## Integrated Science and Innovative Science (Comprehensive fields)



Title of Project :　A Basic Study on Development of an Interactive Life-long Learning System between Public and Museums in a Knowledge-Circulating Society

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Research Area : Museology
Keyword : Museum Education, Science Literacy, life-long Learning, Science Museums

【Purpose and Background of the Research】

The purpose of this research is to develop a museum function that contributes to vitalization of the local community and life-long learning. By collaborating with various types of museums and through regional ties, this research will allow easier access and use of resources in various types of museums and promote increased public engagement with the community. Research activities include the creation of a common framework within the learning resources, such as educational programs and exhibits that are held by various museums, can be brought together in order to foster public science literacy. The users can then utilize this framework to verify their learning outcomes and share their learning methods and achievements. By developing such a system, this research aims to improve science literacy in a knowledge circulating society and to establish an interactive lifelong learning system as a new museum function.

【Research Methods】

In this research, a "Science Literacy Passport" system will be proposed for identifying individual learning outcomes. A database will be developed and operated based on the "Continuous Educational Program Framework to Foster Science Literacy" (which combines generational classification and generational science literacy goals.) and allow museum users to experience the educational programs and check their learning outcomes. This system is an electronic record used by both the museums and users. The users can look at their learning record and the museums can understand the users' learning trends across multiple users. Through this system, users can recognize one's tendencies and motivations in selecting learning resources of museums and evaluate their learning pathways. Museums can use the system as a database to analyze usage trends and extract the public's topics of concern. They can accumulate and transmit museum utilization case examples by topics, generations and museum types.

In this research, the interactive lifelong learning system will be constructed through the following circulation processes.1) Accumulation and analysis of museum utilization case examples by users.2) Understanding the changes in users' science literacy.3) Establishment of museum utilization models by topics, generations and museum types.4) Improvement of the framework through presentation of museum utilization models and promotion of effective museum utilization by users.

【Expected Research Achievements and Scientific Significance】

1) This research can supply beneficial guidelines toward local museums' educational strategy.

2) This research, by evaluating public science literacy in the growth process of individuals, is able to demonstrate the establishment of science literacy by factual evidence, and present academic knowledge in the society.

3) By cultivating human resources personnel capable of taking on science communication to solve local issues, this research can propose a new social function of museums as a platform for the knowledge circulating society.

【Publications Relevant to the Project】

Yoshikazu OGAWA, et al., Development of a Program Framework Responding to Global Issues in the Science Museum Setting, AAAS Annual Meeting Abstracts, p. A193, 2012

Midori TAKAHASHI, Yoshikazu OGAWA, et al., Developing an Evaluation Method of Educational Programs at Science Museums in order to Foster Science Literacy, Journal of Science Education in Japan, 32(4), 329-405,2008

【Term of Project】 FY2012-2016

【Budget Allocation】 96,000 Thousand Yen

【Homepage Address and Other Contact Information】

http://www.kahaku.go.jp/learning/researcher/index.html (a tentative website of past research reports)