum, this program is the first contact that students might have with history in their academic lives. For this reason, the Yayoi period was selected, one of the first historical topics that Japanese students learn according to the national school curriculum.

Three different exhibition approaches for an outreach program were developed and tested. The first approach was an Assemblable walls exhibition, consisting of a modular structure in which three different exhibition methods were presented: object, video and interactive. The purpose of this

exhibit was to test the effects of each method on the visitors and to investigate their efficiency. The second approach was a Hands-on interactive exhibition, consisting of a portable system that includes digital and analog activities in an application developed for a smart projector. In this approach, an activity to bolster creativity was included and tested in comparison with other methods. Lastly, the third approach was an interactive experience, which incorporated the various approaches tested previously and expanded upon them. The aim of the last exhibition was to assess the effects of a creative activity in which the visitors would make a physical object.

The prototype evaluations clarify the importance of offering multiple exhibition methods in order to accommodate the learning styles and interests of different students. Furthermore, the potential of creative activities to attract the interest of students was confirmed. Finally, it was established that the application of digital content in an outreach program, not only requires digital and analog approaches separately, but also strategies to communicate both, for example by using 3D printing. In our conclusions, we stress the significance of this research regarding offering museum content to schools without easy access and offer a list of suggestions based on our findings that museum curators could follow when considering the development of an outreach program with digital content.