

## A Comparison of Children's Museums in Pittsburgh, Florence and Hangzhou

Yuran Wang, Hui Yao, Rongpan Chen, Yitong Zhao

University of Pittsburgh, Pittsburgh, PA, USA

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**Abstract:** Children's museums have become a popular place for children to go to play and learn. This paper presents an overview of the children's museums in Pittsburgh, Florence and Hangzhou and describes the advantages of children's museums in Pittsburgh and Florence, and how these advantages can be adopted to support the improvement of museums in Hangzhou. In addition, the information from the questionnaire and interview presents the parents' ideas about the children's museums and basic information about the museums in the three cities including founding, activities, and background.

### 1. Background Information

Based on first-hand data collection and literature research, this research study dedicated to exploring the strengths of children's museums or children's sections in museums in Florence and Pittsburgh. What advantages the museums in Hangzhou should learn from those in Florence and Pittsburgh are based on our previous research and experiences. The ultimate goal is to optimize the use of educational resources in China by incorporating what we have learned from western countries into China's educational market in a culturally appropriate manner.

The visiting to Children's museums can enrich children's lives by encouraging them to learn topics about history and art more intensively, develop cooperative and metacognitive learning skills by engaging with multi-sensory experiences (Rönkkö, Aerila, & Grönman, 2016). Also, children can learn the world around them or themselves by interacting with the learning environment. Their family bonding will be enhanced by engaging children and families in a partnership of learning through exhibits and educational programs (Mayfield, 2005). In light of all of the advantages children can take from museum visiting, we should advocate for more sustainable, instructive, and interactive children's museums or sections by conducting this research project.

The existing situation in China is that the Chinese K-12 education system does not make the most use of the museum resources as most of the western countries do. The Chinese traditional formal education focuses on the success of passing the examinations and thus parents tend to have higher expectations for their children's academic achievement. There is lacking example of effective and meaningful partnership between schools and museums (Kang, Anderson, & Wu, 2010). In addition, the number of Children's museums or sections especially designed for children in general museums in China can't meet the increasing demands from the public for a high-quality education.

### 2. Methods

To know a museum thoroughly, we should have a well understanding of the providers, working staffs, receivers, and customers. Therefore, we came up with questions for staffs about foundations, backgrounds and activities of children's museums (or the children sections in the museums) and questions for parents on evaluations and expectations of children's centers (or the children sections in the museums). The samples in our research were chosen randomly, and were controlled into similar number. Because of handy and complete information provided by the official websites, we collected basic information from the internet: built-up time, ticket price, original purpose of the museums and children's departments, idea development, age service and routine activities. At the same time, we took further steps by interviewing staffs and volunteers working there: "whether do

you need higher-education background to work there? If not, do you accept regular training and how often do you receive trainings? How do the museums cooperate with schools?”

Taking limited time into consideration, we took convenience sampling method, which enabled us to achieve the sample size we want in a relatively fast and inexpensive way. After the discussion of the questionnaires, we took time making surveys among parents in three cities. Thanks to the help from professors and friends, we successfully collected the data from 100 families in Florence, 110 families in Pittsburgh and 128 families from Hangzhou.

### 3. Analysis

To meet the aim of this research, we collected the information of the number of children's museums on their official websites. As for the quality part, we believe that the founding of a museum, the background of the museum staff, the activities offered by the museum, and the environment (infrastructures) of the museum are all factors that influence the quality of a children's museum. However, in this paper, we mainly focus on the last three factors. Further by analyzing the results of parents' questionnaires from three cities, we have received some different expectations of children's museums, which helped us to give practical suggestions to the children's museums in Hangzhou for their further improvements. Last but not least, the outcomes of open-ended questions and interviews of Italian parents offered us valuable information for conducting this research.

Based on the three aspects of examining the quality of children's museums in these three cities, we have prepared and conducted questionnaires (in three languages) and interviews. The total participants of the questionnaire are 338. Therefore, the number of the valid questionnaires (100 from Florence, 110 from Pittsburgh, and 128 from China) in the three cities is roughly equal, which makes the answers of parents from the three different cities more comparable. In addition, we have interviewed 50 parents in total from the three cities.

Specifically, every questionnaire contains seven questions, the first two relevant to background information of the participants. They are 1) How many kid(s) do you have; 2) how old is/are your kid(s). The third question is “How often do you bring your kid(s) to the children's museums or children's sections in museums?”. For the 128 Chinese parents, 51.56% of them have taken their kid(s) to children's museum once a month. The ratio for the 100 Italian participants is 50% and 27.27% of 110 Pittsburgh parents. Surprisingly, for Chinese parents, all of them have brought their kid(s) to children's museums at least once per year. For Chinese participants, only 11.71% of them bring their kid(s) to children's museum once or twice a year. This percentage of Italian parents is 28% and 70% of 110 Pittsburgh parents. 19.53% of Chinese parents prefer to take their kid(s) to children's museum once a week. The ratio of the 100 Italian parents is 21% and none of the Pittsburgh parents have done that.

Q4 is “Do you think your kid(s) will benefit from the children's museums or children's sections in museums?” This question assists us to know parents' opinions of children's museums. 87.5% of 128 Chinese participates and 70% of 110 Pittsburgh parents strongly agree with that their children can benefit from children's museums. However, only 47% of 100 Italian parents strongly agree with it. Parents believe that exhibitions of museums are able to motivate children to be curious of the world. Also, children can develop their social skills while playing or studying in children's museums. Some parents believe that visiting museums with kid(s) is a great opportunity for the whole family to gather around and have good communications. However, parents who don't believe that their children can take advantage of children's museums have their own reasons. In fact, a few of the Italian parents claimed that their children (under three years old) are too young to understand the complex items and descriptions in museums.

Q5 is that: “Are you satisfied with the quality and the quantity of the children's museums or children's sections in museums in your community or city?” By setting up this question, we hope to find some universal or unique weakness of the children's museums in the three cities, and then attempt to improve the current situation. There was only one Chinese parent who was very satisfied with the quality and the quantity of children's museums or children's sections in museums in his/her community or city. None of the Italian participants was very satisfied with the children's

museum in Florence. All the Pittsburgh parents were satisfied with the children's museums in their communities or cities. We examined the reasons of why most parents in Hangzhou and Florence did not feel satisfied with the children's museums at their places, and the answer was the same---lack of interactive activities in children's museums. Also, they expected that more individual indoors and outdoors space can be offered by the local government.

Q6 is an open-ended question: "Which part or the activities does/do your kid(s) like most in the children's museums or children's sections?" The answers of the questions show that playing water is a popular activity for children. Also, hands-on experiential activities engage many children. All of those good activities could be learned by children's museums in Hangzhou.

During the interviews of Italian parents, one thing had attracted us. Most of the Italian parents mentioned that they don't worry about the frequency of their kids' museums visiting since the children's school will arrange at least three learning experiences in museums per semester. They believe that it is better for kids to visit children's museums with teachers since teachers know their needs in the academic field.

We all love this "visiting children's museums with teachers" activity which is a lack in Hangzhou. We consider this activity as a way to maximize the utilization of children's museums in Hangzhou and improve the quality of children education by diversifying the activities outside of the class. In a word, cooperation between schools and children's museums is another advantage that can be taken into consideration by the authorities of the children's museums in Hangzhou.

#### **4. Practical Implication**

Through one month's investigation, we found that there are some advantages and methods in the museums in Pittsburgh and Florence that Hangzhou could borrow and put into practice in their museums.

#### **5. Quantities**

In Hangzhou, there are 8 museums including the children's section, but 13 in Florence, and 12 in Pittsburgh. In this case, it is not difficult for us to draw the conclusion that the museums in Hangzhou can add children's sections in different kinds of museums. Museums have different orientations. For instance, some museums focus on history while others focus on Astronomy. If the number of museums in Hangzhou could be increased, families and communities would have more choices.

#### **6. Management**

There is an official website named Muse Firenze that associates the information of most of the museums in Florence. This association helps some of the museums in Florence to manage their culture projects, exhibitions, workshops and events. They also train staffs and assign them into different museums.

As for the Children's Museum of Pittsburgh, they offer a variety of classes in making literature and art practice for teachers to bring new ideas, methods and resources to their classroom. For example, there is an activity called Meet the Makers-Remake Learning Days presenting on their official website. This is the activity for educators from preschool to High school. Makers will present and demonstrate making activities that are appropriate for a wide range of age groups of children.

#### **7. Activities**

We investigated the timetable from the Museum of Galileo in Florence. They offer the different kinds of activities from Monday to Saturday. The time of activities are stable but the choice for

families and schools are various and flexible. They also cooperate with schools in Florence and provide recommendations for all ages and groups.

The Children's Museum in Pittsburgh offers children's activities for families and schools. The most important thing is that the information provided on their official website is easily accessible for families and communities. Below each title, the purpose of activity is clear and detailed. It is better for museums to put the purposes of each activity on their website for the families and communities to get a deeper understanding.

## **8. Conclusion**

Our research focuses on "what advantages do children's museums in Florence and Pittsburgh have and which one can be applied to children's museums in Hangzhou".

As for the scale, first, in regard to founding, we assumed that museums in Pittsburgh and Florence gained more donations from governments such as country, state, city and community than those in Hangzhou. For instance, Children's museums in Pittsburgh gained financial support from local communities. However, as far as we know, no museum in Hangzhou obtained financial support from communities. Second, in terms of the quality of staffs, the staffs in Pittsburgh and Florence are more qualified because they have more opportunities of gaining trainings during career time and are required with higher educational background when they are employed. What's more, the quantity of staffs in Pittsburgh and Florence is also larger with higher ratio (proportion of staffs and customers) and smaller turnover. Thirdly, we supposed that activities provided by museums in Pittsburgh and Florence are more varied and frequent. Fourthly, regarding with the environment, our hypothesis is that the children's museums in Pittsburgh and Florence are more environmentally-friendly, more well-designed and more suitable for children. In concern of the quantities, the number of children's museums in Pittsburgh and Florence is more than those in Hangzhou.

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