

Education on Maritime Cultural Heritage for Children with Disabilities: Focusing on Education Program Developed by the National Research Institute of Maritime Cultural Heritage in 2022 for Children with Developmental Disability

Yun Bo-rum (Curator of Exhibition & Education Division, the National Research Institute of Maritime Cultural Heritage)

ABSTRACT

This paper shares the Mokpo Maritime Museum outcome of the 2022 program developed for children with disabilities experience underwater cultural heritage (UCH). Materials on maritime exchanges between Asia and Korea and history of ships are displayed. For example, the hull of Sinan shipwreck excavated between 1976 and 1984 CE was treated for conservation and displayed at the center of exhibition hall 2. Other major exhibition items include jounseon¹ and ceramics excavated from the west and south sea of Korean Peninsula and weapons, which are the traces of war that took place on the Korean Peninsula about 400 years ago. We have tried many things to deliver UCH effectively to various groups with different ages and characteristics. For example, we published a maritime cultural heritage braille comic book for the visually impaired in 2021, and on-site experience program for children with developmental disabilities in 2022.

Here we discuss the development and utilization of on-site experience program for children with developmental disabilities developed by the Mokpo Maritime Museum. First, the cases of cultural heritage exhibition and education cases for domestic and overseas children with disabilities are examined for this study. Second, the exhibition items and exhibition environment of the Mokpo Maritime Museum are identified. Lastly, this paper shares the design of the program ‘Maritime Cultural Heritage Experience Program for Children with Developmental Disabilities’ and results of pilot operation. We discuss the environmental factors that need to be considered upon production of experience programs that target children with developmental disabilities, to thus design programs depending on disability type and response of participants.

Keywords: children with developmental disabilities, education on maritime cultural heritage, Sinan shipwreck, Mado no. 1 shipwreck

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DOMESTIC AND INTERNATIONAL CASES OF DISPLAY OF CULTURAL HERITAGE AND EDUCATION FOR CHILDREN WITH DISABILITIES

The right to enjoy culture for children with disabilities

According to the Act on the Special Education for the Disabled Persons in Korea, the types of children with disabilities include visual and hearing impairments, physical disability, emotional behavior disorder, autistic disorder, communication disorder, learning disability, health disorder, developmental delay, and other disabilities prescribed by Presidential Decree.²

In Article 24 (Prohibition of Discrimination in Cultural and Artistic Activities of the Act on the Prohibition of Discrimination Against Persons with Disabilities and Remedy Against Infringement of Their Rights) in terms of the right to enjoy culture of the people with disabilities³, it is stated that ‘the

¹ Tax transporting vessel

² Act on the Special Education for the Disabled Persons (<http://www.law.go.kr/Act/>, Act on the Special Education for the Disabled Persons), accessed at. May 3, 2023.

³ Act on the Prohibition of Discrimination Against Persons with Disabilities and Remedy Against Infringement of Their Rights (<http://www.law.go.kr/Act/Act on the Prohibition of Discrimination Against Persons with Disabilities and Remedy>

state, local governments and cultural and art business operators **should provide legitimate convenience to people with disabilities to participate in cultural and art activities**' and 'the state and local governments should come up with measures necessary for the people with disabilities to use cultural and art facilities and engage in cultural and art activities actively. In addition, according to the Article 30 (1) and 30 (5) of the Convention on the Rights of Persons with Disabilities⁴, prevention of discrimination against people with disabilities for cultural and sports activities and duties to improve environment are stipulated. It shows that the **right to enjoy culture and art** is included in the basic rights of people with disabilities in the enactment of laws (Lee and Park 2019, 42).

However, according to the '**Study on the Current Status of Cultural and Leisure Activities of People with Disabilities**', it was found that the overall cultural experience of people with disabilities was insufficient and especially the experience of enjoying culture was scarce. In general, the percentage of enjoying movie was relatively high as it has easy accessibility but the percentage of enjoying culture at theaters or art galleries was very limited, indicating that people with disabilities in Korea had very insufficient access to cultural and leisure activities⁵ (Oh and Gu 2019, 6-12).

Institutions that exhibit cultural heritage have a distinctive and important role **in realizing right to enjoy culture** for people with disabilities. Institutions such as museums and exhibition halls that collect, research, and preserve cultural properties also serve as educational institutions for children. Museums for children, such as the Victorian & Albert Museum of Childhood, have been established for children's education, and studies that emphasize the role of museums as spaces for experiences and interactions prove this (Kirk and Buckingham 2018)⁶.

On the other hand, **Object Based Learning based on exhibition items** is an element that differentiates exhibition halls and museums from other educational institutions. Exhibits-based education plays a multifaceted role in education through exploration based on exhibits and interaction with exhibits in the area that formal education such as school education cannot fill in the complex modern society (Kang 2011, 15-47).

Cases of exhibition of cultural heritage and education for children with disabilities

Recently, cultural heritage exhibition institutions in Korea are actively making efforts for the cultural enjoyment of the disabled. This includes exhibition space creation using **tactile models, information using Braille boards, and voice guidance** for the visually impaired.

For example, since 2013, the **National Museum of Korea** has placed touchable exhibits in the exhibition hall for the visually impaired, and **Seoul Museum of Craft Art**, which opened in 2021. Here we produce miniatures of artifacts, allowing people to experience the exhibits through tactile senses (Lee 2022). Also, the **National Research Institute of Maritime Cultural Heritage (NRIMCH)** made the **braille book**, *Is there a treasure under the sea?*, and tactile teaching aids in 2021. These were distributed to students of schools for visually impaired across the nation (408 people, 1 book per student) and other relevant institutions. **Tokyo National Museum of Japan** helps children with visual impairment to participate in experience exhibition by providing printmaking process in braille guidebooks at the Ukiyo-e making experience in the Japanese Culture Plaza⁷.

Against Infringement of Their Rights), accessed at. May 1, 2023.

⁴ Convention on the Rights of Persons with Disabilities ([https://ko.wikisource.org/wiki/Convention on the Rights of Persons with Disabilities](https://ko.wikisource.org/wiki/Convention_on_the_Rights_of_Persons_with_Disabilities)), accessed at. May 1. 2023.

⁵ The raw data for 4,214 people was analyzed utilizing the raw data of the second survey of the second way of employment panel survey conducted by Korea Employment Agency for Persons with Disabilities in 2017, and the cultural experience for the past year of people with disabilities showed: 1) watching a movie (45 per cent), 2) watching performance at a theater (play, music concert, musical, opera, etc.; 9.9 per cent), 3) museum, exhibition, art gallery, zoo and theme park (12.8 per cent).

⁶ Although this book discusses children's experiences in natural history museums, the same applies to exhibits such as history, art history, and literature.

⁷ The on-site survey on the experience exhibition for children with visual impairment by Tokyo National Museum was conducted by the author in April 2023 (Experience exhibition at Tokyo National Museum: https://www.tnm.jp/modules/r_free_page/index.php?id=2137).

A representative service for the hearing impaired is a sign language exhibition commentary. Efforts are being made to expand the cultural enjoyment of the hearing-impaired, such as providing sign language video services by attaching QR codes to experience information boards in children's experience spaces, or providing sign language services for avatars using AI.

In addition, the Cultural Heritage Administration is conducting **face-to-face and non-face-to-face education** for the disabled in 2023 (Table 1). Through non-face-to-face education, opportunities are provided to children who cannot visit the exhibition hall to experience cultural heritage, and face-to-face education allows children who visit the exhibition hall to experience the exhibits more effectively⁸.

Table 1. Education program for people with disabilities provided by institutions that belong to Cultural Heritage Administration (2023)

Name of material	Institution	City	Target	Details
Animals in the museum	National Palace Museum of Korea	Seoul	Special classes at elementary and middle schools	A class to understand royal culture through animals in museum artifacts
Go, go, go into the royal rites (non-face-to-face)			Special classes at elementary and middle schools	A class comparing our lives with the culture of the Joseon Dynasty
Palace story			The visually impaired	Audio commentary + 3D Gyeongbokgung Palace Learning royal culture through tactile models
Journey into the palace forest			Kindergarten for the hearing impaired and school for deaf mutism (the first and second grades of elementary school)	Providing experience kits with sign language videos, educational contents based on the flowers and trees of Changdeokgung Palace
Goryeo Trading Company – Express delivery of dolphins!	NRIMCH	Mokpo	Special classes at elementary and middle schools	Finding relics with the help of video + treasure hunt map

EXHIBITION ENVIRONMENT FACTORS OF THE NRIMCH

The NRIMCH, located in Mokpo-si, Jeollanam-do, South Korea, is the only institution in Korea that discovers, researches, exhibits, preserves, and educates underwater cultural properties. In 1981, the Mokpo Conservation Center of the Cultural Heritage Administration was opened to preserve the hull of the Sinan shipwreck excavated between 1976 and 1984, and in 1994, the National Maritime Art Museum was opened.

At the exhibition center, permanent and special exhibitions are prepared under the theme of ‘**sea-people-culture-exchange-history**’. There are four rooms for permanent exhibitions composed of **exhibition room 1- Korea Maritime Exchange Hall**, **exhibition room 2- Asia Maritime Exchange Hall**, **exhibition room 3- Korea Underwater Excavation** and **exhibition room 4- Traditional Korean Ships** to display the materials related to maritime exchanges between Korea and Asia, underwater excavation and history of ships.

⁸ For the education of children with disabilities, videos, tactile teaching aids, audio commentaries, sign language videos, and experience kits were used.



Figure 1. Exhibition of hull of Sinan Ship (exhibition room 2)

The exhibition environment of the Mokpo Maritime Museum is dark compared to general exhibition halls, and the plane inside the exhibition hall is atypical. In particular, in the case of the Sinan shipwreck in the exhibition hall 2, the height of the exhibition space is high because the hull is high, and the exhibition hall is created using uphill and downhill roads.

In addition, videos using images of marine artifacts and the sea maximize the exhibition effect inside the exhibition room and are also used as a photo spot for the audience. Such images of dark environment and strong stimuli were pointed out by experts when producing programs for children with developmental disabilities.

DESIGNING EDUCATION PROGRAM FOR CHILDREN WITH DEVELOPMENTAL DISABILITIES

The Act on Guarantee of Rights of and Support for Persons with Development Disabilities (hereinafter referred to as the Act on Persons with Developmental Disabilities) was passed in the National Assembly and enforced on November 21, 2015. It is the first law enacted for those with certain disabilities. Under this act persons with disabilities refer to people with intellectual disabilities and people with autism (Kim and Kim 2016, 3). According to Ministry of Education 2022 statistics, out of the total number of persons eligible for special education (103,695 persons), 70,742 persons (intellectual disability: 53,718 persons, autism: 17,024 persons), or approximately 68.2 per cent had developmental disabilities, (Ministry of Education press release, November 28, 2022)⁹. In fact, they account for high proportion in the elementary and middle school special classes.

Table 2. Overview of express delivery of dolphins of Goryeo Trading Company!

○ Education title: Education program for children with developmental disabilities ‘Dolphinss’ Express Delivery of Goryeo Trading Company!’ (Developed in 2022) ○ Education target: Students from special classes of elementary and middle schools ○ Education objectives: 1) Providing education where students with developmental disabilities have interest in and enjoy the Mokpo Maritime Museum actively 2) Providing opportunity to students with developmental disabilities to make them have interest in maritime cultural heritage and enjoy exhibition hall ○ Education time: 1 hour and 40 minutes ○ Education composition: orientation → treasure hunting at the exhibition hall → making educational materials				
No.	Activity	Time required	Place	Education details
1	Orientation	20 minutes	Video room at exhibition hall	Watching animation and pre-education
2	Treasure hunt	1 hour	Exhibition hall 1 and 2	Treasure hunting at the exhibition hall
3	Making educational materials	20 minutes	Video room at exhibition hall	Coloring pottery-shaped balloon
○ Education material: Video, treasure map booklet, exhibit stickers (4 types), crafting tools (pottery-shaped balloons), video QR code sticker				

⁹ Fulfilling the national responsibilities for special education by providing education customized to students with disabilities (<https://www.korea.kr/briefing/pressReleaseView.do?newsId=156539165>), November 28, 2022, Ministry of Education

This program is an exhibition hall experience program designed for children with developmental disabilities. It was created to provide opportunities for children with developmental disabilities to experience an educational program that allows them to view the exhibition hall in an interesting and active way to have an opportunity to become interested in maritime cultural heritage and enjoy the exhibition hall fully.

To this end, students explore the exhibition hall and search for treasure. They get information on **exhibition items (4 items) subject to treasure hunt** while watching a video clip and look for treasures in the exhibition hall while holding mission booklet made on the concept of **treasure map**. When they find an artifact, they receive an educational material (sticker) of the picture of the artifact they found and attach it to the treasure map. In addition, they can watch the video on the stories about the artifacts they found through **QR code**. After going through this process, the program is finished if they finally color the pottery-shaped balloon (**Table 2**).



Figure 2 Educational material (sticker)

An imaginary “Goryeo trading company” was assumed to explain the concept of “Maritime Transportation and Trade in the Goryeo Dynasty,” which is the main keyword of the learning objective. The story went on with the simulation concept of filling out an order form and shipping it by sea. Dolphin characters appear, and students check the order (wooden plate) and make decision on packaging and delivery by using the image of delivery companies familiar to children with developmental disabilities like “Coupang” and “SSG Delivery”. The program was designed to make students understand the concept of artifacts with the concept in the real life while checking the purpose of the relics.

In the video, international trade (Sinan shipwreck) and domestic delivery (Mado no. 1 shipwreck) were conducted at the Goryeo trading company, an imaginary company and four artifacts at the exhibition hall: 1) Salted mackerel jar (Goryeo; 1207-1208, Tae'an Mado no. 1), 2) Celadon mandarin duck-shaped incense burner lid (Goryeo; the twelfth to thirteenth centuries, waters of Jindo Myeongryangdaechep), 3) Peony pattern vase (Chinese Yuan; the first half of the fourteenth century, Sinan Jeungdo underwater), 4) Black teacup (Chinese Yuan; the first half of the fourteenth century, Sinan Jeungdo underwater) were used to make a story based on historical facts to make children with developmental disabilities understand UCH in a friendly way.

For example, stories such as production site of salted mackerel, delivery using pottery upon maritime transportation, existence of secondhand products produced in Southern Song Dynasty among black teacups recovered from Sinan shipwreck are delivered through interesting stories.

In other words, the difficult concept of maritime cultural heritage is explained with things encountered in daily life and historical facts are conveyed through interesting stories. In addition, the content of the video is composed of easy language and short sentences at the Literacy 2 level and the name of the artifact used in the video and educational materials (treasure search map and artifact stickers), artifact and image are unified. By doing so, children with developmental disabilities, who take longer to adapt to change than the general public, can experience marine cultural heritage safely.

Pilot operation was conducted targeting 13 students from special classes of Gwangju Shinyong Elementary School on Dec. 5, 2022 in order to execute the program effectively.

The number of students to be educated was set at around 15, considering the number of teachers per student. Prior to the pilot operation, special classes were contacted to check 1) **the number of teachers**, 2) **special attention required for each student** 3) **the environment of the exhibition hall** and 4) **survey** was shared with the school so that children with developmental disabilities can experience UCH while they were ready.

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