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Increasing Inclusion Through Audio Described Exhibits: A Case Study
By Camryn Vaughn, Erin Baucom & Teressa M. Keenan

Abstract

Adding audio and/or touch components to library exhibits has been reported to improve accessibility. Audio description replaces important visual content with equivalent spoken information. While initially implemented to assist people who are blind or have low vision, audio description is beneficial for a broader audience. The concise and objective translation of visual content promotes new ways of learning, helps individuals with language development and strengthens writing skills. This case study describes an audio description pilot project and the authors’ successful exploration into developing a cost-effective method of adding an audio description component to library displays and exhibits.

Keywords

Audio description; exhibits; accessibility; inclusion

Introduction

The landscape of higher education has changed dramatically over the past several decades. Universities are seeing an increasing number of students with disabilities and international students in undergraduate populations. Nationally, the percentage of students with disabilities has increased from 6% in 1995-1996 to approximately 11% in 2011-2012 (Ehlinger and Information Resources Management Association 2020) while the number of international students in the United States reached an all-time high in 2018-2019 (IIE (Institute of International Education) 2019). As such there has been a move to promote the incorporation of Universal Design (UD) in educational environments to enhance access and inclusion and improve student success. Not surprisingly, libraries are following suit and are investigating how they can do more to meet the needs of a more diverse student population.

From the early displays of Oxford University’s Bodleian Library in the 1650s (Fargo and White 2019) to today’s highly curated exhibits, academic libraries have a long history of sharing information through exhibits. Whether an exhibit is being created for education, to increase collections awareness and/or use, or for various public relations purposes it is critical that library exhibits are accessible to everyone. One way to do this is to provide interaction with the exhibit through different senses. This can be done by including visual, auditory, and tactile interfaces.

Audio description (AD), also called video description or described video, “is a tool for people who are blind or have low vision that provides access to the visual aspects of theater, media, and visual art—and any activity where images are a critical element.” (ACB 2010, 7) Using words, describers convey visual
information heard either live or via a prerecorded audio track. While initially
developed for people who are blind or visually impaired, AD may benefit many
others. The concise and objective translation of visual content promotes
learning through auditory means and can help individuals with learning
disabilities and those who may not be proficient in English. AD can also assist
those on the autism spectrum who may have difficulty recognizing emotional
cues, and can be helpful in eyes-free situations where you might have a TV on,
but cannot look at the visual cues (Stark n.d.). This case study describes an AD
pilot project and the authors’ successful exploration into developing a cost-
effective method of adding an auditory component to library displays and
exhibits.

Background

The Maureen and Mike Mansfield Library (ML) is on the University of Montana
(UM) Missoula campus. It holds the largest collection of books and media in
Montana and serves a diverse population of users, including students, faculty,
staff, and community members. Of the over 10,000 students attending UM
(University of Montana 2019) approximately 10% register with Disability
Services for Students, and that number increases every year (Bernadine
Gantert, personal communication, January 23, 2020). ML strongly supports the
university’s commitment to value diversity, equity, and inclusion and strives to
provide equal opportunities in education, employment, programs, activities, and
services to everyone, including those with disabilities (Maureen and Mike
Mansfield Library, 2020).

In 2017, a Universal Design Working Group was convened by the Dean of
Libraries. The group scanned library literature on universal design, identified
current practices, conducted an environmental scan, and made
recommendations for potential implementation at the library. From that report,
these recommendations were made regarding programming and exhibits:

- Add clear language about accessibility accommodations to all
  publications for exhibits and events.
- Include language that explains the basics of exhibits/programs to
  accompany the more detailed explanations currently in use for each
  exhibit.
- Determine baseline reading level for language used for the basic
  information of exhibits.
- Include audio or tactile component to every exhibit.
- Verify exhibit designs use appropriate color contrast and fonts to ensure
  they fall within accessibility guidelines such as WCAG 2.0. (Vance et al.
  2017, 3)

Knowing that the library creates an average of 20 or more exhibits throughout
the building every year, the authors wanted to explore the potential to improve
accessibility and general usability of library exhibits by developing a cost-
effective way of adding an AD component.
Literature review

When the authors explored the literature focused on AD, a clear gap emerged. There were extensive discussions of AD in television, film, and museum exhibits but little on how libraries implement AD of their content. In library and archives literature, the focus is on improving spaces for patrons with disabilities and in these accounts, there is sometimes mentioned an addition of specialized speakers above exhibit cases which play AD. There is no mention of the process used to create the descriptions. Similarly, user design literature specific to libraries mentions the need for AD, tactile displays, high contrast visuals, and a baseline reading level but provides little discussion of how to create these components of an exhibit or program.

There was commonality across all disciplines that discussed AD. The scripts should be short, utilize simple language, and preference describing objects in the exhibits over provided written context (Anagostakis et al. 2016). The literature also acknowledges that AD cannot convey all aspects of visuals, and therefore are inherently objective based on what the describer includes in the script (Hutchinson and Eardley 2019; Kleege and Wallin 2015). The context of the exhibit is crucial to how AD is developed: a description of a piece of art will differ from how an object in a history museum is described which itself would differ from how a specimen in a science exhibit would be conveyed (Rivers and Barry 2019; Pivac et al. 2017).

While these broad, agreed upon principles were a place for the authors to start, it was the discussions of museums’ effort to make more approachable and useful exhibits for diverse audiences that guided the authors’ plan for creating AD for library displays. The Victoria and Albert Museum (V&A) has done extensive work to improve the accessibility of its collections including introducing replicas of exhibit materials so patrons may touch a facsimile of the objects, creating special in-person events solely for disabled visitors, and providing AD of select museum galleries available for download via the web or on a museum provided device. A V&A employee, who was themselves visually impaired, created the guidance the museum uses when developing AD for objects and live events. This guidance is especially helpful because it was created from the perspective of the intended audience which derailed many assumptions sighted people may make about the visually impaired (Ginley 2013).

Hutchinson and Eardley (2019) clarify that the AD of museum objects is not just about translating the visual experienced by a sighted person into an audio track for a visually impaired visitor, it is about creating “equivalent access to an experience in the museum” (52). How an object is described must engage the listener on an emotional and cognitive level and verbally describe the object’s form, color, and so on. Kleege and Wallin (2015) discussed how AD could move into the realm of emotion by considering AD as a performance which engages stimuli other than the visual with suggestions of classroom exercises to help develop these skills. Finally, Snyder (2005) supports these conclusions by emphasizing that a sighted person’s experience of museum exhibits can also be greatly enhanced through well written and imaginative AD by allowing these visitors to “truly notice and appreciate a more full perspective on any visual event” (937).
Methods

Creating/providing audio description

Because none of the authors were experienced with the creation and use of AD, the priority for this project was a general exploration of the topic. Besides learning best practices related to the creation of AD for exhibits, the authors wanted to know if other departments on campus or institutions were already offering similar services and if there might be opportunities for future collaboration. Science departments known to host public exhibits and art galleries on campus were contacted and asked about their current and past AD. Those contacted were unable to provide guidance either because they had not produced audio descriptions for their exhibits or because the services they had used previously were no longer in operation.

The authors then examined articles and looked for similar projects done by other institutions. These were helpful in gaining an understanding of how different people experience art and other visual displays. Gossiaux (2019) shared these three crucial tips for describing art to a blind person:

1. Size matters – start by describing how big or small the object is.
2. Composition – then provide general information about the layout.
3. Details – and finish with details about color, facial expressions, background, etc.

These tips and standardized guidelines helped the authors develop a workflow for the project and ensure that the final product would be useful and accessible. The next step was to choose a platform for hosting and presenting the audio tracks. The authors searched for a delivery method for individual tracks that could work on a personal device, preferably at no cost. After researching what other museums have used to deliver audio, SoundCloud proved to be a popularly used option that met the authors’ criteria.

Once the authors knew how to create useful AD and had created an account on SoundCloud, they identified all the current and planned exhibits scheduled in the library for the semester. After targeting several exhibits for potential AD they were reviewed and prioritized. The authors looked for a variety of types of exhibit about different topics and targeting different physical locations in the library. The criteria used to determine exhibits included:

- Exhibit location – is it easy to find and access physically; is it in a space where playing audio tracks would not be invasive or unreasonably distracting to other users in the area?
- Timeline/Duration – is the planned timeline for the exhibit within the project time frame; is there adequate time to prepare and add the description?
- Size – does the amount and types of objects allow for short audio tracks no longer than 2 minutes?
- Creator/Curator – does the exhibit creator approve of adding an audio component to their exhibit?

The next step was creating the description. A workflow outline and a description template were developed (see the appendix for the complete workflow and
template) to aid in creating the script. A script was written based on the information observed and collected about the exhibit. That script was reviewed by the exhibit curator and then revised and broken apart into sections that would be multiple audio tracks of 2 minutes or less. After practicing reading the finalized script out loud audio tracks were recorded using ML’s One Button Studio which hosts a Marantz Professional Turret with a microphone. Tracks were recorded using this and Windows Voice Recorder. SoundCloud accepts WAV and FLAC file formats, making it necessary to convert the Windows Media (.wmp) format using free, online file conversion services. Finally, the audio tracks were uploaded to SoundCloud and signage with a scannable QR code linking directly to the exhibit audio was created and placed next to or on the exhibit. Adding the AD component to the displays was advertised via the library’s Facebook account, fliers, and word of mouth.

Project review/evaluation

Throughout the project the authors used a variety of ways to evaluate the pilot’s success. During the initial script writing for the first exhibit, the authors contacted potential audiences to seek feedback before posting the audio tracks. The goal was to get feedback on the quality of the description when improvements could be easily made. Both the English Language Institute (ELI) which serves non-native speakers of English and the university’s Disability Services for Students (DSS) were contacted and asked to review the draft script. Unfortunately, no feedback was returned from this effort, so it was decided to wait until AD had been added to one of the permanent displays. The reason for this decision was that it might be easier for people to provide feedback on the finished product.

To assess the functionality and accessibility of the AD portion of the exhibit, the authors solicited the assistance of campus Accessible Technology Services (ATS). One of their Accessibility Specialists then reviewed the SoundCloud platform and the audio track for accessibility and ease of use.

To understand how many people listened to the audio tracks associated with the exhibits, the authors reviewed the statistics automatically collected by SoundCloud. These summarized the number of plays, likes, comments, reposts, and downloads.

Finally, to collect general user feedback on the project, the authors created an online survey (see the appendix for the complete survey instrument). The survey was created using Qualtrics, contained 20 questions and was actively posted for 3 months. To connect with a broad portion of the university community and to ensure representation by students with dis- abilities, the authors employed a combination of convenience and purpose- ful sampling techniques to recruit participants. Invitations to participate in the survey were distributed via the library’s Facebook page, library fliers, an email to students registered with the DSS office, and word of mouth. The authors used manual methods to analyze both the survey and SoundCloud data, looking for common themes and unique feedback that could be incorporated into future iterations of AD projects.
Results

Many resources that the authors used throughout the research process emphasized the importance of reaching out to, and receiving feedback from, potential audiences when creating accessible options. Despite not receiving any initial feedback from UM’s DSS and ELI services, the authors later shared the results of the survey with them and the wider university community in order to provide important insight and paths in exploring the continuation of the AD project. The project team created AD descriptions for the ML lobby exhibits but did not create a survey for them since the themes changed monthly. Meanwhile, SoundCloud’s internal tracking of listening statistics was used to assess user data. The SoundCloud stats showed how often each track was played and could be viewed by day, week, and month. The project team then sought feedback for AD created for two permanent ML exhibits: The Diversity of One (https://soundcloud.com/mansfieldlibrary/sets/5th-floor-lobby-display) and the 50th Anniversary Celebration of the Wilderness Act (https://soundcloud.com/mansfieldlibrary/sets/poetry-corner). The survey results provided more insight to the SoundCloud stats, which mirrored one another regarding the plays each track received.

Determining the quality and accessibility of the descriptions was the most important part of this feedback. Another essential part of the project’s feedback was determining the accessibility of the platform used to deliver the descriptions: the SoundCloud app and website. First, the project team contacted the campus Accessible Technology Services (ATS) for an accessibility review request. Issues that the analysis found include:

1. no way to skip repeated navigational links provided on all pages.
2. the heading structure does not follow the appropriate order; the landing page begins with H3 instead of H1.
3. after selecting a track to play, it is difficult to find the player quickly without searching the page and missing most of the content being played.

There is no way to change these settings in SoundCloud. To mitigate this, signs displayed nearby were adjusted to limit the navigation required to reach a display’s playlist. The QR code specific to an exhibit’s playlist was placed onto the sign. As further detailed in the discussion section, the signs did not feature Braille.

After creating an online survey for the two permanent exhibits, the project team received more feedback from the survey results regarding the AD itself, and the use of the signs and SoundCloud. The survey had 11 respondents, although only 7 completed the entire survey. Of the 11 respondents, 9 shared how they would describe their disability/ability status. These categories of stakeholders were represented: sensory impairment such as vision or hearing, learning disability, long-term medical illness, and not identifying with a disability. Overall, impressions were positive. 60% of respondents said the exhibits were a good choice for AD; 70% said that the information presented was appropriate and 100% of respondents said that the information was clear and easy to understand. With the speed of the narrator, however, 50% of respondents liked the speed while 25% said it was too hurried and lacked enough pauses; the
remaining 25% said it was too slow and seemed to drag on.

Roughly 60% of respondents said the app was easy to navigate. A helpful comment revealed that “When working with JAWS, which is a screen reader, when it is doing the audio description it talks over what [the narrator] was saying. I just had to turn off JAWS to be able to hear what [the narrator] was saying.” Another issue brought to light by respondents is that at the end of the exhibit playlist, the app loops back to play a track from a past lobby exhibit. Another survey respondent answered “It is impossible for blind people to find the QR codes if there is no tactile marker present for them to use to find the scannable code. Also, the lack of Braille signage makes it difficult to understand if what is scanned is the code.” An additional respondent agreed, answering “For a blind person, it would be useful to have the QR code somehow standout so the person would be able to tell where it is located.”

Impressions were generally positive. A respondent commented “I think the audio description has been done well. It makes me realize though how difficult it is to create good audio description for someone who can’t see the exhibit at all.” Other respondents expressed that they were pleased with the AD. A respondent said, “I like that the library is including all people when setting up their displays … I would love to see more of this same inclusion in future exhibits.” Another commented, “I think you’re doing a great thing with this. I am so happy to know that the school is getting more involved in audio for the blind.”

Discussion

The feedback the project team received on the clarity of information and the quality of narration was especially helpful for gauging the workflow developed. This workflow was initially used for the monthly lobby exhibits, allowing AD for each to be provided promptly. The lobby exhibits were a great choice for creating descriptions. Between the library’s front doors and check-out desk on the ground floor, many library visitors often stop to look. Each month a new topic is displayed. Working ahead with the exhibit creators was useful to review the captions and objects in the display. While the survey respondents were split between the speed of narration either being just right or too fast/too slow, it is significant that the majority of respondents agreed that the information presented in AD was appropriate, especially for the permanent exhibits.

Not all exhibits are good candidates for AD. According to best practices, AD should provide a similar experience and portray the same information that other users are seeing visually. Creating descriptions for certain exhibits can prove difficult, especially when they are text heavy. For practice, the authors initially chose an exhibit titled Plenty Coups of the Apsaalooke, located on the ML ground floor. Despite its ideal location, the exhibit featured text heavy captions and words in Crow that are naturally difficult for a non-speaker to pronounce. The captions offered a lot of background information that the project team felt was not relevant to the visual component of the exhibit that AD is meant for. The second most important rule of AD is to keep it concise and short; an AD track should be 2 minutes or less. To adhere to this, the lengthy exhibit captions had to be condensed.

Working on this exhibit’s descriptions resulted in the authors meeting with the exhibit’s creators for guidance and approval. The exhibit creators were offered several scripts to review after ensuring that none of the Crow words would be
pronounced by a non-speaker. A script with full captions, a script with only
descriptions, and a script with paraphrased captions and descriptions were
reviewed. The creators edited the scripts and provided feedback, preferring the
option with full captions, which was too lengthy to use. The project team
decided to not move forward with the Plenty Coups of the Apsaalooke exhibit
AD. However, the experience helped the project team choose permanent
exhibits to create captions for. Exhibits with less text than visual components
were prioritized.

Due to the changing nature of the ML lobby exhibits, the project team was
hesitant to put up a permanent sign that would direct visitors to the
SoundCloud website. Therefore, a sign template that could be used inter-
changeably for any ML exhibit was created with a QR code, which lead the
user directly to the main page of the ML’s SoundCloud, allowing the user to
choose a specific playlist. As seen in the survey response, some pointed out
that the signs and QR codes directing listeners to SoundCloud could not be
useful without a tactile marker. The project team anticipated this issue and
spent time searching for options that would allow the inclusion of Braille on the
signs. First, ATS was contacted with an inquiry, but it was discovered that
Braille is not made in-house at UM. ATS recommended Central Washington
University for Braille creation. An inquiry was sent but a cost estimate could
not be provided. Another option the project team investigated was embossing,
done at UM’s printing service. However, this option was overly expensive and
not in the pilot’s budget.

The project team then contacted a Braille user at ATS, who offered helpful
insights: although it would be most inclusive, Braille would be a significant
investment and in Jolynn’s experience, it could be difficult to get it exactly right.
Additionally, she suggested that it might not be worth the trouble to get Braille
for specific, temporary exhibits (personal communication, May 21, 2019). The
project team continued with the decision to not use Braille for the pilot.

While several significant improvements to library exhibits emerged from this
project, the authors acknowledge limitations that could have affected both the
local results and the generalizability of the results for other institutions. Two of
the limitations include the number of participants and the possibly limited nature
of disabilities represented. Only 7 participants completed the entire survey, and
several potential categories of stakeholders were not represented. Future
iterations of this project may benefit from increasing the feedback received and
by soliciting feedback from individuals who speak English as a second
language and/or who have mobility impairments.

Next steps include improving general accessibility of the audio tracks by
providing alternative access to signage via Braille and/or other tactile and
electronic means; including transcripts; and using a better distribution plat- form
with accessible navigation and audio player. While SoundCloud pro-
vided statistics related to the number of times an audio track was played, this alone
could not prove increased interactions with library exhibits nor was it helpful in
determining if adding AD to exhibits creates a more inclusive, welcoming
environment from the perspective of library visitors. Additional research is
needed to determine if creating more accessible exhibits increases use or
affects library users’ impressions.
Conclusion

This pilot project set out to develop workflows for creating AD of library exhibits and providing that audio to patrons so it was accessible to them regardless of their visual or intellectual abilities. The survey and evaluations done by ATS indicated that while some of these goals had been met, there is still a ways to go in finalizing a process that works well for patrons. The discussion of the Plenty Coups of the Apsaalooke exhibit also indicated that the library needed to be more thoughtful when planning exhibit content so that creating accompanying AD is feasible. Beyond the processes created, the success of the project was also measured in how well the patrons responded to having AD available. Patron responses to the authors’ survey indicated that AD is needed and helpful, even for those that do not have visual impairments. It is now the responsibility of the ML to build upon this pilot project and institutionalize the use of audio descriptions for all exhibit content.

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References


Appendix

Audio description workflow

1. Writing begins with research:
   a. Spend time observing the exhibit, take pictures, view from different angles
   b. Write descriptions, copy and include captions if applicable
   c. Get in touch with creator, find out about the background, history, etc. of exhibit and its content to include
   d. Go-over and revise, and get feedback!

2. Record audio:
   a. MAKE SURE pronunciations are correct!
   b. Practice saying it out loud a lot

3. Find an appropriate pace (something to also get feedback on)

   Delivering audio:
   a. Upload files to SoundCloud
   b. Find cover art, create typed description, and label/number tracks accordingly
   c. Stream it to make sure nothing’s wrong with the track

Description template

To be completed before creating script. Fill in information related to all applicable categories.

- Exhibit title –
- Featured objects and materials –
- Amount –
  - Does the amount of objects allow a > 2 min audio track?
  - Necessity of describing each object?
- Variety –
- Subject –
- Composition –
- Mediums –
- Size of exhibit –
  - Exhibit and object visibility?
- Viewpoints for description –
- Exhibit location –
  - Permanent exhibit or location?
- Location described (for audio tour) –
  - Easy to find? What is the surrounding space like?
- Interesting and unique aspects of exhibit –
  - Why might this exhibit be of interest?
- Object descriptions
  - Dimensions (exact) – (estimated) – (analogy) –
  - Big picture – what is it?
  - Point of view and directional cues –
  - Colors –
  - Technique –
  - Relation to other senses
    - Texture – (how it would feel)
    - What it would sound like
- Creator/curator/artist –
  - Information about exhibit outside of description (background information)
Inspiration for its creation?
○ Process of collecting and/or creating objects

Audio described library exhibits Qualtrics survey

Thank you for taking the time to complete our survey. Your honest feedback will help us improve our services and make your next visit to the library even better than the last.

The survey should take about 3-5 minutes to complete. All questions are optional and you may exit the survey at any time.

Information gathered by the survey will be used primarily to make decisions regarding the continuation, expansion and or improvement of audio description in the library.

All survey responses are anonymized; no IP address or other personal identifying information will be collected by the survey software.

Click the next button to get started.

Q1 What exhibit are you evaluating?
□ Poetry Corner; 50th Anniversary Celebration of the Wilderness Act
□ 5th floor lobby; The Diversity of One

Q2 Is this exhibit a good choice for audio description?
□ Yes
□ Maybe
□ No

Display This Question: If “Is this exhibit a good choice for audio description?” = No
Q3 Why is this exhibit not a good choice for audio description?

Display This Question: If “Is this exhibit a good choice for audio description?” = Maybe
Q4 What would make this exhibit a better choice for audio description?

Q5 Was the amount of information presented appropriate?
□ Less information please
□ More information please
□ It was just right

Display This Question: If “Was the amount of information presented appropriate?” = Less information please
Q6 What kind of information could have been left out?

Display This Question: If “Was the amount of information presented appropriate?” = More information please
Q7 What kind of information would you liked to have heard?
Q8 Was the information clear and easy to understand?
- Yes
- No

Display This Question: If “Was the information clear and easy to understand?” = No

Q9 What would make the information easier to understand?

Q10 Was the speed at which the information was presented appropriate?
- No, it seemed hurried
- No, it seemed to drag on
- No, it had too many/not enough pauses
- Yes, I liked the speed

Q11 Was the audio deliver app easy to navigate?
- Yes
- Sort of
- No

Display This Question: If “Was the audio deliver app easy to navigate?” = No

Q12 What did you find difficult?

Display This Question: If “Was the audio deliver app easy to navigate?” = Sort of

Q13 What did you find difficult?

Q14 Is there anything else you'd like to tell us about your exhibit experience in the library?

Q15 What category below includes your age?
- 17 or younger
- 18-29
- 30-39
- 40-49
- 50-59
- 60 or older
- Prefer not to answer

Q16 What is your affiliation to the University?
- Undergraduate Student
- Graduate Student
- Staff/Faculty
- Guest
- Other (specify)

Display This Question: If “What is your affiliation to the University?” = Other (specify)

Q17 My specific affiliation to the University is?

Q18 How do you describe your disability/ability status?
- Sensory impairment (vision or hearing)
- Learning disability (e.g. ADHD, dyslexia)
- Long-term medical illness (e.g. epilepsy, cystic fibrosis)
- Mobility impairment
- Mental health disorder
- Temporary impairment due to illness or injury (e.g. broken ankle, surgery)
- I do not identify with a disability or impairment
- English as a second language
- Other (specify)
Display This Question: If “How do you describe your disability/ability status?” = Other (specify)
Q19 The specific disability/ability status that I identify with is: