

A Strategic and Holistic Thought on the Development of Science and Technology Museum in China

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Abstract: Science and technology museum (STM) is virtually an embodiment of human wisdom on science, and also an enlightenment area where science is translated into popular culture. Its leading goal is to seek truth for the universe, pursue happiness for the general public, explore the unknown, and create a better future for the mankind. STM serves as a palace for science where people with different ages, life experiences and backgrounds could acquire new knowledge, touch upon aspirations, and bask in a pleasure of exploring the world. STM chooses a number of principal themes relating to exhibit and display from a vast sea of knowledge, those themes shall be enshrined in the core and pivotal position in the knowledge system for human beings. Efforts shall be made to attract multi-layered interactions from visitors when it alludes to STM exhibits and displays, those are the sensory, logic, emotional and thinking interactions. To build STM is for a re-fabricating and innovating process whereby science is endowed with humanistic significance and the public can virtually feel the essence of science during their short stay there. STM is a place where people could find aspirations and enlightenment from a perspective of intellectual history. To build STM system penetrating the whole country could help science popularization work in China be extensively and profoundly reachable both in time and in space. Science is both plain and profound, it is also true for STM. In general terms, people are fond of this kind of STM which is of simplicity, profoundness, as well as geniality.

Keywords: science and technology museum; science; society; public; civilization

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Features and Trends of Researches on Public Understanding of Science in the Last Decade: Taking the Literature Analysis of the Journal *Public Understanding of Science* as an Example (2005—2014)

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Abstract: *Public Understanding of Science* is a prestigious journal which covers all aspects of interactions between S&T and public. This paper takes all published papers on *Public Understanding of Science* during 2005—2014 as an example based on literature and content analysis. According to the data collection and analysis, This paper discusses the hot features and trends during the last

decade from perspectives of scientific issues, methodology, authors and countries, citation and cited sources, co-citation network, etc. This paper offers information and references that help the further analysis and researches on public understanding of science in China.

Keywords: public understanding of science; literature analysis; co-citation network map; hot domains; research trends

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A Research on Chinese Media Agenda-setting for Health Risk Communication: A Case Study of the Shandong Vaccination Event

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Abstract: Content analysis and statistical analysis are utilized in the paper to gain an analysis of some related reports about Shandong vaccination case. In the paper, the author intends to analyze the interaction of the theme of report, report frequency, public participation degree in news reports. Through the research, we can find that there still exist some problems for the current situation of health risk communication for Chinese media, and it influences the reception effect of the targeted directly. In order to solve this problem, the author gives three suggestions: enrich the theme of report, pay attention to the follow-up reports, and attend more to the interaction between the public and the media to further popularize the health knowledge and promote an effective communication of health risk.

Keywords: agenda-setting; health risk communication; vaccination case; report

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Reviews on Evaluation for Science Popularization Capability

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Abstract: This paper reviewed some literature mainly on evaluation indicators for science popularization capacity, indicators weighting, evaluation model and so on by searching related keywords or topics, which provides a reference for designing national science popularization capacity evaluation indicators and its effect evaluation for the purpose of forming the national science popularization capacity monitoring and evaluation system. The four findings are as following: (i) the current studies on science popularization capacity still focus on regional level, and studies based on national level are still lacking; (ii) evaluation indicator

system usually depends on the survey data from China Science Popularization Statistics but excludes some qualitative indicators such as science popularization organization construction and science popularization policy; (iii) the current papers generally use the cross section data but do not take into account the variable of time; (iv) there are short of quantitative researches analyzing the correlation between national science popularization capacity and civic scientific literacy and the effect of science popularization capacity factors on civic scientific literacy.

Keywords: evaluation; science popularization capability; literature review

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On Environmental Communication: A New Research Field

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Abstract: With the controversies over climate change between developed countries and developing countries in recent years becoming increasingly heat-debated, scholars from a variety of disciplinary fields have paid attention to environmental issues, thus environmental communication has become an independent discipline. In the paper, the authors firstly define the concept of environmental communication, and subsequently map out the background and process in which how environmental communication research is developed, and finally, figure out its research interests, theoretical foundation and methodology by analyzing papers published in the journal Environmental Communication (2007—2014).

Keywords: environmental communication; environmental journalism; science communication

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On Exploring Science Educational Value and Market Situation in Science Books for Children

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Abstract: Scientific literacy constitutes an important part which contributes to the enhancement of scientific literacy of the citizens, and children's science books are an important supplementary materials for science education regarding enhancing scientific literacy of children. However, children's science books have not got the attention parents and teachers. Even they are aware of the importance of books, they find it difficult to select the fine books for their children. From that sense, in order to discuss the importance of children's books, and guide parents and teachers to buy the fine books, the children's science books in the market

are clearly classified, and efforts are made to dig its education value by using big-data technology. In a nutshell, exploring the science education in science books is particularly relevant.

Keywords: children's science books market situation; science education; primary science curriculum standards

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On Theory Development and Practices of Studies on Museum Visitors: A Case Study of *An Ode to Wuxing* Exhibition in Huzhou Museum

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Abstract: Museums are increasingly tied to the visitors. Currently, there is an increasing recognition that museums are existing and available principally for visitors, thus the significance of studies on visitors for the development of museums is self-evident. To know and study visitors has become a necessary basis of for that kind of work, and a standard for assessing high-quality exhibition. The paper conducts case studies on visitors of *An Ode to Wuxing* exhibition in Huzhou Museum from behaviors, knowledge acquirement and emotion measurement by starting from theories of definition evolution of studies on museum visitors and categorizing and classification of visitors, combined with interactive experience and “visitor-oriented assessment level” mode of research method. Meanwhile, on the basis of visitor study theories, we shall pay more attention to local, community and personal experience during the visitor study.

Keywords: museum audience research; layering; approaches; Huzhou Museum

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An Investigation of Students' Scientific Attitude in Extracurricular Scientific Activities in High School: A Case Study in Beijing

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Abstract: As the scale and quantity of extracurricular scientific activities of senior high school students continue to expand, it is necessary to investigate the scientific attitude of the participating students. The “Scientific Attitude Inventory (SAI II)”, which was revised by Moore and Foy in 1997, was employed in our research. We investigated 63 high school students with scientific attitudes, who participated in the extracurricular activities of Innovative Talents Training Program of Basic Education in Beijing. This

survey finds that the students, who take the initiative to participate in extracurricular activities, are more active in science. The difference between boys and girls is obvious in terms of emotional attitude towards science. In addition, 57.1% of the students surveyed have difficulty in understanding the limits of science. Most of the students lack a sufficient understanding of the value orientation of scientific theory.

Keywords: high school students; extracurricular scientific activities; scientific attitude; the limits of science

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Research on the Elementary and Secondary Mathematics and Science Education in Science and Engineering Indicators of the U.S.

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Abstract: Science education serves as a main way of cultivating creative talents, improving citizen's scientific literacy and improving the core competitiveness of the country. In this paper, the elementary and secondary mathematics and science education indicators in the 11 issues of "science and engineering indicators (1996—2016)" were analyzed. The research focuses, construction and the data sources of the elementary and secondary mathematics and science education indicators were studied. This inspires us to pay more attention to students' mathematics and science curriculum, science teachers and teaching techniques and students' achievement. Some constructive proposals are put forward in the paper: it is necessary to establish a long-term, sustainable and nationwide monitoring system for the quality of math and science education in elementary and secondary schools in China; regulations of periodic reporting on the quality of math and science education in elementary and secondary schools in China need to be established as well.

Keywords: Science and Engineering Indicators; elementary and secondary; mathematics and science education

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An Introduction to the Development of Contemporary Scientific Fairy Tales

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Abstract: The paper conducts a comprehensive analysis of the birth and development of contemporary Chinese science fairy tales based on the historical changes of social context, and divides its writing during the 100 years into five major periods, namely 1. initial stage (1920—1949) ; 2. emerging stage (1949—1966) ; 3. suppression stage (slack stage) (1966—1976) ; 4. booming stage (1976—1999) ; 5. rejuvenating stage (2000—). It also offers a thorough analysis of the achievements, features and experiences of each stage, and holds great confidence and expectation of its new development in the rejuvenating stage.

Keywords: science fairy tale; boom; rejuvenating; motive power

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A Comparasion of Concept of Universe between *The Three-Body Problem* and *Ender's Game*

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Abstract: With the development of science and technology, human beings' reflection of the ultimate fate of the universe becomes even more profound, and science fiction carries an important embodiment of this thinking. In the paper, the authors try to explore the differences of concept of universe between the science fiction of *The Three-Body Problem* and *Ender's Game*, they were both awarded as the Science Fiction Achievement Awards.

Keywords: *The Three-Body Problem*; *Ender's Game*; concept of universe

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On Science Enlightenment in the Period of Social Transformation: An Evolution of Chemistry Textbooks of Modern China

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Abstract: In the paper, the chemistry textbooks published during the late Qing Dynasty and the Republic of China are taken as the research object, representative textbooks during different periods and publishing data are analyzed, and the development of these textbooks and the characteristics of their changes are

studied. Chemistry textbooks of modern China originated from textbooks translated from abroad, and were compiled independently later. The presentation and content of chemistry textbooks were perfected gradually and were more attentive to teaching, which promoted school education and science communication. The evolution of these textbooks reflected the development of chemistry and the perception of education.

Keywords: textbooks; science education; chemistry; modern China

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On Hou-Kun Chow and His Thoughts on Science and Technology

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Abstract: By adopting a comprehensive text analysis of the historical documentations, the paper follows a study of Hou-Kun Chow in the following aspects: (1) it schematically sorts out the track of Hou-Kun Chow's lifetime and finds that there are two motivations for Chow to study western knowledge of science and technology, one for the rejuvenation of China, and the other for his own interest and career, especially in the later years studying abroad. (2) it focuses on an analysis of a piece of treatise containing Chow's elaboration about his typewriter. This treatise also discusses three kinds of failure to invent a typewriter, among which Chow held in contempt to the attempt of tearing down Chinese characters. In contrast, Chow's invention has a significant importance on protecting Chinese characters and developing Chinese language. However, Chow preferred himself to be memorized as one of the Chinese typewriter's independent inventors rather than "The Father of Chinese Typewriter". (3) the result of the analysis shows that the basis of Chow's technological thoughts lies in the Chinese traditional ideology of Confucianism and Buddhism implicated in Chinese language and character. Based on it, this paper generalizes his theoretical and empirical opinions on technical invention and believes that they are quite enlightening even today, which are embodied in either the beginning, proceeding or post period of a technological study.

Keywords: Chinese typewriter; Hou-Kun Chow; thought of technology; boxer indemnity scholars

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