Survey for People with Visual Impairment or Hearing Loss on Using Museums in Japan

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Abstract. Museums are among the most important institutions for fostering lifelong learning. Recent years have seen legal reforms leading to an improvement in access to museums and relevant information. In fact, some museums are currently preparing barrier-free checklists, accessibility programs for visitors, and universal guidelines on how exhibits are to be held. Unfortunately, there are still few museums in Japan that have successfully implemented this kind of action. As an initial step to ameliorate this situation, we conducted a questionnaire for people with visual impairments or hearing loss with the aim of identifying how museums might assist visitors with visual impairments or hearing loss to enjoy a more educational and pleasant experience. The questionnaire results showed that museums are important venues for people with visual impairments or hearing loss. In the case of services, a low proportion of participants desired accompanied guidance, support at the time of entry, or tours designed to take disabilities into account. Additionally, responses to other questions also indicated that some participants do not wish to increase staff members' workloads. Rather, the most desired feature of the services desired in museums was that staff be understanding toward people with disabilities. Showing understanding toward visitors with a visual impairment or hearing loss and learning the appropriate means of communication and methods of support would help staff to achieve a more "universal" museum experience for visitors. Finally, we introduce details of activities that were carried out on the basis of the questionnaire results.

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1 Introduction

Museums are one of the most important institutions for fostering lifelong learning. Recent years have seen legal reforms that have improved access to museums and relevant information [1,2]. In fact, some museums are currently preparing barrier-free checklists, accessibility programs for visitors, and universal guidelines on how exhibits are to be held. For example, the Smithsonian National Museum is preparing a manual for designing accessible exhibits [3]. In Berlin, not only museums but the entire city is engaged in barrier-free activities to convey culture [4]. The Louvre offers a variety of services for people with disabilities [5]. The Deutsches Hygiene-Museum permits barrier-free access by people with disabilities [6]. The Omero Museum in Italy was established as a museum for the visually impaired [7]. Finally, some museums actively offer sign language talks and tours, as well as real-time captioning for the deaf and hard of hearing [8–10].

Most museums in Japan have also tried to prepare accessible contents and exhibition design. However, it seems that the number of visitors with visual impairment or hearing loss is still small. For example, information provided via tactile graphics or braille, equipment for assisted hearing (magnetic loops, directional speakers, etc.), and museum tours designed to take disabilities into account have been implemented. However, these may not be reaching people with disabilities and may be out of sync with current real needs. Without more visits from people with disabilities, a museum cannot obtain feedback or improve services. As an initial step toward ameliorating this situation, we administered a questionnaire to identify how museums (defined broadly) might assist visitors with visual impairments or hearing loss to enjoy a more educational and pleasant experience. We will also introduce details on activities that were carried out on the basis of what was learned from the questionnaire results.

2 Methodology

The museums that we targeted for our questionnaire included art galleries, science and history museums, culture centers, botanical gardens, zoos, and aquariums. We prepared 27 questions on a range of topics, including visitors' interest in museums, difficulties experienced during their visits to museums, and changes they hoped to see. The questionnaire participants included 25 individuals with visual impairments and 70 individuals with hearing loss, from middle school age and above. The details of the participants are shown in Table 1. We requested responses from associations related to visual impairments/hearing loss for working people, Tsukuba University of Technology for university students, and schools for the blind/the deaf for junior and senior high school students. Responses to the questionnaire were solicited from January 30 to February 21, 2018.

Table 1. Breakdown of participants.

	Visual impairment	Hearing loss	Total
Junior and senior high school students	18	49	67
University students	4	14	18
Working people	3	7	10
Total	25	70	95

By analyzing the resultant data, we sought to clarify two general topics: First, what kind of experience do individuals with visual impairments or hearing loss have when visiting a museum in Japan today? Second, what improvements would they like to see? After outlining the results of our analysis, we will introduce activities we undertook to meet visitors' requests.

3 Results

From the 27 questions included in the questionnaire, we will provide an overview of six particularly important questions: (a) "Types of museums that you have used"; (b) "Experiences of being assisted at museums"; (c) "Difficulties that you have faced when visiting a museum"; (d) "Conveniences needed at museums"; (e) "Services you would like museums to provide"; and (f) "Exhibitions or events that you would like museums to hold."

With respect to (a), all questionnaire respondents had visited a museum, with no discernible difference between the visual impairment or hearing loss groups by venues frequented. Table 2 shows the result for (b): "Experience of being assisted at museums." Visually impaired visitors who received assistance used dedicated guide terminals, tactile charts, and curators' accompanying services. For those with hearing loss, sign language interpretation services and dedicated captioning terminals were used. A summary of reasons for "no experience of receiving assistance" are shown in Table 3. Among the "Other" responses, there were the comments "Because it might be a hindrance" and "I didn't know that there was such support." Common responses to (c) are displayed in Table 4.

Table 2. Experience of being assisted at museums.

	Visual impairment	Hearing loss	Total
I have experience receiving assistance	4(18%)	8(13%)	12(15%)
I have no experience receiving assistance	18(82%)	52(87%)	70(85%)

Table 3. Reason for not receiving assistance.

	Visual impairment	Hearing loss	Total
I simply didn't need any assistance	11(48%)	29(42%)	40(43%)
I didn't need assistance because I had a companion	11(48%)	30(43%)	41(45%)
I needed assistance, but I couldn't request it	0(0%)	4(6%)	4(4%)
I needed assistance and requested it, but a support system was not available	0(0%)	2(3%)	2(2%)
Others	1(4%)	4(6%)	5(5%)

Table 4. Difficulties encountered when visiting a museum.

Visual impairment	Hearing loss
– Upsetting to be told: "as you can see" or "please have a look at this" – Floor maps are hard to read – Locations within the museum are hard to find. It takes a long time to reach a destination – The elevator does not have voice guidance	– Anxious because almost all explanations and commentaries are spoken – There is no sign language interpretation or subtitles so I cannot learn what I want to know – I cannot hear the museum announcements

Table 5. Conveniences needed at museums.

	Visual impairment	Hearing loss	Total
1. Signs or guidance in the museum	9(41%)	18(31%)	27(3%)
2. Pamphlets with enlarged characters or braille	6(27%)	3(5%)	9(11%)
3. Information provided via tactile graphics or braille	3(14%)	1(2%)	4(5%)
4. Equipment for rendering sound into text (museum announcements, videos, etc.)	3(14%)	34(57%)	37(46%)
5. Equipment for assisted hearing (magnetic loops, directional speakers, etc.)	1(5%)	2(3%)	3(4%)
6. Other	0(0%)	0(0%)	0(0%)

Table 5 shows the results for (d): "Conveniences needed at museums." Naturally, differences in impairment lead to differences in the kinds of convenience required. Table 6 shows the results for (e): "Services you would like museums to provide." Table 7 shows the results for (f): "Exhibitions or events you would like museums to hold."

Table 6. Services you would like museums to provide.

	Visual impairment	Hearing loss	Total
1. Staff should be understanding toward disabilities	13(59%)	25(43%)	38(48%)
2. It should be possible to access barrier-free information in advance	2(9%)	2(3%)	4(5%)
3. There should be museum tours designed specifically for people with disabilities	1(5%)	5(9%)	6(8%)
4. Staff should give accompanied guidance	2(9%)	0(0%)	2(3%)
5. Staff able to respond with sign language or communication via writing.	0(0%)	23(40%)	23(29%)
6. Prioritized entry or support at the time of entry	4(18%)	3(5%)	7(9%)
7. Other	0(0%)	0(0%)	0(0%)

Table 7. Exhibitions or events you would like museums to hold.

	Visual impairment	Hearing Loss	Total
1. Exhibits or events where you can enjoy touching objects	11(58%)	20(34%)	31(40%)
2. Exhibits or events where you can enjoy different aromas	0(0%)	2(3%)	2(3%)
3. Exhibits or events where you can enjoy sound	4(21%)	4(7%)	8(10%)
4. Exhibits or events with supplementary sound	2(11%)	2(3%)	4(5%)
5. Exhibits or events where you can enjoy text or sign language	2(11%)	29(50%)	31(40%)
6. Other	0(0%)	1(2%)	1(1%)

4 Observations

The questionnaire results show that museums are important venues for people with visual impairments or hearing loss. In response to a different question not included in this report, many participants indicated that they had been afforded the opportunity to learn at a museum thanks to family members or a schoolteacher.

A few respondents had been assisted at museums. For most of them, assistance was simply unnecessary and they had companions to help them. However, some had been unable to request assistance. Others were unaware that there was a support system in place, and still others were concerned about being a burden to staff members. This indicates a lack of public awareness of support for visitors with disabilities and a lack of penetration of a barrier-free mentality.

Visually impaired respondents encountered difficulties when visiting museums such as difficulty understanding explanations using demonstrative words, learning the location of destinations within the museum, or moving to those destinations. Visitors with hearing loss noted that they could not understand spoken explanations or announcements and that there was a need for sign language interpretation. These points also appeared in responses to questions on conveniences or services that museums need. With regard to conveniences, a particularly high proportion of participants desired signs or guidance in the museum, as well as the rendering of announcements or video audio into text. In the case of services, a low proportion of participants desired accompanied guidance, support at the time of entry, or tours designed to take disabilities into account. We surmise that participants would generally prefer to roam the museum and enjoy the exhibits at their own pace. Responses to other questions also indicated that some participants do not wish to increase staff members' workloads.

With respect to museum services, the most desired feature was that staff be understanding toward people with disabilities. Showing understanding toward visitors with a visual impairment or hearing loss and learning the appropriate means of communication and methods of support would help staff to achieve a more "universal" museum experience for visitors. With respect to the types of exhibitions or events that participants would like museums to hold, both those with visual impairment and those with hearing loss were interested in exhibits or events where objects can be touched. For the visually impaired, being able to touch exhibits may lead to greater understanding. We found that touching objects was also considered important by respondents with hearing loss.

On the basis of the questionnaire results, we implemented the following types of activities. First, we conducted a workshop for museum staff to help them learn how to respond to visitors with sensory impairment [11]. Second, we conducted a proof-of-concept experiment, where we attached QR codes to exhibit explanations that linked to videos with sign language interpretation [12]. We hope that our efforts may contribute to the realization of a more universal museum experience for all.

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