

Exploring Family Engagement in Museum Education by Utilizing the Contextual Learning Model

Se-Ji Lee^{1*}

Abstract

Museums are increasingly implementing family education programs, yet there remains a scarcity of research differentiating these initiatives from conventional educational programs. The purpose of this study is to apply the constructivism framework that underscores the crucial role of participant interactions to investigate the principles underpinning family-friendly museum exhibitions. After an analytical comparison of elements associated with family-friendly museum education, the Children's Museum of the National Folk Museum of Korea emerged as a model institution that effectively integrates key aspects of family-oriented learning and fostering meaningful interactions among participants. Findings in this study advocates for the creation of tailored family education programs catering to family-oriented visitors through diverse learning modalities.

Keyword : Museum education, Contextual Learning Model, Family Education Program, Family-friendly, Children's Museum

1. Introduction

In contemporary society, there has been a noticeable decline in the level of proximity and interaction among family members as modern individuals increasingly allocate more time to activities such as computer usage, smartphone engagement and social interactions outside the family unit. This pattern of reduced familial interaction has resulted in a decrease in family conversation with statistical data indicating that the average daily duration of family conversations is less than ten minutes [1]. Consequently, the dearth of interaction among family members has given rise to various societal challenges. With the adoption of five-day workweeks and five-day school weeks, individuals now enjoy an improved quality of life and it leads to an increased demand for cultural and artistic activities during leisure time. In particular, parents are actively seeking venues where they can engage in both educational and recreational activities with their children. As a response to this trend, museums have witnessed a significant surge in the number of family visitors and museums have expanded their weekend family education programs and developed diverse initiatives tailored explicitly to families [2].

1 National Folk Museum of Korea, Seoul, Korea [Curator]
e-mail: lsj402@hanmail.net (Corresponding author)

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However, it is essential to acknowledge that despite the proliferation of family education programs in museums, there remains a lack of comprehensive research examining the distinctive characteristics of these programs in comparison to existing educational offerings.

In this regard, the purpose of this study is to apply the constructivism framework [3] proposed by Choi, Falk and Dierking and Borun & Dritsa to investigate the principles underpinning family-friendly museum exhibitions. The study will analyze three family education programs currently offered at the Children's Museum of the National Folk Museum of South Korea. The analysis includes both one-time and multiple-session education programs that exhibit significant deviations from the existing family education programs at the Children's Museum. The one-time programs including 'Kokdu, a Friend of My Another Journey!' and 'Reading the Time of Managing Masterpiece' have been implemented for several years and provide detailed education on the concept of Family Outing to the Museum. In addition, the analysis encompasses the examination of a multidisciplinary career education program called 'Family Curator Folk Nuridan' and a ten-session program that promotes collaboration between parents and children. By adopting a contextual learning model, this study seeks to investigate the interactions among family members and participants while conducting a comparative analysis of the elements associated with family-friendly museum experiences.

2. Relative Studies

2.1 Constructivism and its relevance to museum education

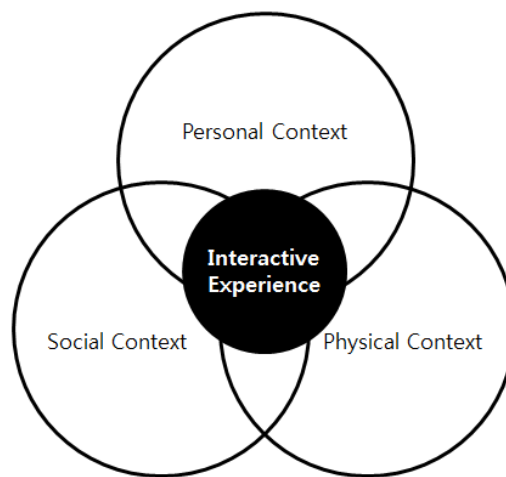
Constructivism is a theory that posits knowledge is actively constructed through individual social experiences to provide a theoretical foundation for museum education [3][4]. Within this context, museums serve as unique social environments that enables visitors to interact with exhibits and develop knowledge through these interactions. This process involves integrating personal knowledge and experiences and often facilitates through communication with parents, learning facilitators and fellow learners [5]. A multitude of activities constitutes museum learning including participating in educational programs and guided tours, observing exhibits and engaging in discussions with other visitors. The design of museum exhibits is rooted in practicality and socio-cultural relevance, enabling learners to become active participants in their learning journey. This self-directed learning approach allows learners to engage with exhibits that interest them, facilitating learning from their direct encounters [6].

Moreover, discussions with fellow visitors, friends and teachers often revolve around seeking socio-cultural meanings within the exhibits and it can aid in the expansion of the learners' thought

processes [7]. In this constructivist perspective of education, the learner is at the heart of their learning experience, shaping their knowledge through interactions within the museum environment.

2.2 The role of contextual learning in the museum

Falk and Dierking introduced the Contextual Model of Learning which conceptualizes museum learning as a dynamic process influenced by three interconnected factors: personal context, social context and physical context [8][9].



[Fig. 1] Interactive experience models

As illustrated in [Fig. 1], the physical context represents the museum environment itself and includes its structures and objects where visitors engage in the learning process. Visitors' personal context, on the other hand, includes various individual factors such as age, education, income, race, previous museum experiences, specific interests, social relationships with family and friends and general leisure preferences. These personal factors significantly influence the level of engagement and involvement in the museum visit and can be considered within the framework of the interactive experience model [8].

The sociocultural context arises from the interactions among family members within the museum setting. For instance, a conversation between a father and his six-year-old daughter about the size of animals' hearts exemplifies how shared knowledge and experiences contribute to semantic understanding. The father's prior knowledge of heart size and the daughter's understanding of animal dimensions create a meaningful exchange that enriches their overall museum experience [9].

Third, the physical context emphasizes the impact of the museum's physical environment on visitor behavior. It underscores the significance of observation, memorization and freedom of choice within the exhibition space. Factors such as layout, design, facilities and exhibition methods play crucial roles in facilitating learning within the museum. Furthermore, experiences outside the museum can also contribute to the physical context [10].

Learning occurs through the interplay and integration of these three contexts. It is a dynamic and evolving process as the personal context evolves over time through experiences within the physical context and is mediated through social interactions. According to this model, learning should be viewed as a temporary and reciprocal phenomenon constantly shaped by the interrelationships of these contexts. To fully grasp the nature of learning within this framework, it is essential to visualize and conceptualize it as a multidimensional and dynamic process [11].

3. Family-friendly approaches in museum education

In the realm of museum education, Borun conducted an analysis of the relationship between visitor behavior types and learning outcomes by categorizing levels of learning into behavioral types exhibited by family visitors [12]. As shown in [Table 1], this analysis led to the identification of seven elements that foster conducive learning environments. It can be inferred that exhibitions designed to be family-friendly facilitate learning among families as evidenced by the increased occurrence of learning-related behaviors when families visit exhibitions that incorporate these seven elements.

[Table 1] Elements of Borun's Family Friendly Exhibition

Elements of family friendly exhibition
① Allows families to see exhibits from various perspectives
② Allows many visitors to interact with each other.
③ Creates an environment where people of all ages can observe comfortably.
④ Enables the results of various interactions through many conversations.
⑤ Introduces various forms of exhibition considering the knowledge level of families.
⑥ The contents of exhibition panel are prepared to make it easier for various age groups to understand.
⑦ Visitors shall be allowed to view exhibits through prior knowledge and experience.

Family members of various age groups have the opportunity to explore, discuss and interact with exhibits based on their individual experiences. Scholars such as Borun and Dierking have devoted their research efforts to studying museums that promote family participation [4][5]. These studies have

identified factors that contribute to engaging and positive learning experiences for families in museum settings. Building upon the insights from Borun and Dierking as well as drawing from the constructivist principles and the Kids in Museum initiative in the United Kingdom, Choi derived components for designing family-friendly exhibitions and implementing educational practices within museums as shown in [Table 2] [3].

[Table 2] Components of education programs in family-friendly museum

Classification		Components of Museum Family Education Program
Educational environment	An environment where various learners can participate	Educational programs are organized in consideration of learners' age, gender, prior knowledge, prior experience and knowledge level.
	Environment for cooperative learning	Consists of activities that all family members can participate in.
	Enjoyable and comfortable environment to participate in	Rather than learning activities, it allows people to feel a pleasant and comfortable atmosphere
	Pleasant environment	Provides a pleasant environment suitable for various age groups.
Educational data	Educational worksheet	Makes language in activity sheet easy for everyone to understand and organizes the contents that allow families to interact with each other.
	Guide for parents	Provides data for parents to play a role as fellow learners of children.
Museum educator	Roles of museum educator, teacher, and instructor	Teachers and instructors as learning facilitators help learners interact in a leading way.

3.1 Environment that promotes participation of diverse learners

Instead of introducing entirely new knowledge, learners tend to be more curious and engaged when the subject matter is closely related to their every day lives. Encouraging learners to actively participate in educational programs based on their existing knowledge and experiences is crucial. Furthermore, family education programs should offer a diverse range of activities suitable for different age groups. While text-based, instructor-led programs may be appropriate for adult learners, such approaches may fail to captivate the interest of children. Therefore, educational activities should provide multiple options that cater to learners' individual preferences and learning styles.

3.2 Environment that fosters collaborative learning

To foster cooperative learning, an inclusive environment that facilitates interaction and engagement

among all family members is paramount. Designing an environment solely centered on children is not conducive to collaborative learning [13]. Family cooperative learning entails active involvement and support among family members in their respective learning endeavors. Educational activities should incorporate collaborative tasks that prompt learners to work together with their family members in problem-solving, while assigning individual roles to promote interaction. These activities should encourage ongoing discussions among family members to stimulate creativity and allowing for the generation of unique artistic creations.

3.3 Environment that promotes enjoyable and comfortable participation

The primary objective of family education programs is to strengthen family bonds through diverse experiences and conversations. It is essential to create a comfortable atmosphere within the educational space and to incorporate elements such as appropriate lighting, audiovisual aids and music. Activities should be designed to accommodate various age groups, enabling family members to participate and enjoy the program together. By fostering a sense of enjoyment and shared experiences, active participation can lead to higher learning outcomes

3.4. Pleasant environment

Providing a pleasant and comfortable environment is vital to ensure that learners can fully engage in educational programs. As these programs cater to diverse age groups, designated spaces for strollers, nursing rooms, rest areas and restrooms should be provided. Clear signage and directions should be available to help families navigate the space without confusion. In addition, separate seating arrangements for adults that prioritize their comfort and concentration should be offered as using furniture solely designed for children may cause discomfort and hinder effective learning. Tailoring the educational space to meet the needs of families enhances the overall positive impact of the program.

3.5. Worksheet / activity sheet

Considering the diverse participants, language usage should be accessible and easily understandable by all. Activity sheets should be designed to feature collaborative tasks that encourage family members to work together in problem-solving, placing emphasis on understanding rather than mere knowledge transfer. Utilizing visual aids and images can facilitate comprehension and effective problem-solving for learners in order to prioritize understanding over rote memorization.

3.6 Parental guidance

Parents are encouraged to actively participate in educational programs as co-learners alongside their children. At the outset of the program, a parent guide should be provided to support parents who may have limited prior knowledge or are unfamiliar with their role as co-learners. Parents can engage with the content by learning alongside their children and providing guidance as fellow learners throughout the session.

3.7 The role of teachers and instructors as learning facilitators

In educational programs, teachers and instructors play a pivotal role as facilitators of learning. Their role extends beyond the mere transmission of knowledge and they strive to actively involve all family members, attentively listen to their ideas and assist in their further development. Actively listening to learners' thoughts and providing constructive feedback supports their growth. By incorporating elements of family-friendly museum education such as involving family members, creating an optimal learning environment, leveraging the expertise of museum educators and providing relevant learning materials, the effectiveness of the educational program can be enhanced. This approach promotes cooperative learning among family members and strengthens family bonds through meaningful interactions.

4. Analysis of Family Education Programs

4.1 Three family education programs

This study intends to examine three specific family education programs implemented at the Children's Museum of the National Folk Museum of South Korea with particular emphasis on the components of family-friendly museum education outlined in [Table 3]. While a plethora of education programs were available, this study focuses on the 'Kkokdu, Another Travel Buddy!' program from the My Family's Outing to the Museum series, a weekend program that has been consistently conducted for several years. And it scrutinizes the 'Reading the Time of Coronary Care' program and the family curator program known as Folk Nuridan which comprises multiple sessions. The objective of this analysis is to assess the effectiveness of various types of family education programs in fostering active interaction among family members while offering recommendations for improvement and future directions in the implementation of such programs.

[Table 3] A Comparative Analysis of Education Programs Based on the Components of Education Programs in Family-Friendly Museum

Factor	Components of family education program in museum		Cases of Children's Museum education of National Folk Museum of Korea		
			Case 1	Case 2	Case 3
Educational environment	Environment where different learners can participate	Gender difference	o	o	o
		Age difference	o	x	o
	Environment for cooperative learning	Family collaboration task	o	o	o
		Individual role	o	o	o
		Artwork activity	o	o	o
	Enjoyable and comfortable environment to participate in	Communication between family	o	o	o
		Music, video	o	o	o
	Pleasant environment	Rest area	o	o	o
		Size of desk · chair	o	o	o
		Emergency notice	o	o	o
Educational data	Educational worksheet		o	o	o
	Guide for parents		x	o	x
Museum educator	Roles of museum educator, teacher and instructor		o	o	o

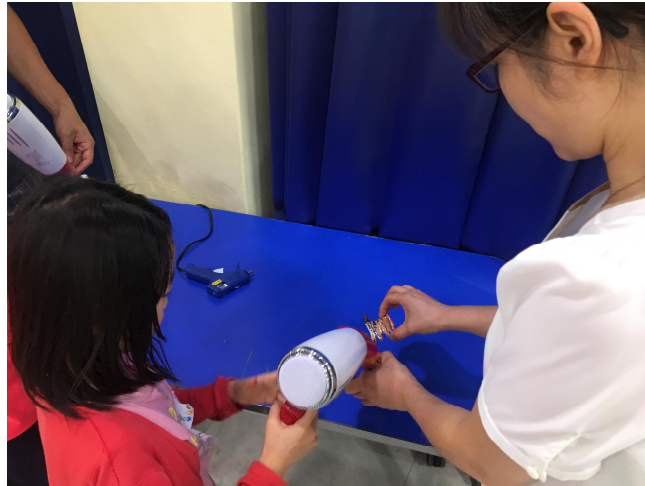
4.2 Analysis

4.2.1 My Family's Outing to a Museum

The Kkokdu, Another Travel Buddy program initiates with a discussion on sources of comfort in challenging or somber circumstances, emphasizing the inclusion of parents as co-learners. It introduces the character of Kkokdu, a personification of the figurine attached to the bier. During the visit to the exhibition hall, learners utilize binoculars to accomplish a mission to compensate for their height and the presence of a glass enclosure. Activities entail observing the bier, solving the mission and collectively constructing an epilogue to be shared with others. Learners develop diverse epilogues based on their unique personalities, learning capacities and interests to establish a social context through the act of sharing with family members. The teacher/instructor assumes the role of a learning facilitator that offers feedback to encourage learners to further observe and reflect upon their created epilogues.

Within the Kkokdu-making time segment as shown in [Fig. 2], learners have the opportunity to express their family's individuality and creativity by crafting their personalized Kkokdu. Accommodating different age groups, paints and marker pens are provided to enable learners to choose their preferred tools. Parents assist in the process, employing a hairdryer and finishing materials to finalize the project.

While fabricating the name, role and narratives of their Kkokdu, learners frequently create these characters for their grandparents and parents to foster a positive familial experience within the narrative. Analysis of the program reveals the presence of all the components of a family-oriented museum program with the exception of a guide for parents. The observation of the bier in the exhibition hall, the creation of footprints and the bier-making activities contribute to the formation of a social context and nurture presentation skills, story-sharing and interaction among learners.



[Fig. 2] A puppet show in 'Another friend of the road!' program

4.2.2. Family Curator

The Folk Nuridan program includes a total of ten three-hour sessions. For the purposes of this study, the analysis focuses on three sessions involving the examination of relics. By engaging in open discussions about unfamiliar terms such as relics and life histories, the program provides an opportunity to assess learners' prior knowledge and experiences as shown in [Fig. 3]. Learners' curiosity is addressed through presentations delivered by museum professionals who share stories exclusive to firsthand encounters followed by Q&A sessions. Notably, all participating learners actively engage with one another not only in response to questions posed by the instructor but also by considering the queries raised by fellow learners. Since the specialized lectures contain vocabulary more suitable for adults, children assume the role of co-learners by organizing the parent guide within the activity sheet including pertinent information about the educational program. Subsequent to the lecture, families are encouraged to bring their personal collections and it allows learners to formulate questionnaires and interview their parents regarding their collections. The program concludes with learners preparing and

delivering investigation reports based on the content of their interviews. Unlike one-time programs, the Family Curator program aims to foster an understanding of one's own family collection through practical exercises aligned with the museum profession, thereby culminating in exhibitions, educational endeavors, and promotion to incorporate collections from various families. Due to the program's emphasis on family stories, consistent interactions among participants were observed. Although the presence of a guide for parents proved advantageous in comparison to one-time programs, a limitation of the Family Curator program was its restriction to the participation of only one adult and one child from each family, targeting students in grades 3 to 6 and excluding a wider age range.



[Fig. 3] A photo of our famil's curator.

4.2.3 Reading the time of coronary care

The Reading the Time of Coronary Care program conducted as part of the My Family's Outing to Museum series, is a one-time, two-hour educational program. The program revolves around learners adopting the role of rain gauge trainees where they acquire knowledge about the historical significance and methodologies of time reading during the Joseon Dynasty. Furthermore, participants undergo an application process to become certified rain gauges. Throughout the activity, parents actively engage as mentors to provide guidance and support to their children during the training process as shown in [Fig. 4]. The program employs fictional characters to captivate learners and immerse them in the narrative. Subsequently, participants explore the exhibition hall freely alongside their families while completing designated missions outlined in their activity sheets. As an additional challenge, learners who demonstrate quick problem-solving abilities or are in higher grades may receive advanced mission cards

that increase the difficulty level. Serving as facilitators of learning, teachers and instructors collaborate with families, observe and guide learners in accomplishing the missions and provide constructive feedback that extends beyond mere descriptions of the exhibited materials. The culminating activity involves the completion of training assignments and the application for a job and examination. Learners take a test on rice paper using a brush pen with parents assuming the role of assessors to evaluate their children's test papers. Successful candidates are awarded the prestigious title of rain gauge by inscribing their names and the date on a school paper which functions as their certificate of acceptance. Although the Reading the Time of Coronary Care program does not incorporate creative hands-on activities, it includes a dedicated segment focused on organizing daily learning materials through the analysis of past examinations. Thus, the program's most noteworthy aspect lies in its immersive and enjoyable atmosphere to foster cooperative learning whereby parents and children assume distinct roles and actively participate throughout the training program.



[Fig. 4] A photo of Reading the Time of Correlation Management activity.

5. Conclusion

In conclusion, this study derived a contextual learning model and family-friendly factors to enhance the learning effect of families participating in museum education programs by providing them with an environment that enables cooperative learning and various interactions and compared and analyzed the family education programs conducted at the Children's Museum of the National Folk Museum of Korea. The purpose of this study was to explore the direction of how the family education program should be changed in the future based on the results of the comparison and analysis.

The findings of this study demonstrate that the education programs offered a comfortable and enjoyable environment that catered to learners of various age groups. The use of educational activity sheets facilitated collaborative problem-solving among students and their families to employ accessible language and visuals. The programs encouraged multiple interactions among family members during the creation and presentation of mission outcomes within the exhibition hall. From the perspective of the contextual learning model, a social context was established through communication with other families, leading to diverse learning experiences based on personal knowledge and experiences. Overall, all three family education programs successfully created cooperative learning environments, enjoyable participation, and pleasant settings with museum educators, teachers and instructors effectively fulfilling their roles as learning facilitators.

However, there were notable differences between the one-time and multiple-session programs. Multiple-session programs included a guide for parents in the worksheet so that they can engage as fellow learners alongside their children. In contrast, one-time programs provided only activity sheets for learners. In addition, the multiple-session program of Korean Folk Nuridan had an age limit while the other programs were suitable for participants of various ages. Based on the analysis of the three cases, it is evident that these programs were well-organized and included essential elements for effective family education. However, considerations such as age group limitations in multiple-session education and the absence of parent guides in one-time programs should be addressed to further enhance family interaction and increase the learning impact.

Museum-based family education programs offer a valuable educational platform where children and parents can interact and form social connections within a personal context. Therefore, continuous research and the development of diverse family education programs are necessary to facilitate learning among individuals of all age groups. By incorporating the insights gained from this study, museums can improve their family education offerings and provide meaningful and enriching experiences for visitors.

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