A HISTORY OF CHILDREN'S MUSEUMS
IN THE UNITED STATES, 1899-1997: IMPLICATIONS FOR ART EDUCATION
AND MUSEUM EDUCATION IN ART MUSEUMS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
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* * * * *

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ABSTRACT

The purpose of this study is to identify how changes in educational theories, social, and cultural issues have affected the movement of children's museums in the United States during its almost one hundred years of evolution. This study also addresses the potential and importance of children's museums and their connection to the principles and delivery of art education and museum education in art museums.

Four major research questions were derived for this study: (1) What were the motivations and initiatives for developing children's museums? (2) What were the reasons for the rapid growth in children's museums after the 1960s? (3) How have been the philosophies of exhibition design changed through the historical development of children's museums? (4) What are the congruencies among the discipline of art education, museum education in art museums, and children's museum practices?

This study was conducted as historical research in the period between 1899 and 1997 to draw a picture of how children's museums evolved. Data were gathered mainly from primary resources provided directly by the children's museums and related archival documents. All the data have been organized into two computer databases. The Children's Museum Database contains close to 200 museums with demographic information, history, mission statements, and descriptions of exhibitions and programs.
The Reference Database includes more than 250 records of bibliographical references to the children's museums.

With focus on the motivations for children's museums establishment, mission statement, impacts from various educational theories and practices and the changing of social and cultural environments, this study examined four periods of children's museums' development. They were (1) Derivation and Innovation (1899-1928); (2) The Importance of Children's Leisure, Institutional Sponsorship, and Community Joint Endeavors on the Development of Children's Museums (1929-1957); (3) Redefining the Philosophy of Children's Museums (1958-1980); and (4) Blossoming Development Nationwide (1981-1997).

The conclusion of this study elaborates some of the role transitions that the children's museums have undergone, especially that their philosophies, principles, and practices have shifted the perspectives of current education on children's understanding through interactive and participatory learning. In particular, it provides a strong historical foundation to children's museum practitioners for better understanding their past and present, and demonstrates the dynamic rationales for practices in today's art education and museum education in art museums as well.
To my parents with deepest respect, appreciation, and love
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CHAPTER 1

INTRODUCTION

Most American museums in the middle of the nineteenth century were established for the purposes of collection, preservation, and exhibition of art, natural specimens, and cultural artifacts. These traditional museums encouraged learning through passive listening and seeing, and not by interaction with the object. They were designed primarily for adults' interests and children were expected to visit the museums and enjoy them as adults did. There was nothing special or unique for children until the Brooklyn Children's Museum opened its doors on December 16, 1899. This museum was dedicated as a place especially for children to learn, to discover, and to satisfy their natural curiosity. Its opening marked the beginning of the development of children's museums in the United States.

Across one hundred years of history, the evolution of children's museums has been enthusiastically supported and recognized by parents, educators, community leaders, and boards of education, and all were involved in the development of children's museums. Consequently, there was a continuing demand for the establishment of children's museums, which became the fastest growing branch of the museum
community. For instance, there were over 40 children's museums, youth museums or junior museums by the 1960s. The number doubled during the 1970s and 1980s and more than 70 children's museums have opened to the public between 1990 and 1997. About a dozen children's museums are scheduled to open in the next five years.

A review of the literature discovered few studies that focus on the context of children's museums development, while comparatively more studies are available regarding descriptive information or historical facts. For instance, Selina Johnson had investigated the origins, relationships, and cultural contributions of museums for youth in the United States in 1962. However, this study was finished before the revolution of children's museum movement, when Michael Spock, who became the head of the Children's Museum in Boston in 1963, redefined the philosophy of children's museums and promoted participatory and interactive learning. Several other studies focused on the dynamics of selected children's museums, the development and status of science centers and museums for children, school museums in the United States, examination of selected characteristics of hands-on children's museum, and so on. This lack of extended research within the context of children's museums development suggests a need for further in-depth research investigation in the area.

Purpose of the Study

The purpose of this study is to identify how changes in educational theories, social, and cultural issues have affected the movement of children's museums during its almost one hundred years of evolution. In order to understand the broad context within
which children's museum development occurred, this study intends to present a history of the children's museum movement in general, instead of specifying the development of each individual museum.

This study also addresses the potential and importance of children's museums and their connection to the principles and delivery of art education and museum education in art museums. As we know, a central concept of teaching the arts is to create a learning experience that is meaningful for students by incorporating knowledge across art history, criticism, aesthetics, studio production, and cultural aspects. In order to make the learning process more interesting, more relevant, and more rewarding, the foundation of teaching art is to facilitate students to make connections from one idea to another, especially in relation to their lives. Art education relies on student-centered pedagogies.

The ideology at the children's museum is parallel to the discipline of art education. Generally, children's museum practices reflect the philosophy of "learning by doing," engage contextual understanding, emphasize participatory learning experience, focus on a thematic approach in programming and exhibition design, promote cultural diversity, and provide community services. Children's museums are designed specifically for children to learn, to spark their curiosity and imagination, and to have a holistic understanding of themselves and the world around them. Therefore, a study of the history of children's museums can add to the body of knowledge regarding the causal relationship among social, cultural, and political forces affecting art education and museum education in art museums.
Research Questions

The primary research goal of this study is to understand what a children's museum is and its relation to educational, social, and cultural issues that have affected the development of children's museums by examining the following research questions:

1. What were the motivations and initiatives for developing children's museums?
2. How have educational theories, social, and cultural issues affected the development of children's museums?
3. What were the reasons for the rapid growth in children's museums after the 1960s?
4. How have been the philosophies of exhibition design changed through the historical development of children's museums?
5. What are the congruencies among the discipline of art education, museum education in art museums, and children's museum practices?

Methodology

According to Walter Borg and Meredith Gall, "historical research involves the systematic search for facts relating to questions about the past and the interpretation of these facts." Foster Wygant also believes that historical research can describe the main research target not only in terms of an overview of the beginning and introduction of its main developments, but can also examine these movements in a variety of contexts. Therefore, this study was conducted as historical research in the period between 1899 and 1997 to draw a picture of how the children's museums evolved in the United States. To
achieve a better understanding of the context of the children's museum movement, the research procedures of this study were identified as follows:

The first step was to define the research population by cross-examining various resources as the *Museum Index, Association of Youth Museum Membership Directory*, etc. Two basic categories—"children's museum" and "open to the public"—were used to prepare a chronological list of children's museums (Appendix A). Under these two categories, there were approximately 200 children's museums selected to be a part of this study. Although some of these museums had closed, merged, or changed their name and/or focus to become different types of institutions over the course of their existence.

Data used for this study were gathered mainly from primary resources such as information provided directly by children's museums and archival documents related to children's museum development. Due to the massive quantity of data, this study applied external and internal criticism to evaluate the information that was gathered and used. The procedures of data gathering were as follows:

First, there was one request letter sent to each of the 200 children's museums identified, according to the list, asking for museum information on its history, mission statement, philosophy of education and exhibition design, etc. The response rate to this letter was 53%. The information typically provided by children's museums included the museum's historical background, mission statement, philosophical and theoretical approach, description of exhibitions, annual reports, pamphlets, brochures, etc. Second, Internet access was considered as another primary resource to gather direct information on each children's museum, and some resource organizations have launched home pages.
on the World Wide Web with similar information as above mentioned (Appendix B). Third, other printed materials that were gathered were publications from the Association of Youth Museums, the Association of American Museums, and articles from journals, magazines, newspapers, theses, dissertations, etc. Fourth, subscribing to mailing list from the museum newsgroup and using electronic mail provided an alternative access to current inquiry in the field of children's museums. Fifth, several field trips were conducted during the time of this study to various museums, thus personal observation and interviews with museum staff members also were considered as supplementary information.

All these data have been organized into two major computer databases. One is the Children's Museum Database (Appendix C) that contains close to 200 museums with demographic information, historical background, mission statement, and descriptions of exhibitions and programs, etc. Another one is the Reference Database (Appendix D) that includes more than 250 records of bibliographic information of articles, correspondence, letters, and unpublished documents that are related to the development of children's museums.

The interpretation of data was based on the research questions by following the principles of inductive analysis and empathic neutrality approach. In addition, this study attempted to avoid "presentism"--a form of bias that tends to use current points of view to interpret the past when doing a historical interpretation. With focus on the motivations for children's museums establishment, mission statement, impacts from various
educational theories and practices and the changing of social and cultural environments, this study examined four periods of the children's museums development. They were:

1. Derivation and Innovation (1899-1928);

2. The Importance of Children's Leisure, Institutional Sponsorship, and Community Joint Endeavors on the Development of Children's Museums (1929-1957);

3. Redefining the Philosophy of Children's Museums (1958-1980); and


These four periods were adopted because they reflect the broad historical shifts among applications of educational theory and learning strategy; changes in social and cultural aspects; philosophical approaches to exhibition and program design; and the significance of children's museums in relation to the community.

Limitations of the Study

This research is limited to the study of special characteristics of children's museums as they serve the needs of children. Many other institutions, such as natural science museums or science centers, art centers or art museums, discovery rooms, history museums or historical houses, zoos, and national parks were excluded from this study. Although they frequently have children's discovery room, gallery, or provide programs, exhibitions, or workshops for children and families, their major focus is on both adults and families rather than on children from toddlers to young adolescents.
In addition, at least two technical dilemmas existed in the searching process. First, most of the children's museums did not document detailed background information concerning the motivations, philosophies, needs, and commitments to create such programs or exhibits. Second, certain archival documents, i.e. earlier articles or research studies, were not available even through inter-library loan because the library that owns the item will not loan or copy the material. Finally, the most difficult aspect of this study was to generate a truly natural and objective interpretation, as the researcher came from a different cultural background from the cultures typically represented by those who formed these children's museums.

Significance of the Study

A Chinese proverb says, "Everything we learn from history will lead us to success in the future." Very little research has focused on the relationships between the multiple impacts of the variables previously mentioned. The significance of this historical investigation lies in the attempt to explore the further possible collaboration among art education, children's museums, and museum education in art museums. With its presentation of the origins of children's museums, and application of educational theories and methods in those institutions, this study provides valuable additional information regarding the current practices of art education as well as museum education in art museums. In addition, this study is intended to serve as a commemoration of children's museum centennial anniversary in the United States in 1999.
**Definition of Terms**

Children's Museum -- The Association of Youth Museums' definition is "A children's museum is an institution serving the needs and interests of children by providing exhibits and programs which stimulate curiosity and motivate learning. Children's museums are organized and permanent non-profit institutions, essentially educational in purpose, with professional staff, which utilize tangible objects, care for them and exhibit them to the public on some regular schedule."\(^{12}\)

Youth Museum and Junior Museum -- An institution primarily established from the 1930s to 60s, for children and teenagers to spend their leisure time, and cultivate their life-long hobbies in subjects mainly focused on science, natural history and arts. In order to attract a larger audience ranging from mid-elementary to high school students, the institution was named youth museum or junior museum instead of children's museum.

**Outline of the Chapters**

The remainder of this dissertation is organized in the following manner: Chapter 2 reviews the four earliest developed children's museums, the Brooklyn Children's Museum, and later Children's Museum of Boston, Detroit, and Indianapolis. These museums represent four different types of models, and with their pioneering experiments, they became the hallmark among exhibits, programs, and school-museum relationships for many to follow. Chapter 3 addresses issues that inspired the development of children's museums with focus on the needs for children's leisure time activity and in-school education. Additionally, the establishment of children's museums became a community
project with efforts not only from the community itself but also from various individuals and institutions i.e. the Junior Leagues, and the William T. Hornaday Memorial Foundation. Chapter 4 discusses how Michael Spock redefined the philosophy of children's museums and the concept of "hands-on" by introducing the "participatory" and "interactive" learning. It also reveals several other issues that affected the development of children's museums such as the science education reform, applications of architectural concepts in exhibition or building itself, and further involvement of parents, teachers, and community leaders. Chapter 5 provides an overall picture of current children's museum development by exploring their styles, motivations, visions and philosophies, partnership between the children's museum and the community, and exhibit design and display. Chapter 6 summarizes the development of children's museums, elaborates the significance of this study, makes suggestions for future research, and provides recommendations relating to current practices in art education and museum education in art museums.
Endnotes


6 Foster Wygant, Art in American Schools in the Nineteenth Century (Cincinnati: Interwood Press, 1983).

7 External criticism is to raise questions about the nature of the historical resource to identify if it is original and genuine copy, and who wrote it with what conditions, etc. Internal criticism involves evaluating the accuracy of the statements that are contained in the documents. In Walter R. Borg and Meredith D. Gall, 1989.

8 Inductive analysis: Immersion in the details and specifics of the data to discover important categories, dimensions, and interrelationships; begin by exploring genuinely open questions rather than testing theoretically derived (deductive) hypotheses. In Michael Quinn Patton, Qualitative Evaluation and Research Methods (California: SAGE Publication, 1990): 41.

9 Empathic neutrality approach: Complete objectivity is impossible; pure subjectivity undermines credibility; the researcher's passion is understanding the world in all its complexity--not proving something, not advocating, not advancing personal agendas, but understanding; the researcher includes personal experience and empathic insight as part of the relevant data, while taking a neutral nonjudgmental stance toward whatever content may emerge. In Michael Quinn Patton, 1990, 41.


11 An informal interview with Ellen Lampros conducted at the Cleveland Children's Museum, Ohio on September 1995.

CHAPTER 2

DERIVATION AND INNOVATION (1899-1928)

Overview of the Period

With adoption of European concepts, most American museums established in the middle of the nineteenth century were viewed as "a vehicle for promoting industrial design and scientific and technical achievement;"\(^1\) and the concept of exhibition display was changed from private collection to public enjoyment with new emphasis on educational purpose.\(^2\) Although the American Museum of Natural History opened in 1869 had commitment to "[afford] amusement and instruction to the public" and to "[teach] our youth to appreciate the wonderful works of the Creator."\(^3\) There were no children's museums--places specifically designed for children to learn and explore--until the Brooklyn Children's Museum was opened in 1899, and others followed in Boston, Detroit, and Indianapolis, etc.

This period, dating from 1899 to 1928, is referred to by many historians as the "Progressive Era." Rapid industrialization and urbanization based on progressive ideology had reformed the social structure. Occupations shifted from agricultural to industrial; technology quickly expanded with scientific experimentation and inventions;
and education focused more on industrial purpose with vocational training to fill the needs of industrialization. Consequently, the progressive industrial development resulted in many of the children in America, ages from 5- to 13- years old, working in the factories. In particular, the immigrant families were heavily relied on their children's economic input. With concerns about a high rate of child labor, the National Child Labor Committee was organized in 1904; and the first White House Conference on the Care of Dependent Children was held to address issues in welfare and education for children in 1909. Later, the Child Labor Law was passed in 1916 that set the hour-and-wage standards for children working in industry. Under these circumstances, the conditions of children's lives in America, least, began to be recognized as a part of the government responsibility through public services to serve the needs of children as many schools and related programs were built.

The practices of school education also were widely influenced by progressive ideas, which emphasized the learning by real-life experience, and focused more on the child's interests than teacher-selected materials. Most of the educational philosophies of that time held that education should prepare children for entering social life, learning should be pleasurable, and understanding the child's physical development was extremely important. Based on the "child-centered" approach, education should satisfy children's natural curiosity and cultivate problem-solving skills, and the learning process should follow children's natural development, and be initiated by their own discovery with prepared environments and materials. Abstract concepts would not be taught until children were old enough to understand them, and instruction should be balanced
between child-centered and teacher-directed, and teachers should respect individuals. Educators such as John Dewey and Maria Montessori, who developed two prominent philosophical views, had pivotal impacts on public education as well as, ultimately, the layout of children's museums. Dewey's theory emphasized the student's learning process through real-life experiences, addressed the philosophy of "learning by doing," and considered the importance of personal experience. Montessori's theory focused on the impact of the facilitator and on the way children share activities and operate different kinds of equipment through the learning process.

In 1900, only three fifths of children in the U.S. were enrolled in the public schools, which meant almost one million children did not have a formal education. The average rate of school enrollment remained nearly sixty-five percent since the 1910s, which meant most of the children received little or no education. In addition, the physical conditions at the public schools were terrible during that time. For instance, the classrooms at the New York public school were often overcrowded with forty or more pupils per class. They lacked storage spaces, toilet facilities, equipment and teaching materials; and the locations of school buildings were next to noisy railroads or subway. Even after the Compulsory School Attendance Law appeared in all states by 1918, many children still were working in factories after the school.

These conditions became the basis for many social and educational factors that affected the lives of children during this period, and catalyzed the development of children's museums in America as well. As a result, there were seven children's museums established during this period, four of which still exist, two were unclear of their
existence, and one has changed its identity to a science museum.\textsuperscript{9} With the four existing children's museums, this chapter attempts to understand: What were their motivations and initiatives? What were the social backgrounds that led the establishment of these children's museums? How have educational theories and practices affected the development of these children's museums?

\textbf{The Brooklyn Children's Museum: The First of Its Kind}

The development of the Brooklyn Children's Museum began when Franklin William Hooper became the director at the Brooklyn Institute of Arts and Sciences in 1899. As the director and a well respected educator and administrator, Hopper had prepared the Brooklyn Institute moving toward the advancement of knowledge in all fields with educational functions through exhibitions, the library, study lectures, and popular instructions. During Hopper's tenure, he incorporated and reorganized the Brooklyn Institute, pushed further its establishment at the Prospect Park, and developed a system of lectures and courses of instruction.\textsuperscript{10}

Hooper noticed that the Bedford Park building had been vacated for two years, left with invaluable natural science collections that were not good for exhibition display, and its house in a deplorable condition. Hooper instructed William H. Goodyear, curator of fine art, to examine the possible usage of the building and its collections.\textsuperscript{11} In a proposal sent back to Hooper in January 17, 1899, Goodyear suggested the Bedford Park building be re-modified and installed as the "Children's Museum of the Brooklyn Institute." Along with his proposal, Goodyear also suggested the purchase of the "Musée
Scolaire," a series of educational prints for children, from the Emile Deyrolle, a publishing company of Paris started in the 1880s, which published natural history and biological research. Because he believed these educational materials would be delightful and educational for children when they came to the children's museum. As he said, "the value of this collection lies in its balanced, systematic, comprehensive and inexpensive character--and it will serve as a type for similar collections which can be devised in this country." Goodyear had learned about the "Musée Scolaire" when he saw examples of these materials from an educational expert of Manchester, England, in 1892 during his travels and research in many archaeological sites around the Europe. He explained that the "Musée Scolaire" was

A series of 110 beautifully designed and colored cartoons in the highest style of French perfection, measuring each about 24 x 20 inches and designed for suspension on the walls of schools. Each cartoon exhibits a combination of text, colored designs, and natural specimens, wired to the cartoon."

This series of drawings was designed for primary and normal schools to assist teaching in natural history. Subjects covered included agriculture, food plants, plants used in the industries, poisonous plants, technology and manufactures, history of the earth, useful and harmful animals, and the animal kingdom; also specimens in zoology, botany, geology, natural history and the animal kingdom. More than 30,000 schools in France were using this set of educational materials, and the Ministry of Public Instruction was giving 1,000 examples each year to the poorer schools, as Goodyear had mentioned in his proposal to Hooper. Although these materials were produced in France, they had
apparently been adopted in England, as one piece of evidence indicated that the Liverpool Museum in England had begun circulating specimens to schools for educational purposes in the late nineteenth century. Staff at the Museum believed these materials would facilitate learning and interpretation by using panoramas and habitat groups in the study of the natural science.¹⁹

Based on the idea of using specimens to study natural history, and the popularity of the "Musée Scolaire" at schools in France, Goodyear also suggested the future acquisition of specimens and collections should be considered only the use for the instruction of children, the interior design of the Children's Museum should be "gayly and cheerfully decorated," and the building take the form of "model school rooms for the imitation of schools in general."²⁰

After Hooper had evaluated Goodyear's proposal, he presented it to the Board of Trustees and Council of the Brooklyn Institute of Arts and Sciences in the spring of 1899. Soon after a meeting, the Institute decided to establish a Children's Museum at the Bedford Park facility as an integral institution with various subject areas but also for all ages. The Brooklyn Children's Museum became a separate and distinctive department at a cost of $2,600.²¹ On December 16, 1899, the Museum was opened and dedicated as a place for children to study natural history. The purpose of the Brooklyn Children's Museum was:
To build up gradually for the children of Brooklyn and Queens a Museum that will delight and instruct the children who visit it; to bring together collections in [every] branch of local Natural History that are calculated to interest children and to stimulate their powers of observation and reflection; to illustrate by collections of pictures, cartoons, charts, models, maps and so on, each of the important branches of knowledge which is taught in the elementary schools.

The Museum through its collections, library, curator and assistants will attempt to bring the child, whether attending school or not, into direct relation with the most important subjects that appeal to the interest of children in their daily life, in their school work, in their reading, in their games, in their rambles in the fields, and in the industries that are being carried on about them or in which they themselves later may become engaged.\textsuperscript{22}

Since the Brooklyn Children's Museum was the first of its kind, a promotion was needed to get attention from both children and teachers. Therefore, Richard Ellsworth Call, the first appointed curator, a geologist and science teacher, send out two very encouraging letters to children and to teachers dated in September 25, 1900, inviting them to come and use the Museum. In the letter to children, Call introduced them to the Children's Museum, telling them it was a special place full of interesting objects in natural science with a fine collection of books about birds, shells, plants, animals, and related subjects to learn and enjoy. He also asked children to bring in their friends and parents to see "what we have to show you that is helpful in understanding the great world out-of-doors."\textsuperscript{23} In another letter to teachers, Call intended to bring their attention to exhibitions at the Children's Museum because they were designed to "aid in the presentation of nature work in the elementary schools."\textsuperscript{24} He also addressed the contents of each exhibit from industry, botany, zoology, geology, meteorology, human anatomy, to geography and history. The presence of all these fields would allow teachers "to
illustrate any particular nature subject or to furnish facilities for class-work in nature study. Call's publicity efforts had a great success, as 28,635 children had visited the Museum in its first six months of operations, including 41 visits of teachers with their classes to study special area related to the schoolwork. Teachers and children found the exhibits and the environment to be child- and teacher-friendly the attendance numbers jumped almost to double that of the first two years.

Although the Children's Museum was designed for children to learn, the programming concepts in exhibitions and lectures were still similar to a regular natural science museum for the needs of teachers and adults. For instance, most of the exhibitions were designed only for children to look at but not to touch, since most of the specimens and stuffed animals were displayed in glass cases along with illustrated charts, cartoons, pictures, and instructive labels hanging on the walls. Even though instructional information was written in ways children could fully understand, the Museum did not arrange for children to learn through direct interaction with the objects themselves. The idea of letting children "discover" by themselves through touching the objects was not explored until Anna B. Gallup joined the staff as an assistant curator in May 1902; she was then appointed curator-in-chief in 1904.

Anna B. Gallup was the most influential person in the movement of children's museums because she exceeded the museum function of the institution and transformed it into an educational institution. That was a new approach in the museum community at that time. Her ideas, innovations, creations, and achievements in various issues regarding the children's museum building, organizational independence, public support, educational
concepts in exhibition and program design, etc., all laid the groundwork for what a children's museum should be like. The following section provides an overall picture by highlighting Gallup's efforts in the development of the Brooklyn Children's Museum.

Anna B. Gallup was born in Ledyard, Connecticut, in 1872, and graduated from the Connecticut State Normal School at New Britain. She taught biology in the Hampton Normal School and in the Agricultural Institute at Virginia for four years. Then, she went to the Massachusetts Institute of Technology to pursue her study of biology under Professor George H. Barton, and received her Bachelor of Science degree in 1901. After graduation, she taught biology at the Rhode Island State Normal School in Providence for a year until she became as an assistant curator at the Brooklyn Children's Museum.²⁹

When Gallup began her work at the Children's Museum, she was giving half-hour-illustrated lectures to children on botanical topics by using museum's collections for her instruction. Although Gallup had no training background in museum education, her excitement for nature study, and respect and love for children set a pioneering example in the field.³⁰ Carolyn Spencer had described her enthusiasm for working with children:

Behind all this activity stands a tall, dark-eyed, pleasant-faced woman, with a soft musical voice and a ready smile. Ever ready to give a helping hand to a boy or girl, to encourage, to cheer, and to stimulate interest, Miss Anna Billings Gallup is the guiding star of the Brooklyn Children's Museum.³¹

Gallup believed the children's museum had to evolve its own methods of development because it was a totally new institution in those days. She emphasized that the children's museum should have direct contact with children, and that the exhibits should make a distinct appeal for them with labels that were easy for children to
understand. In particular, she promoted the idea that "children needed to always know that this museum was for them and always the children's interests and needs were considered," and "the children's museum way of learning things is pure fun."  

Efforts in this direction began with newly acquired collections in corals, lizards, sponges, fishes, mollusks, and seaweed when Gallup went to Bermuda to study marine biology in summer 1902, and used these objects to diversify her talks. The next year, upon her return from a four-month tour of Europe, she lectured on her traveling experiences in many European countries, particularly on subject matter such as the Alps. Aside from her innovative approach by incorporating traveling experiences into her works, she had also transformed the concepts of exhibition design. In particular, she used simple and clear language on display labels, and she had the cases lowered to make them accessible for children to see, touch, and interact with the objects.

Furthermore, she organized clubs for children to study special topics, such as a study group in wireless telegraphy that resulted in some children becoming experts in that field later. She set up collections of live animals with lectures on preservation and conservation. She established the Children's Museum League in which children could have lectures or discussion on natural history. She provided after-school activities so that children could come to study the museum's collections, use library resources, or spend their leisure time. Gallup broadened children's imaginations with her experiences and explorations from a fish to marine courses, from a plant to rain forests, and from his/her own culture to cultures all over the world. As a result of her philosophy and work, the exhibitions extended from natural history to general sciences, to live animals, even social
and cultural studies, arts, geography, history, and everything else that related to a child's daily life.

Along with her work to enhance a child's learning, Gallup suggested several important features of children's museum building in one of her presentations held at the American Association of Museums in 1908. She said,

In trying to utilize an old residence, never intended for public uses... I wish to enumerate some of the special needs for Children's Museum equipment in addition to the usual necessities recognized for every museum. These are (1) A commodious lecture room; (2) A work room laboratory; (3) A room for temporary exhibits, (4) A light, spacious and well ventilated coatroom; (5) Adequate toilet accommodations. 35

Gallup also discussed issues of organization structure, addressing the controversy of whether a children's museum should be separately housed, or under a larger museum or mother institution but as a distinct department. 36 She believed:

Our experience has led us to recognize distinct advantages in a separate plant. ... We have reason to maintain that a museum can do the greatest good and furnish the most effective help to the boys and girls who love it as an institution, who take pride in its work for them and with them, and who delight in their association with it.

To inspire children with this love for and pride in the institution, they must feel that it was created, and now exists for them, and that in all of its plans, it puts the child first. The child must feel that the whole plant is for him; that the best is offered him because of faith in his power to use it, that he has access to all departments, and that he is always a welcome visitor and never an intruder. 37

Gallup supported the idea that a children's museum should be a separate institution, giving several reasons for this stance:
Those who would incorporate the children's museum into the large museum advocate it for reasons of economy, maintaining that it is cheaper to conduct a department under the main roof, than to carry on a separate plant. The output of dollars and cents would be less in all probability, but I often wonder whether the return to the children would not also be less. Would the child get as much attention, would his good be so easily sought, and would his interests be so jealously guarded? As a rule cheap educational methods do not pay.

Another reason for favoring the union of the large museum with the children's museums, frequently given, is that the children's department would have all the resources of the large museum to draw upon, the large museum possessing collections of such extent and value as no children's museum could afford to own. Children in classes could be taken to the large collections, and special exhibits could be made up in the main museum and loaned to the children's department as needed.

In a large museum, it is almost inevitable that the children's interests would become matters of secondary consideration. Certain departments would be closed to children at times, and other would be opened only under proper restrictions, and the extent to which the children's department could draw upon the resources of the large museum would be limited in many ways. The value of a museum to children lies not so much in the vast array of specimens available, as in the judicious selection and arrangement of specimens which the children can understand and use. The multiplication of specimens would confuse and tire a child before he could profit from them. The proposition to marshal children by classes through vast and formal halls of a large museum presents difficulties because the effect of such a trip is fatigue of body, mind, and soul, while the second effect is confusion at a mass of exhibits beyond their comprehension.

Far better for the children would be their own plan, speaking through its architectural appropriateness its welcome to the boys and girls, silently expressing to them, through its arrangement and decoration, its civilizing purposes and answering quest for knowledge through the wisely chosen selection of type specimens, so clearly arranged that children can understand and easily relate them. In this way, the children's museum can becomes an educational and moral forces, strengthening the child where he is weak, training him in the proper use of a museum and fitting him for the fuller enjoyment of the large museum in his mature years.  

Although Gallup had promoted the advantages of independence for children's museums, the Brooklyn Children's Museum did not become a totally independent institution with its
Owa Director and Board of Trustees until 1979. However, Gallup’s advocacy and visions prepared the way for the future children’s museums to be independent institutions in the following decades.

Despite the fact that the Children’s Museum had been supported financially by the Brooklyn Institute, and the city of New York had provided funds for personnel salaries and limited operating expenses, a series of financial problems emerged. The Museum needed facility repairs, larger lecture rooms, preparation of duplicate materials to lend, improvement in collections, and a new museum building due to overcrowded visitation. Although the Mayor had signed a bill passed by the city council to authorize the appropriate money for a new building in 1907, these problems continued to exist. Gallup indicated in the 1908 annual report:

The dense congestion in the exhibition halls and library is a frequent and serious handicap, and destroys the sense of repose, freedom and enjoyment, which the visitor has a right to anticipate in visiting a museum. The Children’s Museum has proven its value to the children of Brooklyn, and results achieved under adverse conditions are sufficient to indicate the greater usefulness of a museum properly equipped.

Finally, the Smith House next to the Adams House where the Museum was located in the Bedford Park, was acquired in 1926 and made ready for the public as an annex of the Children’s Museum in late 1927.

During those years, Gallup was disappointed that there were no sufficient funds for educational work. She decided to enlist the aid of Helen Butterfield Schoonhoven to establish the Auxiliary of the Brooklyn Children's Museum in 1916. Once the Auxiliary was organized, Helen Schoonhoven, former president of the Brooklyn Woman's Club in New York City, and Board Chairman of the Long Island Council of Women’s Clubs,
became the educational secretary until 1949. Her vitalizing influence, voluntary services and financial contributions to the Children's Museum were deeply appreciated as Gallup stated in her 1921 annual report.  

When the Museum became a separate department with its own Director and Board of Trustees but still under the Brooklyn Institute of Arts and Sciences in 1948, the Auxiliary resigned from the Children's Museum. The Auxiliary reconstituted as the Friends of Children's Museums, Inc. in 1949. Schoonhoven became the essential person of this newly established institution to continually promote "an understanding of the philosophy of children's museums and stimulating the establishment of new children's museums in many towns and cities" later in the 1950s.

In fact, the Auxiliary became the first women's organization that was seriously involved in the development of children's museums. Consequently, it inspired many other women's organizations to be a part of initiation of many other children's museums, including the Woman Education Association in Boston and the Junior League across the nation.

At the time of Gallup's retirement in 1937, there were more than ten children's museums established throughout the nation. With her hard work and commitment, the first children museum of its kind had surpassed the museological function and had become an educational institution especially for children to learn. Gallup always believed that "knowledge starts by wonders," that the Museum should engage children's understanding driven by their own interest, and that learning should be fun and a joy. The
Brooklyn Children's Museum paved the way for future children's museums not only in the United States but also in many other countries all over the world.

The Children's Museum in Boston: Place for Exchanging Ideas and Materials

In 1913, fourteen years after the founding of the Brooklyn Children's Museum, the second children's museum was opened in Boston as "a center for the exchange of materials and ideas that would advance the teaching of science." Originally, the Children's Museum in Boston was started by a group of natural science teachers who attended an annual meeting at the Teachers' School of Science Association to discuss new ideas in teaching of science. In response to the discussion, a committee emerged in 1908 to study the issue of "what subjects in natural science should be taught in the grammar school?" The result of this committee was the Science Teachers' Bureau, which was formed in 1909, and was a project of the Teachers' School of Science Association.

The objectives and aims of this organization were as follows:

The Science Teachers' Bureau of 234 Berkeley Street (the Boston Society of Natural history building) is an organization formed for the exchange of ideas and materials among teachers of science. Specimens of birds, flowers, minerals, etc., used in science teaching are to be sent free of charge to the different schools of the city, thus supplying material to parts of the city at present unable to secure it. To do this in the best and most effective way, it will be necessary to have a centrally located room, with telephone installed, and someone in charge to ascertain the needs of different schools, fill orders, and have material delivered as requested.
Besides the Office Headquarters, it is planned to inaugurate at the same place, a Museum, local in its nature and to contain besides the natural objects, books, pictures, charts, lantern slides, etc., whatever else in found helpful in the science work of the Grammar, High and Normal Schools. The specimens are to be attractively arranged and classified and the room opens daily to children or anyone interested in such work. In addition to the Museum, there is to be a permanent exhibition of what is accomplished in the grades.

Yet, finding the perfect location and preparing for museum's administrative structure took another several years. Although the Museum had begun its operation in 1912 in the Refectory Building at Franklin Park, the final location had still not been decided yet. A suggestion made by Robert W. Sayles, curator of the Geologic Museum at Harvard University who was interested in a museum for children, and George H. Barton, director of the Teachers' School of Science, bore fruit. They recommended the Pine Bank House for museum's permanent home, on the north shore of the Jamaica Pond.

After finding a location, reorganizing the museum's administrative structure became another task at the Children's Museum in Boston. Since its inception, there were many organizations and individuals who had been involved in the development of the Museum. They believed they needed an independent Board of Directors to lead the Museum in order to avoid complicated organizational issues. After a vote, the Children's Museum became a separate institution with its own director and Board of Trustees. Moreover, the Teachers' School of Science Association continued its sponsorship of transportation costs of sending educational materials and loan collections to schools and teachers. Many other generous gifts made by individuals contributed to the museum's financial stability. The Children's Museum in Boston officially opened its door to the public in August 1, 1913.
The Museum at first had only two rooms: one was an exhibition center that featured artifacts and natural history specimens; another one was a resource center which provided training and curricula for teachers and other adults working with children. Along with its programs and exhibitions, the Children's Museum developed a strong docent program to serve as a facilitator between the audience and exhibition in order to create a good museum experience. As Charles J. Douglas, President of the Children's Museum, said in 1921,

A museum without a docent is like a school without a teacher…. We have no great buildings; we have no extensive exhibits or priceless value; we have no great wealth. But we render a docent service that is the very best we know how to give.…. If I were to describe our museum in a sentence, I should say that its is teaching organization which uses museum exhibits and apparatus as tools.

The Women's Education Association was another driving force in the establishment of the Children's Museum. The Women's Education Association was formed in Boston in 1872 to "[promote] better education of women." Although this organization was disbanded in 1930s, it had made valuable contributions in education such as founding of Radcliffe College and the Marine Biological Laboratory at Woods' Hole. When one of the committees promoted its interest in and support for the development of educational opportunities for children in museums, the connection to the Children's Museum began. Early on, the Association invited Anna B. Gallup to give a speech at an important meeting for consideration of the development of the Children's Museum in March 1913. As a former student of George H. Barton at the Massachusetts Institute of Technology, Anna B. Gallup came to Boston and shared her works, advice, and experiences in Brooklyn. Through Gallup's recommendation, Delia J. Griffin, a
former student of George H. Barton, accepted the position as the first curator (1913-1927) of the museum based on her outstanding work at the Fairbank Museum in St. Johnsbury, Vermont.\textsuperscript{50} Many early and long-term contributors to the Museum were also members of the Women's Education Association.\textsuperscript{51}

Besides Gallup's contributions and influences, Delia I. Griffin claimed that the uniqueness of the Children's Museum in Boston was:

"Only one museum has ever been founded by a body of teachers, and established as the direct result of the need felt by the educators of a large city, for some adequate assistance in the teaching of elementary science."\textsuperscript{52}

Charley Douglas also pointed out that the Museum's "educational output" made the difference when the Children's Museum in Boston "reached down into the heart of the child."\textsuperscript{53}

**The Children's Museum of Detroit Public Schools: A School Museum**

In the late 1910s, when a group of objects in biology, geography and historical artifacts at the Detroit Institute of Arts could not fit into the scope of its primary objectives in the collection of arts, the idea of developing a children's museum for public schools embarked. Since the proper usage of these materials became a question for the Institute, a conference was held with the Superintendent of Schools to discuss the application of these materials, based on the needs for illustrative material in the average classroom. The decision was made that the Institute would donate the collections and the Board of Education would pay the salary of the personnel to establish a children's museum. The Museum was initially housed in two basement rooms at the Detroit
Institute of Arts. One room was for the Children's Museum Loan Department, and another one was the Children's Museum Room. At that time, there was no definite plan for the Children's Museum Room whether for exhibition or lecturing space for school children that came to visit the museum.\textsuperscript{54}

In 1915, the Board of Education made the Children's Museum one unit under its administration and took full responsibility for its operation. Later, the Children's Museum of Detroit Public Schools officially opened its doors in 1917, and Gertrude A. Gillmore was the first curator until her retirement in 1939.\textsuperscript{55} In fact, the Children's Museum was not created to serve the needs of teachers but, rather, those of the Board of Education when the decision was made at the meeting between the Detroit Arts Institute and the Board of Education. At the beginning, the superintendent felt uncertain of how eager teachers would be to use the Museum. As Gillmore stated, "No pressure was to be put on the already overburdened teacher to borrow collections, lest she should feel-- Here is another thing I am expected to do."\textsuperscript{56} Thus, the preparation of the Children's Museum began with an idea that "many teachers would appreciate illustrative materials if it fitted their needs and could be easily obtained." Consequently, 306 collections were borrowed that had reached about 22,000 children in its first year and four months. Moreover, when the Board of Education subsequently provided the expenses of transportation for the loaning of collections, the circulation records marked a tremendous increase by almost ten times. Gillmore said "From September 15 to May 15 [1921-1922] of the last school year nearly 1,500 collections have been sent out to teachers in 119 of the 153 schools of the city, and have already reached about 200,000 children."\textsuperscript{57}
Through years of operation with increased satisfaction from the teachers, the Loan Department of the Children's Museum became a great resource center with materials that could be used in classes across various grade levels and subject matters. To match the success of its Loan Department, what could the Children's Museum Room become with one room of space and limited funds? An idea came from a boy, as Gillmore said,

A youngster who said if he could once think of the subject for his weekly composition, it wouldn't take him long to write it. The brilliant idea occurred to him one day that his troubles would be at an end if he could think of some one topic on which he could write a series of compositions. The topic finally selected was this, "The World and What It Contains." 58

The boy's was an inspiration for the final plan of the Children's Museum Room, and the museum decided to follow his idea. Additionally, Gillmore indicated that the Children's Museum "must be a place which the child looked upon as belonging specifically to him. He must have a part in it." 59 The plan that was finally decided was to select classes from schools that were working on the same or similar topic. The Museum invited children to present their final projects at the Children's Museum Room; and projects could include various formats as pictures, charts, models or real objects. Children were proud to see their works on display; they were able to make something good enough to be shown in the museum. This plan engaged children's belonging and participation. Such an innovative idea--cooperation on exhibition design between schools and the Children's Museum--especially children's participation in exhibition design became a great model for many other children's museums.

The idea of making connection to the schools was innovative and was important in the history of children's museum. In fact, only a few children's museums have been
totally sponsored by the Board of Education or the Public School system up to the present. One reason could be the school museum was limited to curriculum and instructional services in the schools, with less flexibility in creation of programs for family participation, special needs children, and particular topics of interests and community issues.

Despite the problems and difficulties of school museums, this experiment inspired many other children's museums to build good relationships with local schools by providing services through programs and exhibitions. This type of partnership enriched and extended learning experiences because children could learn things at the museum that school and home could not be able to provide.

The Children's Museum in Indianapolis: Where There is a Will, There is a Way

Without Mrs. Carey, who was vacationing in the East in 1924, being told by another hotel guest that Brooklyn had a museum especially designed for children, the largest children's museum in the world would might not exist in Indianapolis, Indiana today. As a mother of four and grandmother of seven, and having a strong interest in civic and cultural courses, the idea of "children's museum" was fascinating for Mrs. Carey. After visiting the Brooklyn Children's Museum, she thought that Indianapolis definitely should have a similar facility, too. David H. Kenny indicated,

Mrs. Carey had seen Indianapolis homes being razed and pioneer relics of this city and state being scattered as long established families were taking smaller homes. In a museum for children, Mrs. Carey reasoned, this memorabilia could be housed and enjoyed generation after generation.
Soon after Mrs. Carey had returned to Indianapolis, she shared her thoughts with Faye Henley, who was a museum enthusiast and principal of Orchard Country Day School, and gained her support. The excitement between these two women influenced Florence H. Fitch, Director of Art Instruction in the Indianapolis Public Schools, Eliza Browning, city librarian, and Murray A. Dalman, Director of Research for the city schools, to join their work. With neither financial support nor collections or administrative support, they decided to seek public support.\(^6\) The first step was calling a public meeting for all the people who were interested in a children's museum for Indianapolis, and "the need for larger quarter and usefulness of museum material to school children."\(^6\) The first meeting was held in December 2, 1924, and 24 people attended. They represented the Women's Rotary Club, the State Museum, Herron Art Institute, The Indianapolis News, the Parent Teacher Association, the Indianapolis Public Schools, the Indianapolis Public Library, and the Progressive Educational Association. In the second meeting, held in the home of Mrs. Carey, nine trustees were elected and began the business of running a museum on the same day. With this group of supportive people, the Children's Museum of Indianapolis was opened on December 6, 1925, in a tiny carriage house. It was referred to as a "Christmas gift to the children of Indianapolis."\(^6\)

The beauty of its derivation indeed was Mrs. Carey's idea. As Kenny said, she believed that "children themselves would play a large role in the development of the museum."\(^6\) In one of its early exhibitions, Mrs. Carey encouraged children to bring in all kinds of objects from their own collections. In particular, a group of children from immigrant families began to donate items belonging to their parents and grandparents,
because they thought it would be interesting to share with other Americans their cultural heritages. This is why the Children's Museum of Indianapolis in some ways is unusual among other children's museums, because of its emphasis on social culture with children's perspectives. Children were allowed to determine the nature of their own museum.

Yet the Children's Museum of Indianapolis was opened a quarter century later than the Brooklyn; the uniqueness of this museum was that it was formed from the community joint endeavors with supportive leaders, educators, and especially with children's involvement.

**A Summary of the Period**

This chapter laid the groundwork for an understanding the origin of children's museum in the United States. As we know, the Brooklyn Children's Museum was established by its mother institution and was dedicated to helping children to study the natural sciences. The Children's Museum in Boston was initiated by a group of science teachers to enhance and exchange teaching ideas and materials. The Children's Museum of Detroit Public Schools was supported by the public school administration to serve as a resource center for classroom use. The Children's Museum of Indianapolis was started with children's involvement and was a community joint endeavor. These pioneering experiments created the foundation for future children's museum development.

The development of children's museums during this time reflects several principles of current art education, such as encouraging "learning by doing," offering
first-hand experiences, engaging interaction with the objects, and promoting museum and school relationship. As with art education programs that use high quality reproductions in order to give children access to art without endangering fine originals, these museums were founded on the basis of having available good quality materials with which children could interact without fear of destroying irreplaceable originals.

In addition, early children's museums also evolved several other features of practices in art education, which include incorporating different subject matter to have a comprehensive understanding; utilizing personal experiences among interpretation; addressing the importance of environmental setting to enhance learning experience, engaging school-museum relationship; supplementing educational materials through museum resources; and enlisting children's participation in exhibition design, etc. Although there is little information about the use of art in these children's museums at that time, the idea of comprehensive learning and understanding, learning through first hand experience, and others, is parallel to the foundation of the philosophy of teaching art. These principles might suggest a possible direction for today's art education as well as museum education in art museums.
Endnotes

1 "The History of Museums: Bibliography" Britannica Online <http://www.eb.com:180/cgi-bin/g?DocF=macro/5009/36/5.html>

2 Ibid.


9 For example, the Children’s Museum of Hartford in Massachusetts was opened in 1927, under Delia Griffin’s leadership with a major focus on scientific collections, and its name was changed to Science Museum of Connecticut in 1973. In addition, the Cambridge Museum for Children in Massachusetts was established in 1914 and the Morris Junior Museum in Morristown, New Jersey was opened in 1922, with no clear evidence that they have continued to exist.


11 The Bedford Park building (Adams House) served as a temporary museum only opened to public for research when a fire destroyed the Washington Street building of the Institute in 1895. Most of the scientific collections and Library were stored in here until the construction of the Central Museum, known as the first section of the Brooklyn Institute of Arts and Sciences and completed in 1897.

12 Letter from William H. Goodyear to Franklin W. Hooper, January 17, 1899, Brooklyn Children’s Museum Archives.

13 Information collected from the WorldCat online database.

14 Letter from William H. Goodyear to Franklin W. Hooper, January 17, 1899.


16 Letter from William H. Goodyear to Franklin W. Hooper, January 17, 1899.

17 The normal school is known as institution for training elementary school teachers. Commonly, the normal schools are supported by states with a two-year course beyond the secondary level. Especially after
World War II, most of the normal schools extended their teacher-training requirements to at least four years; they merged into colleges or universities as departments or schools of education by the 1960s.

18 Letter from William H. Goodyear to Franklin W. Hooper, January 17, 1899.


20 Letter from William H. Goodyear to Franklin W. Hooper, January 17, 1899.

21 The Twelfth Year Book of the Brooklyn Institute of Arts and Sciences (Brooklyn: The Institute, 1900).

22 Ibid.

23 R. Ellsworth Call, "Letter to Children and Teacher," unpublished manuscript dated on September 15, 1900 provided by the Brooklyn Children's Museum Archives.

24 Ibid.

25 Ibid.

26 The Twelfth Year Book of the Brooklyn Institute of Arts and Sciences, 1900.

27 This is a Child's World: The Brooklyn Children's Museum (New York: The Museum, 1948).


29 More detailed biographical information on Anna B. Gallup can be found in Edward P. Alexander's book: The Museum in America: Innovators and Pioneers (Walnut Creek, CA: AltaMira Press, 1997): 133-146; and in the Who was Who in America (Chicago: Marquis, 1951-1960).

30 Ibid.


32 Unpublished autobiographical sketch provided by the Brooklyn Children's Museum Archives without dating.


34 Excerpts from a Letter from Miss Gallup, provided by the Brooklyn Children's Museum Archives without dating.


36 Ibid.

37 Ibid.

38 Ibid.
"Timeline of the Brooklyn Children's Museum" provided by the Brooklyn Children's Museum Archives.


For instance, the Auxiliary hosted weekly informal Friday afternoon tea receptions for public school teachers in return for children to visit the museum for many years. It raised money for hundreds of lantern slides, gave $10,000 to Franklin W. Hooper Loan Collection Fund, and inaugurated Americanization programs for children of immigrant families, etc. according to Anna B. Gallup. In Museums of the Brooklyn Institute of Arts and Science, Report Upon the Condition and Progress of the Museums for the Year Ending December 31, 1921 (Brooklyn, NY: The Museum, 1921).


Ibid.

Information package provided by the Children's Museum in Boston, Massachusetts.

The Teachers' School of Science was founded in 1870 by Alpheus Hyatt, curator of the Boston Society of Natural History, for "furthering the teaching of elementary natural science in the schools." Years later, many graduates and students who attended the Teachers' School of Science formed an organization to explore new ideas on how to teach natural science in schools as known as the Teachers' School of Science Association in 1901. Resources from Adelaide B. Sayles, The Story of the Children's Museum in Boston from its beginnings to November 18, 1936 (Boston: Press of Geo. H. Ellis Co. 1937).

Grammar School, term used in Great Britain, known as secondary school that offers an academic course in preparation for university entrance and for the professions. Students usually begin attendance at age 12.


Information package provided by the Children's Museum in Boston, Massachusetts.


Ibid.

Adelaide B. Sayles, 1937.


Charles J. Douglas, 1921.


These are the Hannah Lindahl Children's Museum, Mishawaka, Indiana, which in 1946, began with an empty classroom in a school building provided by the superintendent and the Board of Education. In 1972, the Rose Hill Manor Children's Museum and Historical Park, Frederick, Maryland, opened and cooperated with the County Board of Education as a children's museum for hands-on interpretive activities. The Capital Children's Museum was given rent-free space in the under-enrolled Lovejoy Elementary School by the Washington Board of Education when it opened in 1979. The Walter Elwood Museum, Amsterdam, New York, 1937, the Gereva Nature Museum, Geneva, New York, 1937, and the Atlanta Public Schools Museum, Atlanta, Georgia, 1953, were not a children's museum but were conceived by the school district.


Ibid.

David H. Kenny, 1975.

Ibid.

Ibid.
CHAPTER 3

THE IMPORTANCE OF CHILDREN'S LEISURE, INSTITUTIONAL SPONSORSHIP, AND COMMUNITY JOINT ENDEAVORS ON THE DEVELOPMENT OF CHILDREN'S MUSEUMS (1929-1957)

Overview of the Period

By the time the development of children's museums moved into its second period, the importance of having a children's museum in the community had begun to be recognized across the nation. In particular, people came to realize the value for children to learn through the exploration of real-life objects. In addition, museum programs reflected various educational theories and learning styles in design and implementation of exhibitions and activities.

During this period, from 1929 to 1957, three major factors had an impact on the development of children's museums. First, the rapid industrialization and mechanization provided people more time for recreation, and the notion of preparing good leisure activities specifically for children emerged in the early 1930s. Second, the rise of institutional sponsorship, e.g. the Junior League and the William T. Hornaday Memorial Foundation, resulted in a large number of children's museums being established as community projects since the 1940s. Third, from the impact of many places having had a
children's museums, parents, educators, and community leaders became driving forces in the development of children's museums in their own community, particularly in the 1950s. Parents, educators, and community leaders came to believe that children should have further stimulation in various subjects such as the arts, natural sciences, social studies and humanities, particularly through firsthand interaction in either school or out-of-school settings. Additionally, several children's museums were sponsored by the public schools system, an idea similar to the Children's Museum of Detroit Public Schools.

On the other hand, the Great Depression and the World War II era (1939-1945) also influenced the lives of children in America and the development of children's museums. When the stock market crashed in 1929, many families lost their incomes and the lack of jobs forced the needs of supplementary incomes from children. Two-fifths of the children were employed in part-time jobs, usually in low-paid jobs such as newspaper boy, baby sitter, janitor assistant, store clerk, and delivery agent.1 Under the economic distress and burdens of the Depression, Americans felt the need for strong government in order to reconstruct the social order, which led to the election of Franklin D. Roosevelt in 1932. Roosevelt introduced a number of government actions and regulations in order to reconstruct the national economy and provided public works projects to promote recovery in the nation. Under the list of Roosevelt's actions, the Works Progress Administration (WPA) legislation passed in 1935 with the idea of work relief. One of the WPA projects offered funds to aid childcare and established emergency nursery schools to provide emergency relief for teachers who were out of work during the Depression.
Another WPA program supported many museums with good quality of services for children and schools through the difficult times. For instance, the WPA provided skilled workers with limited wages for repairing building facilities, exhibition installation, specimen conservation, preparation of loan cases, etc. Examples of art from the WPA are still available for study and public enjoyment today.

With the advent of American involvement in World War II, many women were required to work in defense-related jobs, and the need for childcare became critical. For instance, the Community Facilities Act (Lanham Act) was passed in 1942 to authorize emergency grants to build and operate childcare facilities, which offered childcare services to mothers who were working in defense-related industries. Soon after the War ended, America moved into the postwar recovering period, and the federal funding for child services was cut and withdrawn. As a result, three thousand childcare centers were closed, and left 1.5 million children without day care services. Yet, many women did not give up their jobs, and the need for childcare programs continued to grow.

Although the nation was facing the Great Depression from 1929 through the 1930s, the pre-Depression ideas of Progressive education continued to be adopted in many educational institutions. Eventually, the progressive idea was distorted from Dewey's original concerns, and essentialism reappeared that emphasized education should "go back to basics" and "provide intellectual training in the basic skills and academic discipline." Most of the schools resumed their subject-oriented focus especially on science and mathematics education. In fact, this trend did not have a big influence in the development of children's museums, but rather, the children's museum
began to serve as a supplement for school education because of its nature in promoting the hands-on learning experiences.

During this time, there were more than 40 children's museums established, and half or which are still running today. The Junior League assisted at least three children's museums with specific interests on art and education for children.⁵ The William T. Hornaday Memorial Foundation sponsored one third of the museums that were founded since the late 1930s; this type of sponsorship has continued to the present under the Natural Science for Youth Foundation. More than four children's museums were created by offering leisure time activities for children and teenagers sponsored by either community leaders or departments of recreation and parks.⁶ Some children's museums were governed by the public schools systems or began with group of parents or teachers.

Geographically, the development of children's museums had expanded from the Northeast and Midwest region to the South in states such as Alabama and Georgia, and to the West Coast in states such as California and Oregon. Although most of the children's museums were located in urban areas, some few of them were in suburban and rural communities. In general, all these newly developed children's museums shared similar reasons for establishment as they learned and assimilated the experiences of early ones. A few children's museums merged with other institutions and changed their identity to science-oriented museums during this time. Some chose not to use the "children's museum" as a title because it is too limited to attract students in middle or high school; these institutions were mainly called youth or junior museums at that time.
With its focus on historical context and general trends, this chapter attempts to understand: How had the concepts of children's leisure affected the establishment of children's museums? What was the role various institutions played in the movement of children's museums? Why did some children's museums start by community joint endeavors by group of parents, teachers, or through the public schools system?

**Needs for Children's Leisure Time Activity**

Due to mechanization and industrialization, people began to have more time on their hands. The average worker in manufacturing worked 60 hours per week in 1890 and this was reduced to 51 hours in 1920. The concept of "recreation" and "leisure time activity" emerged, as did the notion of preparing good leisure activities for children. The Cardinal Principles of Secondary Education, announced in 1928 by the Department of Education, emphasized the importance of children's recreation and leisure time activity in secondary education. The principles addressed the needs of every individual who should have time to cultivate personal and social interests. It stated:

> Education should equip the individual to secure from his leisure the recreation of body, mind, and spirit, and the enrichment and enlargement of his personality, the ability to utilize the common means of enjoyment, such as music, art, literature, drama, and social intercourse, ... in each individual of one or more special vocational interests.

With such notion, the field of children's museums gradually absorbed the concept of "recreation" and "leisure time," and several children's museums were established under this classification during this period. The Palo Alto Junior Museum and Zoo in California opened in 1934, and the Josephine D. Randall Junior Museum in San Francisco opened in
1937. Both of these museums had as their focus the idea of leisure time. The following section provides a brief historical development of each museum and focuses on their origination under the concept of children's leisure.

When the notion began, that children should be prepared to use their leisure with worthwhile activities in order to carry their interests into adult life, the Palo Alto Community Center decided to create a museum for children's recreation. As a result, the Palo Alto Junior Museum and Zoo in California was opened to the public at the end of 1934, and Josephine O'Hara was selected to be the first curator. The goal of the Museum was "to provide wholesome activities for youngsters of that era [the Depression]" and "to establish a stable groundwork by which future generations might explore the adventures of living." The Museum was dedicated "to stimulating the minds of children and increasing their awareness of nature, science, art, and history by offering a variety of classes and workshops with live animals for children of all ages." The design of the Museum was focused on two parts: one was the "exhibits area" and another one was the "work sections." The exhibitions at the Museum were mainly focused on natural science, but activities provided in the "work sections" attempted to cultivate children's lifetime interests or hobbies, such as clay modeling, stamp club, painting group, or gardening projects, etc. Additionally, the Museum's founders and staff believed that the choices of activities depended on the interests individuals, which every child should be given an opportunity to create and develop. The Museum also encouraged every child to take responsibility for using tools and materials, and to have the chance to develop respect and consideration while working with others. Generally, the Museum was focused on the
purpose of leisure activities, and less to address the needs for instruction at the schools. By following its principles, the Museum was intended to "[blend] of both recreation and museum ideology" and "[offer] constructively enjoyable use of leisure time."\(^{13}\)

On the other hand, the financial stability of the Museum was affected by high rate of unemployment and stagnant economy during the Depression. Although the Board of the Museum had set up a membership fund for its operation since its opening, the money was not enough to balance personnel salaries and expenses until the WPA provided funds and voluntary services. Without WPA's efforts, the Museum would not have been able to continue its services for children. Many other similar institutions were forced to close during the difficult time.\(^ {14}\)

The Randall Junior Museum in San Francisco, California was founded by Josephine D. Randall in 1937. Josephine D. Randall was an active woman who had engaged in many civic activities such as organizing the first Girl Scout troops in America and one of the first Camp Fire Girl troops in about 1915. Later, she became the first woman to hold the position of the San Francisco's Superintendent of Recreation around 1925, and under her leadership, the Recreation Department became one of the most outstanding services of its kind in the entire nation.\(^ {15}\)

To open a recreation museum for children and youth was one of Randall's longtime goals. Then, her dream came true when everything fell into place: creative leadership, skilled and trained personnel, an empty building, and assistance by the WPA. The Museum opened to the public in 1937 under the supervision of the San Francisco Department of Recreation and Parks; it was intended to be a place for children.
adolescents and adults by offering exhibits, classes, and workshops. In particular, the Museum was designed to foster a love of science, natural history and arts with hands-on learning experiences. As Randall said, "Our Junior Recreation Museum is a museum in the modern conception of the term; it is a true activity center." She reflected on the principles as she said,

We want to give to all who participate in the activities of the Junior Museum have an opportunity "to learn to discover themselves, to learn to live with themselves in a rich and satisfying manner." We are anxious "that they make major advances in the relationship of life rather than in the mechanics of living." We want them to be interested in the things people are doing rather than in the finished product alone. While techniques and skills are being developed by activities at the museum, the creation of attitudes is the important goal in all of the work.

In fact, this type of children's museums was to

Offer an opportunity for essential cooperation with and aid to existing agencies, such as the home, schools, the parks, playgrounds and the varied organizations that are working in the interest of the development and maintenance of wholesome personalities.

Although only two examples were presented here, the concept of enhancing leisure for children had also been shared by many other children's museums during this period. The fundamental principles of such type of junior museum were to nurture a wholesome atmosphere through various activities and hobbies. As Anna B. Gallup, former curator of the Brooklyn Children's Museum, stated in 1938,

Children's museums solve important leisure time problems of children. They motivate activities which are carried on in the home, which protect a child from harmful influences and stir his ambition to engage in educational and cultural pursuits. They enable children to build up a rich mental background for their future reading, school work, and all other undertakings of their lives.
Institutional Sponsorship

Another significant characteristic in the development of children's museums during this period was institutional sponsorship. Six major contributors were involved: the Department of Recreation and Parks, Friends of Children's Museums, Children's Museum Section—an affiliation under the American Association of Museums, American Association of University Women, the Junior League, and the William T. Hornaday Memorial Foundation—known as the Natural Science for Youth Foundation today. Their involvement dated as early as in the 1940s and most these groups have continued their support to the present. There were more than two dozen museums established under their sponsorship by financial support, administrative leadership, organizational experiences, field expertise, and/or voluntary services. This section discusses what role each institution played in the development of children's museums, and will focus on the idea of origination within the social and cultural context. However, the first four institutions (i.e. Children's Museum in Brooklyn, Boston, Detroit, and Indianapolis) had taken a part in the movement of children's museums, but comparatively the Junior League and the William T. Hornaday Memorial Foundation were the major forces. Since they had assisted the establishment close to thirty museums during this period, the following addresses their participation more than that of the others.

Department of Recreation and Parks

When working hours were gradually shortened and people had more free time on hand, needs for recreational facilities for the urbanized and industrialized environment emerged, resulting in numerous constructions of public parks, playgrounds and sports
fields at this time. As the National Recreation and Park Association, founded in 1921, stated,

At the turn of the century, the nation had no positive philosophy pertaining to the social values of play and recreation; little attention was given to the importance of open space for recreation in a growing number of harsh urban environments.21

In recognition of the importance of recreation in the growth and development of individual, the Department of Recreation and Parks in many cities embraced the establishment of children's museums with foci on children's recreation and leisure time activities. Along with the Palo Alto Junior Museum and the Randail, another example is the development of Portland Children's Museums in Oregon, known as the "Junior Museum" when it started in 1949. Dorothea Lensch, an educator, founded the Museum as part of the city's Parks and Recreation Department. The Museum featured a variety of natural history displays including live animal exhibits, and the purpose was:

To help children discover the world around them, develop their skills, and enjoy interacting with others in a safe, stimulating environment. ... [The Museum] uses both objects and experiences to invite children to explore the diversity and richness of the world.22

The Friends of Children's Museums Inc.

Helen Butterfield Schoonhoven who had headed the Auxiliary at the Brooklyn Children's Museum since 1916, formed the Friends of Children's Museums in 1949 when the Auxiliary resigned from the Children's Museum because of conflicting interests. The purpose of this organization was to promote the development of children's museums. In particular, Schoonhoven shared her experiences at the Brooklyn Children's Museum, and addressed her vision in exhibition design to start-up museums. As she believed,
The exhibits must be set up to arouse the interest and curiosity of children in the world of nature, in other peoples and lands, and in their own country and its history. They must stimulate the children's creative and manipulative skills through arts, crafts, and science, and create a desire on the part of children to participate in the activities, such as making birdhouse, Indian masks, and starting rock, flower, or insect collection.23

The Children's Museum Section—American Association of Museums (AAM)

The Children's Museum Section of the AAM was another organization that actively promoted the value of children's museums in this time. This organization was an affiliation under the American Association of Museums, and was organized with help by Anna Billing Gallup in 1938. Through the AAM annual conference, the Children's Museum Section gathered directors and educators of children's museums, junior museums, and youth museums for exchanging ideas and discussion on issues in the development of children's museums at that time. Later, the Children's Museum Section became the American Association of Youth Museums (AAYM), then the Association of Youth Museums (AYM) in 1962. Today, the AYM is an international and professional service organization that serves over 340 members all over the world, and "strives to enhance the quality, expand the capacity, and further the vision of youth museums."24

The American Association of University Women (AAUW)

The American Association of University Women was founded in 1885. A nationwide organization of 160,000 members promotes education and equity for women and girls. The AAUW has long influenced legislative debate on critical social issues such as education, sex discrimination, civil rights, reproductive choice, affirmative action, Title IX, welfare reform, vocational education, pay equity, family and medical leave, and health care reform.25
One of its earlier projects was the establishment of Norwalk Children's Museum in Connecticut in the early 1940s. The original idea was based on a survey result on community services for children by AAUW, which indicated "there was a lack of cultural opportunities for children in many communities."\textsuperscript{26} Members of the Norwalk Branch of AAUW thought that establishing a children's museum would fill the need, but the Children's Museum was forced to close in June 1942 because of the War.\textsuperscript{27} After its closing, a brochure was written by Jane B. Cheney, Director, and Louise S. Lemaire, Chairman of Board of Trustees of the Children's Museums. They presented this article to all members of the AAUW as "an item in our 'How To Do It' series," suggesting that it "gives many practical suggestions based upon actual experience."\textsuperscript{28} This brochure became a good reference for other local branches when they had a chance to establish or to sponsor a children's or junior museum in their own community.

In fact, the AAUW did not give money for individual institutions, but generally used their influence to sponsor such institutions, publicizing the fact children's museums would promote the value of education for women and children. For instance, a local branch might allow a children's or junior museum to use its name for fundraising purposes, or write a public letter to support a museum project, or provide expertise in a specific field such as early childhood development.\textsuperscript{29} In fact, the sponsorship of AAUW varied from branch to branch. It is difficult to find evidence of just how many children's museums were sponsored by the AAUW. However, its leadership and promotion of education and equity of women and children has certainly increased the appreciation of children's museum in various communities nationwide.
All these four organizations more or less had impact on the movement of children's museums during this time. Although they were less involved in the physical construction of each museum, they contributed valuable resources, insights, and support. The Junior Leagues and the William T. Hornaday Memorial Foundation, in contrast, focused more on the physical establishment of each children's museum in terms of building construction, contents of exhibition, organizational structure, fund-raising strategies, and promotion within the community. Most often, they provided their expertise in organizational administration, community leadership, financial support, and museum experiences. The following section details their involvement.

The Junior League

Generally, the Junior League is regionally based and a not-for-profit organization. Its mission is to "promote voluntarism, develop the potential of women, and improve communities through the effective action and leadership of trained volunteers."\textsuperscript{30} Throughout the nation, Junior Leagues generally served the community with financial support, experience in organization administration, voluntary services. Members of the organization have focused on education, welfare, recreations, arts and many more concerns for both children and adults. Most of the time, the Junior League initiated a project on the basis of "(1) community need, (2) membership interest, (3) current Junior League commitments and former projects, (4) opportunity for League participation in the service and in the administration of the program, (5) available Junior League funds, (6) money-raising potential of the membership, (7) evidence of future community support, and (8) professional interest and resources."\textsuperscript{31} When the project became self-reliant and
self-sufficient in terms of the administration, organization, and finances, then the Junior League withdrew its founding role from the program, but typically continued its financial or voluntary services.

The first Junior League was organized by Mary Harriman and Nathalie Henderson when both of them were students at Barnard College, New York in 1901. Mary Harriman described the purpose of this group: "Our League was organized as a means of expressing the feeling of social responsibility for the conditions which surround us. We have the responsibility and the opportunity to conscientiously act to affect our environment." In addition, as Ellen Fisher said, one of their initial points was for the "Promotion of Settlement Movements." The Settlement Movement began in the late nineteenth century with a mission to improve the living conditions of inner city slums. One of the more well known cases was Jane Addams who founded the Hull House in Chicago in 1889, by offering educational classes, cultural activities, and hope to the residents of the inner city slums. Addams' intention was "to share the lives of the poor and humanize the industrial city." Jane Addams' works might inspired other women to be a part of such social activities, since at that time, women found it difficult to explore their talents, skills and energy in many social groups and leadership. To be a part of the settlement movement, women found their contributions through volunteering works, as Ellen Fisher said,
By volunteering, women could do work most often reserved for men yet still fulfill their expected role as nurturers. They were "cut off from the political party, the bench, the bar, the Congress, the city council, the university, the pulpit--voluntary associations became a place to exercise the public influence otherwise denied them, in a sense they provided an alternative career ladder, one that was open to women where few others were."  

Fisher described "the Junior League women planned projects and raised money for those less fortunate, particularly immigrants, … using their education and free time, … assumed responsibility for improving and changing their community."  

The Junior League enlisted other women in many cities to follow its formation with strong emphasis in community services, such as Brooklyn, Baltimore, Chicago, Cleveland, and Philadelphia later. Then, the Association of Junior Leagues was formed in 1921, and stated its mission as,

> An organization of women committing to promoting voluntarism, developing the potential of women and improving communities through the effective action and leadership of trained volunteers. Its purpose is exclusively educational and charitable.

> Through the power of association, Junior Leagues strengthen communities by embracing diverse perspectives, building partnerships, and inspiring shared solutions.

Generally, one of the greatest interests of the Junior League was in the museum field, as there were 122 projects primarily for young audiences related to museums and art centers undertaken by almost half of the 197 leagues. The following section provides a brief chronological overview of several children's museum projects directly led by the Junior League, and some of them were in conjunction with the William T. Horaaday Memorial Foundation.
The earliest museum project began in 1945 by the Junior League of Denver and was co-sponsored by the Denver Art Museum in the development of the Denver Children's Museum. With increasing demands on its services not only for children but also for adults, the name of "children's museum" became too limited. In order to accommodate its services for better understanding in the arts to the entire community, the name of the Denver Children's Museum became the "Living Arts Center," in 1958. The original sponsorship of the Children's Museum by the Junior League ended in 1952, but its financial support and voluntary services were continually given to various exhibitions and educational programs to this new art education program.

The Charlotte Children's Nature Museum, North Carolina was founded in 1947 with the assistance of the Junior League of Charlotte. In 1951, the League provided financial support for the building when the children's museum moved to a 31-acre wooded site.

Members of the Association for Childhood Education initiated the establishment of the Jacksonville Children's Museum, Florida, in 1935 in order to provide more specimens and objects that could be used in the classrooms. This project began with a series of window displays in a bank and acquired its first home in a renovated Victorian house with financial support by the Junior League in 1948. When the old house became too risky to accommodate the more than 80,000 visitors a year in 1965, a new building was completed year later near downtown renewal area with a donation of $100,000 made by the Junior League.
The Junior Museum of Miami was the forerunner of the Museum of Science and Natural History in Miami, which opened the doors to its first home at the headquarters of the Junior League in 1949. Though the Junior League withdrew its financial sponsorship in 1960, the voluntary services to the Museum continued. The Service League of New Britain (now the Junior League), Connecticut, founded the New Britain Junior Museum in 1956 with efficient voluntary services, helped the curator to run the museum until 1961 when a full-time director was hired.

The Children's Cultural Center, part of the Portland Children's Museum, Oregon, was originally sponsored by the Junior League of Portland when the Children's Museum acquired the Carnegie Library in the 1950s. The purpose of the Center was,

To introduce youngsters to the amazing cultural diversity of our world. Through formal presentations and hands-on exhibits, young visitors learn to appreciate the arts, clothing, traditions and lifestyles of other peoples."

We believe this training has long-lasting, positive results. It lays the groundwork for acceptance of other cultures, which will become an increasingly important factor as the Northwest's population and workforce becomes more ethnically diverse in the coming century.44

Finally, the original concept for the Tallahassee Junior Museum came from "a group of teachers who were interested in providing the community's youth with a better understanding of the world in which they lived," in the late 1950s.45 Members of the Association for Childhood donated seed money of $200 in order to incorporate the Museum. With additional support from the Tallahassee Junior League and the National Foundation for Junior Museums, the Museum opened in the downtown area a year later, in 1958. Within the next four years, a 10-acre land of Lake Bradford was purchased and construction its main building complex began. This new and spacious location opened to
the public in March 24, 1964, and its original target focus shifted from the community's youth to a family-oriented learning environment. It addressed environmental education with an outdoor nature trail, presentation of wildlife habitats with reptile exhibits, and preservation of regional heritage with pioneer farm and early transportation exhibit.\(^46\)

To sum up, Kathryn Bloom, the Consultant of Arts for the Association of the Junior Leagues of Americas in the 1960s, said

Junior Leagues have long been dedicated to the ideal of community service, and their endeavors in the arts demonstrate their conviction that our cultural heritage must be preserved, and the means provided for the education and enjoyment of future generations. Teamwork between museum professionals and Junior Leagues can strengthen and enhance the contributions of each, and cooperative efforts can open many museum doors which otherwise would remain close, or never exist.\(^47\)

**The William T. Hornaday Memorial Foundation**

The William T. Hornaday Memorial Foundation was another important contributor that catalyzed the establishment of children's museums as community projects throughout the nation. The William T. Hornaday Memorial Foundation was founded in 1939 to honor Dr. Hornaday's outstanding achievement in natural studies. He was one of the America's greatest naturalists, museologists, and wildlife conservationists, and was the Director of the New York Zoological Society for many years.

In order to perpetuate the memory of William T. Hornaday, a childhood friend, John Ripley Forbes initiated the establishment of this corporation with inspiration by the remarkable and widespread growth of the children's museum movement.\(^48\) The objects and purposes of the Foundation are as follows:

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To organize in cooperation with national conservation organizations and scientific institutions a program for children which will bring about a better understanding and appreciation of wild life and the world in which they live. The base of this program will deal with the natural sciences, represented by those things which make up the world in which we live. This program will also embrace the field of social science, and history, bringing to the child an appreciation of the culture of people in other lands, whose habits and customs are so unlike their own. The object of the Foundation will be carried out through the promotion and organization of "Children's Museums" or children's museum programs in area where the greatest benefits may derived. Such a program will be organized in rural areas in the form of a traveling children's museum and in city areas through the establishment of a children's museums.

The promotion of the "children's museum" idea will be carried on by a staff of the Foundation, while the organization of the museums or museum programs will be carried forward by trained museum organizers know as field representatives. When the Foundation has established a children's museum or museum program and placed it on a firm foundation, the project will be turned over to the local sponsors and carried on by them.⁴⁹

John Ripley Forbes was a skilled taxidermist and zoologist, and his contribution in the movement of children's museums began soon after he graduated from the State University of Iowa in 1935. He founded his first children's museum with Hornaday as honorary president in his hometown, Stamford, Connecticut. In the following years, Forbes joined Donald B. MacMillan, an explorer, for an expedition to Baffin Land to collect arctic birds. Returning from the trip, he gave lectures on Baffin Land in his hometown, recorded birds' sound for Cornell University, and also helped the Boston Children's Museum set up a live-animals display for children.⁵⁰

When his inspiring mentor, William Hornaday, passed away in 1937, Forbes devoted himself to launching a Foundation to continue Hornaday's lifelong endeavor in "Open Wide to Youth All Gateways to Nature," and "to underwrite children's museums on a nationwide basis."⁵¹ In order to reach his ambitious goal, according to Taylor,
Forbes bagged Roy Chapman Andrews, Laurance Rockefeller, Thornton Burgess, John Keiran and Eleanor Roosevelt as his sponsors. They gave luster, but little money, and for the next decade, Forbes was the bouncy head of a national foundation with few dollars in the bank account. 52

Later, Forbes became the director of Kansas City Museum in 1939 until the advent of War in 1941. During the War, Forbes was assigned to the US Army Air Forces at the Medical Corps for the service of rehabilitation with returned airmen in the South regions.

With the accumulation of Forbes' working experiences in various museums and increased skills in fund-raising and administration, the involvement of William T. Hornaday Memorial Foundation in the movement of children's museums increased. Chronologically, the Foundation's involvement can be divided into three major stages. The first achievement was in the Southern regions and took place between January 1943 and January 1945. The second stage dated from April 1945 to April 1948 and spread its regional focus from the South to Southwest, West, and Northwest. The third stage, the most significant period, was its concentration in California, which began in 1948 and ended in 1956 with the moving of its headquarter from New York City to Sacramento, California.

In the first stage, there were five children's museums established in rural areas. The first three museums were developed in rural southern Alabama in 1943 when John Forbes was in the US Army. He devoted his free time to inaugurate the first children's museum project of the Foundation in Geneva County, Alabama, with the cooperation of Joel Johnson, a civic leader, and J. J. Collins, the County Superintendent of Schools. They began to offer lectures in rural schools. In each visit, Forbes provided motion pictures, colored slides, and museum exhibits. Within each lecture, Forbes included
classroom studies with an emphasis on nature study and branching out into history and social science. With the success of the program, demand for a formal organization emerged.

The opening of the Geneva County Children's Museum, Alabama, was held in March 1944. Ada Nevill was the first museum director. She also served as the field representative for the Hornaday Memorial Foundation. As a field representative, Nevill traveled in nearby areas and advised many other communities or schools who wanted to start a children's museum or a museum corner in a school classroom.

The first year of Geneva County Children's Museum and its traveling museum exhibits had reached out to more than 14,000 rural children which inspired the needs for its own children's museum in the Slocomb community, a place close to Geneva County. The community of Slocomb decided to establish two children's museums, one for white children as the Slocomb Children's Museum, and another for African Americans, the Geneva County Colored Children's Museum in 1944. The Holtville Children's Museum, Alabama opened in October 1944, and the first city-sponsored museum opened in Nashville, Tennessee later in 1945.

The success of these five children's museum in the South paved the road for the Foundation, which was able to offer help and assistance to any community interested in starting a children's museum. Based on a large number of requests from communities all over the nation, Forbes extended his focus from the South to the Southwest, Midwest and Northwest. Ten children's museums were supported by the Foundation in this second
stage. Its Second Report listed and detailed the following new projects as well as programs from the previous phase,

Nashville Children's Museum, Nashville, Tennessee
Jacksonville Children's Museum, Jacksonville, Florida
Geneva County Children's Museum, Geneva, Alabama
Holtville Children's Museum, Deatsville, Alabama
Shelby County Children's Museum, Wilsonville, Alabama
Fernbank Children's Nature Museum, Atlanta, Georgia
Durham Children's Museum, Durham, North Carolina
Charlotte Children's Nature Museum, Charlotte, North Carolina
Rock Hill Children's Museum, Rock Hill, South Carolina
Delta Children's Nature Museum, Orangeburg, South Carolina
Whitmell Children's Museum, Whitmell, Virginia
Forth Worth Children's Museum, Fort Worth, Texas
Oregon Museum of Science and Industry, Portland, Oregon⁵⁴

To have junior museums all over the United States was one of Forbes' biggest dreams. Since California only had established a few of children's museum in the 1940s, his next step was to organize a Five-Year Program starting in northern areas. The original idea was to open five junior museums and the main purpose was to assist local communities in establishing their own museums particularly with a focus on natural study.

The first project was started by the school authorities in Sacramento who requested Forbes' services to establish a facility for youth in natural study. The Sacramento Junior Museum was opened in March 1951 at the State Fairground as a fair exhibit. Later, a building was added as well as a live animal exhibit and a planetarium. In the next two years, Forbes served as the director without salary. His efforts were rewarded by more than 500,000 visitors, most of them school children from all over the state. Forbes would not have been able to sustain his passion--promoting the development
of junior museum--without a modest contribution made by Max C. Fleischmann Foundation with $50,000 a year for five years. At the end of this period, there were ten junior museums across northern California, surprisingly, double the number originally planned. These ten junior museums were located in Sacramento, San Jose, San Mateo, San Rafael, Fresno, Kingsburg, Stockton, Walnut Creek, Carmichael, and Yosemite.

John Ripley Forbes played the leading role of the Foundation for almost a half-century, and his efforts in the movement of children's museums were extraordinary. He was the founder of 24 museums and natural science centers in 11 states and 20 sanctuaries in 5 states (totaling more than 2,100 acres). He also organized 30 museums and natural science centers in 18 states. Furthermore, he raised more than $16,000,000 for the benefit of local and national youth museums and natural science centers, and personally assisted 226 communities in 43 states in developing their own natural science centers and museums.55

Despite the quantity of museums with which Forbes was involved, the true significance of his work was his enthusiasm and generosity of helping people to establish their own children's museums across the country. In particular, he had awakened the value of having a children's museum in each community whether rural or urban, and made it a community project with joint efforts from all the community members.

Finally, the rise of institutional sponsorship in this time had a great impact in the development of children's museum, without their efforts children's museums would not have blossomed in their development in the following decades.
Community Joint Endeavors

Aside from various institutional sponsorship, the determination to have a children's museum in order to enrich children's learning experiences began with groups of parents, teachers, and communities leaders at the end of this period. These individuals noticed that many other places already had children's museums, and wanted to have such an institution with diverse educational opportunities in their own community. Thus, community joint endeavors became another driving force in the movement of children's museums. Relatively, few children's museums were initiated in this manner (as compared with institutional sponsorship); the following section provides a brief overview of their development. This factor became more important in the decades which followed; community initiatives, particularly those begun by parents, will be covered in detail in the next chapter.

The school and museum relationship continually supported the development of children's museums. There were two children's museum established under the public school system during this time. For instance, the Hannah Lindahl Children's Museum in Mishawaka, Indiana was opened in 1946 as the result of the combined efforts of the superintendent, a principal, three interested lay women, three teachers, the art supervisor, and the elementary supervisor. The superintendent and the Board of Education decided that an empty classroom in the newest school building could be used for the museum. Two sub-committees were appointed. One was composed of teachers from every school, and its duty was to select materials that were suitable for classroom use. Another one was composed of parents that representing the various parent-teacher associations in the city,
and its duty was to work in the museum, helping teachers and the curator. In order to enrich its exhibition display, the Museum began to enlist people for donations of artifacts that would make possible for children to visualize another way of life and the life of pioneers. As it believed, "Children observe the many evidences of hard work and of patient struggle which characterized the life of the pioneer settlers, the community assumes increasing importance and dignity in the eyes of the children." The most valuable educational outcome of the visit to the museum was "an increased respect for and pride in the community." A visit to the Museum was always an enriching experience for children:

Through the group discussions which inevitably follow there will be a vitalized use of language, an extension of the child's interest, and a motivated use of reference material in the search for answers to questions about the museum exhibits, new interests in social studies, reading, elementary science, language, and art are awakened; new learning experiences become a vital byproduct of the activities that follow.

The Atlanta Public School, Children's Museum and Planetarium, Georgia, was another museum that was directly supported by the public schools. The Museum was created when Charles Goodman, a businessman, donated his collection of cultural artifacts to the public schools and set up the Goodman Foundation for its operation in 1953. Two schoolrooms were used to display the collections, and a planetarium was built. Later, all the Museum's museum activities were discontinued, except the planetarium, due to the lack of support by the school administration in the 1960s. After the 1950s, several children's museums were directly initiated by a group of women and teachers. For instance, the Lutz Children's Museum in Manchester, Connecticut was founded by Hazel Lutz, a school art supervisor, and co-sponsored by the
Manchester Parent-Teacher Association (PTA) Council in 1953. Her idea was to bring real things into the classroom for children and their teachers. Local citizens donated exhibition items and collections were cataloged and organized into school loan kits. Services of the Museum were designed "to supplement the curriculum and meet the needs of a variety of educational organizations from nursery schools to convalescent homes, teachers, and youth group leaders." Later, the Lutz Children's Museum became a community museum and moved into a historic school building with hiring its first full-time director in 1958. Loan kits were continually circulating and the audiovisual materials were added. The Children's Museum in Dartmouth, Massachusetts was started by a group of woman who wanted to stimulate children's interest in the arts, natural sciences, and humanities in 1952.  

A Summary of the Period

During this time, the movement of children's museums grew rapidly partially due to the efforts of pioneering children's museums, but also because of the recognition of the value for children to learn through firsthand experiences. In particular, the establishment of children's museums became a community project with efforts not only from the community itself but also various individuals and institutions. Additionally, emphasis on children's leisure activities, needs of school education, and enhancing children's learning experience were other major characteristics of this period.

The practices in children's museums also reflect several essential principles of the discipline of art education during this period. They include the promotion of personal
development, emphasizing the process of creation, exploring the adventures of living, learning to live in a rich and satisfying manner, developing interest in the things people are doing rather than in the finished product alone, and recognizing the importance of development of wholesome personalities. Although the concept of preparing children's leisure activities related to the purpose of art education at that time as it was mainly focused on the craftsmanship without further exploration in the world of art.

Furthermore, the significance of community involvement in the creation of children's museums echoes the advocacy in today's art education as a form of community-based learning. Because community-based art education gains impetus through community joint endeavors with expansion of resources, and attempts to create an appreciation and understanding for children in the fusion of learning and development of a clear picture of the world around them.
Endnotes


5 As the Jacksonville Children's Museum, Florida in 1945; Rensselaer County Junior Museum, Troy, New York in 1954; and New Britain Youth Museum, Connecticut in 1956.


11 Information package provided by the Palo Alto Children's Museum, California.

12 Ibid.

13 Margaret Emery, 1963.

14 "A Museum for Children" 1938.

15 Information package provided by the Randall Junior Museum, San Francisco, California.

16 Ibid.

17 "A Museum for Children" 1938.

18 Ibid.

19 Ibid.

20 Ibid.

21 The National Recreation and Park Association, Ashburn, Virginia <http://www.nrpa.org>
22 Information package provided by the Portland Children's Museum, Oregon.

23 A letter written by Schoonhoven when she was the Chairman of the Board to Francis Gale (dated January 8, 1957) In Francis C. Gale, "The Junior Museum and its Program for the Education of Children" (Dissertation. Stanford University, 1957): 6.


26 A brochure written by Jane B. Cheney, Director of Norwalk Children's Museum, and Louise S. Lemaire, the Chairman of Board of Trustees.

27 Ibid.

28 Ibid.

29 Phone conversation with Mrs. Willadean Hurt, Head of Norwalk-Westport Branch, Connecticut, AAUW (March 18, 1998).

30 Letter from Anne R. Dalton, Managing Director, the Association of Junior Leagues International, Inc. (March 6, 1998).


33 Ibid.


36 Ibid.

37 Mission Statement of the Association of Junior League.


40 Information package provided by the Charlotte Children's Nature Museum, North Carolina.


43 Information package provided by the New Britain Junior Museum, Connecticut.

44 Information package provided by Portland Children's Museum, Oregon.


46 Ibid.


48 First Year Annual Report (William T. Hornaday Memorial Foundation, 1944-1945).

49 Ibid.


51 Ibid.

52 Ibid.

53 First Year Annual Report, 1944-1945.

54 Second Year Annual Report (William T. Hornaday Memorial Foundation, April 1945 to April 1948).

55 Bio Sketch: John Ripley Forbes, provided by the Natural Science for Youth Foundation, (March, 1998).

56 Information package provided by the Hannah Lindahl Children's Museum, Mishawaka, Indiana.


58 Ibid.

59 Ibid.


61 Ibid.
CHAPTER 4

REDEFINING THE PHILOSOPHY OF CHILDREN'S MUSEUMS (1958-1980)

Overview of the Period

As was discussed in chapters one and two, the movement of children's museums in the first half of the century had become a community project with efforts from various individuals and institutions throughout the country. In particular, the children's museum became recognized as a place especially for children to learn from firsthand experience with foci on natural history, cultural history, and physical sciences. Most of the children's museums had collections of specimens and cultural artifacts, provided activities for leisure purposes, and loaned kits for use in the classroom. Their target audiences were on children and adolescents.

During this third period, dating from 1958 to 1980, there were about 30 children's museums established, and two thirds of them were located in urban areas and are still running today. In general, these children's museums had several common characteristics. First, they were started by temporary programs and traveling activities as they circulated to local schools, libraries, community and recreation centers, nursing homes and art centers. For instance, the Lori Brock Children's Discovery Center in Bakersfield,
California grew from a project called Young Adventurers from the Junior League in the late 1970s. The Omaha Children's Museum in Nebraska started with traveling art exhibits in various community centers and schools. The Kidspace: A Participatory Museum in Pasadena, California began with a 6-week exhibition at the Baxter Art Gallery, California Institute of Technology in 1977. Second, the vast majority of children's museums were not collection-oriented institutions. Third, these museums identified themselves as a hands-on museums with foci on arts, humanities, social studies, nature and sciences, primarily using a thematic approach to information and displays. Fourth, the philosophy of "learning by doing" was still the basis as curators believed the hands-on approach would "arouse a sense of curiosity and a need to know,"¹ "facilitate and enhance learning and curiosity,"² and "develop analytic and creative skills and abilities, and a genuine sense of wonder."³ Finally, these children's museums acknowledged that children learn at their own rate, and would learn best in a non-threatening atmosphere that would invite interaction and create inquiry based interpretive panels with exhibits.⁴

The Junior League and the Natural Science for Youth Foundation (NSYF), formerly the William T. Hornaday Memorial Foundation created by John R. Forbes in 1937, continually supported the development of children's museums throughout the country at this time. The Junior League assisted in the development of nine children's museums. In most of the cases, it raised funds from the community, purchased land, and built the building, or supplied personnel and provided financial support for the cost of the building renovation.⁵ The NSYF sponsored programs mainly in natural science centers
and junior nature museums by providing information services or conducting training courses.

The launching of the first spacecraft, Sputnik, by the Soviet Union in 1957 triggered tremendous education reform in the United States. As a result, the American education became focused on what were seen as the "essentials" of education, the so-called back-to-basics movement. Added to this was the preference in the social sciences for behaviorism, which produced a variety of standardized tests to offer a scientific approach to the improvement of what the students were learning. The goal for education was to prepare children who would be able to compete in the future globally. Through the National Defense Education Act, passed by the Congress in 1958, the government provided fellowships, grants, and loans to encourage the study of science, mathematics, and foreign languages, and funding for improving the teaching of these three subject areas. Traditional academic subjects became the hottest topic in the school.

Aside from the emphasis on school science education, museums in general but especially art museums, began to experience financial problems because of the increasing inflation of American economy in late 1960s. Rawlins pointed out several economic factors that contributed to the financial dilemma of the museums: (1) rising operating costs; (2) inflation which undermined the value of endowment income; (3) cuts in allocations to museums by municipal governments; and (4) traditional indifference to support of the arts on the part of the federal government. Furthermore, Rawlins said,
Museums were often viewed as bastions of elitism, white privilege and materialism which excluded the artistic achievements of minorities, women and non-establishment artists from their monopolistic definitions of "art" and "culture." Museums, therefore, came under a host of pressures in the late 1960s and 1970s (either through the political process or through organized protest) to democratize their governing bodies, decentralize their facilities, expand their holdings to include works by minorities and women and make their programs and exhibitions more "relevant" to broader segments of the community.  

In order to deal with the pressure of changes and to raise support from the public, Rawlins states the museums entered "a phase of educational expansions and social involvement" during this time. In fact, Richard D. Grove, museum educational specialist of the U.S. Office of Education, pointed out in 1966 that there were many questions about museums in terms of how they functioned educationally. Thus, a new federal project, a survey of museums in the United States, was initiated through cooperation with the American Association of Museums. This project was intended to "provide some of the knowledge and data needed for buttressing arguments for support from the local to the national level, for forging a contemporary museum identity, and for giving the public the best possible service." Grove said the significance of this new project for museums included,

(1) their role as important and distinctive educational institutions is explicitly recognized by the U.S. Office of Education, and their professional concerns are now represented within the Federal Government, and (2) funds are available to support research in museum education. 

With recognition of educational functions in museums, Federal legislation began to include possible financial support to museums. For example, Federal legislation established the National Foundation of the Arts and Humanities in 1966 to develop and
promote "a broadly conceived national policy of support for the humanities and the arts in the United States." The Foundation authorized appropriations of twenty-one million dollars for the first three years of its operation from 1966 to 1968. In addition, the Elementary and Secondary Education Act of 1965 was another Federal law that made possible the planning and operation of new science centers and museums during this period. According to Grove,

Title III of this act, which provides funds for "Supplementary Education Centers and Services for Schools", offers many opportunities for museums wishing to institute such services, or to expand what they are already doing. This is the program known as PACE, or Projects to Advance Creativity in Education. $75,000,000 was appropriated for the fiscal year ending June 30, 1966 to be apportioned among the States by a population formula. "Local of intermediate educational agencies" only may make application but museums can (and do) work through local schools in preparing proposals.

Along with the federal government's legislation to provide funding for museums with educational services and encouragement of museum-school partnerships, some other social factors also influenced the life of children in America. For instance, when television began to be the dominant medium in the 1950s, popular culture and mass media were widely adopted into children's daily lives. With the increased number of working mothers, latchkey children became commonplace. Urban communities struggled with increased drug abuse, child abuse, neglect, and juvenile crime. With changing family structure and an increased divorce rate, 22 percent of all children in America were reared in homes with only one parent by the end of the 1970s. Children with female-headed households all too often found themselves living in poverty.
Based on all these factors, the development of children’s museums came to a crossroad, as they began to reexamine issues of what a children's museum is, and what a children's museum should be for the future. With several revolutionary approaches in the practices of children's museums and their concepts of exhibition design, the movement of children's museums gained momentum in the early 1960s. For instance, the concept of "hands-on" was redefined by introducing "participatory or interactive exhibits," fostering learning by doing and communicating, and serving children's needs with an informal educational environment. In addition, some children's museums began to incorporate modern architectural designs into their exhibition rooms, even hiring architects to design the building itself. Parents, teachers, and community leaders continued to be a driving force in the movement of children's museums.

This chapter answers the following questions: What were the impacts on the children's museums when the emphasis on science education occurred in the 1960s? What were the influences on the movement of children's museums when Michael Spock defined issues on what the new children's museums and the "interactive exhibit" should be? How did architectural concepts affect the design of children's museums? Why were more children's museums started by community joint endeavors in order to enhance children's learning experiences through interactive exhibits and programs?

Science Education Reform

After Sputnik, science education reform rapidly spread across the nation and had tremendous influences on the movement of children's museums in the early 1960s. Along
with the passage of the Elementary and Secondary Education Act of 1965, impacts on the
development of children's museums resulted in some redirecting their mission and
changing their identity toward being a science-oriented institution. A few children’s
museums merged with other institutions for extended resources and facilities, and many
of them began to reconsider the needs of school science curriculum in expanding their
programs or exhibits of science education.

For instance, the Children’s Museum of Hartford, Massachusetts had opened in
1927 with major focus on scientific collections and a specific emphasis on natural
history. Through years of operation and a growing numbers of visitors, the Children's
Museum had several relocations and added the Planetarium and mini-zoo later in 1960s.
When the Children's Museum merged with the Roaring Brook Nature Center in 1973, it
became the Science Museum of Connecticut. The reasons for the merger were not only to
obtain a bigger space and facility but also to serve all ages through various programs and
exhibits.¹⁴

When the Jacksonville Children's Museum in Florida reached 80,000 visitors a
year in 1965, previously mentioned, a larger facility was needed. With donations made by
the Junior League, the construction of new building was completed near a downtown
renewal area. In order to serve a larger population, the Children's Museum was renamed
to the Jacksonville Museum of Arts and Science in 1977.¹⁵

The Charlotte Children's Nature Museum in North Carolina was founded in 1947
with the support of the Junior League. It offered hands-on exhibits, discussion groups and
field trips. Later, in 1966, the name was changed to the Charlotte Nature Museum in

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order to attract greater audiences to visit the museum and for it to be used as a resource center. It is known as the Science Museum of Charlotte today.16

The Fort Worth Children's Museum was started by the local council of Administrative Women in Education with the idea of promoting a children's museum in its region by 1939. The Children's Museum was opened to the public in early 1945. Later, with support by local citizens and a total sale of $500,000 in bonds, the present building was constructed. With John Forbes' efforts, director of the National Science for Youth Foundation, the new facility opened on January 25, 1954. When the Museum continued to grow in size and popularity and to exceed the limit of its title "children," the name was changed to the Fort Worth Museum of Science and History in 1968. Today, the Fort Worth Museum of Science and History offers a variety of educational and entertaining experiences to more than one million visitors each year.17

The Corpus Christi Junior Museum was started by a group of teachers who toured the Fort Worth Children's Museum while attending a convention in 1951. Thinking of the possibility of such a facility for children in their town, they suggested to the Association of Childhood Education that Corpus Christi should have its own children's museum. The Museum was opened in 1957 with assistance from John R. Forbes, and financial support by local leaders, city government, and the Association of Childhood Education. In 1961, the Board voted to change the name from Junior Museum to the Corpus Christi Museum, because "members on the board felt that as the museum grew, older students could benefit by many programs and would be more inclined to come if the name was
changed. In 1990, the Museum was renamed the Corpus Christi Museums of Science and History.

Generally, all these museums shared similar reasons for their changing and redirection as to meet the demand for broader science education, and to attract a wider audience. Another hidden factor was to be eligible for new grants and funding opportunities since the Title III of the Elementary and Secondary Education Act of 1965, had provided funds for the development of children's science museums or related science programs. As Grove stated in 1966 "a wide range of museum services to schools may be supported under this law and museum doors all over the country will open to children who have never before been exposed to the museum experience." Additionally, he said "this is an unprecedented chance to show what museums can do for schools and it may be the most creative occasion museums have ever encountered."

Michael Spock: A New Direction and A New Definition

During the 1960s and 1970s, the people concerned with children's museums began to question themselves: what is a children's museum, and how do children learn in a children's museum? Michael Spock became the leading person who directed the movement of children's museums toward a new focus and definition in philosophy and exhibit design since the 1960s. His achievement earned him the title--"the father of the children's museum movement."

In 1963, Michael Spock, son of pediatrician Dr. Benjamin Spock, became the director of the Children's Museum in Boston. When he first arrived, he knew he wanted
"a museum to do more than just display some objects" and wanted exhibitions to be designed on an intuitive level so that the objects say something."

As he said,

With a tremendous amount of reform going on in the science curriculum from the worry about competition with Russia, [we should] transform the museum into something that would be more useful and more directly related to what is going in the world of education and science."

In addition, Spock pointed out

At that time nobody was paying any attention to the Children's Museum and nobody cared what we did; we had a few joyous years, before everybody caught on, when we could do almost anything. Even the mistakes were welcome because something was happening and it looked like change."

All these issues led him to develop a new style of children's museum, in particular to re-examine the concept of "hands-on" by introducing the "interactive" learning experiences. The first exhibit Spock developed was called *What's Inside?* in 1964, with the intention to "move us away from displays in exhibit cases (the visitor experience at that time)."

Because Spock was interested in "eliciting visible audience behavior that would indicate what was happening for the visitors," the purpose of this "interactive exhibit" was "in eliciting feedback as much as it was in exciting kids about something." *

*What's Inside?*

contained:

Dozens of different modules, some very personal like a pregnant woman and all the stuff around the house, like water heaters cut in half. There was "What's Inside a City Street?" with a manhole you could climb down and go through the sewer system. There was also a cross-section so you could see the old wooden ties that had been covered up with asphalt and the cobblestones.

How had the concept of "hands-on" transformed into an "interactive" approach? He said,
When we began developing interactive exhibits like "What's Inside?" in the early 1960s, there were already a number of "interactive" exhibits in museums. However, they were usually push buttons that energized some pieces of machinery inside an exhibit case, turned on a light, started something moving, etc. The action was essentially predetermined--whatever was started would go through its course and then stop unless it was broken.

Frank Oppenheimer of the Exploratorium had the clearest sense about why pressing a button that caused some repetitive action was not the way to understand scientific principles or anything else for that matter. Defining the range of things that can happen in any variable will not give you an understanding of why something is working the way it is, what is driving it. You have to have enough freedom of operation in the exhibit to generate the phenomena but also be able to push it past the point where the phenomenon no longer occurs. The nature of this exploration allows you to begin to really understand and explain why the button is not the method to use in a "hands-on" approach.

A second point is that interaction is a mental activity--it's what goes on in your head. Your arm is an extension of all the perceptual and motor mechanisms that constitute you as a person, from your head to your arm. What is happening in your hands is important but so is what's happening in your mind at the same time. We are imaginative, symbol-manipulating beings with a capacity for extending ourselves outside of our head and into a scene. When you look at a miniature diorama of a house, you are interacting with it by walking through that scene in your imagination. That's as much interaction as the hands-on kind. I think "interactive" is a better word for what we are about than "hands-on."²⁸

There was an initial assumption that What's Inside? would only survive for six months. In fact, it lasted for five years. Discussing its success, Spock said, "it provided information through direct experience with real objects and real places. ... It is the only medium where all the senses may be excited."²⁹ This try-out spirit became a turning point in the development of exhibit design at children's museums as well as museums in general. Additionally, these ideas influenced and remained a model for dozens of similar
institutions such as the Exploratorium in San Francisco developed by a physicist Frank Oppenheimer. Spock said,

Apparently Frank Oppenheimer in Colorado was evolving a science museum that would be different in two respects: that it would be thematic, and also that it would use the same kinds of things as the demonstrations and experiments that a great physics class in high school or college would use. From this, he developed the notion of the "exploratorium" which is a parallel path with what we are doing in Boston. Frank has a wonderful conceptual sense about what is was that made this kind of exhibit more authentic than those where all you do is press a button. He said once that what you have to be able to do is work the edges of a phenomenon. If you could reproduce the thing exactly as it was intended, it wouldn't teach you anything. Learning happened at those edges between something that was working and not working.  

Redefining the boundaries between the traditional museum and children's museum also began when Michael Spock started his job. Since it was hard to draw the line clearly, the new definition of children's museum took him and his staff more than seven years to figure out. Spock said,

When I first arrived, the museum didn't look any different than any other museum. So I spent a lot of time exploring what made it a children's museum and not just a smaller adult museum. The breakthrough came when we finally understood that what makes a children's museum different is that it is for somebody rather than about something. This idea of being client-centered directs an extraordinary number of decisions on a day-to-day basis; all kinds of things, even administrative structures, begin to fall into place in a straightforward way.

When the children's museum became a "client-centered" institution, the name of "children's museum" embraced a clear definition that the children's museum is not an adult museum, scaled down in size and complexity, but a place especially for and with children. Spock said, "what the children's museums are about, is giving kids a sense of control of their own environment, and learning how to do that....The children's museum
experience should change the way you see the world, the way you think about it and yourself.\textsuperscript{32}

In addition, Michael Spock suggested what the future children's museums should be in one of his speeches delivered at the Annual Meeting of the American Association of Youth Museums in Mexico City in 1972. According to the editor who synthesized the speech, Spock stated,

The youth museum is both cultural and educational in scope. It is client-centered and serves as an intermediary between the museum, the school, and community. Its programs are multi-disciplined and use a range of media. The youth museum staff must be able to use both the languages of the curator and of the schools and street. The youth museum of the future ... should not compete with indigenous organizations.\textsuperscript{33}

Michael Spock did not encourage people who just want to establish a whole new children's museum because they saw the successful story presented in Boston. Spock suggested they should seek support with other existing institutions, because it would transform the institution if these programs could be integrated into existing museums rather than stand alone as children's museums. He said, "Don't get started on other institutions--there are so many struggling museums around the world."\textsuperscript{34} Along with creating many outstanding projects, programs, and exhibits during his twenty-three years in Boston, Michael Spock had the philosophical foundation for future children's museums and related programs for children.

\textbf{Play and Fantasy: Integrating Architectural Concepts}

Anna B. Gallup, former curator of the Brooklyn Children's Museum, had addressed issues regarding to the building of a children's museum almost ninety years
earlier. Yet, the idea of children in relation to architecture had not been seriously considered until several established children's museums began to reconstruct their museum buildings in the late 1960s. Most of these older children's museums had been started in old residential mansions built with no intention for public uses. The Children's Museum of Brooklyn and Boston both began in nineteenth century Victorian mansions; and the Indianapolis Children's Museum was first located in a carriage house and then relocated to Mrs. Carey's house, founder of the museum, years later.

In Gallup's presentation, she had suggested several architectural features for children's museum buildings, such as "a commodious lecture room, a work room laboratory, a room for temporary exhibits, a light, spacious and well ventilated coat room, and adequate toilet accommodations."35 Yet, no architectural skills had been applied specifically to children's physical need, until these century-old houses deteriorated, and the increased number of visitors created a need for new facilities. This issue inaugurated the application of modern architectural concepts in designing the building and exhibits at children's museums.

Jawaid Haider, a professor of architecture at the Penn State University who specialized in children's museum architectural design, points out,

To understand children's architectural needs, we must first perceive the world of the child. Children learn, socialize, and nurture their creativity through play. In fact, the preschool child does not distinguish between play and learning, play and work, fantasy and reality. The concept of child's play and fantasy has influenced some architects in designing children's museums.
Play can teach a child social rules, customs, rituals, and ways to deal with emotional situations. In short, child's play is a pleasurable, voluntary, and purposeful activity. But is play more likely to happen when the space children inhabit encourages it? Do kids notice the space they occupy? Do they care about exhibits, or are they just as happy and imaginative with simple found objects? The answer to all these questions is a resounding "yes"—if the space or exhibit is thoughtfully designed.36

For instance, the Brooklyn Children's Museum decided to build a new museum building in 1967, when the condition of Smith House, a century-old Victorian mansion had become deplorable and unable to accommodate increased visitation in the late 1960s. The Smith House was demolished and the Brooklyn Children's Museum was temporarily closed. In 1968, the Children's Museum moved to the Bedford-Stuyvesant section of Brooklyn in a former garage and reopened as the Bedford-Lincoln Neighborhood Museum.37 It was known as the MUSE, the first neighborhood museum in the State of New York modeled after the Anacostia Neighborhood Museum in Washington, DC.38

Meanwhile, fundraising for the building and architectural planning commenced, and the groundbreaking ceremony for the Museum's new home was held in June 1972. Five years later, the new Brooklyn Children's Museum opened on its original site in 1977. Hardy Holzman Pfeiffer Associates designed this award-winning underground building with recycled kiosk entranceway—an old New York subway station. The building features exhibit space on four levels, which includes collection storage, exhibition and workshops, libraries, and theatres. Behind the entrance door is the circulation ramp surrounded with neon lights and a stream of running water to an exterior courtyard. The building creates an atmosphere that would not only provide an
extraordinary visual experience but also trigger visitors' curiosity of what they will see next.

The Boston Children's Museum also faced the need for bigger space to accommodate increasing numbers of visitors in the early 1970s. The Museum decided to move from its original place--Jamaica Plain--to its current location, Museum Wharf in downtown Boston overlooking the Fort Point Channel, using a brick and timber warehouse built in 1888. The Boston Children's Museum reopened in 1979 with square footage of 79,800 in total and 34,700 in exhibit. Although the Boston Children's Museum did not rebuild a whole new museum, integrating its interior space for the purpose of exhibition became a major concern. One of its early exhibits, named City Slice, was a good example. Dyer/Brown & Associates designed the exhibit, and it was a multi-storied vertical space to accommodate a full-sized Victorian house. This house was sliced from rooftop to basement, and the display created a sufficient horizontal distance to view the house from high and low, near and far. Children could see through the plumbing system and electricity lines that normally were hidden under the floors and between the walls, and to learn about the construction of the building. In particular, this exhibit provided an opportunity for children to experience the size, scale, and proportion of the space with their bodies.

The Los Angeles Children's Museum opened in June, 1979. Its original idea began in December 1978, when a group of parents and other interested individuals had a meeting to discuss the concept of organizing a children's museum in the Los Angeles area. With their enthusiasm and support, it became possible to raise enough money to
build the exhibition and open the facility in a city-owned shopping mall site with 17,000 square feet of space. Meanwhile, the board members persuaded a world-renowned architect Frank Gehry to design the "discovery maze" ramp system, which continues as the core structure of the Museum's exhibit area today. The "discovery maze" makes the Los Angeles Children's Museum one of earliest examples applying architectural concepts in such interactive learning environment. This ramp system is an example of how architectural design could enhance space-body relationship. As Haider said:

Frank Gehry's interior design for the Los Angeles Children's Museum presents an interesting choreography of movement in and through spaces. The museum houses what look like a rather complicated objects with a ramp that goes over the top and comes down the other side. The ramp is actually extremely linear. Children repeatedly run around laying the path out in their mind and mapping the space they go through.

The design creates a context for the exhibitso that the architecture of the interior engages the exhibits. The interior is metaphorically a city where all the elements--fire truck, traffic lights, large picture of the city, traditional house, etc.--working in unison. Creating a meaningful context for the exhibits is absolutely essential, a quality that few children's museum have achieved successfully. It's a missed opportunity which can substantially enhance the museum experience.39

However, applying architectural concepts in designing children's museums is a complicated process. Haider states this is so, because the architect has to address many issues relating not only to the construction of the building, organization of spaces, but also to children's physical development and psychological concerns.40 There are four design elements which are critical for planning children's spaces, he stated: "multisensory issues, space-body relationship, juxtaposition of scales and spatial variety, and appeal to both adults and children."41 Although these ideas have been applied in many children's museums today, the most important issue is to remember, according to architect Grace
Anderson "a basic architectural skill is the accommodation of space to physical use."

Moreover, Anderson said,

The design of a children's museum requires more than ordinary architectural skills and more than art-display expertise. Though complex, both disciplines are far too simple. What's more, the most sophisticated knowledge of child development is not enough, either; the architect's three-dimensional thought processes are essential to these designs, which must allow for the active physical participation of youthful user.

A number of key words recur when insiders talk about children's museums, among them, hands-on and interaction. The vocabulary reflects not only the educational philosophy of learning-by-doing but the indisputable fact that the museum users share an abundance--some might say a plethora--of physical energy.42

With several successful examples of integrating architectural concepts in building or exhibit design in the 1970s, creating a meaningful space for children to enrich their museum experience became one of major concerns for children's museum development in the following decades. For instance, the Children's Museum of Indianapolis, the world's largest, had Wright, Porteous and Lowe, a local architectural firm, design the 1976 building "whose exterior was dictated by the interior design's form and function." In addition,

Wide, gently graded ramps provided a solution of how to move large groups of children efficiently through the museum. The ramps wrap around a five story central core with galleries, working areas and offices located on the north and south sections of the building. The east window walls and core skylight provides natural light.43

Additionally, the museum asked Woollen, Mozan, and Partners to develop a master plan for a phased expansion in 1982; and one of its concerns was the adjustment of the interior design to respond to the sensory needs of children. Three additions were added to complete the museum's structure, and the entrance atrium was added in 1989.
The color selection at the Welcome Center created a friendly atmosphere that made a "children's museum" appeal more meaningful for children than that of a regular museum.

The Children's Museum of Houston was founded in 1980 in response to a community need for interdisciplinary, participatory exhibits and programs for children. After several years of operation, the museum outgrew its location. A major capital campaign was engaged to establish a permanent home in the Museum District in 1989. In 1991, the museum broke ground for its new building, which was designed by Robert Venturi and Denise Scott Brown, in association with local architectural firm of Jackson & Ryan Architects. The new home opened to the public on November 22, 1992, with atmosphere created by the architects intended to "invite play and fantasy." According to Haider, the main entrance hall--"Kids' Hall" transported "the child from the realm of reality to a make-believe world--such as walking through a rainbow or an enchanted forest."44

Driving Forces of Involvement: Extending Alternative Learning Environment

During this third phase of museum development, many parents, teachers, and community leaders across the nation felt the need to have an informal environment with interactive exhibitions and programs that would enable children to learn, to explore, and to understand the world around them. Community joint endeavors carried over from previous times, but became especially important in this particular period. As a result, many children's museums were established to provide high quality participatory exhibits to facilitate the exploration of the arts, humanities, natural study, health, social study, and
applied sciences, which would enhance learning and curiosity of children. Additionally, the promotion of cultural awareness, emphasis on a child's analytic skills and creative abilities, and addressing lives in an urban environment, became a focus in exhibition design at most of the children's museums at this time. All these children's museums shared similar beliefs about the need to enrich children's learning experience, but their motivations and initiatives varied from case to case. Most of the children's museums were initiated by groups of women and several of them were modeled after the Children's Museums of Boston and Indianapolis. A few of them had applied innovative ideas of what a children's museum could be, such as a traveling museum, a neighborhood educational and arts center, or a museum specifically designed only for children ages from one to seven. The following section provides an overall picture of the major driving forces behind the development of children's museums: parents' participation, learning from early children's museums, and diversifying the face of children's museums.

Parents' Participation

With increased recognition of the value for children to learn in children's museums, parents' involvement, particular mothers, became a major force in museum development. Since most of the women were taking the major responsibility in caring, rearing and educating their children, they came to know through direct experience that children learn best from touching and seeing objects directly. As there were no other places, i.e. schools, that could offer such high quality first-hand and interactive learning experiences than a children's museum, they began to taking charge in the establishment of children's museum.
For instance, the Youth Museum of Charlotte County, Punta Gorda, Florida was founded in 1969 by mothers from the community who wanted a place for cultural and creative activities outside a formal school setting. Its programs included drama, art, and music. The museum had collections of natural history items, and cultural artifacts, with an emphasis on dolls and costumes from around the world and objects of local historical interest.

The Children's Museum of Denver is a non-profit, cultural and educational facility that provides inspirational ideas and learning experiences for both children and their families. The museum was started by a group of educators and parents who saw the need for a hands-on, experiential facility for children in Denver area in 1973. Later, a planning group formed and received funding from the Department of Health, Education, and Welfare to test the feasibility of a participatory museum. A series of hands-on exhibits were created which traveled to various metropolitan locations in Denver. After 2 years of presenting traveling exhibits to the Denver community, the organizers were convinced that there was an interest in having a permanent facility; and the museum was opened on 25 January 1975.

The Children's Museum of Staten Island began with a group of Staten Island parents in 1974. Because of the complications of transportation costs and crowds, it was difficult for families to take full advantage of all the museums in Manhattan. Secor, Skolnick and Nennett-Mendez, who were members of the Board and exhibition designer, revealed the point of developing the Children's Museums of Staten Island.
These concerned parents, envisioned] a museum with exhibits that were learner-driven and content-full. They wanted displays that did not duplicate the natural history museum experiences or the school curricula.\textsuperscript{45}

Referred to the historical context, the educational climate in this period was strongly focused on science and math education also the statistical record, test and standards led the concerns of the content of education in the 1970s. The children in the school were required more to practice math equations for preparation for higher scores in the test. The development of the Children's Museum of Staten Island was not only focused on parents' concern on physical difficulty to visit a children's museum, but also reflected the needs beside the school curriculum.

As previous mentioned, the development of Los Angeles Children's Museum began in December 1978 with a meeting of parents and other interested individuals to discuss the concept of organizing a hands-on facility for children in metropolitan area. The founders of the museum believe,

The children's museum is a place where children learn by doing. In a fun, interactive, educational atmosphere, everyday experiences are demystified. Children are encouraged to make choices, imagine, invent and create, pretend, and work together. Hands-on participation in each of the Museum's exhibits helps them to learn what people do, how they think and feel, and about the kinds of things that society creates and values.

Programs integrate the arts and humanities with the sciences and technology to complement traditional classroom methods, making visible to educators and parents alike the vast variety of ways in which learning occurs. The Museum is for every child, and it intrigue the child in everyone.\textsuperscript{46}

In Missouri, the Magic House, St. Louis Children's Museum was opened in 1979. It was founded by two women from the area, Jody Newman and Barbie Freund, who volunteered three years of their time to create a participatory museum that would be both
fun and educational. Through years of preparation and presentation, the founders of the museum had received over $325,000 for building construction and exhibition renovation from all over the St. Louis area. Supporters included foundations, corporations, and individuals, more than 60 original sponsors, and the Missouri Arts Councils and the National Endowment for the Arts. The Magic House was created “to be a place where learning by doing is fun, where education and enjoyment go hand-in-hand, and where 'kids' from 1 to 101 can discover something new about themselves.” The mission statement includes:

To provide children with hands-on learning experiences that encourage experimentation, creativity and the development of problem-solving skills within a unique, informal learning environment.

The museum is multi-disciplinary with a strong educational focus. Exhibits are designed to give children the tools to construct their own knowledge, as well as serve as an enticement to further investigation and learning. The museum thus seeks to extend learning beyond the museum experience. The mission of St. Louis Children's Museum is interpreted broadly to include service to the adults most important in the lives of young children their parents and teachers.

Learning from Existing Children's Museums

Since there were several well-established children's museums that had set great examples and which had taken the leading role in the movement of children's museums at that time, many newly developed children's museums were inspired and modeled after existing institutions. For instance, the Children's Museum at La Habra, California began with a young city councilwoman who visited the Indianapolis Children's Museum. That visit catalyzed her interest to start a hands-on children's center in the City of La Habra. After five years of planning by the city and the community, the museum opened in
December 1977. It was housed in a renovated railroad depot built in 1923, and included a 10-acre park. It was the first children's museum to open in Southern California and one of the few youth museums to open on the West Coast during the 1970s. The Museum provides a unique learning environment for children from the diverse communities, with hands-on activities that relate to children's everyday life in science, history, the arts, and humanities. The Museum serves as a supplement to formal education, a model for other museums, and a resource center for parents and educators:

The Children's Museum is an interactive discovery center which enriches the lives of all children, their families and teachers by providing participatory exhibits and programs. These educational adventures are designed in a fun and engaging way to stimulate the curiosity of children about their place in the world and to awake them a life-long of learning. 48

A small committee of four community members started the Muncie Children's Museum in February of 1976. The committee grew larger and contacted other museums, foundations, commissions and individuals across the United States. In addition, Mildred Compton, Director of the Children's Museum in Indianapolis came to Muncie at the end of the 1976, to consult with the Muncie Children's Museum Planning Board of Directors on the rudiments in establishing their museum. Her suggestions included conducting a community feasibility study, incorporating and creating a community board of directors and establishing a five-year plan with programming and financial objectives. Moreover, Judy Nelson, board member of the Center for Inquiry and Discovery, Washington, D.C. provided practical information. Other resource people provided expertise, public relations, financial support, grants application, architectural design, searching locations, etc. Finally the Museum was opened and dedicated as a place "where children can move
freely and safely, making choices in situations where they can participate, imagine and explore."^{49}

In the Oregon city of The Dalles, the Wonder Works, A Children's Museum was started in 1977, and the original idea began with determination of three women with the inspiration of Boston Children's Museum as a model. The Dalles is a rural, blue collar, agricultural (wheat and cherries) town, with population of 11,000. According to Betsy Hege--current Director--the women who founded the museum "were influenced by the parenting shift that began in 1966, which replaced the strict hyper-scheduling of the industrial age, with responsive, child respecting parenting."^{50} The museum began as a two months summer pilot project in temporary quarters at The Dalles Art Center in 1977; and least two thousand people had visited the museum. At Wonder Works, a hands-on learning environment, is a place not only for children but also for their caregivers; and all exhibits must meet the following objectives:

- To present a variety of exhibits not available in school classrooms;
- To encourage active learning;
- To illustrate a diversity of life styles and cultures;
- To encourage development of manipulative skills;
- To provide additional educational and recreational choices for young people in our area and people from other areas to enjoy and learn from.\(^{51}\)

The Children's Museum of Rhode Island, Pawtucket was opened in June 26, 1977, the only museum in Rhode Island especially designed for children. The original plan started in 1975. The Pawtucket Jaycees with local parents and teachers began planning a children's museum for the state of Rhode Island and modeled on Boston's children's museum. The mission of the Children's Museum of Rhode Island is "to inspire learning

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through active play and exploration," and "to serve the children of southern New England and the adults who care for them." The Museum presents hands-on exhibits and programs that explore the arts, culture, history and science, and the creation of the exhibits is based on the developmental needs of children ages 1 to 11. In addition, the Museum believes that they serve their audience through following ways,

1. Learning from our visitors as they learn from us.
2. Creating environments in which people share with one another.
3. Embracing a wide range of abilities, learning styles and forms of creative expression.
4. Being accessible and responsive to all families—culturally, physically and economically.
5. Working in partnership with schools and other organizations to meet the needs of children and families.
6. Increasing awareness and knowledge of the ways in which children and families learn.\(^{52}\)

**Diversify the Face of Children's Museums**

In order to serve the needs of both children and the community, this period of time actually was an era in which many newly established children's museums began to apply innovative ideas to diversify the face of children's museums. Several children's museums were created to offer historical hands-on experiences that enabled children to see and touch their cultural heritage, introducing the significance of local culture, etc. Alternatively, some museums identified themselves as a neighborhood educational and arts center, as a educational institution specifically designed for the need of children ages from one to seven, and as a traveling museum without a permanent location, etc.

For instance, the G.A.M.E. (Growth through Art and Museum Experience) in New York City, was founded by Bette Koman in 1972. As an artist and teacher, she created this neighborhood educational and arts center primarily because she felt the
schoools could not provide enough to children important experiences in art. G.A.M.E. conducted workshops for hundreds of children, teachers, and adults from the community, which served as a cultural resource center with strong emphasis on museum connection. When more spaces were needed, G.A.M.E. moved into a renovated 19th-century courthouse rented from the city of New York, and changed its name to the Manhattan Laboratory Museum with expansion of its programs to serve the entire metropolitan area. The Museum featured a new participatory exhibit that related to culture, art, and science; and its permanent collection included nature science, with live animals and a miniature Central Park pond. There are also performances, films, artist-in-residence programs, and intergenerational activities for teenagers and senior citizens. Later, this institution became the Children's Museum of Manhattan and was dedicated to inspiring children and their families to learn about themselves and cultural diversity through a unique environment of interactive exhibitions and programs. Its missions and goals are to:

- Encourage exploration and discovery of language and books while motivating children to read;
- Ignite creativity and provide children with insight and understanding into the creative process;
- Enable children to express their opinions, understand the views of others, and become more discerning and comprehending consumers of mass media and technology;
- Help children and their families become better informed decision makers about environmental issues; and
- Support the challenge of raising children--particularly preschoolers in contemporary urban society

The Rose Hill Manor Children's Museum and Historical Park, in Frederick, Maryland, was founded in 1972, and the 43-acre site was acquired by Frederick County for an urban park. It includes a 1790s mansion, an example of rural Georgian
architecture. The site was developed further in cooperation with the County Board of Education as a children's museum for hands-on interpretive activities. Historical hands-on experiences at Rose Hill encompass carding wool, weaving, soap making, candle dipping, apple butter boiling, quilting bees, and barn raising. This unique setting gives children an opportunity to experience what it was like to live in the nineteenth century, especially to "touch" their heritage, to "see" their history, and to participate it through a real life experience.  

The Children's Museum of Oak Ridge in Tennessee was conceived in 1973 as a Girl Scout project. It formally opened on March 11, 1973 in the library of the Jefferson Junior High School, and later moved to the Highland View Elementary School in January 1974. The museum purchased the building and land from the city of Oak Ridge in 1983, and now operates in 54,000 square feet with exhibits, classes and programs for all ages. The museum is a dynamic cultural center and with hands-on learning approach, and focuses on science, art and history. In particular, its programs and exhibits are designed to encourage children to understand their cultural heritage, environment, and the world around them. The museum has a strong collection of Appalachian and Oak Ridge historical and cultural artifacts, and natural history items.  

The Please Touch Museum, Philadelphia, Pennsylvania was founded in 1976 by a group of educators, artists, and parents under the guidance of Montessori educator Portia Sperr. It is the first museum in the nation designed specifically for the needs of children ages from one to seven. The museum began by establishing a design team of artists and education experts to create interactive exhibits in the arts, sciences and humanities. Its
mission is to stimulate the curiosity and understanding of all children through hands-on exhibits, programs, and collections and through encouraging adult and child interaction. The Museum was envisioned as an educational, cultural, and public service institution, a mix of museum, art gallery, library, and community center, and a place to learn, play, study, enjoy and grow. The exhibits and programs have covered various subjects from the history of childhood to the food chain, to Sendak in Philadelphia, and newly-opened the CoreStates Science Park.\textsuperscript{58}

The Scotia-Glenville Children's Museum, New York is a unique traveling museum started in 1978 by a group of parents and educators who believed that children and families need more opportunities to discover, create, and enjoy learning. Since many students in this region had not yet had the opportunity to enjoy a museum experience, the creation of this traveling facility has filled the gap. The Museum is a not-for-profit educational corporation permanently chartered by the New York State Board of Regents, serving schools and other educational institutions within a fifty-mile radius of Scotia, New York. It operates as a traveling facility, and provides exhibits in curriculum-related programs in elementary schools; it also offers a pastime program for after-school, weekends, or birthday parties. Additionally, it has programs for adults in hospitals, nursing homes, and retirement centers; family workshops, drop-in activities for fairs and festivals, and special events throughout the year. On the average, the traveling museum presented 58 programs per week, and reached over 3,000 classrooms or other sites in 1994-95.\textsuperscript{59} All these innovative ideas presented in this period have extended the diversity
of the children's museum, as well as how a children's museum can serve the needs of children within the community.

A Summary of the Period

The most significant movement happened during this period that was changing the concept of "hands-on" by introducing "participatory" or "interactive" idea, and the redefinition of the philosophy of children's museums by Michael Spock. Likewise, the efforts of science education reform had also a tremendous impact on the movement of children's museums, which resulted in several museums changing their name or redirecting their mission toward being a science-oriented institution. In addition, applying architectural concepts in exhibition design and the building itself became another issue for many children's museum practitioners to consider children's physical need and the integration of play and fantasy. However, parents, teachers, and community leaders remained a major driving force in the development of children's museums. All these factors set the foundation for the phenomenal growth of children's museums especially in the following decades.

Although there was a national emphasis on science education, there were some significant connections between the practices of art education, museum education in art museums, and children's museums. They included engaging audience feedback with interactive exhibits, providing freedom of operation while exploring; promoting imaginative, and symbolic manipulation for extension the mind and exciting the senses; and applying architectural concepts in relation to how children learn and play.
Ideas such as participatory learning that would encourage creativity, play, and fantasy, and give enough freedom while interacting with the exhibit, have provided a good inspiration to the practice of museum education in art museums. In addition, the try-out spirit in the exhibit design at the children's museums, and the client-centered approach that makes a children's museum different from any others as it is designed "for somebody" rather than "about something" has also suggested a new paradigm in the field of museum education in art museums.
Endnotes

1 Information package provided by the Kidspace: A Participatory Museum, Pasadena, California.

2 Information package provided by the Children's Museum of Maine, Portland.

3 Information package provided by the Omaha Children's Museum, Nebraska.

4 Information package provided by the Children's Museum of Virginia, Portsmouth.


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12 Ibid.


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18 Letter from Donald P. Zuris, Head of Curator, Corpus Christi: Museums of Science and History, Texas, (January 6, 1998).


20 Ibid.


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38 The Brooklyn Children's Museum Archive.


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43 Information package provided by the Children's Museum of Indianapolis, Indiana.


46 Information package provided by the Los Angeles Children's Museum, California.

47 Information package provided by the Magic House, the St. Louis Children's Museum, Missouri.

48 Information package provided by the Children's Museum of La Habra, California.

49 Information package provided by the Muncie Children's Museum, Indiana.

50 Letter from Betsy Hege, Director of the Wonder Works, The Dalles, Oregon, (January 10, 1997).

51 Information package provided by the Wonder Works, The Dalles, Oregon.

52 Information package provided by the Children's Museum of Rhode Island, Rhode Island.


55 Information package provided by the Children's Museum of Manhattan, New York.

56 Information package provided by the Rose Hill Manor Children's Museum and Historical Park, Frederick, Maryland.

57 Information package provided by the Children's Museum of Oak Ridge, Tennessee.

58 Information package provided by the Please Touch Museum, Philadelphia, Pennsylvania.

59 Information package provided by the Scotia-Glenville Children's Museum, New York.
CHAPTER 5

BLOSSOMING DEVELOPMENT NATIONWIDE (1981-1997)

Overview of the Period

In the last two decades, the development of children's museums became an extraordinary trend taking place in many cities across the nation. Millions of children, parents, educators, and community leaders are participating in this growing phenomenon. In response to the need of providing a better learning environment for children of all cultural, social and economic backgrounds, the growth of children's museums strive to fill the demand. Through interactive and participatory exhibits and programs, the principles of science, technology, arts, culture, history, and the humanities spark children's curiosity and imagination. Additionally, children's museum not only provides a safe and stimulating environment to engage in the adventure of learning by doing, but also confronts complicated issues such as disability, racism, AIDS, violence, and drugs that many children are facing today. Moreover, children's museums have become resource centers for parents and teachers in the community, particularly to encourage interactions between children and adults, and to engage the parent and child relationship.
During this period, dating from 1981 to 1997, there were more 120 children's museums opened to the public among urban, suburban and rural communities. The numbers are triple what they were in the 1960s the 1970s. These newly-developed children's museums are revolutionizing the role such facilities can play within the communities as well as representing a serious catalyst not only in the movement of education reform but also in the museum profession today.1

When the American education was facing an economic crisis in the 1980s, it triggered the establishment of many children's museums, providing children with an alternative form of education and an informal learning environment. As the Reagan administration changed the federal role in public education by reducing and withdrawing federal funding from public education, state and local governments became the major forces in response to school education, especially financial support.2 Following the release of A Nation at Risk in 1983, an examination of the quality of education in the United States, an urgent concern arose about the conditions of American's schools. For instance, an increasing number of at-risk students and many schools districts with poor tax bases were unable to make up the shortage from loss of federal support.3 During Reagan's second term, the President and members from the Congress began to recognize that cutting federal budget did put many local school systems in danger.

Later, the federal education budget began to grow again when George Bush was elected President in 1988. President Bush and all the nation's governors decided to establish clear national performance goals in order to make the United States internationally competitive, with an emphasis on excellence. According to America 2000:
An education strategy in 1991, the Department of Education developed a set of goals for American education, to be achieved by year 2000. The six goals are:

1. All children in America will start school ready to learn.
2. The high school graduation rate will increase to at least 90 per cent.
3. American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so that they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.
4. U.S. students will be first in the world in science and mathematics achievement.
5. Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
6. Every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

This new education policy directs the current movement in the American education system, toward the establishment of proficiency examinations as a major form of achievement assessment. As a result, curricula are forced to emphasize subject matters such as English, mathematics, science, and social studies. With proficiency exam requirements, education has moved toward a test-oriented approach. On the other hand, the demands of such proficiency tests in schools have created an opposite force that focuses on the need for an interdisciplinary and participatory learning facility such as children's museums for ages from toddlers to young adults. As Eisner declared,

Education is about learning how to deal with uncertainty and ambiguity. It is about learning how to savor the quality of the journey. It is about inquiry and deliberation. It is about becoming critically minded and intellectually curious, and it is about learning how to frame and pursue your own educational aims. It is not about regaining [the nation's] competitive edge.

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Although there have been many significant Federal laws relating to children's needs passed during this period, such as the Child Protection Act (1983), children in American are still facing greater and deeper controversial issues than ever before. For instance, today's children face violence in movies and TV programs, AIDS concerns, drug and alcohol addiction, high drop-out rate of teenagers, increased rate of missing children, prejudice and discrimination problems, runaway and homeless children, and the list goes on. The concerns of how to enhance the quality of life for children, and how to fulfill our society's responsibilities toward children became a new direction in the development of children's museums.

This section presents an overall picture of current children's museum movement from the following perspectives: How many different types of children's museums are there? What were the motivations and initiatives for developing children's museums? Which kinds of philosophies and visions have children's museums acquired? What is the relationship between the children's museum and the community? What are the foci and ideas on the content of exhibits and displays at the children's museums?

**Extend the Diversity: Types of Children's Museums**

In recent years, the development of children's museums is expanding. The existing museums are updating their foci to fulfill the needs of children and families in the community. Unlike traditional museums, their target population is mainly children. These newly developed children's museum can be categorized as regional museums, informative learning and resource centers, cultural institutions, and children and family
centers. Some museums have a specific focus in fine arts or cultural heritage. This section discusses several types of children's museums through descriptive historical information concerning their origination. Although it is useful to categorize these museums in order to understand several trends, it is important to remember that all these categories intertwine and overlap.

**Regional Museums for Children**

Several children's museums were established as regional children's museum to serve the needs for local community within certain geographic areas. The idea to bring a children's museum to Pittsburgh began in 1976, when members of the Junior League of Pittsburgh met to determine the need and feasibility of a regional museum for children. After years of study and promotion, the Pittsburgh Children's Museum opened in the Old Post Office—a historic landmark building—on Pittsburgh's north side on June 12, 1983; it became the region's foremost educational resource for young children and their families. More than a decade, later, the Museum has served over two million people with innovative exhibits and programs and with its outreach programs; an additional one hundred and fifty thousand people were reached at schools, libraries, and community festivals in Southwestern Pennsylvania.\(^7\)

The Children's Museum of Southeastern Connecticut in Niantic opened its doors on November 5, 1992 to "provide quality, creative, interactive and enjoyable learning experiences to the children and families." The Museum serves as a regional learning center for the 21 towns and 32 communities located in Southeastern Connecticut. It works closely with schools, social service agencies in order to increase the educational
opportunities for children in these areas. The goal of the Museum is "to enhance the education of all children and families who live in and visit Southeastern Connecticut by developing their awareness of the world around them through exploration of the arts, sciences, culture and history." 

Preliminary investigations in Hawaii showed lack of a facility specifically designed to meet the needs of 260,000 school-aged children and to allow them to experience, explore, investigate and discover things about themselves and the world around them. The Hawaii Children's Museum, known as the Hawaii Children's Discovery Center today, was opened on January 24, 1990 for children ages 3 through 13. Since many children in Hawaii may never have the opportunity to travel beyond the Island shores, the goal of the Museum is twofold. First is "to bring information and experiences about the world beyond the Island shores to the children." The second is "to instill in Hawaii's children a pride in themselves and their cultural heritage." The Museum believes that "the education process is best promoted in a balance of guided self-discovery and direct experience through communication and interaction with others," and "children are given opportunities to develop self-awareness and evolve into independent and life-long learners." 

Informative Learning and Resource Centers and Cultural Institutions

The Richmond Children's Museum in Virginia was founded in 1981 by a group of local citizens as a resource center for "active learning, creative play and global exploration." The Museum ignites "a lifelong passion for learning, emphasizing the interrelation of arts, sciences, the environment, humanities and technology by addressing
the needs and interests of the whole child; and promotes positive creative, physical, intellectual, emotional and social skills development.10

The Children's Museum of Portsmouth in New Hampshire began in the early 1980s to "fill a major gap in the community's cultural offerings," and to "serve as an important resource for families, responding to current community needs and providing programs that augment the school curricula." The founders of the Museum believe that "New Hampshire's families, teachers and students would benefit from an experiential museum with exhibits and programs designed to be educational and fun." In addition, the Museum strives "to support the multicultural heritage and diverse population of the region, improve adult understanding and skills in meeting the needs of children, and supplement the services of regional schools and social services." These efforts led to the opening of the Museum in July 1983.11

The Louisiana Children's Museum opened in 1986 as an educational and cultural institution, as well as a favorite destination for families, school groups, educators and tourists. The Museum is a community resource that "reinforces school-based learning and understanding achieved through experience," and the exhibition "strengthens prior learning and promotes self-directed inquiry." According to Robert R. Rathburn, the Executive Director, one of the Museum's major goals is

To become a recognized leader in circulating our exhibits with other museums, and to develop and address a national agenda for children which makes their world and ours a better place to live and recognizes diversity without division.12

The Children's Museum of Arkansas in Little Rock opened in 1993 to serve all children, families and schools as a center for learning and dreaming. The Museum's goals
are "to provide successful interactions within the hands-on environment," and "to encourage a lifelong love of learning." The Museum also encourages the imagination in every child and seeks to bring out the child in every visitor. The exhibits and programs are specifically designed "to get all the senses involved and challenge the mind."13

The Bay Area Discovery Museum located at the foot of the Golden Gate Bridge in the Marin Headlands of San Francisco, is the only children's museum in the country located within a national park. A Board of seven women created the Museum in 1985 with a vision "to create a cultural institution that both acknowledges children--with a focus on ages two to twelve--and provides them with the tools to build confidence and self-esteem."14

Finally, the Fox Cities Children's Museum in Appleton, Wisconsin was created "to be recognized by the community as the best educational resource for fun, creativity and play." The Museum opened in 1992 "to stimulate and delight the minds of children by providing hands-on educational exhibits and programming." The original idea was undertaken by a group of local, concerned citizens who believed that

A children's museum would contribute to the quality of life in our area while revitalizing the downtown and providing affordable, educational family entertainment in a creative atmosphere.15

A Children and Family Museum

The Family Museum of Arts and Science in Bettendorf, Iowa is a museum especially designed to serve the needs of the whole family in the community through various services such as the library, the children's museum, and the cultural arts center. It first began as the Bettendorf Museum by ordinance as a city history museum in 1974,
then added interactive children's exhibits and the name was changed to the Children's Museum in 1987. Finally, it found the new way of being a "children and family museum," through several years of changing and emerging. In 1990, a comprehensive plan called "The Learning Campus" was engaged to meet the growing needs of the library, the children's museum, and the cultural arts center. This concept will allow these institutions to share services, integrate programming, and serve local residents more efficiently and conveniently. Four years later, a referendum was passed to construct a new facility, a museum and cultural arts center expansion, and library renovation. The referendum was passed by 76% affirmative vote. The new facility, the Family Museum of Arts and Science, was inaugurated a year later. The mission of the Museum is "to provide children and families with opportunities to explore imaginative arts and sciences through creative learning activities, participatory exhibits and skill building education."  

Children's Museums with Special Focus

Recently, children's museums have become more diverse in focus in relation to fine arts or embracing cultural heritages. For instance, the Arizona Museum for Youth was conceived by a group of private citizens in September 1978 with the intention "to introduce children to the visual excitement and cultural enrichment provided by fine arts." After a great deal of hard work in extensive research, marketing studies, visitation to other children's facilities, needs assessments, and city sponsorship, the Museum opened to the public in 1981. Through participatory activities, the exhibits are to enhance and reinforce the audience's visual experience; and the interior of the Museum is
designed "to stimulate the imagination, captivate the eye, and foster creative expression through traditional museum display."\textsuperscript{17}

The Young at Art Children's Museum in Plantation, Florida was founded in 1986 with an exclusive focus on the arts. During the planning phase, the founders of the Museum, Esther Shrago, musician and educator, and Mindy Shrago, recognized visual artist and Chairperson of the Broward County's Art in Public Places, conducted three years of research, which included taking seminars and training at the Boston Children's Museum, traveling to children's museums around the country, and attending American Association of Museums and American Association of Youth Museums conferences. Local research indicated a lack of quality art education programs for children, particularly in the rapidly growing West Broward area. Therefore, the founders decided to establish a hands-on, non-collecting museum "to educate children through experiential concepts of aesthetic, cultural and historic significance." The Museum opened its present home at a donated space in the Fountains Shoppes of Distinction in Plantation in 1989, and Donald Singer, an award-winning architect, designed the visually exciting interior space.\textsuperscript{18}

In 1991, the Children's Museum of the Arts opened in SoHo, the center of the New York arts community. With imaginative, interactive arts programs and exhibitions for young children aged 18 months to 10 years and their families, the Museum is dedicated "to helping children develop their full potential through the visual and performing arts." Based on child development theory, the Museum recognizes that the arts can play a significant role "in fostering positive interactions between parents and
their children," and "in building personal self-esteem and cooperative interaction between children."\textsuperscript{19}

The International Children's Art Museum in San Francisco was founded in 1995 under Paintbrush Diplomacy, an international art and writing exchange program that aims to foster communication and cultural understanding through the language of children's art. The mission of the International Children's Art Museum is "to broaden viewer's perspectives on art and world cultures through the display and recognition of children's art."\textsuperscript{20}

Children's Hands On Art Museum in Littleton, Massachusetts was founded in 1996 with mission "to make art a part of everyday life and inspire artistic expression in children." The objective of the Museum is "to guide and focus children on the creative process and learn about oneself and the environment."\textsuperscript{21}

In contrast to museums that focus on the arts, My Jewish Discovery Place Children's Museum in Los Angeles was founded in 1992 with primary emphasis on cultural heritage that teaches children important elements of Jewish life. Museum displays use hands-on experiences where children and their families can "experience together the joy and fun of learning about Jewish history, customs, values, holidays, folklore, tradition, Israel, heroes, music, dance and drama." The goals of My Jewish Discovery Place Children's Museum are:

- To empower parents and adults to teach and learn with their children;
- To expand the knowledge and strengthen the identity and community connection of families through participation in the Museum;
- To reach the unaffiliated;
- To build bridges of understanding between multi-ethnic communities."\textsuperscript{22}
In order to achieve the goals, the Museum strives to build a stronger Jewish community by:

- Emphasizing the role of the family in transmitting Jewish culture and values.
- Providing experiential and intergenerational Jewish learning opportunities for children, adults and families.
- Being one of the foremost centers of innovation and creation of interactive exhibits on Jewish culture, values and history.\textsuperscript{23}

The Bronzeville Children's Museum in Evergreen, Illinois was founded in 1993 by Peggy A. Montes and a group of dedicated business, civic, cultural, and educational leaders. The Museum focuses on African-American culture for children and is the first African-American children's museum in America. The motivations for creating the museum were based on the need of having a "children friendly" museum to help to "reduce illiteracy and open the doors to knowledge, self-esteem and hope for underserved African-American children ages three to eleven years." Additionally, the establishment of the Museum was referred to research and statistics that revealed "many African-American children are at a great disadvantage upon entering elementary school because of their impoverished environment." The goal of the Museum is to "educate and expose children to the rich culture and heritage of African-Americans and people of Africa and its diaspora through activities, interactive exhibits and programs." With exposure to the excitement of learning, the benefits to the children are obvious and to the community are "perhaps less tangible but nevertheless very real - better educated, more successful children who grow into responsible adults" as Montes said.\textsuperscript{24}
Finally, some children's museums are using a different title to overcome the limit of the name as a "children's museum," yet they are still functioning as a children's museum with emphasis on hands-on learning and interactive education during this time. For instance, the Exploration Station in Bradley, Illinois (1987), the Hands-on House in Lancaster, Pennsylvania (1987), the Curious Kid's Museum in St. Joseph, Michigan (1989), Explorations V in Lakeland, Florida (1991), and the Kidseum in Grenada, Missouri (1995), use institutional names that are attractive to their audience.

**Motivations and Initiatives: The Need to Have a Children's Museum**

In the last two decades, more than hundred and twenty children's museums have opened to the public, and ten more are scheduled to be inaugurated before the year 2000. With such acceleration, it is interesting to know why citizens feel they need to have a children's museum and what the motivations and initiatives were.

On the other hand, the Junior League continues its efforts in assisting the development of children's museums throughout the nation. The engagement between the Junior Leagues and the children's museum has lasted for over fifty years since its first project was started at the Denver Children's Museum, Colorado in 1943. Additionally, a seminar, *How to Start/Not to Start a Children's Museum* offered by the Boston Children's Museum and the Children's Museum of Rhode Island has had a great impact in the movement of children's museums, as this seminar was designed to help start-up museums to have a better understanding the purposes, meanings, and feasibility of establishing a children's museum within the community.
Therefore, this section explores various reasons why communities need to have children's museums by examining their motivations and initiatives, and how the Junior League, existing children's museums, and the seminars have affected the development of children's museums.

Response to the Community Need

The development of children's museums was often in response to community members who indicated that they wanted: (1) to provide an interdisciplinary learning environment; (2) to complement the traditional education opportunities; (3) to meet the needs of small children; (4) to share the excitement of learning and to enrich the learning experience; (5) to enhance children's understanding through multicultural experiences and problem solving skills; (6) to be both an educational resource and tourist attraction; (7) to nurture children's interest to seek out other museums; (8) to expand educational opportunities for children from all social and economical levels; (9) to provide a safe environment; and (10) to enrich the quality of children's life, that would benefit children's education and extend their learning experience. The following section presents an overall picture with a brief historical overview of selected children's museums, although there are more children's museums that have shared similar ideas but which are not listed here.

1. To provide an interdisciplinary learning environment

The Children's Museum of Houston in Texas was initiated in the early 1980s in response to a community need for "interdisciplinary, participatory exhibits and programs for children from early ages to young adults, ages 4 months to 14 years." Through a study of other children's museums with engaging a broad-based community support, the
Museum opened its first exhibit, Kidtechnics, at the University of Houston's Blaffer Gallery in 1984. The Museum serves as an informal learning center not only for children, but also for families and teachers through classes that encourage interaction and regularly scheduled seminars. Exhibits in the Museum focus on science and technology, fine arts, cultural diversity, and early childhood education. Today, the Museum welcomes nearly 250,000 visitors each year.25

2. To complement the traditional education opportunities

The Lincoln Children's Museum in Nebraska was created by a group of active, committed parents who thought their children would benefit from having a children's museum (i.e. hands-on learning) as did children in other places in the late 1980s. The Museum was intended to be a dynamic learning place where

Children can supplement the learning that children receive in school with activities which they can touch, feel, explore and create on their own to learn about science, mathematics, machines, nature, culture and the arts.26

Before the Museum opened, an introduction to the hands-on concept of children's museums was offered through short-term museum exhibits at the Nebraska State Fair Grounds. With a high number of visitors attending the events, the Board considered it was a sign of interest in and support for a permanent museum for the community and surrounding areas. In early 1989, the Junior League of Lincoln adopted the fledgling Lincoln Children's Museum for a three-year project and began paying the salary of a full-time museum director, and providing volunteers for museum outreach activities. The Museum outgrew its original purpose--supplementation of school education--to "a true community endeavor" today. As its materials state, there are "many families and school
groups use it for its educational aspects; community groups for community service; teens, service organizations, college students, even retired teachers volunteer there; and businesses provide service and exhibits.²⁷

Four local educators initiated the Santa Fe Children's Museum in 1985, recognizing "the need for a dynamic, hands-on learning environment to complement traditional educational opportunities in Santa Fe." The Museum began with traveling exhibits in shopping malls, galleries, stores, and community centers across northern New Mexico. In 1989, the Museum building opened and became the only children's museum in the state of New Mexico. With hands-on, participatory exhibits and activities, the Museum intrigues, delights, and challenges children of all ages. Exhibits are focused on the arts, sciences, and humanities, and they are designed "to grant youngsters the time and space to discover and learn in their own distinctive ways." In addition, the Museum serves as an informal setting for families from diverse populations to learn and play together.²⁸

3. To meet the needs of small children

The Children's Museum of Tampa was started by a group of concerned parents in 1985, as they wanted to have a museum that would meet the needs of their small children. This group of people garnered the community's support and the Museum opened in Floriland Mall with a dynamic hands-on exhibit on June 7, 1987. Two years later, the Museum relocated to Safety Village in Lowry Park with the support of the City of Tampa. The Safety Village was founded in 1965, and is an outdoor exhibit with a mini-
metropolis of Tampa's landmark buildings, structures and natural landscape features.

According to the Museum,

The Safety Village provides an ideal environment for children to learn with hands-on, interactive exhibits reflecting the three main themes of the Museum, which are safety, careers, and multi-cultural awareness.

The entire village simulates a neighborhood atmosphere in which the buildings and exhibits are teaching props to help the children who visit to understand the community in which they live and the issues which affect their daily lives. Children are encouraged to act out their aspirations and imagine the many possibilities for their future roles in their neighborhood.

Later, the Junior League of Tampa engaged a three-year partnership with the Children's Museum to sustain the League's longstanding tradition of working with children and families both financially and voluntarily. With continual growth in numbers of full-time staff, the Museum will continue to pursue its goal "to enrich and educate the lives of young children and their families by challenging them to explore their potential within the community." Additionally,

The Museum provides a distinct role in the remaining process for young children as they use their imagination for a creative journey through many challenging hands-on activities. As museums remain one of the few environments where experience is the basis for learning, the Children's Museum of Tampa serves an important function in our community.  

4. To share the excitement of learning and to enrich the learning experience

The Long Island Children's Museum was started by two mothers in 1993 when they felt the need in their community to have "a learning laboratory" where hands-on exhibits would invite visitors "to examine, experiment, dream, and discover." The Museum offers interdisciplinary activities through which children and adults can share in the excitement of the learning process as they explore together the world in which we
live. The Museum is designed "to spark curiosity and fuel the desire for further exploration," and its philosophy includes ideas such as:

- Children learn best by touching, seeing, and doing.
- Children learn the most when they are having fun.
- Children learn according to their developmental readiness, individual learning styles, and personal interests.
- Children develop self-confidence when they are given opportunities to test their independence.
- Children experience different perspectives through role-playing.
- Children flourish in an intergenerational environment.
- Children gain self-esteem and understanding when they are encouraged to value their own culture as well as the culture of others.
- Children with knowledge of our similarities and differences understand and appreciate human diversity.
- Children and adults working together can help to renew and protect our world.
- Children who are encouraged to solve problems creatively will be better equipped to meet the challenges of the 21st century. 

The Hudson Valley Children's Museum began with a dedicated group of parents, community leaders and professionals in 1993, who were "seeing the need for an innovative place that would enrich the learning experience for children." The Museum's first project was the "Museum-Without-Walls," that was designed to provide children and families with a variety of hands-on outreach programs. With the success of the program, a growing interest for a permanent facility to house exhibits and programs, which will serve as a regional resource for alternative learning, was needed. The goal of the Museum is "to create a safe and informal environment that helps children become caring citizens by providing knowledge, skills, and a sense of belonging." The Museum's new home opened at the Nyack Seaport in 1997.
5. To enhance children's understanding through multicultural experiences and problem solving skills

The Kohl Children's Museum in Wilmette, Illinois was founded in 1985 on the success of its precursor, the Kohl Teacher Center, a pioneer Chicago resource center that served more than 50,000 educators since 1973. The Center was designed to make an impact on classroom teachers and learning by offering creative methods of enhancing the traditional approach to teaching: the launching of the Children's Museum was to expand its mission to work with families. The Museum provides programs and exhibits to enhance "children's understanding of themselves and the world around them through multi-cultural experiences, problem solving, role playing and values-oriented exhibits." It is dedicated to serving "all of metropolitan Chicago's children," and the Museum is a "multi-cultural crossroads where children, teachers and families can meet and learn together." By bringing urban and suburban children and families together in an informal, interactive environment, the Museum helps "to break down barriers of race, religion and neighborhood." This is one of the few places where children from all over metropolitan Chicago can:

- have an interactive, multi-cultural experience;
- meet in a noncompetitive atmosphere conducive to learning;
- make friends and learn about sharing; and
- extend their vision of neighbors and neighborhood.

In addition, nearly three hundred thousand people visited the Museum last year, and approximately thirty thousand children were reached through museum's outreach programs. The goals of the Museum are to:
• encourage children to be life-long learners;
• provide cooperative learning experiences;
• maintain a safe, friendly environment accessible to all visitors;
• foster learning through play and discovery; and
• model behavior and teaching practices for educators and parents.\textsuperscript{32}

6. To be an educational resource and tourist attraction

The Children's Museum of Virginia in Portsmouth was founded in 1980 as a project of the Portsmouth Service League. Two years later, the Museum's administration was transferred to the City of Portsmouth and it became a part of the Department of Museums. The Museum was designed "to encourage a life-long love of learning by offering interactive exhibits and programs for children that foster their openness to new experiences in the areas of art, science and humanities." Through years of programs and exhibits, it outgrew the available space and continually grew in visitors and popularity, not only of children but also for families and school groups, such that the municipal government of Portsmouth recognized an opportunity

To increase tourism and attract business development through the expansion of cultural amenities and supported the expansion effort by purchasing a former department store for the relocation of the Children's Museum.

The new facility was opened in December 1994, with over 60 stimulating exhibits and a planetarium. The Museum strives "to reflect the value of this family oriented attraction to the educational and cultural enrichment of residents and visitors to the area."\textsuperscript{33}

7. To nurture children's interest to seek out other museums

In November 1989, the idea to have a children's museum in Milwaukee area was initiated by three local women, Therese R. Binder, Susan Gruenberg, and Julie Sattler Rosene. As they believe that

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A children’s museum, where fun and learning would go hand in hand for children ages 1 to 10, was unlike any other museum in town. They saw that this museum would nurture an interest in Milwaukee's young to seek out other museums. They said that it would be an educational resource and tourist attraction as well as a service to families.

Over time, these volunteers gained numerous supporters in an extraordinary grass-roots effort that was not only from their friends and from their friend’s friends, but also from business and associates. This effort resulted more than 200 community people were convinced of the need for a children’s museum in Milwaukee, and the Betty Brinn Children’s Museum opened in 1995. The Museum features hands-on exhibits and programs with interdisciplinary approach in arts, sciences, and humanities that enhance children’s learning styles. Additionally, the Museum promotes fantasy and role-play experiences that spark imagination, creativity and problem solving, celebrates cultural diversity, especially encourages children and parents to learn with each other.34

8. To expand educational opportunities for children from all socioeconomic levels

The Children's Museum of Utah was initiated by a group of community educators and parents in 1978. They wanted to develop a museum that "would fill a critical need in their community and in the established educational system," because they felt that

Traditional museums and community educational resource centers did not offer adequate opportunities for children from all socioeconomic and cognitive levels to discover and learn in a supportive non-formal environment.

There was a critical need for a children’s museum which could augment the established public school system and provide the hands-on, exploratory learning experiences that no one school or school district could afford.
With this philosophy, hard work and dedication of many people, the Children's Museum of Utah opened in 1983. The goal of the Museum is:

To create the love of learning through hands-on experience in the physical and social sciences, the arts and world cultures utilizing exhibits which complement the educational system and are not otherwise available. These unique experiences will encourage and reward creativity, curiosity, and enhance self-esteem.\(^{35}\)

9. To provide a safe environment

Janet Geng was the founding director of the Children's Museum of Stockton in California for children to have a safe place because of the Cleveland school shootings in 1989. A gunman firing an assault weapon killed five children and wounded thirty others, including a teacher--Janet Geng. The tragedy inspired Janet to open a children's museum when she visited the Children's Museum in Washington DC and discovered that the children's museum is a safe, violence-free place used by children and families for learning and play. When Janet returned to Stockton, she organized the first members of the Board of Directors, together they welcomed the community, and the Museum opened in 1992. The goal of the Museum is "to serve as a center of learning and discovery." The Museum provides extended educational learning and performance in visual arts by offering playful, interactive and hands-on exhibits and programs; and celebrates and explores the diverse world around it: its past, present, and future.\(^{36}\)

The Children's Museum in Colorado Springs began as a traveling collection of small interactive displays that was built and staffed by volunteers in 1988. The exhibits were shown at many local schools, daycare facilities, and other museums. The exhibits were highly supported by the visitors, and a search for a permanent home was begun.
With a donation by the Rouse Corporation, the Museum opened its doors on December 2, 1989. The Museum is committed "to serving the educational needs and interests of children by providing interactive programs and exhibits in a safe, accessible and contextual environment." Its mission is "to enrich the lives of children by stimulating their natural curiosity and creativity, and to nurture the development of thinking skills that will help them prepare for productive and fulfilling lives." Today, the Children's Museum is a fast growing arts and science organization, which encompasses nearly 5,000 square feet, with more than three dozen interactive displays and serves over 40,000 annual visitors.\(^{37}\)

Kathy Gallagher and Betsy Anderson started the Children's Metamorphosis in Londonderry, New Hampshire. In November of 1988 they decided to look into the possibility of establishing a children's museum in southern, central New Hampshire. They visited many established children's museums and spoke to the directors, searching for a location, and engaging corporate support. With their efforts, the Museum opened to the public on March 21, 1991. The goal of the Museum is to "establish, provide, and maintain a private, nonprofit participatory museum staffed by early childhood educators, to be used by all young children, their families, schools and teachers." The Museum serves children and their families, preschools, Head Start programs, day care centers, private and public elementary schools, play groups and children's organizations i.e. Cub Scouts, Brownies, Camp Fire, 4H, Boy's and Girl's Clubs, etc. The environment is particularly conducive "to fostering the positive parent-child interactions that are so important with today's diverse family situations." As its Family Resource Center, offers
resource materials for use by visitors, workshops dealing with family issues, infant and child CPR and the weekly Parent and Toddler program.38

10. To enrich the quality of children's life

The goal of the Richmond Children's Museum in Virginia is to "enrich the lives of children, youth, families and those who care for them by providing interactivity educational experiences which stimulated discovery, learning and understanding about themselves and the world." Programs and exhibits recognize the changing face of families in the community, as well as to support school curricula. The Museum also tries to reach under-served audiences such as critically ill children, homeless and sheltered families, inner city and troubled youth. In addition, the Museum promotes "positive creative, physical, intellectual, emotional and social skills development." According to the Museum publicity materials:

- We provide high quality, multidimensional exhibits, programs and resources designed to be developmentally appropriate, intellectually stimulating and creatively enriching.
- We provide interaction between thoughts and experiences with objects, ideas and people.
- We provide alternative learning resources to enhance and complement traditional classroom education.
- We provide opportunities for children to have fun while learning with each other, their families and adults.39

The Junior League's Sponsorship and Learning from Other Children's Museums

Along with those reasons in response to the community need and learning from other children's museums, efforts of Junior League is another driving force in the development of children's museum. During this time, the Junior League has continually provided their support in the development of children's museums across the nation, such
as sustaining financial support, volunteers, and help in organization and administration. With foci on education, welfare, recreation, arts and many more for both children and adults, there are more than ten children's museums mainly sponsored by the Junior League, and many others are supported on a project basis during this time. In addition, several children's museums have not only been inspired by or have learned from earlier developed ones, but also they have received technical assistance and consultation from other museums or professional organization i.e. Association of Youth Museums, local art museums and natural science museums, or non-profit management consultants.

For instance, in the early 1980s, the Junior League of Charlottesville was instrumental in the development of the Virginia Discovery Museum in Charlottesville. The Junior League started by gathering information from other children's museums, especially information that was vital to the formulation of a long-range plan. The desire to create unique educational programs for families through hands-on activities became the goal of the Museum. The Museum started by organizing several interactive activities that appeared throughout Central Virginia. With an increase in popularity, the Board decided to find a permanent building for the Museum. On October 25, 1986, the Museum welcomed visitors to its first home located near the University of Virginia. As increasing numbers of visitors participated in such facility, the Board again initiated a search for a larger building. In 1990, the Museum moved to the Downtown Pedestrian Mall, a city owned building, that allowed the Museum to create new exhibits, increase outreach efforts to low income families, and work more closely with schools and educational
institutions. The Museum is a part of community efforts that related to tourism and economic development. Additionally, the vision statement of the Museum is:

Children are our common wealth. The Virginia Discovery Museum unites and expands our community of children by stimulating their imagination and by encouraging cooperative learning. It is a place where families learn together in creative ways through interaction with real objects. Special emphasis is on developing a global perspective, a respect for the earth, an appreciation of the diversity of people and the power of technology in one's daily life. The Museum is widely viewed as a central resource in the community.40

The Chicago Children's Museum was opened in fall 1982 by a coalition led by Dianne L. Sautter along with educators and the Junior League of Chicago—especially through its in-kind support, volunteers, and $50,000 contribution. The Museum was developed with a focus on arts education in response "to the lack of financial support for arts programs in many area schools." Years later, the Museum extended its mission from an arts focus to interdisciplinary learning in order to "provide a quality cultural facility for Chicago's children" in 1986. The goal of the Museum is to "provide an interactive setting, through exhibits and programs, for a diverse constituency," and "to activate the intellectual and creative potential of children by being a catalyst for the process of learning."41

When members of the Junior League of Pittsburgh met to determine the need and feasibility of a regional museum for children in 1976, the idea to have a children's museum to the area was engaged. Over six years of study, the Junior League received a grant to meet and interview museum professionals across the US, hired a consultant to define the objectives and undertook a fundraising campaign. The Museum was opened in 1983. Its goal is to "enrich the lives of children," and "engage children of diverse
backgrounds with their family, school, and community groups in hands-on experiences which foster creativity, discovery, learning, and understanding.\textsuperscript{42}

The Discovery Center of the Southern Tier in Binghamton, New York was developed through the combined efforts of a group of parents and the Junior League. As all participants wanted to have a hands-on science center for children in the area, the Museum began with volunteer endeavor, and strong business, local industries and community support including the State Arts Council and the local arts council. The Museum opened in March 1984.\textsuperscript{43}

The Lied Discovery Children's Museum in Las Vegas was begun by the Allied Arts Council and the Junior League of Las Vegas in 1984. Before opening, a study on potential interest and support by residents of Las Vegas was commissioned and completed in 1985. A bond issue authorized the building of the Las Vegas Clark County Library and Discovery Museum. It gave the Museum a permanent home and opened its doors to the public with goals to enhance educational and cultural opportunities for the children of southern Nevada in 1990.\textsuperscript{44}

The Hands On Regional Museum in Johnson City, Tennessee, formerly known as the East Tennessee Children's Museum, was initiated by Jan Cavin in the mid 1980s. Jan Cavin led a team of participatory museum advocates to conduct the feasibility study. The study included visits and consultations with successful children’s museums around the country focusing on the San Francisco Exploratorium, the Boston Children's Museum, Roanoke Valley Children’s Science Museum, and the Cumberland Science Museum in Nashville. Patterning a proposal and vision after these highly successful museums, the
team contacted local business, organizations and school systems to assess regional support. The grand opening was held with 10,000 square feet of interactive exhibit space in September of 1987. The mission of the Hands On is "to create a dynamic educational and fun environment which stimulates discovery, thought, and understanding through interactive exhibits, programs, and events in the arts, sciences and humanities."

The Children's Discovery Museum of San Jose was started by two Santa Clara County women--Reba Wehrly and Carolyn Nelson--who were studying the possibility of establishing a children's museum in the South Bay area in 1982. After a commissioned "Public Opinion Poll" showed widespread support for such a facility, the pair sought guidance from directors of both the Los Angeles and Denver Children's Museums, following which they developed a case statement. In the following year, the Museum developed a comprehensive "Museum on the Road" program, which encompassed "Stage Door Stories" (opened in 1984) and a traveling exhibit on disabilities "One Way or Another" (opened in 1985). It served more than 40,000 children. Through years of fundraising, capital campaign, and acquisition for permanent location, a 42,000 square foot facility, designed by internationally renowned architect Ricardo Legorreta of Legorreta Arquitectos, was opened to the public in June of 1990. The purpose of the Museum is "to serve the needs of children, families and schools as a center for learning and discovery." As a center for creative play and expression, the Museum provides "opportunities for all of us to discover the world through the eyes of our children," and its educational mission encompasses the themes of "Connections, Community, and
Creativity." In order to develop the premier West Coast children's museum, the Board of Directors has charted the following objectives:

1. To meet the paramount need of children to learn by doing through participatory exhibits and programs that engage the sense and challenge the mind.
2. To provide a unique educational and cultural resource readily accessible to the region's youth population center and capable of accommodating an annual visitor population of 265,000, including families, children and youth groups.
3. To offer a richly diverse framework for discovery in the arts, sciences, technology and humanities thereby complementing the California elementary and middle school curriculum with learning experience difficult or impossible to achieve in the context of school or home.
4. To weave together the strands of our rapidly changing world by emphasizing connections among peoples of all nations and times, and to highlight innovations in art, science, technology and the history of ideas.
5. To promote the cognitive, physical and emotional growth of youngsters, and to provide a rewarding setting for families and children to interact with and learn from one another.
6. To cultivate in youngsters habits of inquiry and independence, their surest preparation for the complex world they are destined to inherit.46

The Collage Children's Museum in Boulder, Colorado was founded in 1989 by a diverse group of parents that included educators, scientists, artists, business persons, professionals and community volunteers. These parents envisioned a children's museum that would provide a stimulating environment where children could playfully explore and learn about their world. In addition to the expertise provided by the Board, the Museum received technical assistance from other children's museums, the Association of Youth Museum's Mentor program, non-profit management consultants and the Junior League of Denver. The founding members developed a mission statement and educational philosophy that is "to foster children's curiosity and playful exploration of their world."
Interactive exhibits and programs provide opportunities for children to enhance their knowledge of the arts, science, and the uses of technology.\textsuperscript{47}

The Children's Hands-On Museum in Tuscaloosa, Alabama was originally proposed by a group of school children in 1984. With community efforts on the part of educators, parents, and civic organizations who saw a need for an educational resource for children and their families in Tuscaloosa, the Museum became a reality in January of 1986. The Museum is a unique educational institution, and the goal of the Museum is "to stimulate the curiosity of children, ages 2-12, about themselves and their place in the world." Through high quality, interactive, exhibits and programs, the Museum strives "to enhance children's understanding of community; the physical environment, the arts, the history, and the modern settings and their relationships."\textsuperscript{48}

Seminars that Supported the Development of Children's Museums

Since the blossoming development of new children's museums in the late 1970s, the Boston Children's Museum decided to hold a seminar entitled: "Museums for Children: Moving, Changing, and Growing." This seminar was designed to help other children's museums through the transition process, which many existing children's museums encountered due to increasing attendance and demands for high quality programs and exhibits. Additionally, the staff member at the Boston Children's Museum also had limited experiences in the start-up phase as it was started almost seventy years previously, in 1917. The Boston Children's Museum was planning to move from its original site, Jamaica Pond, to current location, which made the Museum become a start-up museum again with various adjustments and considerations in early 1980s. Therefore,
the Museum invited Jane Jerry, the first director of the Children's Museum of Rhode
Island who had experiences on starting a children's museum, to participate in faculty
meeting for the seminar. According to Jane Jerry, the agenda of this first seminar
focused,

A wide range of issues associated with many kinds of growth and the
participants represented museums in several different stages of
development form those in the inception state to some which had been
operating for years and were considering a move to a larger space.49

As a result, the "How to Start/Not to Start A Children's Museum" seminar was offered
twice in 1984 and 1986 with twenty-one and twenty-seven museums participating
respectively. The seminar was intended to

Help people in the formulative stage of a new children's museum by
warning founders of potential pitfalls, helping them to clarify when they
want to embark on this project, and providing a mechanism for networking
among emerging children's museums.50

With issues focused on "fiscal forecasting and fundraising, exhibition planning, mission
statement, Board development, Boards/Staff relations," and concerns on "how not to start
a children's museum," the benefit of these discussions that gave many groups and
individuals to map out planning process and begin networking with others.51 The
significance of these seminars was not only that they provided many start-up children's
museums with a head start, but also that they offered great guidelines for the
development of children's museums during this period.
Visions and Philosophies: What a Children's Museum Should be Like

Beyond numerous reasons in motivations and initiatives, children's museums envision their future by applying various philosophies and educational theories with concerns on child development to maximize children's learning experience in ways that are different from home or school. The section discusses current children's museums in general of their visions in twofold way: philosophically and theoretically.

Philosophical Approach

Most of the children's museums define themselves as informal learning institutions, believing in active learning, encouraging learning by doing, and striving to make learning fun. They promote positive values and behaviors, stimulate higher-level of thinking in decision-making, and support the development of problem solving strategies through hands-on activities in a participatory setting. Additionally, they encourage family participation and interaction, from the perspective that everyone should be respected, and they meet the special learning needs of children with disabilities and disadvantaged families. These children's museums extend educational learning experience beyond traditional disciplines approach to interdisciplinary in arts, humanity, social science, environmental issues, cultural diversity, and everything that related to children's daily life.

First, most of the children's museums emphasize interactive education, hands-on, and participatory learning. For instance, the Louisiana Children's Museum is promoting "hands-on participatory learning for children of all ages, and encouraging discovery through observation, inquiry, creative construction, role-playing, problem solving, and
free play." As a part of the local educational infrastructure, the Museum motivates children "to develop their cognitive, physical, and social skills while enjoying fruitful interaction with adults and peers;" "to reinforce school-based learning and understanding achieved through experience;" and "to strengthen prior learning and promotes self-directed inquiry."^{52}

The Madison Children's Museum was begun by a group of people who felt that Madison, Wisconsin needed a place where children could explore and discover the world in nontraditional, hands-on ways. The Museum is dedicated to "hands-on learning and fun for children and their families," and exhibits and special events are presented to children with one simple rule, "learn by touching."^{53}

The Children's Museum of Tacoma was initiated by a group of enthusiastic parents, teachers and community leaders in 1985 in response to a survey identifying a community need. Exhibits and programs feature hands-on learning and design to "stir the interest and imagination of every visitor," with emphasis on "learning from doing" in order to spark the natural curiosity of children.^{54}

According to Ellen Biderman, one of the founders of the Santa Fe Children's Museum,

Our long-term goal is to maintain an environment that encourage active participation in the learning process through participatory exhibits and programs for children, adults, teachers, and parent.^{55}

And, Ellyn Feldman, another founder of the Museum, added
Kids do have fun here, but our primary goal is not that. We have a very strong educational philosophy. Everything we do or say we consider in those terms. So we speak very carefully about things we want to endorse, and choose programs and exhibits we think will be important and instructional.

Among the many types of museums in the world today, children's museums stand alone in providing environments that are distinctly different from other institution. Such museums are based on a simple premise: children learn by doing.\textsuperscript{56}

Second, many children's museums design their programs and exhibits that encourage children's curiosity, creativity, imagination and appreciation. For instance, the goal of the Austin Children's Museum is "to provide innovative, participatory museum exhibits, programs, and resources which encourage curiosity, creativity, appreciation, and learning for all children, their families and those who work with children."\textsuperscript{57} The Bay Area Children's Museum believes that "exhibits would encourage children to think critically, ask questions, find creative solutions and make decisions in preparation for the complex world that they will inherit." The goal of the Collage Children's Museum is "to foster children's curiosity and playful exploration of their world." Interactive exhibits and programs provide opportunities for children to enhance their knowledge of the arts, science, and the uses of technology. The Museum emphasizes constructive learning with challenging interdisciplinary experiences, cultural diversity, and engaging community interaction.\textsuperscript{58}

Third, as children's museums are created not only to serve the need of children but also their parents, family members, or caregivers, thus most of the museums are strongly promoting the interrelationship and interaction between children and parents when they are engaging with the activities. For instance, the Virginia Discovery Museum
believes that the children's museums "is a place where families learn together in creative ways through interaction with real objects." By stimulating children's imagination and encouraging cooperative learning, children are empowering to gain "a global perspective, a respect for the earth, an appreciation of the diversity of people and the power of technology."59

The Children's Museum of the Highlands in Sebring, Florida was opened in 1990. It encourages "a hands-on approach to learning with exhibits and programs designed to excite the imagination, stimulate curiosity and provide opportunities for exploration." The Museum believes "learning is at its best when we allow children to explore and experiment on their own," and "it is a place where children and their families can learn together about themselves, their community, and their world."60

Fourth, as most of the children's museums are located in communities with multi-ethnic populations, how to enhance the awareness of cultural diversity and the importance of understanding other cultures has become another major concern. For instance, the Miami Youth Museum was opened on 15 February 1985 as an educational institution for children of all ages, their families, childcare providers and educators for multi-sensory, participatory discovery. The Museum is dedicated to enriching children's lives by fostering a love of learning and an appreciation of their own unique talents and skills; as well as to providing opportunities to meet the needs of children of all socioeconomic, backgrounds. In order to serve the needs and wants in South Florida's multi-ethnic community, the Museum reflects sensitivity to and knowledge of diverse needs in the contents of exhibition design and program development, as well as in its staff.
composition. The recognition of multicultural concerns can, according to Barbara Zohlman, the Executive Director,

Become a bridge of goodwill and provide the first key steps for cooperation between diverse people in using urban culture to create coalitions for broad civic goals, like serving those most at risk in our communities such as youth and families in need of support.

She also believed that "an investment in Florida's children is an investment in our future, not merely an expenditure. For it is our young people who are the keys to the success of our community and our state." In addition, she said,

The Museum is actively involved in preparing children to feel better about themselves and to learn to live in a more interactive, satisfying, empowering way. Our museum helps young people know where they come from, giving them confidence to tackle anything. We take issues facing our community, our state, our world and create exhibitions about them. We are unique in our hands on approach to learning, which states, "once your use it you never lose it!" 61

Finally, addressing the love of lifelong learning and understanding the world around them is also another major concerns that carry out by many children's museums during this time. For instance, the Children's Museum in Seattle, Washington was started in 1979 by a group of parents and educators, the Museum began operating in December 1980. The founders were interested "in developing a learning place for children and educational resource center for parents and teachers." the Museum believes that it should

Make learning a joy by enabling all children and adults of diverse backgrounds and abilities to stretch their minds, muscles, and imaginations in surroundings that stimulate creativity, self-confidence, and an understanding of the world.

To accomplish this mission, the Museum follows these principles:

- Provide a safe, hands-on, fun environment where children learn through play and problem solving.
• Develop exhibits, programs, and outreach activities that encourage informal multicultural and intergenerational learning.
• Enable children to learn about the literary, visual, and performing arts; individuals and society; and the natural world.
• Help children to develop an understanding of our region's ethnic diversity.
• Create educational and recreational opportunities that are sensitive to those with special needs and accessible to the entire community.
• Introduce children to the lifelong use and appreciation of cultural resources.  

The DuPage Children's Museum in Wheaton, Illinois was founded in 1987 by Louise Beem and Dorothy Carpenter, who have over 50 years of combined experience as educators in the area of early childhood development. Their vision and the Museum's commitment is based on extensive research showing that children between the ages of two and twelve develop powerful, lasting theories about the world and how it works. The goal of the Museum is "to offer children the opportunity to experience the excitement of discovery and through that experience develop the desire and disposition to learn throughout their lives."  

**Theoretical Approach**

From theoretical perspective, almost all children's museums are grounded in thoughtful and respectful child development theory to accommodate a child's need across physical, psychological, and emotional development. Along with a developmental approach, this section discusses some major theories that many children's museums are currently applying i.e. Howard Gardner's multiple intelligences, and theory of "play" and constructive learning. In fact, many different theories have been used in the practices of children's museum are mixed and overlapped, and their outputs might vary in exhibits and programs.
The theory of multiple intelligences was developed by Howard Gardner, professor of Education at the Harvard Graduate School of Education, in the late 1980s. The theory addresses different learning patterns and recognizes that "people do learn, represent, and utilize knowledge in many different ways."64 He states that "all human beings are capable of at least seven different ways of knowing the world," and be labeled them as seven human intelligences. They includes language, logical-mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or to make things, an understanding of other individuals, and understanding of ourselves.65 At one of his presentations held at the conference of the Association of Youth Museums in 1988, Gardner suggested some educational implications that might link to museum efforts. He stated that the theory can be a framework for thinking about the kind of content and the way it is being presented, it might help to think about whether they are achieving the goals of certain exhibits, and provide some directions on how to assess what has been learned through the exhibit. Alternatively, it can also be used as principles to study the habits of individuals in museums, i.e. engaging some conversation and experimentation with individuals who have been through the museum to see what kinds of experiences or things they have learned.

Due to Gardner's focus on the nature of learning, and a new direction for educators and parents to think about how children learn, many children's museums are applying his methods into their exhibition design and programs assessment. For instance, the Chicago Children's Museum had an exhibit Smarter Than You Think in 1994 that was based on the theory of multiple intelligences. According to the Museum, this is "a
colorful, interactive exhibit that explores the different ways we learn," and "challenges kids and adults to flex their brain muscles in a series of lively activity stations." Originally, it was groundbreaking traveling exhibit and developed by the Children's Museums of Denver through the Youth Museum Exhibit Collaborative, a non-profit organization made up by ten leading children's museums for exchanging exhibits and other collaborative efforts.

The goal at the Tucson Children's Museum in Arizona was to "provide a fun and interactive environment where children freely use their intelligence and imagination, developing a desire to explore and learn about the world around them." By interactive exhibits and displays, the Museum challenges each individual to experience that Museum with imagination, curiosity and intelligence. According to the Museum, the key to accomplishing this mission will be partnerships with parents, teachers, and others who are committed to the development of young people.

Staff members at the Santa Fe Children's Museum led a city-wide collaboration of educational institutions to bring Howard Gardner to Santa Fe for a mini conference on the nature of learning in 1995.

The theory of "play" is another major concern in the practices of many children's museums today. Children learn from their senses to gather information about themselves and the world. By imitating, repeating, exploring and experimenting, children gradually learn to make judgments and to categorize what they know. Through spontaneous and imaginative "play," the most important activity children can engage in, children learn to have control of themselves and their environment, and to interact meaningfully with
others. The emphasis on "child's play" probably came from the twentieth century theorists in education, psychology, and cognition learning such as Piaget, who believed "play is involved in cognitive development," and "play develops in stages," and "play is assimilative; that it serves to incorporate or consolidate the children's experiences."\(^{67}\) Bruner stated that play is a serious business in child's development;\(^{68}\) and many other theorists address "play as performance" and "play contributes to the progressive differentiation of 'self' from 'other' perspectives in the children's social world."\(^{69}\)

In addition, George Forman states, a renowned expert on children's constructive play,

> Constructive play is that version of play that gives children a reason to organize and structure an episode of play. Constructive play not only yields curious problems, but by definition, it leads to a construction of new knowledge, an increase in the child's fund of understanding.\(^{70}\)

Therefore, the most effective learning environment is one which is safe and attractive, and invites children to experiment and explore and imagine at their own rate, in their own way such as the children's museum. Today, most of the children's museums are recognizing the importance of "child's play," and adults can best facilitate learning in children by supporting and extending their play, and by encouraging children to communicate their experience in words.

For instance, the Hands On House, Children's Museum of Lancaster opened in 1987, where it is located in an historic Victorian farmhouse just north of Lancaster, Pennsylvania, as a place where "playing is the key to learning."\(^{71}\)

The Children's Museum of the Highlands in Sebring, Florida opened in 1990 with "a stimulating environment for children of all ages to explore and enjoy." The Museum is uniquely equipped "to offer an educational setting which is different from that of home or
school, but which augments the kind of learning that occurs in both." Additionally, the Museum is a unique and exciting place for children to "play," and in each section invites exploration and discovery through hands-on participation.  

The Hands On Children's Museum in Olympia, Washington was started by a group of mothers who "wanted to expose their children to a different kind on learning--the hands-on, learning through play experience." At the beginning, they gained exposure by participating in annual community events, with added experience and support, the Museum opened its current location in January 1993. The Museum is located in downtown Olympia, and is "the only child-oriented resource center in Southwest Washington with interactive exhibits in the arts and sciences for children ten years of age and younger." In the past years, the Museum has welcomed over thirty five thousand visitors.  

The constructivist theory began with science education in the late 1970s, and applied most of Piaget's theory. With the development of contemporary constructivism, theory of human development, cognition, learning, understanding, and combined with social and cultural impacts are added. Constructivism is based on the idea that meaningful learning, contextual understanding, and children making sense themselves does not happen without adult intervention in the form of facilitating children's interactions with meaningful experiences. In order to have a comprehensive experience of meaningful learning and understanding, the constructivist learning perspective seeks balance between the child-centered and teacher-directed. It addresses methods of facilitating learning by the instructor during the learning process when children are
acting, playing, and discovering. Children are born with natural curiosity, and letting children "discover" for themselves is the fundamental philosophy in the development of children's museums. Yet, the concept of letting the children to "discover" for themselves has been accepted under certain levels of agreement which constructivism might say it is "discovery" but is not "free discovery." It means discovery through constructivist ways which is not only to find the answer of "what it is", but also to understand the meaning of "why it is." Furthermore, in most of today's children's museums, their "discovery" activities, so called "acting upon," are not longer just presenting operational objects on the desk, or alone with descriptive labels on the side at all. Instead, they are using constructive questions to challenge children's capability to solve the problem, encourage children to try, think, modify, and expect them to be able to have a meaningful understanding whether the process of "discovery" is succeeded or failed.

For example, the Chicago Children's Museum had a gallery named "The Inventing Lab." Within this area, different activities allow children to use their imagination to explore the principles of physics, sound, aerodynamics, and to create their own "invention." In order to explain how the constructive ideas would work in the Museum setting, the Flying Machine serves as a good example. This machine is about 50-feet high and 10-feet diameter with a kid-powered conveyor system on the side. The creation process is supported through serious questions instead of prescriptive direction on the side. For instance, "Can you invent a flying machine? What materials are you going to use? Which one can stay in the air longer? You can use the timer beside you to count how much time your machine took."
In order to answer the questions, children use provided materials i.e. pieces of fabric, soft plastics, papers, flags, small toys etc., and each piece is attached with Velcro in order to assemble their own "flying machine." After they have invented the "flying machine," children test their work by launching them up to the ceiling from the conveyor system. Without formal instruction, the magic of learning occurs when children have to distinguish the features of different materials, try them on the kid-powered conveyor system, check on the timer, then make some adjustment or modification, and try it again. In addition, through the process of the invention, children are not only inventing their own object, but also by observing other children's "flying machine" and learn from other children's experience to empower their own way of solving the problems.

The Partnership: Children's Museum and the Community

The development of children's museums is an outgrowth from the community, featuring joint endeavors between parents, educators, and community leaders. Thus, the function of the children's museum is not only to serve educational purpose, but also to define a community's identity, to focus community involvement and to foster beneficial relationships between the communities. As many children's museums became cultural resources in their communities, these interrelationships become an important issue that needs to be discussed. This section focuses on children's museum and (1) its collaborative efforts, (2) resources for urban development and downtown revitalization; and (3) community services and actions.
Collaborative Efforts

During this time, most of the children's museums are seeking to collaborate with other organizations e.g. universities, museums, cultural institutions, and social services, in order to maximize their effort in serving the needs of children and families. Besides the Junior League, these organizations also see the children's museum as a good resource in order to provide children and families with programs, and exceed their ability to serve wider population. With such understanding, the two-fold way of collaboration became a very popular engagement in the current movement of the children's museum.

For instance, the Children's Museum of Utah is working closely with local educators to ensure that their educational programming can complement classroom teaching, as they realize how important the children's museum is in the community. In addition, the Museum actively cultivates positive collaborative working relationships with regional and national museums and both profit and non-profit professional organizations to ensure that all children and families have access and gain the benefit.  

The Kohl Children's Museum in Wilmette, Illinois is working with various cultural and educational institutions in order to broaden its ability to reach an even greater diversity among those it serves. Currently, the Museum collaborates and conducts outreach programming with agencies including the Chicago Housing Authority, Chicago Botanic Gardens, Urban Gateways, Northeastern University, Chicago Association for the Education of Young Children, among others. In 1994, the Museum launched a five-year collaborative effort to create and implement the Kohl/McCormick Early Childhood Teaching Awards. The awards is designed to "improve educational opportunities for
youngsters birth through grade three by addressing issues of accreditation, professional development, advocacy and teacher recognition."  

The Virginia Discovery Museum in Charlottesville believes in the value and benefits of collaboration, because community partners could provide a variety of perspectives, and additional areas of expertise. In order to translate its vision into innovative educational programs and hands-on exhibits, the Museum has engaged with the public and private schools, the University of Virginia, youth serving organizations, the public library, arts organizations, retired citizens and area businesses for many years.  

The Lincoln Children's Museum in Nebraska has built a good relationship with the Lincoln Fire Department, a fine example of community support. The idea was started when the Lincoln Fire Department approached Museum staff about a fire safety exhibit and proposed installing the cab of a retired fire engine in which children could "play" fireman, practice fire safety and explore careers. With additional services provided by local business, telephone company, and artists to paint the background, this exhibit became the most popular at the Museum. This collaborative effort is not only gave children a great lesson and fun place to play, but also it has gained the Fire Department a great reputation in promoting public safety education across the country.  

The Children's Hands-On Museum in Tuscaloosa, Alabama is a unique educational institution that  

It exists to stimulate the curiosity of children about themselves and their place in the world.
It provides high quality, interactive, exhibits and programs designed to enhance children's understanding of community, the physical environment, the arts, the history, and the modern settings and their relationships. In addition, the Museum strongly addresses its focus on educational partnership. Since its inception, the Museum has worked closely with the Tuscaloosa City Schools and the Tuscaloosa County Schools system. For instance, each school system provides the Museum with a teacher-in-residence that serves the Museum as Director of Exhibits and Programs, and Director of Education during the academic year. Both of them work together with area educators to develop and implement integrated educational programs that complement existing classroom curricula in the areas of science, history and the arts. Furthermore, the Director of Resource Center also works closely with area teachers to create a professional development credits by participating in teacher training workshops.

The Madison Children's Museum in Wisconsin has prompted a unique three-way collaboration among the Museum, the University of Wisconsin's Latin American Liberian Studies Program and the Madison Metropolitan School District through its recent major exhibit--Brazil: Beyond the Rainforest. According to the Museum, over 4,000 students from eight Madison schools participated the Museum's programs and worked directly with Brazilian artists and musicians. The University of Wisconsin-Madison has also contributed significant faculty and staff time, and budgeted over $30,000 to the project, and the Wisconsin Humanities Council made its first grant for this project as well. With this collaborative effort, the Museum not only reaches deeper into schools and the community, but also attracts significant grant funding and media attention. This
collaboration has farther-reaching implications as the State Secretary of Education in Rio Grande do Sul, Brazil has adopted one of the projects--"Museums in Shoebox," into their schools which now reaches over 100,000 elementary students. Another impact is the inspiration of establishing a children's museum in two cities, because there are no children's museum in Brazil today.\(^8\)

Due to the Chicago Children's Museum's long-time commitment to literacy, the Museum has built a good relationship with the Chicago Public Libraries. In order to implement the Library Kids program, the Museum works with three branch libraries to bring books to the Museum and Museum programs to community libraries. In conjunction with another program, known as "Project Read," the Museum and the Library have established book areas throughout the Museum to link books to each one of the Museum's exhibits. Additionally, the Museum has also trained teen volunteers to read exhibit-related books to visitors thereby serving as role models to the Museum's young visitors.\(^9\)

The Youth Museum Exhibit Collaborative (YMEC), as previously mentioned, is another great collaborative project made by and between the children's museums. The YMEC is a non-profit organization made up of ten leading children's museums and founded in 1990. According to the YMEC, the establishment of such organization was "in response to the rapid growth of children's museums and increasing demand for educational, high quality, interactive experience." Its goals are:
To develop and travel educational, high quality, interactive exhibits for children, their parents, teachers and caregivers among its member institutions. Despite the tremendous popularity and growth of children's museums, few exceptional traveling exhibits are available for the youth museum audience. YMEC targets a young, lively, curious audience and meets their need for dynamic interdisciplinary exhibits.

To provide a collaborative model for other museum seeking cooperative ventures. During 1990, YMEC researched existing museum collaborative and identified a science museum collaborative as a model for the first youth museum collaborative. In the first six years of partnering to develop traveling exhibits and share professional resources, YMEC has refined and sharpened the collaborative process and found creative ways to extend and interconnect with other partners to maximize its members' resources. YMEC has also served as a model for other youth museum collaborative with similar goals.83

According to YMEC, the ten leading children's museums and their designed exhibits are:

Bay Area Discovery Museum -- Tot Spot: The Bat Bungalow Sleepy Hollow
Brooklyn Children's Museum -- Mystery of Things
Chicago Children's Museum -- Trip Down Memory Lane
Children's Museum, Canadian Museum of Civilization -- Siginic: Under the Same Sun
Cleveland Children's Museum -- Circus of Circles
Minnesota Children's Museum -- Night Journeys
The Children's Museum of Denver -- Smarter Than You Think
The Children's Museum of Houston -- Scholastic's: The Magic School Bus Inside the Earth
The Children's Museum, Indianapolis -- Hands Can
The Children's Museum of Memphis -- Playing Together: Games84

After the first round of exhibits, the YMEC is continually developing new traveling exhibits that are focusing on interdisciplinary topics that include "adventure, claymation, the circus, geography, prejudice and discrimination, and cities of the future, etc." since 1996. The success of this innovative and dynamic collaborative is "due to the combined resources, talents and expertise of its members and partners," and its future development, as YMEC states, will

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Actively explore new opportunities to build relationships with forward-thinking corporations and youth-serving organizations so that it can effectively produce innovative, educational exhibit experiences as it enters the twenty-first century.85

Resources for Urban Development and Downtown Revitalization

Children's museums have become a good resource for urban development. Since the post War World II, a combination of the baby boom, the growth of suburbanization, highway expansion projects, and shopping mall development has led the move of major economic activities from urban to suburban areas. With many retailers moving into the suburban shopping malls, downtown were abandoned and deteriorated due to the loss of confidence in urban economical investment and activities. With increased criminal and poverty problems in urban areas, downtown revitalization programs were engaged. In order to attract economic development back to the downtown, many city governments began to offer tax-increment-financing, and agreements to facilitate rental or reconstruction of office, hotel, and retail complexes. Additionally, enhancing streetscape beautification, increasing parking garages, public transportation, and tourist activities, and encouraging the reopening of retail stores and restaurants are another forces for downtown resurrection.86

As a resource for urban development, the Louisiana Children's Museum is a good example. The Museum was started by a small group of innovative and dedicated women who shared a vision of creating a museum for children in 1981. They worked together and formed a committee of community leaders that "would develop ideas, educate the community on the concept of a children's museum, and gather donations of capital and equipment." On October 11, 1986, the Louisiana Children's Museum opened its doors to
visitors. Through increased attendance and scope of programming, the Museum had become "an educational and cultural resource, and a favorite destination for families, school groups, educators and tourists." With years of development, the Museum plays a vital role in local economic development by strengthening New Orleans' image as a family tourist destination, particularly with the exhibits and educational programs highlight local industries and Louisiana's multi-cultural heritage. Additionally, the Museum's community outreach program expands access to training, skill development, and informal education opportunities. Employment and volunteering at the Museum provide hands-on learning for youth and adults, especially for those entering or reentering the workforce who can "gain work experience and learn to be productive citizens under the Museum's sensitive and careful supervision." Furthermore, the Museum's internship program, collaborative with area universities, provides students with training in museum management, childhood development, and educational program development that will enhance student's future career development.

Besides the stimulation of urban economic development, many cities also are encouraging relocation or expansion of cultural institutions in downtown areas, as cultural programs can become

A bridge of goodwill and provide the first key steps for cooperation between diverse people in using urban culture to create coalitions for broad civic goals, like serving those most at risk in our communities such as youth and families in need of support.87

Currently, there are over thirty percent of children's museums, out of one hundred and twenty that have participated in downtown revitalization programs. The existence of children's museums is not only able to increase local employment and volunteering
opportunity, but also to promote tourism, attract business, and create positive changes of downtown images. For instance, the Virginia Discovery Museum in Charlottesville moved to the Downtown Pedestrian Mall on May 1, 1990 due to an increasing number of visitors. According to the Museum,

The move Downtown allowed the Museum to create new exhibits, increase outreach efforts to low income families, expand hours of operation, work more closely with area schools and educational institutions and participate in community wide efforts related to tourism and economic development. The Museum is accessible to people with disabilities and conveniently located for families who depend on public transportation. The Children's Museum of Southeastern Connecticut in Niantic pointed out several other economic facts that the children's museum has offered to the community. First, increasing number of employment at full time or part time positions will contribute thousands of dollars in taxes and purchasing power back into the community. Second, with over two hundred thousand visitors per year, this number could translate to thousands of meals purchased at the local restaurants, thousands of gallons of gas, and thousands of dollars of purchased goods. Third, expenses on thousands of dollars annually on marketing and advertising, which includes print media, radio and television partnerships, and memberships into regional and state-wide tourism organizations, pour into the cycle of local business activities.

Community Service and Action

Aside from economic contribution to the community, the children's museums are also taking part in community services and actions especially, they strongly recognize the changing of family's structure and strive to reach under-served children and families. For
instance, the Richmond Children's Museum offers important program initiatives that "recognize the changing face of families in our community, as well as programs aligned to support school curricula." The Museum also has specially designed educational programs to reach under-served audiences i.e. critically ill children, homeless and sheltered families, and inner city and troubled youth etc. The Inside/Out program at the Seattle Children's Museum was conceived to serve under-served communities in 1991. This program was began to provide arts, humanities and cultural programs for the Seattle Housing Communities of Holly Park and Rainier Vista. It has now developed into a full fledged outreach program with a staff of six, and has served not only the housing communities in the city, but also schools in the surrounding six counties.

As previously mentioned, the Chicago Children's Museum has made a long-term commitment "to bring urban and suburban children and families together in an informal, interactive environment." With the goal of "[breaking]down barriers of race, religion and neighborhood," the Museum helps children from different cultures and backgrounds get to know each other. The Museum initiated numbers of partnerships with community organizations, corporations and government entities that enable the Museum to maximize its resources and multiply its impact in improving the lives of children and families. In 1992, the Robert Taylor Homes Community Project was initiated "in breaking down traditional barriers that inhibit low-income families from seeking resources outside their neighborhoods." The Robert Taylor Homes are predominantly African-American community with an unemployment rate of 96% and a median annual income of $7,908. By focusing on 3,000 families and children residing in the community, the Museum
designs programs that include "the promotion of family development, fosters student achievement and provides teens with employment and creative training opportunities." With collaboration with neighborhood branch libraries, Head Start Centers, Boys' and Girls' Clubs and the Chicago Park District, this project helps children to fight violence, crime, and gang problems in low-income neighborhoods. 89

Many children's museums have created outreach programs to reach the needs of children of all kinds. For example, the Miami Youth Museum provides opportunities "to meet the needs of children of all socioeconomic, physical, emotional and educational levels in our multi-ethnic community." Especially, the composition of Museum's staff reflects its sensitivity and knowledge of South Florida's multi-cultural audience in exhibition content and programming. The Lied Discovery Children's Museum in Las Vegas is working with teenagers from low-income and at-risk backgrounds in programs entitled YouthWorks and ArtSmarts. These programs have been recognized as exemplary for at-risk youth today, and they will be included in a publication being produced by the President's Committee on the Arts and Humanities. 90

The Santa Fe Children's Museum has several outreach programs that serve children or young adults who "would not ordinary have access to museum-quality activities." It provides leadership on issues concerning children through its programs, staffing, and governance, the museum recognizes and reflects our community's economic, ethnic, and cultural diversity. The Museum-on-Wheels is an outreach project that serves outpatient and inpatient children at Children's Hospital in Albuquerque. This program intends to "help normalize and provide an additional humanizing element to what can be
a stressful environment for children." The first part of the project is a set of colorful cart of puppets that could be easily transported and accessible through the hospital hall with museum-quality materials such as bubbles and magnets to the bedside of ill children. The second part is a permanent activity center located in the pediatric ambulatory care unit. This center was designed by the Museum's architect and reflects the philosophy of hands-on learning. It provides activities for "children and their families waiting for care or treatment to observe a hologram, pretend to be a pilot, or talk on a telephone." The center operates fifteen hours per week, and often its activities serve as an "ice-breaker" that helps children to communicate with the medical staff. In addition, the Museum's outreach program also reaches another group that is often ignored or forgotten--the children of prison inmates. The Museum provides children's activities at annual family day at the New Mexico State Penitentiary entitled Outta Joint at the Joint that includes art projects, movement activities, face painting and a puppet theater. The goal of this program is to "encourage positive parent-child interactions and enhance bonding opportunities." In concern with supporting to family life and the awareness of increasing violence in today's lives, the Museum sponsored a discussion series on this subject matter in 1994. A year later, the Voices of Violence/Vision of Peace was published collaborated with the Santa Fe Community College and the New Mexico Department of Health. This book documents Santa Fe-ans' experiences with violence with a section on parenting issue, and it became a valuable resource for counselors, peer mediators, teachers, and social service workers throughout the state.91
Reach the Need of Children: Foci and Ideas on Exhibit Design and Display

The focus on exhibition design at the children's museum became more diverse than before. They exceed traditional exhibit focuses from natural science to social and cultural study with more concerns to children's daily lives. For instance, there are increasing numbers of children's museums designing special exhibits with topics such as disability, prejudice and discrimination, environmental issues, concerns of AIDS and teenagers' life. In addition to in-house exhibits, many children's museums are also developing outreach programs for low-income families, at-risk children and teenagers that will help them to fight violence, crime, and problems in their neighborhoods.

Applying modern architectural design is continuing to be carried on by many children's museums in the building, interior, or exhibit fabrication. Along with the content of the exhibit, many children's museums are promoting temporary exhibit settings instead of permanent; emphasizing the function of a facilitator to engage the conversation with the activities; and integrating different learning patterns to adjust to children's need. Indeed, thousand of ideas were created through the programming at exhibits, outreach programs, and workshops. The examples used in here only represent some ways that children's museums have reached.

Ideas in exhibition display at many children's museums are emphasizing the function of the facilitator. For example, the Arizona Museum for Youth in Mesa provides an "active viewing" experience by trained museum staff for special school and community group tours. These "facilitators" introduce children to the exhibit, guide them in an exploration of the gallery, and, supervise an art project in which children learn by
creating. In addition, developing "junior curator program" or "youth council" is another common trend that is taking places in many children's museums across the nation. These programs are helping teenagers be more involved in the interpretive, hands-on aspects of the museum, as well as creating future museum projects; or speaking out their own concerns and participating community services.

As children's museums are not only designed for children but also for their parents and caregivers, the ideas in exhibition display are now more focused on how to engage parent and child interrelationship. For instance, the Minnesota Children's Museum in St. Paul believes that

Families are important as children's first teachers. The major accomplishments in the learning lives of children (language, values, self-esteem) occur early in their lives in their family settings. We work to make parents partners in their children's learning and to support the teaching roles of other significant adults in children's lives.92

Applications of Modern Architectural Design

In order to foster children's learning and communicating, and to engage play and fantasy as previously mentioned, more children's museums are recognizing children's architectural needs today. With numbers of successful models of children's museums that have used architects to build the museum or to design the interior space, applying modern architectural design concept in the development of children's museum became more popular during this period. For instance, an award-winning architect Donald Singer, designed the interior space of the Young at Art Children's Museum in Plantation, Florida. Upon entrance, the visitor is confronted with a play on primary shapes and colors that works together to create a sense of awe and curiosity. The Children's Discovery Museum
of San Jose hired an internationally renowned architect Ricardo Legorreta of Legorreta Arquitectos to design the building, who also commissioned to design the Guadalupe River Park where the Museum is located. The Minnesota Children's Museum in St. Paul was designed by the Alliance Inc. and James/Snow Architects with a concept that was based on philosophies of "how children's experiences with the physical environment frame their world." In addition, the Treehouse Children's Museum in Ogden, Utah opened in 1992 as an interactive museum with themes around reading and literacy, that every corner of Museum is filled with things to do, exhibits to explore, and stories to read. As the name of the Museum suggests the interior focus on the giant fabricated treehouse where children can climb and explore. With many other sections, the Museum has created an atmosphere that allows children to pretend to be whoever they want as children can take the ship's wheel and pretend that they are Captain Hook or Peter Pan, or become the Swiss Family Robinsons or visit Pooh's house under the tree.

Special Topics in Exhibition Design

During this time, the living environment for many children is unsafe and bombarded by the social problems of growing criminal rate, family violence, child neglect, abuse, teenager mothers, drug and alcohol addiction, violent TV programs and video games, AIDS, higher drop-out rates of teenagers, runaway and homeless children, etc. In order to reflect such issues, many children's museums are integrating these concerns into the exhibition design. For examples, the Capital Children's Museum in Washington, D.C. has Children: An Exhibit for Children about the Holocaust. The Staten Island Children's Museum developed an exhibit What If you Couldn't...? concerning the
need of disabled children. The Children's Museum in Boston has *Mind Your Own Body*, an exhibit about you and your body. The Indianapolis Children's Museum has an exhibit created by teenagers—*Teens Speak Out on Issues. Ask Me If I Care* was created by an artist in partnership with teenagers and public health organizations to address contemporary teen life at the Children's Museum in San Diego, known as the Museo de los Niños. The Cleveland Children's Museum, known as the Rainbow Children's Museum today, has opened a cross-cultural exhibit *People Puzzle* that focuses on prejudice and its impact on children in 1993. The Lied Discovery Children's Museum in Las Vegas presents *What About AIDS?* which was supported by the Community advisory boards.

The Chicago Children's Museum has created another good exhibit, *Face to Face: Dealing with Prejudice and Discrimination*. The exhibit provides tools to help children and families recognize and respond to prejudice and discrimination they encounter in daily lives. According to Dianne Sautter, executive director of the Museum,

> The issues of prejudice and discrimination are a reality in children’s lives, even though most of the parents play important role in helping children form values and judgment, but certainly families deserve the support from outside institutions such as museums, because these institutions could provide tools and effective resources to address these issues. ⁹⁶

Additionally, Judy Chiss, associate executive director, pointed out that it is an empowering exhibit that helps children to have more control over the world they are living, and allows children to explore such difficult topics in a safe and supportive environment.

To serve the needs of children with multi-lingual and diverse cultural backgrounds became another major concern in programs and exhibits design as many
children's museums are located in a multi-ethnic community today. For instance, the main design goal at the Minnesota Children's Museum is to reflect the diversity of its community to demonstrate the Museum and the community are all connected. The Children's Museum of Houston has presented a series of cultural exhibitions i.e. *Yalalag: A Mountain Village in Mexico* and *Ta-Hsi, A Market Town in Taiwan*. The Museum designs programs through multi-lingual and non-verbal way for children and families, especially with hands-on experimentation by listening, touching, tasting, smelling role playing, and looking. The Seattle Children's Museum was started in 1979 by a group of parents and educators who were interested in developing a learning place for children and educational resource center for parents and teachers. As the Museum's mission of statement is to:

> Make learning a joy by enabling all children and adults of diverse backgrounds and abilities to stretch their minds, muscles, and imaginations in surroundings that stimulate creativity, self-confidence, and an understanding of the world. \(^{97}\)

In order to highlight the ethnic diversity of the Pacific Northwest, the Museum is strongly focused on the Chinese, Japanese, and Filipino cultures and has produced activity books in support of its other activities. For instance, the exhibit at the *Global Village* explores life in contemporary Japan, Ghana and the Philippines; and the *Time Trek* leads children on a journey through time to examine the ancient people, and cultures of Mesoamerica, Greece, and China. \(^{98}\)

Aside from various topics concerning social and cultural issues, another major development in the children's museum is to integrate arts into their exhibit design. Although many children's museums have offered numbers of art activities in galleries on

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a daily basis, or have a professional artist in residence where children can participate in making ceramics, weaving, papermaking, most of the children's museums are still focusing on studio productions instead of learning and understanding of arts. As most of children learn from doing, touching, and exploring, which many art museums would not be able to offer, the idea to design an interactive art exhibit for children and their families to enjoy arts together is revealed at several children's museums only in recent years.

For instance, *Making Sense of Art: Chagali for Children* was created by the Kohl Children's Museum in Wilmette, Illinois. Dolores Kohl said, the president of the Museum,

Marc Chagall's art appeal to all the senses: looking at his painting, one can almost hear the music, smell the flowers, feel the fine textures and become absorbed into the beauty of the colors we see.

Therefore, the theme of this exhibit was to address all the senses as children learn through their senses. Within the gallery, there are several sections with reproductions of artwork and associated activities, i.e. there are five boxes in front of Chagall's reproductive painting *Flower* (1971) for children to smell and to figure out which scent is which. The exhibit encourages children to explore, touch, discover, listen, learn, look, wonder and "feel" the arts as when they are interacting with various activities.99

The Exhibition of Alexander Calder's *Ari* at the Indianapolis Children's Museum was another great example that children's museum is providing a great quality of art exhibit for children and families. Calder's works filled are with creativity, imagination and artistic exploration, and he was one of the few artists in history to create the art of mobile sculpture. Therefore, according to the Museum,
An exhibition of Calder's life and work is a way to help museum visitors capture the freedom, playfulness and value of creative thought. Because many of Calder's ideas and materials originated in his childhood, his life can inspire parents to nurture creativity in children.

Looking at Calder's art, there is a wonderful simplicity that makes it accessible. Because it is so approachable, it has the unique ability to inspire creativity in others. Children seem particularly able to catch Calder's sparks of creativity. His work is not only enjoyed for its creativity but also becomes a jumping off place for the creativity of others.\textsuperscript{100}

In September 1995, the Santa Fe Children's Museum presented an innovative installation entitled *Portraits: From Head to Toe*. The Museum was converted into a gallery for children by displaying, at child's height, over 40 portraits borrowed from local artists and the New Mexico Museum of Fine Art. In conjunction with the portrait exhibit, children created original work using a variety of art materials or observing artists at work. Children were able to study self-portraiture under supervision by an art educator at "A Children's Art Studio; and watch the process of creation at "An Artist's Studio," that features local artists are working on new pieces.\textsuperscript{101}

**A Summary of the Period**

Today, the development of children's museums is blooming rapidly in almost every major city in the United States. Beyond their museological functions, such as exhibition, collection, preservation, and interpretation, most of the children's museums serve as education and resource centers that intend to enrich children's lives, and engage children and their families in the adventure of learning. Because few other educational institutions could provide such fruitful, luxuriant, and thoughtful positive learning experiences, the children's museum has been widely appreciated in many communities.
Reviewing more than 100 children's museums, this chapter presents an overall picture of current children's museum movement from the following perspectives. First, children's museums provide a safe and informal learning environment by offering information, education and entertainment where children can explore the world around them with respect and thoughtfulness to the others. Second, children's museums cultivate a life-long love of learning with stimulation in curiosity and imagination; enlist cooperative learning experiences through doing and exploration with interactive exhibits; engage environmental awareness, and embracing the power of technology. Third, children's museums strive to complement the traditional education opportunities; promote multicultural experiences especially making connections among peoples of all cultures, and highlight innovations in art, science, and humanity. Fourth, they expand educational opportunities from all social and economical levels, build community partnership, define a community's identity, and engage community service and action. All these factors provide useful paradigms for current art education and museum education in art museums.
Endnotes

1 Information package provided by the Houston Children's Museum, Texas.


7 Information package provided by the Pittsburgh Children's Museum, Pennsylvania.

8 Information package provided by the Children’s Museum of Southeastern Connecticut in Niantic.

9 Information package provided by the Hawaii Children's Discovery Center.

10 Information package provided by the Richmond Children's Museum, Virginia.

11 Information package provided by the Children's Museum of Portsmouth, New Hampshire.

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13 Information package provided by the Children's Museum of Arkansas in Little Rock.

14 Information package provided by the Bay Area Discovery Museum in Sausalito, California.

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16 Information package provided by the Family Museum of Arts and Science in Bettendorf, Iowa.

17 Information package provided by the Arizona Museum for Youth in Mesa, Arizona.

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34 Information package provided by the Betty Brinn Children's Museum, Milwaukee, Wisconsin.

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CHAPTER 6

CONCLUSION

Overview of the Study

This dissertation has examined changes in educational theories, social, and cultural issues that have affected the movement of children's museums during almost one hundred years of evolution. The nation's first major children's museums were established to serve as educational institutions for children to study natural history with firsthand experiences and direct contact with real objects. Due to an increased recognition of the value of children learning from doing, the establishment of children's museums became a community joint endeavor with efforts from various individuals and institutions. During the 1930s and 1940s, reasons for developing a children's museum expanded to include the need to fill children's leisure time, support for school science education, and enrichment of children's learning experience. In the early 1960s, Michael Spock redefined the philosophy of the children's museum and changed the exhibition concept from "hands-on" to "participatory" learning; this revolutionary approach had a tremendous impact on the philosophy and programming of children's museums. Today, the development of the children's museum is growing more quickly than ever before, as
there are more than 200 children's museums distributed across almost every major city in the United States. They serve as a safe and an informal learning environment for children to explore the world of wonders, and to supplement formal school education with foci on social and cultural issues that are related to children's daily life. Since there are no institutions that could provide equally fruitful interactive experiences for children and their families, the value of having a children's museum in the community has come to be appreciated throughout the country.

Significance of the Study

A growing body of primary source materials grounded the foundation of this study and elevated the significance of this historical survey. It provides a better understanding of the children's museum development in the United States, and elaborates some of the role transitions that the children's museum has undergone. In particular, their philosophies, principles, and practices have shifted the perspectives of current education on children's understanding through interactive and participatory learning, as well as refreshing the theories and practices of art education and museum education in art museums. The function of the children's museums lies in the following aspects:

Emphasizing the educational component with focus on a client-centered approach

By reviewing the movement of children's museums, it is clear that the creation of children's museum was to serve educational purposes, especially for children to learn through first hand experience with museum quality collections. Over the years, children's museums have demonstrated a distinct role in the nurturing process for children to learn
and explore by stimulating their imagination and creativity through many challenging hands-on exhibits and activities. They have broken some museum principles, such as collections and preservation, and further strengthened the importance of exhibition design and meaningful interpretation that encompass children's cognitive development and physical needs.

Aside from a subject-centered approach like that of most regular museums, the introduction of a client-centered concept became another cornerstone in the development of children's museums. Anna Gallup, one of the most influential persons in the movement of children's museums, former curator at the Brooklyn Children's Museum (1904-1937), pointed out that the children's museum should have direct contact with children instead of the subjects. In particular, she recommended that "children needed to always know that this museum was for them and always the children's interests and needs were considered." Today, children's museums have developed their own identities without or beyond a collection, crossed boundaries between the regular museums, and have become a cultural institution with social and educational impact. This fundamental principle--children's museums are one of the foremost centers for children to call their own--has remained the same since its inception.

Addressing the importance of hands-on and participatory experience and constructive learning.

The late-1960s and the 1970s were a period of reconsidering the practices of children's museums especially under the strain of science education reform and the demand for educational services from most American museums. Likewise, children's
museums began to question what the new children's museums should be instead of having collections of specimens and cultural artifacts available for children's leisure purposes or leaned instructional kits for use in the classroom. Additionally, the people concerned with children's museums also started to question how children learn in a children's museum as well as to re-examine the concept of "hands-on" by introducing the "interactive" or "participatory" learning experience. Michael Spock, who had a pivotal impact on the movement of children's museums, engaged a new focus and definition in philosophy and exhibit design at the Boston Children's Museum. Beyond the first hand experience with the object itself, Spock believed that the exhibit design should provide audiences with enough freedom of operation with stimulation of all senses and coordination of physical interaction. He elevated the passive interaction with single objects to an imaginary experience with greater scale of visual and physical environment that engage children's learning, fantasy, and contextual understanding about the world around them. As mentioned in the Chapter 4, this approach was presented as his first exhibit--What's Inside?-- at the Boston Children's Museum in 1964.

Since "hands-on" has become the keystone exhibition technique in the past three decades, issues of how learning and understanding take place in the children's museum emerge. While the "hands-on" technique is still useful, it may not be enough. There are many issues and concerns regarding this domain including discussions about: How do children learn in children's museum? How can self-guided activities and individual experiences be balanced with possibilities for discussion and reflections, and can children be helped to find answers and to experiment on their own? Such questions had arisen at
the *Hand-On! Europe '98, International Conference on Children's Museums in Lisbon, Portugal.*

Of the approaches examined in this study, participatory, interactive, and constructive learning have become some of the major educational forces within all kinds of learning environments today. George Forman, a renowned expert on children's constructive play, states:

Constructive play is that version of play that gives children a reason to organize and structure an episode of play. Constructive play not only yields curious problems, but by definition, it leads to a construction of new knowledge, an increase in the child's fund of understanding. ... Children's museum can support this high level thinking by designing spaces that motivate constructive play, by providing materials that help children revisit their thinking and by offering corollary activities that add planning with playing.³

In addition, Howard Gardner also suggests a further collaboration aside from stimulating the minds of children. He says,

Children's museums can address different kinds of minds and can challenge the misconceived ideas of children and sharpen their imaginative ideas. Rather than remaining in separate realms, school and children's museums can complement one another. This will require a new degree of cooperation, knowledge of one another's missions and strengths and a commitment to an education that helps each child achieve deep understanding.⁴

**Bridging cultural diversity and building community partnership in supporting children's education**

Various institutions had sponsored the establishment of children's museums in the 1940s and 1950s. The determination to have a children's museum in the community to empower children's learning was taken over by groups of parents, teachers, and
communities leaders since the 1970s. These individuals noticed that the function of the children's museum is not only to serve an educational purpose, but also to define a community's identity, to focus community involvement and to foster beneficial relationships between communities. As many children's museums became cultural and educational resources in their communities, bridging cultural diversity and building community partnership became an important characteristic throughout the movement of children's museums.

The significance of community involvement in the development of the children's museum is that the community component helps focus on various social and cultural issues, and the need for an alternative learning environment for children. In responding to these variables, children's museums strive to fulfill their responsibility by: helping children to understand the lives of children in other cultures, helping to know how one's interior life is reflected in one's cultural life; defining children's role in and contribution to both local and global communities; and by fostering an understanding between multi-ethnic communities, and an appreciation for the diversity of human experience both around the world and throughout time. In particular, the development of the children's museum is an outgrowth from the community. The collaborative efforts of the community with various cultural, social, and educational agencies; and its ability to provide resources for urban development and downtown revitalization and community services are other heavily weighted factors in the process of nurturing children. As Hillary Rodham Clinton has promoted in her reflection on an African proverb, "It takes a village to raise a child."
Since the children's museums have come of age in the past century and served millions of children and families, what are the challenges of the new era? How can children's museums expand and strengthen the capacity to serve audiences in this rapidly changing environment? Who are the children's museums natural partners, and how can children's museums form alliances to make a greater impact on the lives of children--today, and as they grow and develop into global citizens? These questions have become some major concerns in today's children's museums.\textsuperscript{11} \textit{InterActicity 1999: Coming of Age in the 21st Century: Building a Better World for Children}, the annual conference of the Association of Youth Museums, will follow this trend and try to initiate inquiries on "how children's museums and their partners within the educational community are poised to meet the challenges of the 21st century." Especially, the conference will focus on three priority topics: (1) advancing family and early learning, (2) reaching diverse audiences, and (3) forging new alliances.\textsuperscript{12}

\textbf{Consideration of the relationship between current art education and museum education in art museums theories and practices}

In his review of the history of the discipline of art education, Arthur Efland pointed out two views of discipline movement: "one based on the notion of paradigm shifts; the other is based on the metaphor of rival streams and their periodic confluence."\textsuperscript{13} In the notion of paradigm shifts, he labels these expressionist, reconstructionist, and scientific rationalist streams. The expressionist stream was grounded in European romanticism that inspired child-centered art education in the 1920s and the 1930s at most of the informal alternative schools. The reconstructionist stream is
based on the general belief that education can be used to improve society, thus, the purpose of art education or the art forming process became a tool to solve social and personal problems. The scientific rationalist stream that took place in the 1960s with impact from science education reform evaluated the outcome of art education through cognitive studies and measurement. Later, the concept of discipline-based-art-education (DBAE) was introduced through the curriculum reform movement, which has been promoted in the practice of art education for more than a decade. Each of these streams has contributed various theoretical and philosophical backgrounds within social and educational contexts in different timeframes, and each has problems in today's practices. While there is no perfect solution, Efland suggests: "In confluence is the hope for the balanced development of art education in the future." He says:

There is more to learning than subject matter acquisition if one is to learn to be imaginative with the subject matter learned, one needs opportunities where imaginative production is not only sanctioned but aggressively and intentionally cultivated.

A renewed emphasis upon imaginative production within presently conceived DBAE programs could well develop the basis for confluence, as when many ideas about the nature of art could be approached in both a disciplined and imaginative way, for imagination cannot operate without something to be imaginative about, and one is not exercising disciplined inquiry if one lacks the disposition to deal with the unknown or the unseen.

Today, the core of current art education focuses on inquiry-based and cross-disciplinary teaching and learning. Art education reflects:

An approach to learning that seeks to develop and build student competence by consciously applying and utilizing the knowledge, skills, and methods of more than one discipline or subject matter to inquire about and explore an object, central theme, concept, topic, problem, issue or experience."
Such a notion of art education is parallel to the principles of the children's museum throughout the latter's historical development. Both of them share a similar theoretical foundation with major emphasis on contextual understanding and learning, but the children's museums have further addressed the importance of children's creativity, imagination, play and fantasy.

By looking at the practices of children's museums in detail, the cross- or interdisciplinary approach has been the central course in programming and exhibition design in children's museums for years. Based on an interactive and participatory concept, children's museums emphasize the relationship between doing and learning and especially emphasize the thematic approach. Children's museums also provide knowledge and skills that enable children to have a broad and rich foundation to explore various subjects. The major purpose of the children's museum is to give children an opportunity for comprehensive learning and contextual understanding. Additionally, children's museums have adapted modern educational theories and architectural concepts in response to different learning styles in order to accommodate children's developmental needs. Today, children's museums have provided vivid examples through their exhibition design and program implementation, especially taking into consideration children's self-expression, exploration, imagination, contextual understanding, and the need of physical development among various subject areas. These rationales have revealed some possible refreshing solutions to the discipline of art education, which echoes what Efland has suggested "in confluence."
On the other hand, interactive learning has been nearly nonexistent in most of art museums, because

They view touching, in any context, as incongruent with their mission to preserve and protect works of art. When available, hands-on learning components in art museums are most often included in educational programming that complements exhibitions and collections. This usually involves activities such as watching an artist demonstrate a technique, holding a special art-making workshop located in a separate area, or a docent using props with a school tour. Ironically, a favorite hands-on activity often used in art museums has school children touch a sheet of clear plastic or glass to explain the museum's "hands-off" policy and demonstrate how destructive touching can be to works of art.

Within the exhibition space itself, the notion of hands-on activities is usually confined to visitor reading rooms, isolated computer terminals, or video monitors. And these spaces are usually set in a room or alcove separate from the works of art. Interactive components are rarely integrated with works of art from the permanent collection.\textsuperscript{17}

Although there are some very notable exceptions such as the Puja exhibition at the Sackler Gallery, the Smithsonian Institution, and the Kraft Education Center at the Art Institute of Chicago, the overwhelming success of the experiential approach and hands-on contextual learning in the children's museums could provide a valuable extension to the practice of museum education especially in art museums.

Recommendations

This study presents the origins of children's museums by drawing extensively upon the motivations and initiatives for developing these museums during the past century. Based on the content of this study, several recommendations can be made for current children's museum professionals, practices in art education, and museum education in art museums.
Children's museum professionals should use contextual learning in exhibition display to increase the awareness of the teaching and learning of visual art. Although most of the children's museums provide studio activities, exhibits on children's art works, and theatre and musical performance, they rarely create high quality art exhibits due to the basic consideration of the priceless artworks. The separation of "art" and "children learning" is clarified by looking at those early children's museum collections, which typically focused on nature study. As a result, teaching and learning about visual art have not consistently been a part of the major foci at the children's museums. It was not until recent years that some children's museums were established and dedicated to the arts for children.\textsuperscript{18} Only recently have very few of them created high quality art exhibits as previous chapters have mentioned.\textsuperscript{19} The need to integrate children's learning in arts should be further addressed because arts have the potential to bring out a child's creative abilities.

Therefore, the advantages for the children's museum to embrace the arts are as Jane Garritson wrote in her book,

Learning through the arts not only requires making and doing in the arts, but also encourages creative thinking skills, increases the ability to concentrate, sharpen the ability to make decisions, requires resolutions of indefinite and confused ideas, develops the ability to function in the midst of change, and builds self-discipline.\textsuperscript{20}

In addition, Bruce O. Boston indicates,

[Arts] provide us with knowledge of human thoughts, feelings, and beliefs. Each art form draws on materials from the senses in unique ways and utilizes specialized materials and techniques to communicate these thoughts, feelings, and beliefs. .... The visual arts draw on humans' capacities to see, both literally and metaphorically, and impart information and meaning through looking.\textsuperscript{21}
On the other hand, while an art museum would be an ideal place to look at and to enjoy art, the need for presentation of artworks has created an intimidating set of rules and practices designed to keep "hands-off" the artworks. Such a setting succeeds in preserving rare and precious works but it also goes against the nature of children's learning by limiting them to the use of one sense, the visual, instead of being able to touch the materials. Therefore, the children's museum should consider enlisting art museum educators as a partner in the practice of art education in a children's museum. In fact, it is advantageous for an art educator to work at the children's museum because of its flexible and hands-on environment, which an art museum is less able to provide. In the children's museum, an art educator can use either real artworks or high quality reproductions as a vehicle to engage inquiry-based and cross-disciplinary learning as mentioned above. The design of an art exhibit in a children's museum could reflect concerns about the nature of children by stimulating their senses and encouraging the expression of their feelings and emotions, rather than from a historical standpoint or artistic perspective. By seeing and talking about works of art, children could learn to appreciate different ideas and to understand that often there is more than one right way to do things. When children become more sensitive to the things that they see, their senses and feelings are sharpened and they become more aesthetically sensitive to their environment. In order to comprehend the "ways of learning" at the children's museum, the integration of arts is needed as the cultivation of visual awareness and aesthetic perception can carry over into the rest of a child's life.
Additionally, the practice of art education needs strengthening of its further collaboration with community partnerships. As this study has shown, the community has directly supported the development of children's museums for more than a half century. This relationship suggests a new perspective on educational practices in both the disciplines of art education and museum education in art museums. Art education practitioners who follow the lead of children's museums will be able to extend their scope by utilizing community resources and information to serve even bigger populations by teaching and learning about art outside of the classroom. For instance, under-served children who are living in poor neighborhoods, hospitals, or whose parents are in prison can benefit through such collaborations. In fact, this reflects what Peter London had promoted as community-based art education. He states that the community is the center of all resources that empower both teacher and student to make learning more relevant, strengthen the sensory capacities, expand subject matters, force personal and group development, and so on.\textsuperscript{22}

Furthermore, both art education and museum education in art museums should increase the practices of "hands-on" and "participatory" concepts in designing exhibits, activities, program implementation, and curriculum development. When children's museums encourage problem-solving skills, the use of all of the senses to communicate, and active participation, a new way of practicing museum education in art museums is suggested. For instance, art education and museum education in art museums should: (1) construct questions with focus on social and cultural issues that would lead the discussion to contextual understanding; (2) create scenarios instead of lecturing to stimulate
children's thinking in order to solve the problems; (3) apply dramatic skills or constructive play that enable children to communicate their thoughts and feelings through body movement and to make connection with each other. Since parent interaction with children in exhibits and programs has been highly promoted in the children's museums, how to engage a good museum experience for both parent and children especially in an art museum is another lesson.

This conclusion has explored the connection between the children's museum and art education. It is now possible to consider whether museum education in art museums will be able to collaborate further with children's museums. Currently, very few cooperative projects have been done between the children's museums and art museums. Yet these programs have occurred and have been successful not only filled by numbers of children, parents and teachers, but many pleasant associations of fun learning and entertainment. For instance, the exhibition of Alexander Calder's Art at the Indianapolis Children's Museum was made possible with the Whitney Museum of Art in New York. The Santa Fe Children's Museum presented an innovative installation entitled Portraits: From Head to Toe, a collaboration with local artists and the New Mexico Museum of Fine Art in 1995.

The intention of this inquiry is to promote further collaboration in developing programs and exhibitions between art museums and children's museums. In fact, exhibitions and programs that have been done in the children's museum progressively influence museum education in art museums as well. For instance, the Kraft Education Center at the Art Institute in Chicago is an ideal setting that promotes interactive
activities for children and their family to explore a work of art more relative to children’s natural tendency toward discovery. The current exhibit entitled the *Telling Images: Stories in Art* presents six masterworks from the Art Institute that tell stories in many different ways. In this context of combined art and stories, every picture and sculpture has a story to tell in this interactive exhibition for children and all ages. As Mary Erbach states,

Set in special environments, each work tells its own story—paintings relate the tales of Rip Van Winkle and St. George and the dragon, and the experience of African American migration in the 1940s. A computer-generated photo-collage evokes a story of generations of a Mexican family; children tell the stories of Vishau and bring to life the many forms of the Hindu god; a royal altar tusk from the African kingdom of Benin reveals an ancestral history. 23

In addition, the exhibition offers a variety of hands-on activities such as looking at art, listening to stories, playing an interactive computer game, and writing stories of favorite art works while exploring.

Likewise, the Speed Art Museum in Louisville, Kentucky, has newly developed the *Art Learning Center* to provide visitors with an interactive introduction to the museum and its collections. The theoretical basis for the *Art Learning Center* was "a constructive learning model that would facilitate visitors' efforts to create their own meanings and personalize their learning." 24 In this specially arranged environment, whether through the presentation of real artwork or high quality reproductions, there is an ideal type of setting that should be created in as many art museums as possible. As very few art museums have committed to an effort of this sort, further investigation of this
approach is needed in connection with the institution's missions, directions, budgets, staff capability, and professional development.

The above discussion has touched upon the interrelationship among the children's museums, the discipline of art education, and museum education in art museums. The efficacy in the future will depend upon whether or not educators in such fields will be able to engage further collaboration in curriculum development, exhibition design and program implementation.

Suggestions for Future Research

To continue to build upon the apparent success of the children's museums, the following is an outline that has two promising directions for future research and study.

First, from an historical documentation standpoint, this study encountered the difficulty in gathering certain documents because most of the children's museums did not archive detailed information of their exhibits, outreach programs, etc. Although most of the children's museums had updated press releases, brochures, or flyers for current exhibits and programs, the contents were insufficient--especially lack of in-depth descriptions of initiation, motivations, goals, objectives, interior design, and evaluation. It is therefore important to suggest that children's museums or other independent institutions begin with a systematic collection to preserve the history of children's museums such as photos, brochures, flyers, minutes, memos, exhibit proposals, assessment reports, observation notes, questionnaire results, applications of architectural concepts, and educational theories, etc. In addition, publications from the children's
museums on research and evaluation of their exhibits and programs, museum and school collaborations, teen volunteers and young curator projects, etc., are also highly recommended. All this information will not only serve as a base for future research but also a documentary of the movement of children's museums.

Since more than a dozen children's museums will open in the next five years, a study that details the establishment of one children's museum since its initiation to the date of grand opening is also suggested. With issues regarding site searching, fund raising strategies, cooperation sponsorships, community support, exhibition design, defining goals, objectives, and mission statements, this type of study will serve as a great resource for future children's museums development. Moreover, a study on The Youth Museum Exhibit Collaborative (YMEC) will also provide further understanding of its functions and organization, especially the impact on how its collaborative efforts, including developing traveling exhibits and sharing professional resources, have affected the development of children's museums.

Aside form further understanding the practices in children's museums, there is a need to focus on the rationales of how children learn and how to ensure such learning experiences occur in an informal setting, conceptually and philosophically. Here are some suggestions for future research:

1. A comparative study that examines issues of children's reactions and attitudes, physically and psychologically, toward the building, exhibitions, programs, and activities in a children's museum, a regular science center, an art museum, or natural history museum.

2. A comparative study of teaching methodologies in children's museums, the discipline art education, and museum education in art museums.
3. Further research on what cultural values determine the content of museum exhibitions. What is important for children to know in relation to what they can learn in a museum? What are the effects on children's learning and understanding the programs and activities? How do children perceive, process, and obtain information and generate an understanding through interaction with exhibits and programs? How do contextual learning and understanding occur in the children's museum and under what circumstance?

4. A further study into the significance of community involvement in the development of children's museums with focus on social and cultural issues. Especially, how to bridge areas of cultural diversity, how to engage deeper appreciation of different local cultures, and how to strengthen community partnership, etc.

Another suggestion for future research is to use the two databases that were created for the purpose of this historical study. One is the Children's Museum Database (Appendix C) that contains close to 200 museums with demographic information, historical background, mission statements, etc. Another one is the Reference Database (Appendix D) that includes more than 250 records of bibliographic information of articles, correspondence, letters, and unpublished documents that are related to the development of children's museums. By taking advantage of these resources, future researchers can examine information in the Children's Museums Database by looking at children's museum status, geographic distribution, and annual attendance to understand its current development and movement. Perhaps other studies can focus on the outcome of children's museum exhibitions and programs, in-depth investigation on the changing of philosophical approach, or comparative studies on the mission statement, and categories that were created for the purpose of this study. Additionally, an annotated bibliographical study on the Reference Database could be done by sorting the information under several directions such as individual children's museum, philosophical approach, exhibition
design, public reflections, institutional involvement, outreach programs, fundraising
strategies, professional development, application of architectural concepts, etc.

**Final Thoughts**

I hear and I forgot,
I see and I remember,
I do and I understand.

-- An old Chinese proverb

The completion of this study provides a strong historical foundation for children's
museum practitioners to have a better understanding of its past and present; and also
demonstrates the dynamic rationales for practices in today's art education and museum
education in art museums. As Arthur Efland has stated, "this is why the study of the
history is important: to remind us of your origins and the work yet to be accomplished."\(^{25}\)

As an art educator and museum educator, I believe art is an essential part of every
child's education because the creation of art is based on the transformation of personal
meaning, experiences, cultural values, and beliefs. In relation to comprehensive approach
and interactive activities that enable children to have a broader and richer experience of
the world, a children's museum is a significant place for educators and parents who have
a child in their mind to explore and discover.

Finally, this study salutes those who have cultivated and nourished a splendid,
blossoming development of children's museums, and serves as a commemoration of its
centennial anniversary in 1999.
Endnotes

1 Unpublished autobiographical sketch provided by the Brooklyn Children's Museum Archive (without dating).


3 George Fornan, "Constructive Play in Children's Museum" Hand to Hand, (Summer 1998).


5 Information package provided by the Above and Beyond Children's Museum, Kohler, Wisconsin.


7 Information package provided by the Children's Discovery Museum, San Jose, CA.

8 Information package provided by My Jewish Discovery Place Children's Museum of JCCA, Los Angeles, CA.

9 Information package provided by Betty Brinn Children's Museum, Milwaukee, WI, and the Children's Museum, Cincinnati, OH.

10 Hillary Rodham Clinton, It takes a Village and Other Lessons Children Teach Us (New York: Simon & Schuster, 1996).


12 Ibid.


14 Ibid.

15 Ibid.

16 Bruce O. Boston, Connections: The Arts and the Integration of the High School Curriculum (New York: College Entrance Examination Board, Getty Center for Education in the Arts, 1996.)


18 For example, they are the Young At Art Children's Museum in Plantation, Florida, the Children's Museum of the Arts in So Ho, New York, the Children's Art Museum in San Angela, Texas, and the Children's Hands-on Art Museum in Littleton, Massachusetts.
19 For example, the *Making Sense of Art: Chagall for Children* at the Kohl Children's Museum in Wilmette, Illinois; the *Alexander Calder's Art* at the Indianapolis Children's Museum, Indiana; the *Portraits: From Head to Toe* at the Santa Fe Children's Museum, New Mexico.


21 Bruce O. Boston, 1996, 23.


23 An email posted at the "Museum-Ed: A Forum For Museum Educators" on November 10, 1997 by Mary Erbach, Assistant Director of Museum Education, Exhibitions and Family Programs, the Art Institute of Chicago.


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This is a Child's World: The Brooklyn Children's Museum (New York: The Museum, 1948).


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Information provided directly by:

Above and Beyond Children's Museum, Kohler, Wisconsin
Arizona Museum for Youth, Mesa, Arizona
Austin Children's Museum, Texas
Bay Area Discovery Museum, Sausalito, California
Betty Brinn Children's Museum, Milwaukee, Wisconsin
Broazeville Children's Museum, Evergreen Park, Illinois
Chicago Children's Museum, Illinois
Children's Discovery Museum of San Jose, California
Children's Hands-on Art Museum in Littleton, Massachusetts
Children's Hands-On Museum, Tuscaloosa, Alabama
Children's Metamorphosis, Londonderry, New Hampshire
Children's Museum, Colorado Springs, Colorado
Children's Museum, Seattle, Washington
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Children's Museum of Indianapolis, Indiana.
Children's Museum of La Habra, California
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Children's Museum of the Highlands, Sebring, Florida
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Children's Museum of Virginia, Portsmouth
Collage Children's Museum, Boulder, Colorado
Discovery Center of the Southern Tier, Binghamton, New York
DuPage Children's Museum, Wheaton, Illinois
Family Museum of Arts and Science, Bettendorf, Iowa
Fox Cities Children's Museum, Appleton, Wisconsin
Hands On Children's Museum, Olympia, Washington
Hands On House, Children's Museum of Lancaster, Pennsylvania
Hands On Regional Museum, Johnson City, Tennessee
Hannah Lindahl Children's Museum, Mishawaka, Indiana
Hawaii Children's Discovery Center
Houston Children's Museum, Texas
Hudson Valley Children's Museum, New York
International Children's Art Museum, San Francisco, California
Kidspace: A Participatory Museum Pasadena, California
Kohl Children's Museum, Wilmette, Illinois
Lied Discovery Children's Museum, Las Vegas, Nevada
Lincoln Children's Museum, Nebraska
Long Island Children's Museum, Garden City, New York
Los Angeles Children's Museum, California
Louisiana Children's Museum, New Orleans
Madison Children's Museum in Wisconsin
Magic House, the St. Louis Children's Museum, Missouri
Minnesota Children's Museum, St. Paul
Muncie Children's Museum, Indiana
My Jewish Discovery Place Children's Museum, Los Angeles, California
New Britain Junior Museum, Connecticut
Omaha Children's Museum, Nebraska
Palo Alto Children's Museum, California
Pittsburgh Children's Museum, Pennsylvania
Please Touch Museum in Philadelphia, Pennsylvania
Portland Children's Museum, Oregon
Randall Junior Museum, San Francisco, California
Richmond Children's Museum, Virginia
Rose Hill Manor Children's Museum and Historical Park, Frederick, Maryland
Santa Fe Children's Museum, New Mexico
Scotia-Glenville Children's Museum, New York
The Brooklyn Children's Museum, New York
The Children's Museum, Boston, Massachusetts
The Miami Youth Museum, Florida
Treehouse Children's Museum, Ogden, Utah
Virginia Discovery Museum, Charlottesville
Wonder Works, The Dalles, Oregon
Young at Art Children's Museum located, Plantation, Florida
APPENDIX A
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Children's Museums and Resource Organizations on the World Wide Web
Last Updated: October 1998

Children's Museums

Arizona
Tucson Children's Museum, Tucson
http://www.azstarnet.com/~tuchimu/

Arkansas
Children's Museum of Arkansas, Little Rock
http://www.aristotle.net/kidsonline/index.html

California
Carlsbad Children's Museum, Carlsbad
http://www.museumforchildren.org

Children's Discovery Museum of San Jose, San Jose
http://www.cdm.org/

Children's Museum at La Habra, La Habra
http://www.lhcm.org/

Children's Museum of San Diego, San Diego
http://sandiego.sidewalk.com/detail/7252

International Children's Art Museum, San Francisco
http://www.icamsf.com

Josephine D. Randall Junior Museum, San Francisco
http://www.wco.com/~dale/randall.html

The Bay Area Discovery Museum, Sausalito
http://www.badm.org/main.htm

The Bower's Kidseum, Santa Ana
http://www.nativecreative.com/kidseum/frames.html

The Habitot Children's Museum, Berkeley
http://www.habitot.org/habitot/home.htm

The Kidspace Museum, Pasadena
The Kidzone Museum, Riverside Youth Museum, Riverside
http://www.kidzone.org

The Lake Arrowhead Children's Museum, Lake Arrowhead
http://www.mountaininfo.com/kids/index.html

The Los Angeles Children's Museum, Los Angeles
http://www.lacm.org

The Palo Alto Junior Museum, Palo Alto
http://gatekeeper.city.palo-alto.ca.us/palo/city/recreation/junior-museum.html

The Redwood Discovery Museum, Eureka

The San Luis Obispo Children's Museum, San Luis Obispo
http://kids.fix.net/index.html

The Ventura County Discovery Center, Ventura County
http://home1.gte.net/biblogic/vcdc.html

**Colorado**

Children's Museum of Colorado Springs, Colorado Spring
http://www.ices.net/cm/default.html

Children's Museum of Denver, Denver
http://www.artstozoo.org/cmd/

Children's Museum of Durango, Durango
http://web.frontier.net/childrensmuseum

Collage Children's Museum, Boulder
http://bcn.boulder.co.us/arts/collage/

The National Jewish Children's Art Museum, Denver
http://www.njc.org/pa/museum/images.htm

**Connecticut**

The Children's Museum Mystic Seaport, Mystic Seaport
http://www.mysticseaport.org/visiting/exhibits/galleries/childrens.museum.html

The Children's Museum of Southeastern Connecticut, Niantic
http://cat.conacoll.edu/childrensmuseumsect/
Delaware
Delaware Children's Museum, Wilmington
http://www.fieldtrip.com/de/26580797.htm

District of Columbia
Capitol Children's Museum, Washington DC
http://www.ccm.org/

Discovery Creek Children's Museum of Washington DC
http://www.discoverycreek.org/

Florida
Children's Museum of Boca Raton, Boca Raton
http://www.emi.net/cmuseum/

Explorations V Children's Museum, Lakeland
http://www.wbus.com/explorationsV/

EXPO, The Children's Museum of Gainesville, Gainesville
http://www.digi-net.com/expo/

Imaginarium Hands-On Museum and Aquarium, Fort Myers
http://204.117.207.9/cityfm/imagin.htm

The Junior Museum of Bay County, Panama City
http://interoz.com/jrmuseum/

Illinois
Chicago Children's Museum
http://www.chicildrensmuseum.org/

Children's Museum of Illinois, Decatur

DuPage Children's Museum, DuPage
http://www.dcmrats.org/

Kohl Children's Museum, Wilmette
http://www.kohichildrensmuseum.org

The Orpheum Children's Science Museum, Champaign
http://www.m-crossroads.org/orpheum/index.html
Indiana
Alyce Bartholomew Children's Museum, Michigan City

The Indianapolis Children's Museum
http://www.a1.com/children/home.html

Iowa
Family Museum of Arts and Science
http://www.qconline.com/arts/FAMILY/index.htm

Kansas
Children's Museum of Kansas City, Kansas City
http://www.geocities.com/~kidmuzm/

Wonderscope Children's Museum, Shawnee Mission
http://www.artsnoboundaries.org/wondrscp.html

Kentucky
Lexington Children's Museum, Lexington
http://www.lfucg.com/lcm.htm

Louisiana
Louisiana Children's Museum
http://www.lcm.org/

Maryland
Rose Hill Manor Park and Children's Museum, Frederick
http://www.mcps.k12.md.us/curriculum/socialstd/FT/Rose_Hill_Manor.html

Massachusetts
The Cape Cod Children's Museum, East Falmouth
http://members.tripod.com/~Childrens_Museum/index.html

The Children's Museum, Boston
http://www.bostonkids.org/

The Children's Museum of Dartmouth, Dartmouth
http://www.lrh.net/public/cm.htm

The Children's Museum at Holyoke, Holyoke
http://k12.oit.umass.edu/masag/1084o.html
The Cape Cod Children's Museum, East Falmouth
http://capecodchildrensmuseum.pair.com/home.html

The Discovery Museums, A Children's Museum, Acton
http://www.ultranet.com/~discover/childrens.html

Needham Children's Museum, Needham
http://www.needhamonline.com/museum/home.html

**Michigan**
Curious Kids Museum, St. Joseph
http://www.curiouskidsmuseum.org

The Children's Museum, Flint
http://detoo.gisd.k12.mi.us/cmuseum/

The Grand Rapids Children's Museum, Grand Rapids
http://www.grcm.org

Upper Peninsula Children's Museum, Iron River
http://www.up.net/~ron/

**Minnesota**
Minnesota Children's Museum, St. Paul
http://www.hhmi.org/coolscience/minn.html

The Judy Garland Children's Museum, Grand Rapids
http://www.judygarland.com/index.html

**Missouri**
The Magic House, St. Louis Children's Museum, St. Louis
http://www.magichouse.com

**Nebraska**
Children's Museum of Lincoln
http://www.lincolnchildrensmuseum.org

Omaha Children's Museum, Omaha
http://www.ocm.org/

**New Hampshire**
The Children's Museum of Portsmouth, Portsmouth
http://www.childrens-museum.org
New Jersey
Garden State Discovery Museum, Cheery Hill
http://www.discoverymuseum.com/

New Mexico
Santa Fe Children's Museum, Santa Fe
http://www.sfchildmuseum.org

New York
Children's Museum of Utica, Utica
http://www.borg.com/~cm

Children's Museum of Manhattan, New York
http://www.cmom.org/

Children's Museum of the Arts, New York
http://www.fieldtrip.com/ny/29419198.htm

Hudson Valley Children's Museum, Nyack
http://www.ldeo.columbia.edu/HVCM/

Long Island Children's Museum, Garden City
http://www.516web.com/museum/licm.htm

Staten Island Children's Museum
http://www.kidsmuseum.com/

The Brooklyn Children's Museum, Brooklyn
http://www.bchildmus.org/

The Junior Museum, North Troy
http://www.rpi.edu/web/museum/

The Mid-Hudson Children's Museum, Poughkeepsie
http://www.mhcm.org/newindex.html

The Scotia-Glenville Children's Museum, Scotia
http://www.hhmi.org/coolscience/scotia.html

Nevada
Lied Discovery Children's Museum, Las Vegas
http://www.vegaswebworld.com/lied/
North Carolina
The Children's Museum, Greensboro
http://www.greensboro.com/mymuseum/

The Rocky Mount Children's Museum, Rocky Mount
http://www.ci.rocky-mount.nc.us/museum.html

North Dakota
Yunker Farm Children's Museum, Fargo

Ohio
Cinergy Children's Museum, Cincinnati
http://www.cincymuseum.org/cm.htm

Oklahoma
The Jasmine Moran Children's Museum, Seminole
http://www.tulsaweb.com/childmus.htm

Oregon
Gilbert House Children's Museum, Salem
http://www.acgilbert.org/

Jacksonville Children's Museum, Jacksonville
http://www.ohwy.com/orj/jackchmu.htm

Pennsylvania
Children's Museum of Centre County, Lemont
http://www.cmcc.mus.pa.us

Hands-On House, Lancaster
http://www.800Padutch.com/haadson.html

Pittsburgh Children's Museum, Pittsburgh
http://trfn.clpgh.org/orgs/pcm/general.htm

Please Touch Museum, Philadelphia
http://www.libertynet.org/pliestch/

The Children's Museum, Bloomsburg
http://townhall.bafn.org/~childmus/
**South Carolina**
The Children's Museum of South Carolina, Myrtle Beach
http://www.bearweb.com/cmsckids/index.htm

**Tennessee**
Children's Museum of Memphis, Memphis
http://www.cmom.com/

Children's Museum of Oak Ridge, Oak Ridge
http://www.newsite.com/cmor/index.html

The Creative Discovery Museum, Chattanooga
http://www.chattanooga.net/chamber/creat.html

**Texas**
Austin Children's Museum, Austin
http://www.austinkids.com/

Brazos Valley Children's Museum

Children's Museum of Houston, Houston
http://www.cmhouston.org
The San Antonio Children's Museum, San Antonio
http://www.sakids.org/

imagisphere Children's Museum, Bedford
http://www.imagisphere.org/index.htm

San Angelo Museum of Fine Arts and the Children's Art Museum, San Angelo
http://web2.airmail.net/samfa/

The Children's Museum in New Braunfels, New Braunfels
http://www.watteam.org/museum.html

The Matagorda County Children's Museum, Bay City
http://www.gggrafx.com/baycity/museum.html

**Utah**
Threehouse Children's Museum, Ogden
http://www.relia.net/~treehouse/

**Virginia**
Richmond Children's Museum, Richmond
http://curry.edschool.virginia.edu/curry/class/Museums

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Washington
Children's Museum of Spokane, Spokane
http://www.vpds.wsu.edu/cmos/

Children's Museum in Snohomish County, Everett
http://www.snonet.org/childrensmuseum/

Hands On Children's Museum, Olympia
http://www.hocm.org/

The Children's Museum, Seattle
http://www.thechildrensmuseum.org/

The Three Rivers Children's Museum, Richland
http://www.owt.com/trcm/

Whatcom Children's Museum Northwest, Bellingham
http://www.ohwy.com/wa/c/childmnw.htm

Wisconsin
Above and Beyond Children's Museum, Kohler
http://www.excel.net/~abkids/

Betty Brinn Children's Museum, Milwaukee
http://www.bbcmkids.org/

Children's Museum of La Crosse, La Crosse
http://www.childmuseumlax.org

Fox Cities Children's Museum, Appleton
http://www.funatfccm.org/

Great Explorations Children's Museum, Green Bay
http://www.dct.com/org/child_museum/

Madison Children's Museum
http://www.kidskiosk.org/

Resource Organizations

CHILDMUS: A Forum for Children's Museum Professionals
http://tite.net/lists/childmus.html
Association of Youth Museums (Washington, DC)  
http://www.aym.org

American Association of Museums (Washington, DC)  
http://www.aam-us.org

American Association for State & Local History (Nashville, TN)  
http://www.asslh.org

Association of Science-Technology Centers (Washington, DC)  
http://www.astc.org

The Children's Defense Fund (Washington, DC)  
http://www.childrensdefense.org

The Foundation Center (New York, NY)  
http://www.fdncenter.org

Institute of Museum & Library Services (Washington, DC)  
http://www.imls.fed.us

International Museum Theatre Alliance (Boston, MA)  
http://www.mos.org/IMTAL

Museum Education Roundtable (Washington, DC)  
http://www.erols.com/merorg

National Association for the Education of Young Children (Washington, DC)  
http://www.naeyc.org

National Center for Nonprofit Boards (Washington, DC)  
http://www.ncnb.org

National Education Association (Washington, DC)  
http://www.nea.org

National Science Foundation (Washington, DC)  
http://www.nsf.gov

National Art Education (Reston, VA)  
http://www.naea-reston.org/
Example Record of the Children's Museums Database

**Geographic Information**

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Museum Visited</th>
<th>AYM Directory</th>
<th>Yes 1996</th>
<th>Yes 1997</th>
<th>No</th>
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| Museum | |
| Address | |
| PRO. Box | |
| City | State | Zip |
| Phone | Fax | |
| Contact Person | |
| Title | |

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<th>Date</th>
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<td>Date</td>
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<td>Phone Requested</td>
<td>Date</td>
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<tr>
<td>Package Received</td>
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<th>Remail</th>
<th>Need phone contact</th>
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| Email | Web Site | |
| Final Status | Complete | Incomplete | Discard | Package Received | Yes | No |

**Background Information**

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<td>Full-time Staff</td>
<td>Part-time Staff</td>
<td>Volunteers</td>
<td>Teen Volunteers</td>
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History

Categories (History)

- local educators
- local parents
- local people
- community leaders
- city authority
- Parks and Recreation
- Board of Education
- PTA Council
- mother institution

- museum owned the building
- architect designed
- located in a mall

- 1 year preparation
- 2 year preparation
- 3 year preparation
- 4 year preparation
- more

- need of dynamic
- community needs
- complement traditional education
- provides hands-on learning environment
- luck adequate opportunities for children to learn
- community support/endeavor
- learned from another children's museum
- preserve the history of the community

- state owned building
- city owned building
- historical house
- rental

Mission of Statement

- Junior League
- Scouts
- relocation/move
- merged institution
- museum was reopened
- "grass roots" style

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Categories (Mission)
- offering information, education and entertainment
- extend learning beyond museum experience
- enrich the lives of children
- safe environment
- natural sense
- active participation
- doing and exploring
- engaging the adventure of learning
- interactive exhibits
- hands-on experience
- stimulate curiosity and imagination
- enhance personality/self-esteem
- encourage family participation
- enhance community interaction
- serving children/family from diverse culture...
- communication/interaction with each other
- cultural and creative aspects of the world
- informal learning environment
- reflect on community issues
- learn about the world around them
- respect to each other
- life long love of learning
- serve as an educational resource center
- cooperative learning experiences
- nature
- technology
- art
- sciences
- social sciences
- humanities
- multi-lingual
- multicultural
- history/culture
- language and books
- computer
- every-day life
- doing collection

Philosophical Approach

Categories (Philosophy)
- encourage active learning
- learning from doing
- serve as a center of learning and discovery
- making learning fun
- promote positive values and behaviors
- stimulate higher-level thinking level
- promote decision-making
- stimulate the curiosity
- hands-on activity/exhibit
- encourage family participation/interaction
- extend educational learning and arts
- provide good museum experience
- highlight cultural diversity
- encourage community service
- reflect the local cultural heritage
- taking care of disadvantaged families
- respect for the earth
- be respected and respect to each other
- enrich children's life
- life-long love of learning
- meet the special learning needs of children age 0-10
- promote responsible community action
- community endeavor
- community based education
Exhibitions

Categories (Exhibition)

- toddler
- classic hands-on exhibits
- general science exhibition
- chemical
- physics (pulley, weight, etc)
- astronomy
- natural science
- fossils and dinosaurs
- computer
- life animal
- biology
- health
- waterworks
- bubbles
- physical activities
- ecology
- recycled materials
- special topics (prejudice, abilities)
- radio station
- TV station
- sports
- social study (hospital, grocery, etc.)
- role playing
- history
- geography
- culture
- heritages of the region
- transportation
- outdoor activity
- habitat-based desigr.
- planetarium
- children's Theatre
- Family Resource Room

Programs
### Categories (Programs)

- [ ] life performance
- [ ] story time
- [ ] arts workshops
- [ ] workshops
- [ ] educational classes
- [ ] paid classes
- [ ] seminars
- [ ] curriculum kits
- [ ] after-school activities
- [ ] parent education
- [ ] teacher education
- [ ] preschool program
- [ ] in-house programs (tour/group)
- [ ] summer/winter camps
- [ ] outreach program
- [ ] for special community needs
- [ ] special project
- [ ] "at-risk" children program
- [ ] youth leadership program
- [ ] serve low-income children
- [ ] serve disabilities families/children
- [ ] community services/events
- [ ] collaboration with local social service organization
- [ ] traveling trunks
- [ ] mobile exhibits
- [ ] birthday party
- [ ] scout badge program

### Reading Notes
- [ ] Yes
- [ ] No

### Focused Notes

---

### Art Education Program

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223
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<th>Biggest Accomplishment</th>
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Example Record of the Reference Database

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