

# Regional cultural characteristics and educational resources development of science and Technology Museum—Take Wuhan as an example

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**Abstract:** Over the past 30 years of reform and opening up, the cause of science and technology museums in China is steadily developing. Taking Wuhan as an example, this paper summarizes the regional cultural characteristics of Wuhan, analyzes the construction and integration of educational resources of science and technology museums in the perspective of regional culture.

**Keywords:** Science and technology museum, regional characteristics, resource integration

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## 1 Introduction

According to the Construction Standard of Science and Technology Museum formulated by China Association for Science and Technology in December 2000, science and Technology Museum is a popular science publicity and education institution that organizes and implements popular science exhibitions and related social and cultural activities for the purpose of improving the scientific and cultural quality of the public<sup>[1]</sup>. In recent years, with the progress of science and technology, the cause of science and technology museum in China has developed rapidly, and has entered a new stage of digital science and technology museum. The development of science and technology museum needs to be supported by a solid theoretical foundation, but also needs to constantly expand its connection with society, history and culture.

## 2 Overview of development of China Science and Technology Museum

The history of science and technology museums in China can be traced back to the early 1980s. After nearly 40 years of development, China has built nearly a thousand popular science venues. With the rapid development of science and technology, the public's understanding of science and technology has been significantly improved. Science and technology museums play an important role

in popularizing scientific knowledge to the public, disseminating scientific ideas, advocating scientific spirit, and enhancing the public's ability to seek knowledge, explore and create<sup>[2]</sup>.

## 3 Construction of regional culture and science museum

The social value of science lies in its humanism. The development of science not only changes people's understanding of science, but also changes people's understanding of science and way of life. Science education should strengthen the integration of scientific spirit and humanistic spirit, put science and technology in a broad social and cultural background, make the progress of science and technology into the progress of society, and make contributions to the happiness of human beings.

If the science and technology museums in different cities can place the science and technology exhibits in the urban cultural background and display exhibits with local cultural characteristics through the science and technology platform, it can not only guide the audience to observe and understand the urban science and technology culture with a regional perspective, but also avoid the homogenization phenomenon commonly existing in science and technology museums. Therefore, the educational function of regional exhibitions in line with the theme plays an important role in science and technology museums.

## 4 The regional cultural characteristics of Wuhan

Located in the east of Jiangnan Plain, Wuhan is a famous city of thousands of lakes, and its ecological environment is characterized by riverside and lakeshore waters. At the same time, Wuhan has a long history. The Site of Panlong City, as the beginning of Wuhan, has a history of 3,500 years. Wuhan's time-honored culture is dependent on its characteristic water ecological environment, forming a diversified human settlement pattern and creating the cultural characteristics of "Chu feng chu yun" in Wuhan<sup>[3]</sup>.

## 5 Development of educational resources of science and Technology Museum

Different from classroom education and media education, museum education is an irreplaceable education with unique advantages incomparable to school education<sup>[4]</sup>. Science and Technology museum education is learner-centered and learner-demand-oriented informal education, which can be called a comprehensive supplement to formal education and make up for the lack of interaction and pertinence of formal learning.

**Table 4-1.** Characteristics of formal and informal learning

Number	Characteristics of formal learning	Characteristics of informal learning
1	mandatory	spontaneous
2	Structural and systematic	Unstructured and unsystematic
3	evaluation	No assessment
4	closed	Opened
5	Teacher Center	Learner Center
6	Teacher-oriented	learner oriented
7	teaching plan	no teaching plan
8	few unexpected results	unexpected results
9	Few social interaction	few social interaction centers

Wuhan is an important science and education base, with sufficient discipline advantages, teachers resources, college students volunteer resources. Resources should be fully integrated in the construction of science and technology museum. The activities of science and technology museum should be integrated with the classroom content of primary and middle school students. Have corresponding museum of natural science and technology and the school, as a science and technology museum popular science education base, how to make science and technology museum education resources and activities of organic combination, make science and technology museum good

carrier and the strong support of the school education activity, the function of science and technology museum and the future development has important practical significance.

Education of science and technology museum is an important supplement of the school education, it will be boring and abstract the textbook knowledge in the form of a vivid, intuitive, interactive display, can effectively make up for the lack of school education, classroom education to solve this problem is not easy to solve, so the museum of science and technology cooperation with the school education is a must. The science and Technology Museum's comprehensive exhibits provide a richer learning experience for students, as the combination of disciplines allows students to be exposed to issues that would otherwise be overlooked or ignored in disciplinary isolation. This kind of comprehensive science education can cultivate students' migration ability; It enables students to attach importance to the inner connection and understand the common ground among the concepts, principles and methods of various disciplines more deeply. To give students the opportunity to apply the scientific concepts learned in the science museum to other fields, to develop students' awareness and ability of critical thinking, and to apply science in their daily life.

In a word, the construction of science and technology museum should pay attention to reflect the characteristics of regional culture, deeply excavate the advantages of regional resources, reflect the characteristics of regional culture, and bring unique popular science education services for the audience.

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