# Acoustic Project: Co-creating experience stories

Analysis and report



OCAD University

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# Introduction

The Inclusive Design Research Centre, OCAD University, collaborating with the Accessibility Institute, Carleton University, facilitated a co-design for the Acoustics project with experts who have lived experience of disabilities. The goal of this collaboration was:

1. Understand how the acoustics of the built environment impact functioning.
2. Identify acoustic barriers to functioning; also how and to what extent they are currently overcome by people experiencing disability.
3. Understand the role of built-in and personal assistive technology in overcoming barriers
4. Identify gaps in, or areas for improvement of, existing accessibility guidelines and standards.
5. Gain insight from experts representing a broad range of lived experiences with disability.

The project outputs will inform the development of standards for inclusive acoustic built environments. The intent of the standard is that spaces are designed to be acoustically accessible as well as incorporate and interoperate with assistive technologies. Also, the standard will address the range of physical, mental, intellectual, cognitive, learning, communication, and sensory impact of barriers in the acoustic environment that may limit activities and social participation of people with disabilities.

# How to use this report

The report has three parts:

1. Part 1 describes the co-creation approach and narrative analysis.
2. Part 2 contains the four stories created in the co-creation session.
3. Part 3 describes the insights developed from the analysis of the co-created stories.
4. Part 4 is the appendix and contains tools used in the priming survey and co-creation session and a summary of the narrative analysis technique.

For detailed information on the approach and guidance on narrative analysis to understand the current findings, replicate the approach, or modify it for future work, please refer to Part 1: Method. To review the full stories, please refer to Part 2: Stories. For insights to support the development of the empathy lab, please refer to Part 3: Findings. For detailed information about the analysis or copies of the co-creation session tools, please refer to Part 4: Appendices.

# Part 1: Method

We utilized a co-creation approach where the seat of expertise resides with the individual with lived experience of disability. The researcher and other participants are co-creators and/or facilitators of the story-building experience. Still, the focus and goal of the session are to learn from the experience of the experts by taking a secondary and supporting role in the story activity.

## Procedure

First, the goal of the Accessibility Institute was articulated, and needs were outlined. Based on these discussions, we decided to recruit subject matter experts with lived experience of disabilities who face barriers related to sound in the built environment.

## Experts Participants

IDRC recruited 25 experts with lived experience of disability through our community list (~800), co-designer list (~600) and newsletter (~500). There is some overlap between these channels. The experts were asked to provide some information about their experience with acoustic barriers and anything that they thought was relevant to the project. 115 people responded to the call. The researchers reviewed all applications and selected 25 that would provide diverse perspectives. The experts were as follows:

1. Experts who find it hard to focus when there is a lot of background noise,
2. Experts who have a sensitivity to noises (e.g. from ASD or PTSD),
3. Experts often get frustrated by barriers related to sound,
4. Experts who benefit from sound amplification technologies like FM loops, and
5. Experts who have aging-related disabilities,
6. An expert who is blind and utilizes sound for information,
7. An expert who is sensible to constant mechanical noise.
8. An expert affected with a neuromuscular and neurotological disorder.
9. An expert who was a recipient of a cochlear implant in 2020.
10. An expert who has a startle reflex due to cerebral palsy.
11. An expert who has both ASD and ADHD that occur together.
12. An expert affected with a neuromuscular and neurotological disorder.

Ethics clearance for the project was obtained from Carleton University and all experts were provided their informed consent. Experts were also asked to sign a contributor license agreement that indicates that the work of the group will be licenced under [Creative Commons (CC By 4.0) licensing](https://creativecommons.org/licenses/by/4.0/).

The 25 experts with lived experience of disability were invited to participate in two sessions of 2 hours each story co-creation workshop to help develop stories with a facilitator as well as a complete pre-session priming survey. An honorarium of $400 (~$80/hour, excluding any contributions between or after co-design sessions) was offered as part of the invitation.

The [online priming survey](#_Online_Survey) asked the experts to consider scenarios in the built environment. The survey collected information about experts' experiences with sound and barriers to sound in public spaces. Co-designers responded to six cases (base content provided by the Accessibility Institute) that were written to support understanding and readability by diverse readers. Prior to the first co-design session, each expert was provided with a copy of their responses for their reference. The survey response are not part of this analysis; however, the responses may be used for further insights into the acoustic barriers experienced by people with disabilities One week after the survey closed, we met online and in small groups over two sessions, one week apart. Experts shared experiences and created a group story about those experiences.

## Co-creation

At the co-creation session, experts were distributed to four teams with one IDRC facilitator. Before the co-creation session, all facilitators were trained on the co-creation method planned for this project. All facilitators are experienced in inclusive remote facilitation. The suggested agenda provided for the co-creation session was as follows:

**Session 1**

1:00 PM – 1:15 PM Welcome

1:15 PM – 2:00 PM Sharing the experiences

2:00 PM – 2:10 PM Break

2:10 PM – 2:25 PM Picking the theme for the final story

2:25 PM – 3:00 PM Organizing the material for the final story

**Session 2**

1:00 PM – 1:15 PM Welcome

1:15 PM – 2:00 PM Story Creation

2:00 PM – 2:10 PM Break

2:10 PM – 2:57 PM Finish the story

2:15 PM – 3:00 PM Wrap up

In both sessions, all co-designers were free to take breaks as needed. The 2:00 PM break was enforced by the IDRC facilitators to ensure that all experts had at least one break (this enforcement is important to ensure that members of the group eager to continue the work do not override the needs/wishes of others in the group who may not express their desire for a break).

## Analysis

Each completed story was reviewed using a narrative analysis approach by IDRC researchers. The narrative analysis examines various aspects of the story, such as structure, function and themes. A detailed summary of the analysis process is described in the appendix. Issues and solutions from the stories were also identified, and together with the themes, insights that seemed particularly relevant to the goals of the Accessibility Institute were identified.

The experts were not included in the analysis phase of the work. However, it is feasible to engage the co-designers in all phases of the analysis either as active analysts or as consultants/reviewers of findings. This is a possible next step for the findings from this analysis.

# Part 2: Stories

Following are the four generated stories from the co-design sessions.

Out of the head and into the body

This group chose to create a podcast. They worked on stories that express the emotional impact from sounds using the example of being in a gym. The recording is a bit difficult to hear at first but is good quality for most of the stories. You are encouraged to listen while you read the transcript below.



Recording : Podcast of Out of the head and into the body.

### Transcript

The irritation is not a logical response. It’s an emotional response.

Story one (0:05)

I hope you can all hear me well. I’m thinking about how long it has been, or more so how long I have been away from the sounds of the gym. And I think that part that was just kind of recurring in my head was waiting for the next equipment. And then having the constant sound of the metal that makes the noise around the equipment. Makes me think of earlier, when I was a teenager that this type of noise wouldn't bother me at all. And now just thinking about it bothers me. Particularly the sound. Probably the metal clanging. With the metal parts being together banging repeatedly. There's nothing restorative about it, it kind of takes away my energy when I hear that kind of clanging. It's almost like the sound of an auto workshop or something--sounds like that to me when there's a lot of metal clanging. I haven’t been to the gym in a good long time and I've tried to replace the gym with places a lot more sound-friendly. Really, I’m just interested in going and finding space outdoors. We're going in different weathers, even. But anything to get away from a lot of the interior sounds of the gym. It's kind of really interesting because I really got to think about it in the break. And I can't remember in the last long while why functionally, I would have gone back into the gym. And with all the things that I would do in the gym, it's interesting that I found places where sounds are more soothing.

[Passing to the next respondent]

Story two (3:00)

Hey. This gym was not what I was used to back home. I was used to being around people who all looked the same. They all wore a type of uniform. I was also used to quietness. It was dark since I was up really early when I went to the gym. I was also used to the sounds of rucksacks and boots rustling on people's backs as they marched, and the odd person, more like quite a few people complaining about how early it was. This was also the same here at this gym. At least something was familiar. I also remember people chanting. As they marched. And the smell of Timmy's coffee once I finished my workout. Once I walked into the university gym and heard the familiar hum of the cardio machines, I started to relax a little.

However, there was a lot less dropping of the heavyweights that I was used to hearing. And then I noticed the signs that asked people specifically not to do that since it would damage the floors, and I laughed a little bit. However, to my surprise, there was an increased amount of conversation at this gym and a lot less actual working out, which is what I kind of thought you were supposed to do here, so I found that a little confusing. I tried going to the gym when it opened specifically to avoid this kind of increased conversation, which is what I used to do at my old gym, but obviously, I was a little bit unsuccessful. I was running on the treadmill, which I normally did on Mondays since I was preparing for the army run at the time, but I could hear the hum of the cardio machine even through my over-ear headphones. It was that loud. It was no match for my heavy metal music. Once I started lifting weights after I was done running, I experienced a barrage of crashing metal sounds from all angles in every direction. Because so many people were moving around the room and around me, I couldn't pinpoint the origin of the sounds and at any specific time or place. The constant movement of people just made this worse. I felt like I was on edge here. I felt like I was on high alert. I never felt like this in my old gym back home. I missed home.

[Passing the person 3]

Story three  (5:56)

It's one of the rare days when I would go to the gym. Going to the gym is such an undertaking for me. As a person who is visually impaired. It is a sensory overload experience. And not an accessible environment. Today is one of the days, though, when I have decided that the discomfort is worth the effort. There are many, many components of going to the gym that I struggle with. Probably the most prevalent is the big open space. As someone who can't see, I rely on the way that sound. Bounces off of different items in my environment to determine where I am. For example, I can hear when there is an open door in a hallway. And can find the 4th door on the Right by walking along and counting openings. In a gym environment, it is super wide open. There's no way to tell where you are except by feeling. You often can't use assistive technology either because there is very loud music in the gyms I've frequented at least. I am also often startled by the loud clang of dropping weights. The changing of different settings and positions of equipment. I find myself very anxious because it's difficult to find people to assist you and communicate what you need when there's so much background noise, and someone's trying to talk. I'm also feeling slightly guilty when I go to the gym. Because of the noise volume, I'm accompanied by a service dog whose hearing is even more sensitive than mine. I'm often inundated by the smells of rubber, body odour, and chlorine when there are pools and disinfectants.

[Passing to the next person]

Story four  (8:59)

I was on my way to the gym, and before I entered, I heard a lot of screeching sounds from the multiple sounds of cardio machines, because they were all. In front of the gym. As I entered the gym, I heard many different noises from people speaking. Music being blasted, and multiple machines being used at once. I began using the elliptical machine. But I struggled because of the sound around the gym and the sound of the machine I was using. I ended up having to leave the gym because I was feeling overwhelmed by all the sounds, even though I tried using my headphones to block some of it out.

[Passing to the next person].

Story five (10:03)

My experience with attending a lot of the gyms. Where I used to go with my good friend was. This experiencing the uncomfortability of feeling like not really secure in the gym for so many reasons around my identity of being a transgender and being in this space and feeling that there's no gender-neutral change room specifically for myself, making me feel very insecure with my anxiety and PTSD and then also facing a lot of issues with like how to use the machines.

With not that many people support at the gym, making sure that I'm able to use the equipment safely because I'm not really good with like machines. period. But this happened like the lack of support at the certain gym.

And then hearing like a lot of the basically the banging of like the weights and all around me and people talking loudly and which may be kind of like hard to work on what I need to work on such as like losing weight or like set my goals to the proportion. And sometimes they have like the TV on blasting. So, it's very hard to basically focus while working out comfortably. Sorry, trying to listen to my music was very helpful, but sometimes I can still hear noises behind me. The music that I like to listen to, especially listening to, like nature sounds and my favourite songs, and so caused me to have like a lot of headaches and depression in a little bit of a way because of like the lack of support. The sounds of the banging of the weights bang and hitting the floor hitting each other. It's just like it's all like mixed up in my head like a scrambled egg of emotions and feelings, and so maybe I feel like more of wanting to work out more at home where I know it's like it's my own apartment, and it's quieter. So, for years and years, I have stopped going to gyms due to a lot of reasons and that's my experiences that I face ever since going to gyms and stop going to gyms.

[Next person.]

Story six (13:26)

So the sounds of the gym for me and Angel are the loud sounds of the fans to the sounds of people running on the treadmills, to the different sounds of the TV's, on to the sounds of the people trying to talk over the sounds of the weights.

Aurel is no stranger to barriers

Aurel is no stranger to barriers. Much of her world has been about overcoming them and struggling to conquer the box placed around her. A typical day is not the same as it is for most; some put on their clothes and brush their teeth to go out, Aurel checks her devices, charges her equipment, double checks everything. She carries not one but maybe 2 or 3 bags just to go out. Medicine [check] batteries [check] phone [check] spare [check] noise canceling headset [check check]! Really, the planning starts long beforehand—it’s a constant set-up to solve the barriers of tomorrow. Sometimes, Aurel thinks that the moons need to alight to help make the most of her day.

Her home office is a well-equipped safe environment – a fortress where most things are stocked and her access needs are met. Unfortunately, tomorrow is a mandated work from the office day so even though all her needs for work are met at home, tomorrow she will venture out. The morning will matter a lot and it can go one of two ways:

Ideal morning

* Devices charged and ready
* Wake up with the alarm—it’s multimodal - sound and vibration because haptics are more reliable
* Ears (i.e. hearing aids)—will need them if going out, don’t need them at home because it’s set up for her needs and hearing aids introduce sounds that aren’t necessary.
* Medication taken on time and works

Less than ideal morning

* Power outage or aids knocked off night stand - ears aren’t charged
	+ Phone not charged either—that means no captioning app either
	+ Headset low battery
	+ No alarm so running late
	+ Spend precious time trying to decide which devices is needed the most so that it can go on the back-up battery.
* Medication is late and it not working yet—makes it hard to concentrate
* Neighbours are really loud making it even harder to concentrate

Aurel gets out the door on time and enters her work building soon after. As she heads to the elevator with all of the other workers, she sighs inwardly as she contemplates her space in the open floor plan. With everyone one back to the office after so long away it’s going to be even noisier than she remembers it being. If only they built the space to be more acoustically inclusive. Aurel knows what she would have in her ideal workspace:

Ideal workspace

* Quiet spaces to balance the open workspaces
	+ Closed offices or cubicles even if they have to be booked
	+ Access to different types of spaces in the same office space (e.g. where your colleagues are) - have the choice to go where you want
	+ Completely accessible for colleague with mobility devices and other access needs
* Integrated inclusive technology like microphones and hearing loops in collaborative spaces
* signs and alarms that have sound, images and vibration.
* Sound baffles between rooms, like the kitchen—noise carries right through the wall
* At least two screens in meeting rooms—one that is always for captions—and hearing loops

Reality

Aurel steps off of the elevator wondering, how will she have to advocate for herself today? The onus of accessibility shouldn’t only be on the person with the disability. In all things, it would be so great if the first question was about accessibility and considering how needs can be addressed from the start instead of as an afterthought. When a genuine effort is made, even if the experience wasn’t great, the intention for inclusion can still make it better.

The Senses: Acoustic Co-Design and Beyond

Joe is a hard of hearing guy. Joe is working with a not-for-profit organization and where he worked, the organization received a gold certification for accessibility and has regular reviews to check that they are following inclusive practices. Joe provides training to people and organizations who want to better understand the needs of people who are hearing impaired.

He’s giving a talk at a convention today. He goes through parts of his presentation one more time:

Words matter, please use the term “hard of hearing” and don’t use words like “hearing-impaired”, “*suffering* from hearing loss” or “people with low hearing levels. “Now let’s talk about strategies used by people who are hard of hearing for communication.

People who are hard of hearing rely on visual signals. Any information that we cannot hear properly needs to be seen. In many activities and social situations agreed-upon signals can clarify spoken information. Please make sure that both people understand what the signals mean.

It is frustrating that wherever I go there is no access for people with hearing loss. Here are some strategies that people who are hard of hearing use so that they participate in the world.

In social events, for example when dining out, hard-of-hearing people choose a quiet place. Most outdoor spaces have fewer hard surfaces to reflect sound and more organic material to absorb it. Spaces like this are better for us. Hard of hearing people use assistive listening device that bring voices into our ears, such as a remote microphone that can be clipped to clothing or can be put on the table. We may use a speech to text app to understand what others are saying.

When going to the movie, hard of hearing people prefer an open captioned performance where the captions appear directly on the movie screen. But this seems to be rare.

Attending live theater, most theaters provide one or more free options for auditory assistance. Some offer captioning, FM systems, and hearing loops. Rock concerts are often difficult for hard of hearing because of very loud sound. Wearing earplugs are recommended to protect our hearing. Ideally, concert venues would have a noise canceling systems and designs that can reduce reverberation for hearing pleasure.

In general, constant and unnecessary or environmental noise affects everyone, not just hard of hearing people. Continuous exposure to noise causes irritability, sleep issues and may increase stress levels. This might result in low productivity and less focus and concentration particularly if workspaces are not designed well acoustically. It is ideal for all premises to reduce and contain noise for healthier and more productive life.

Later, Joe stands in the hallway of the convention centre and is already frustrated because the hall is echo-y. The building is obviously not acoustically designed to protect from noise both externally and internally. Communication with his colleagues at the conference is hard, especially in a group discussion because of open spaces and increased noise levels. For Joe, it’s a communication barrier.

It’s extra hard because the venue is surrounded by construction of new condominiums and the construction noise is so loud that it can be heard inside the venue. The poor sound insulation is beginning to tax Joe, he is feeling annoyed and frustrated because of his inability to communicate and hear well. Joe keeps on asking his colleagues “what did they say? “He’s worried he’s starting to annoy his colleagues too so sometimes he just lets it go and tries to figure out what people are saying.

Joe deliberately chose to attend sessions that would have small group discussions thinking that would make it easier to participate. Even then, Joe struggled to communicate with his group because of the residual noise coming from the other groups and the ever-present noise from the outside construction sites.

Joe is frustrated and unable to participate well and begins to feel useless. Although Joe disclosed his disability, his colleagues are still talking fast and all at the same time. Joe cannot cope and can’t help but feel flustered. Nobody seems to understand what he is going through.

Joe starts thinking about things he could add to his talk based on this experience:

The venue/organizer should have been inclusive and taken into consideration the needs of people who are hard of hearing. They should have captioning, hearing loops and directional microphones. The set-up of tables should be round table so hard of hearing people can see who is talking and or, if they like, lip read.

Joe gives up on trying to follow the discussion and instead, thinks of ideas for another presentation on acoustic accessibility, the slides he could show and the examples that he would share. He starts a mental checklist of building features that he would talk about:

* Curved corridor corners to enable clear sightlines to approaching individuals
* Improved lighting to elevate visual communication cues
* Large-area assistive listening system in meeting rooms
* Visual and auditory alerting, security and wayfinding system
* Visual displays in meeting rooms to project captioning and interpreting services
* Accessible washrooms with fixtures and counters optimized for wheelchairs and those with mobility issues
* Wider corridors to not only accommodate wheelchairs but also to provide adequate space for sign language users as they travel through hallways
* Acoustically optimized walls, ceilings and flooring to control room reverberation, sound transfer and background noise
* Strategic installation of electrical and mechanical systems to reduce the effects of electromagnetic interference on induction loop systems

Joe begins to think about how great the conference would be if some of these things were in place at the venue he’s in. He notices that everyone and is gathering their things and the discussion is over. Soon he will give his presentation, at least then he will be able to contribute, the rest of the conference isn’t really working out for him.

[A community space built for the communit](https://docs.google.com/document/d/1hwpSWMMJkhp4PPXPgRNeNgVt9gJGCuesUU71o8hsrmo/edit#heading=h.btg12gu9i6sj)y

A new theatre complex is opening in a small but growing city. It has several theatres of different sizes and can be used by community groups and rented by other organizations. The theatre will also be the location of a series of concerts, plays and entertainment acts organized by a local group interested in improving the arts and entertainment options in the city. They want to provide community members an alternative to going to the large metropolitan region about 90 minutes away.

The theatre construction was funded through community fund-raising as well as grants from municipal, provincial and federal governments. The grants were at least partly focused on accessibility and inclusion and this new complex is built to meet the needs of many diverse people. There are even accessible viewing rooms in every theatre for people with disabilities who need a space of their own and one that can be used by general audience as well.

Here is Trevor’s story at one of the first events: a variety show with something for everyone.

Sudden hearing loss

Trevor s life totally changed last month. He has been a wreck ever since his recent sudden hearing loss caused by illness. Over the last month, his hearing loss has changed him from a confident, friendly, outgoing person to a reclusive individual who does not wish to socialize. He is afraid to leave the house, as he can’t hear much and greatly struggles to understand anything said to him. He has become depressed, isolated and traumatised by his sudden hearing loss.

His friends noticed his personality, change and withdrawal from communicating. They discovered there was a new accessible theatre opening up not far from where they live! And thought it would be an excellent idea to invite Trevor to see a show with them!

Trevor was over the moon excited to be included and the thought of hanging out with his friends, and knowing that the theatre was accessible, helped relieve his anxiety and worries about going out and being able to participate.

The group made their plan using text because that worked well for everyone and kept track of all of the details. They agreed to meet outside the theatre on Saturday at 3:30 PM. Saturday was hot and so humid that you could drink the air. Just before 3:30, the sky turned ominously dark and a torrent began to fall.

When Trevor arrived at the theater, he dashed through the doors into the very crowded lobby. He looked around and couldn’t see his friends anywhere, so he checked his group chat, it wasn't good news, and Trevor's anxiety and stress rose again to a new high.

The message

“Hey Trevor, too hot, wet and crowded out there, we bought our tickets and went inside, we left your ticket at the box office for pick-up. Come right in, your seat is with us.

Trevor’s heart dropped, and his stress and anxiety just went through the roof! How is he going to get his ticket and most likely the person he's interacting with is going to say something back to him in response? What if he gets lost in the theatre and he needs help? What was he going to do??? These are only a few of the many very frightening, thoughts that went through Trevor’s mind.

After using some deep breathing and relaxation techniques, he was able to think a little bit clearer, though that wouldn't resolve his problems. At some point, Trevor realized he needed to act, or he wouldn't be enjoying a show with his friends at all.

Trevor stood in the box-office lineup to get his ticket. When it was his turn, he approached the box office and said to the theatre worker,

“My name is Trevor Pierro, there is a ticket here for me to pick up.”

Trevor thought he was doing rather well, and his confidence was rising that was until the box office agent said something rather than give him his ticket. It was the scenario he dreaded!

Trevor's confidence dropped to an all time low. He'd only been dealing with his hearing loss for a few weeks and there'd been no forms of support for him to interact with anyone to this point. When the theatre employee asked him a question, he couldn't understand anything. All he could do in return was shrug shoulders and point to his ear to try to communicate that he can't hear.

Trevor’s anxiety was rising sky-high and he felt everyone’s eyes upon him and growing impatience of the line behind him.

Another Screen

That’s when the theater employee took action and seemingly out on nowhere a built-in digital display popped up. The agent typed out a message for Trevor to read - it was in a large, user-friendly font.

“Hi I’m Cris.

‘I’m hard of hearing too! The booth is designed to help me hear customers so you can keep talking. Does this text chat work for you?”

Trevor nodded.

“Let’s get you ready for your film! First, can you spell your last name for me?“ Trevor did and he saw a ticket come out of the slot in front of the agent. She tore it off but didn’t hand it to him. Instead, she typed,

“Can you tell me if you use hearing aids? “If so, we can use loop technology, if no we have other options!

Trevor responded, “No I just lost my hearing recently and I’m trying to get some funded hearing aids.”

Cris responded,

“Don’t worry we’ve got things that can help you!”

Trevor smiled for the first time since arriving and was hopeful.

Cris then typed out another message,

“First, I’ve processed your ticket - here it is!” She slipped it through the slot in the window towards him. Cris then explained they had head sets for individuals without hearing aids, access to audio via their mobile app and special seating equipped with built in captioning devices.

“It looks like your friends thought of that because your tickets are for captioned seating location! I can print a map that will help you locate the correct theatre, and your seat in the theatre or you can use our App and be guided to your seat! Would you like a map print out?”

“Yes Please!” Trevor excitedly responded.

Once Cris printed the map - Cris held it up and sent another message

"Do you see that red circle? That’s the emergency support help area. If you have any problems, go there and push the red button, that area is equipped with captions communication just like we're using at this booth now, as well as hearing induction loops! If you need help for any reason, please go there and push the red button, have a wonderful show and enjoy it! "

Walking Confidently

Trevor took his ticket and walked towards the theatre confidently, glancing at his map occasionally to make sure he was on the pathway outlined on it. He found where he needed to go without the ordeal of having to ask for help in the noisy corridors. He thought to himself, “this is a wonderful thing to have in place-- not only the captioned Box Office, for persons without hearing devices but also other ways for me to hear the show!”

Trevor easily found the theatre where he was to go for his show and followed the printed map further to find his friends waiting for him with a seat that had a built-in captioning device. Built in!! Trevor sat down and gave a sigh of relief, he was no longer anxious, stressed and felt included - and he just couldn’t wait for the entertainment to start!!!

# Part 3: Findings

In this section, the analysis of each of the four teams’ stories is discussed individually. Each thematic analysis summarizes the story, and the main character, followed by the environment, emotions, challenges and insights.

## Perspectives from an inside public space: Out of the head and into the body

This podcast articulates the experiences of five experts who find it hard to focus when there is a lot of background noise or have a sensitivity to noises (e.g. from ASD or PTSD). Each expert tells their own story and experience of sounds and noise using a gym setting as the common thread. The stories illuminate the emotional impact of noise not just from the individuals perspective but literally with their own voice.

### Thematic Analysis

Several themes emerge in the podcast that relate to the unpleasant experience and challenges of using an inner space that doesn’t consider the built environment's acoustics and the impact on its members. The podcast describes the ongoing challenges, of being overwhelmed and of feeling out of place in a public recreational place, such as a gym, that should be designed for the enjoyment of all.

#### Individuals

We learn about the five gym members/visitors/users:

1. In the first account, we find a person who wants to be active and looks for alternatives to the gym where the sounds are more soothing. They didn’t always have noise sensitivity but do now.
2. In the second, a person who misses the gym from their hometown. The new gym results in an unfriendly experience, particularly because of the acoustics.
3. In the third account, we learn about a non-regular member who is visually impaired who visit the gym with a service dog. The sensory overload of the gym is challenging for her as well as her service animal.
4. In the fourth, the narrator’s noise-blocking strategies are overcome, and they leave the space.
5. In the fifth, the narrator identifies as being transgender with PTSD which creates layers of barriers for them when they visit the gym.
6. Finally, we learn about a user who goes with Angel [the service dog].

#### Environment

The common thread in the five stories is a gym environment. The gym represents a space individuals visit to work on and obtain personal goals. The gym is a harsh acoustic environment that places the narrators in the role of adventurers and problem-solvers where they must overcome the barriers or be overcome emotionally.

#### Emotions

The emotional experiences expressed throughout the podcast are negative. They include:

* Being bothered
* On edge
* On high alert
* Anxious
* Guilty [that the noise will bother the service animal]
* Struggling
* Overwhelmed
* Uncomfortable
* Insecure
* Unfocused
* Depressed
* Unsupported

The only positive emotion expressed relate to memories of a previous gym environment:

* Familiarity
* Relaxed

### Challenges

The individuals who prepared this podcast represent aspects of sound that are not always considered when thinking about accessibility. For several, the challenge isn’t that it is difficult to hear but that the experience of noise has an emotional impact. For at least two group members, noise can interfere with sound-based navigation.

1. There is no way to control the sound within the environment except to use tools like headsets to mask it or leave the building
2. The noise from the equipment in the space is exacerbated by conversations because individuals need to “talk over” the ambient noise
3. Large open spaces lack auditory cues that can support sound-based navigation by people who are blind or low vision
4. The large space can be too noisy to use assistive technology (e.g. a screen reader on a mobile phone).
5. Background noise makes it difficult to talk.
6. The noise levels may be harmful to service animals

### Suggestions

* the stories highlight a need to control/cancel/avoid noise
* wide open spaces may need a physical or technological means to support sound-navigation
* systems should be in place to enable ambient music to be opt-in (e.g. Bluetooth/wireless headsets)
* design of spaces should consider that noisy activities my occur there
* quiet rooms can support needs of individuals who would like to temporarily leave noisy environments

### Insights

The overarching function of the podcast is to build empathy through sharing experiences. A common thread in the stories was that the only way to control the noise was to attempt to mask it with headsets, leave or avoid it altogether. People with noise sensitivities are prevented from achieving their goals in spaces that have no sound relief. If they do stay in the spaces, then the emotions that they experience are overwhelmingly negative and the individuals stay under duress. Space should be designed not so that people can hear but rather so that they can hear what they *want* or *need* to hear. This can include sounds for navigational purposes, ambient music, announcements, their own sound choices (e.g. music, screen readers), etc.

## Perspectives from the office: Aurel is no stranger to barriers

This story occurs mostly in Aurel’s imagination as she prepares for a “return to the office day” after working from home for years. Aurel is hard of hearing and uses hearing aids and apps on her smartphone to help with communication. Her home office is the perfect space for her and meets her needs. She is bracing for RTO and thinks about an ideal morning as well as how wrong everything can go if there is a power failure and her assistive technologies aren’t charged or can’t operate. Aurel does get to work on time but as she rides the elevator to her office she thinks of the noisy shared workspace and wishes that the space was designed with accessibility features in mind. As she leaves the elevator she sighs and prepares for the ritual of having to advocate for herself in the less than ideal workspace.

### Thematic Analysis

The story themes focus on emotional well-being, independence and ideal and less ideal settings. The story is structured with subheadings that use the terms “ideal” and “less than ideal.” Underlying these overt themes are ones related to technology doesn’t solve issues in some of these environments, and a utopic social-centric model.

#### Individual

Aurel is an office worker who plans and thinks about her world and how it is organized. She likes to be prepared but is aware of how her plans can go awry. Aurel examines the spaces she can and can’t control and thinks about how things can be improved, especially for people who are hard of hearing. Her morning and evening routines centre around making sure her assistive technology is charged and functional.

#### Environment

There are two spaces in the story: Aurel’s home office that meets all of her needs and the workplace office. Both spaces are conceptualized in ideal and less ideal ways, although the home space only becomes less than ideal in the context of having to leave for the workplace. If Aurel has to leave her home office then she needs her assistive technologies ready to go. In the workspace, the focus is on the physical sound/acoustic environment. The challenges of the existing space are described as is an idealized version of the workplace office.

#### Emotions

Aurel’s emotions include:

* Hope
* Worry
* Resignation

### Challenges

Aurel’s challenges focus on her work environments and the *additional work* that she must undertake so that she can work.

* She needs her own technology to enable her workplace to be accessible
	+ Constantly preparing for tech problems of tomorrow (i.e., the planning starts long beforehand—it’s a constant set-up to solve the barriers of tomorrow)
	+ Has to choose one support over another when forced to use back-up power
* Interior noise (open office plan, adjacent rooms)
* Exterior noises (construction)
* Collaboration spaces lack devices to support acoustic access and collaboration (e.g. extra screen, hearing loop)

### Suggestions

Aurel, explicitly details several suggestions for her workplace environment:

* Completely accessible, quiet spaces to balance the open workspaces
	+ Closed offices or cubicles
	+ Access to different types of spaces in the same office space (e.g. where your colleagues are)
* Integrated inclusive technology like microphones and hearing loops in collaborative spaces
* signs and alarms that have sound, images and vibration.
* Sound baffles between rooms
* At least two screens in meeting rooms
* hearing loops in collaborative areas

### Insights

Aurel’s story highlights the need for planning and flexibility and shows how both of these things usually become the responsibility of the person who has a disability instead of the designers of spaces. Instead of Aurel choosing where it’s best for her to work, she needs to conform to an inaccessible workspace. Instead of the spaces supporting Aurel’s ability to work, she has added work to make her space a place where she can work. The added burden for Aurel to go to her workplace is significant given the planning and supporting a variety of technologies she must undertake. Even getting out the door on an “ideal” morning requires a lot of planning and a lengthy checklist.

Spaces that aren’t designed to be accessible leave people with diverse access needs being forced to become advocates, become space “solutioners” and, more often than not, become resigned to exclusion.

## Perspectives from a convention centre and another spaces: The Senses: Acoustic Co-Design and Beyond

This story describes the interior and exterior worlds of Joe, an accessibility consultant as he prepares for a talk at a convention and attends convention sessions.

### Thematic Analysis

The themes in this story focus on the exclusion of people who are hard of hearing through attitudes, communication approaches and design. The main character, Joe, has very negative experiences and emotions but he channels them into talks that he can give to improve inclusion and address barriers.

#### Individual

Joe is hard of hearing and works as consultant on accessibility with an organization that values and practice inclusion. Joe likes to prepare and has a very good understanding of the barriers that he experiences in the built environment as well as ways to mitigate them.

#### Environment

The story takes place in the imagination of Joe, an accessibility consultant who is hard of hearing as well as in the real convention centre where he will be giving a presentation about interacting with hard of hearing people and the strategies that they use to participate in worlds that aren’t designed for them. Joe’s imagination is where he repairs and mitigates the barriers of the physical world.

#### Emotions

Although Joe feels many negative emotions, he doesn’t exhibit them to his colleagues. He’s strategy when he experiences barriers is to withdraw into his own thoughts. Even though Joe is going to give a talk, none of his emotions centre on his moment on the stage, instead, they all relate to the barriers in his interactions. He expresses being:

* Frustrated
* Taxed
* Annoyed
* Worried
* In a struggle
* Useless
* Flustered
* Defeated

### Challenges

Joe’s challenges relate to the impact of interior and exterior noise as well as the ways that his colleagues in group discussions are communicating in a space that doesn’t seem to have technologies to support hearing.

* The hall has echoes
* Sound from the exterior is loud enough to be disruptive
* The rooms do not seem to be equipped with systems to support hearing (e.g. screens for captions, FM Loops, microphone)
* Interior noise from other rooms

### Suggestions

Joe articulates a number of suggestions to improve barriers related to sound in both the convention centre and other spaces:

* Reduce hard surfaces and increase organic materials to improve acoustics
* concert venues would have a noise canceling systems and designs that can reduce reverberation for hearing pleasure.
* Sounds systems that support hearing loops and directional microphones are needed
* Rooms should be designed to accommodate round tables and multiple screens (e.g. for captions)
* Curved corridor corners to enable clear sightlines to approaching individuals
* Improved lighting to elevate visual communication cues
* Large-area assistive listening system in meeting rooms
* Visual and auditory alerting, security and wayfinding system
* Visual displays in meeting rooms to project captioning and interpreting services
* Accessible washrooms with fixtures and counters optimized for wheelchairs and those with mobility issues
* Wider corridors to not only accommodate wheelchairs but also to provide adequate space for sign language users as they travel through hallways
* Acoustically optimized walls, ceilings and flooring to control room reverberation, sound transfer and background noise
* Strategic installation of electrical and mechanical systems to reduce the effects of electromagnetic interference on induction loop systems

### Insights

* Standards for captions in the built environment are needed but should be sensitive the context and uses of a space and avoid being prescriptive so that innovation such as captions on the seat in front of you can be developed and implemented.
* Failure to design spaces that support hearing and participation of people who are hard of hearing leads to their social withdrawal, exclusion and loss of their valuable contributions
* Human behaviour can be nudged to support accessibility by providing the systems for access. For example, everyone talking at once can be mitigated by captions showing on a screen and/or having to hold a mic to be able to talk.
* Attitudinal barriers are at the root of most exclusion and addressing attitudes and awareness will support better design.

## Perspectives from a new theatre complex: A community space built for the community

This is story takes us on the roller coaster of emotions experienced by Trevor Pierro, a newly hard of hearing individual. Trevor is encouraged by friends to visit a new inclusive theatre complex and while there he learns about the ways that he can just go and enjoy the show.

### Thematic Analysis

This is a “feel-good” story. The themes in this story focus on mitigation of barriers. The emotions are a roller coaster because barriers are anticipated (these are the lows) and then they are mitigated (these are the highs). The story ends on high with Trevor having moved from depressed and reclusive to confident, exited and hopeful.

#### Individual

Trevor Pierro is newly hard of hearing and doesn’t yet have good supports in place. He has become reclusive and feels anxious when going out into a world where he can’t hear.

#### Environment

The story is set in a new theatre complex that has received government funding to support accessible design of the venue. It’s a hot and humid day and there is rainstorm. The main character moves through the lobby, visits the box office and then goes into the theatre. There are other spaces that we learn about via a map.

#### Emotions

Trevor expresses a range of emotions as he moves through the story. It begins with him feeling depressed, isolated and traumatized and then moves to excitement as he anticipates seeing friends in an accessible venue. His emotions take a dip when plans are disrupted by the storm and he feels anxious and frozen. After utilizing relaxing techniques he feels more confident but is still worried that he will have to converse. He feels conspicuous and that he’s holding up the line. After he experiences accessible communication with the box office staff and learns about the accessibility features of the venue he feels happy, hopeful, excited, confident, relieved and included.

### Challenges

There are challenges for Trevor as well as for other’s who may visit the space. The challenges in the story for Trevor are:

* Newly hard of hearing and without hearing supports
* Needs to pick up a ticket and converse with staff
* Needs to find his way in the complex to his theatre
* Needs to be able to hear or know what is being said in the production

We can assume other needs because of the things we learn from the narrator and box office attendant:

* Need to be able to summon emergency support
* Need for viewing spaces separate from the larger audience
* Need for areas to be accessible

### Suggestions

In the story, all of Trevor’s challenges are overcome and his needs are met. These are the accessibility approaches from the story:

* All areas need to be accessible
* Communication should be supported by caption screens
* Systems to support hearing such as FM loops, headsets and captions must be designed int a space or integrated into fixtures like seats and intercoms
* Spaces that are separate but integrated support participation by people who may have disabilities or supports that they feel will be disruptive to others (e.g. seizures, uncontrolled sounds, descriptions (of the visual),
* Systems to support internal navigation and communication via mobile devices

### Insights

* The onus wasn’t on Trevor to “fix” himself with hearing aids; the venue was designed to support inclusion of anyone who cannot easily access sound.
* Features for accessibility can benefit a variety of people including those who don’t identify as having a disability.
* When inclusion is considered from the beginning, it is even easier
* It is important to make sure that features for inclusion are noticeable so that people can easily discover them and use them—this also supports awareness in all visitors

## Summary of Suggestions from Analysis

The following groups all of the suggestions in the document into possible categories. There are many ways to group the items and they may be re-grouped to meet different needs or contexts.

### Individual Control of Sounds

* the stories highlight a need to control/cancel/avoid noise
* systems should be in place to enable ambient music to be opt-in (e.g. Bluetooth/wireless headsets)

### Systems & designs to support accessibility

* signs and alarms that have sound, images and vibration.
* At least two screens in meeting rooms
* Large-area assistive listening system in meeting rooms
* Visual displays in meeting rooms to project captioning and interpreting services
* Systems to support hearing such as FM loops, headsets and captions must be designed int a space or integrated into fixtures like seats and intercoms
* Integrated inclusive technology like microphones and hearing loops in collaborative spaces
* Sounds systems that support hearing loops and directional microphones are needed
* Strategic installation of electrical and mechanical systems to reduce the effects of electromagnetic interference on induction loop systems

### Fixtures for Captions

* Communication should be supported by caption screens

### Hearing Loops

* hearing loops in collaborative areas

### Wayfinding, Alarms and Support

* Visual and auditory alerting, security and wayfinding system
* Systems to support internal navigation and communication via mobile devices

### Sound Improvements

* concert venues would have a noise canceling systems and designs that can reduce reverberation for hearing pleasure.
* Acoustically optimized walls, ceilings and flooring to control room reverberation, sound transfer and background noise

### Noise Reduction

* Sound baffles between rooms
* Reduce hard surfaces and increase organic materials to improve acoustics

### Structural

* quiet rooms can support needs of individuals who would like to temporarily leave noisy environments
* Spaces that are separate but integrated support participation by people who may have disabilities or supports that they feel will be disruptive to others (e.g. seizures, uncontrolled sounds, descriptions (of the visual),
* Rooms should be designed to accommodate round tables and multiple screens (e.g. for captions)
* Curved corridor corners to enable clear sightlines to approaching individuals
* Improved lighting to elevate visual communication cues
* Accessible washrooms with fixtures and counters optimized for wheelchairs and those with mobility issues
* Wider corridors to not only accommodate wheelchairs but also to provide adequate space for sign language users as they travel through hallways

### Open Spaces

* design of spaces should consider that noisy activities my occur there
* wide open spaces may need a physical or technological means to support sound-navigation
* Completely accessible, quiet spaces to balance the open workspaces
	+ Closed offices or cubicles
	+ Access to different types of spaces in the same office space (e.g. where your colleagues are)

# Part 4: Appendices

* Online Survey
* Co-creating experience Instructions
* Narrative analysis approach (derived from Sahlstein & Baker, 2018)

## Online Survey

The survey collected information about experts' personal experiences with sound and barriers to sound in public spaces. They described personal experiences, avoiding sharing private information about another person in their descriptions.

### Context – the soundscape of the built environment

Sounds are shaped by the space they fill, and our experience of those spaces is shaped by the sounds. The location and activities within a space determine which sounds exist in it. The shape of the space and the materials used in its construction control what sounds can enter and how they behave. Building standards include guidelines for designing and building spaces to make it easier for people to access sound information.

Any sound we don’t want to hear is noise. Noise can have an impact just by its presence, or by its interaction with a desired sound. Mental effort can sometimes be used to focus on a single sound in a mixture of noises, but this becomes more and more difficult as the sound environment gets more complex.

Our experience of sound in a built environment is entirely subjective, and it can range on a spectrum from fully enjoyable to harmful. We want to understand how different people experience sounds in buildings so that standards that impact sound in buildings can meet the needs of people with disabilities.

The online survey gave six cases related to sound in public spaces. Experts considered them, reflecting on personal experience as a person with disabilities whenever possible.

### Case 1: Sound from outside a room

1. Think of a time when sound from outside of the room you were in made it difficult for you to accomplish what you wanted to do. Please describe; 1) the space you were in, 2) what the sound was and 3) how it was causing you difficulty.
2. Was there anything that you did to make the situation better, or was there anything that you
3. Please describe any negative or positive impacts on you from the sound outside of the room.
4. This is a standard to improve room acoustics. Please rate how well it would have improved the situation that you described.

“Rooms should have adequate sound insulation and damping of noise from both outside and inside of a building. Lack of adequate sound absorption can lead to long reverberation times and a high level of background noise, resulting in very low speech intelligibility for persons with hearing impairments in particular.”

[single choice: not at all, somewhat, a lot, I don’t know]

### Case 2: Sound from inside a building

1. Think about a time when sound from inside the building you were in made it difficult for you to accomplish what you wanted to do. Please describe; 1) the space you were in, 2) what the sound was and 3) how it was causing you difficulty.
2. Was there anything that you did to make the situation better or was there anything that you wished could be done to make the situation better?
3. Please describe any negative or positive impacts on you from the sound from inside the building.
4. This is a standard to improve acoustics. Please rate how well it would have improved the situation that you described.

“The surfaces and shape of a room should be selected to absorb, disperse and reflect sound adequately. The selection of appropriate materials can reduce reverberations.

In large buildings, designs should be considered that render sounds from secondary corridors different in quality from sounds in primary corridors (e.g. through changes in floor finishes). This helps persons with vision impairments to locate accessible paths of travel.”

[single choice: not at all, somewhat, a lot, I don’t know]

### Case 3a: Alternative forms of Announcements and Alarms

Public address (PA) systems are often used to announce important information to groups of people in places such as waiting rooms, or airport gates. A recommendation is to also provide this information in a visual format.

1. Think about a time when you experienced an announcement or alarm. Did you notice it? Please tell us why or why not.
2. What is the best way for you to receive announcements or alarms when you are in public spaces or buildings?
3. What should be considered when selecting an alternative format to sound for an announcement or an alarm?
4. Can you think of situations where visual formats of announcements or alarms would be inappropriate or ineffective? If yes, please tell us about it
5. This is a standard or providing announcements and alarms. Please rate how well this standard meets your needs.

“Information provided acoustically by systems such as a PA (personal announcer, a public address system or communication from a two-stage fire alarm system) should also be provided in a visual format and shall be connected to a hearing enhancement system.

This is especially important in transportation facilities and in health care facilities where important information is provided via aural communication.”

[single choice: not at all, somewhat, a lot, I don’t know]

### Case 3b: Making Announcements Louder

Think about a noisy public environments where announcements are made. One recommendation for announcements in noisy environments is to use loudspeakers to increase the volume of the sound above the noise.

1. In what situations is making the announcement louder beneficial?
2. In what situations is making the announcement louder not helpful?
3. This is a standard for making announcements louder:

"In outdoor and indoor environments, sound amplification shall be provided to ensure an adequate speech transmission quality, particularly in noisy environments."

Is there anything that you would add or change? If yes, please tell us about it.

### Case 4a: Hearing enhancement systems

Assistive listening or hearing enhancement systems capture sounds from a microphone or a recording and broadcast them wirelessly within a room. Hearing aids or cochlear implants that are equipped with telecoils can pick up these broadcast sounds and play them directly to the listener in place of the sounds captured by their device microphones.

Hearing enhancement systems are recommended when it is important to understand what someone is saying. An example of such as situation is a bank teller where private or confidential information may be exchanged between a client and an agent who may be separated by a glass partition or screen.

1. What are some advantages or disadvantages of hearing enhancement systems for private conversations (e.g. with a bank teller)?
2. Are there other technologies or a different approach to improving sound that you think would work better than telecoil or typical hearing enhancement systems?
3. Hearing enhancement systems are also suggested for noisier and more public settings such as security checkpoints and ticket booths. Do the same advantages and disadvantages apply? Are there additional things that should be considered?
4. This is a standard related to hearing enhancement systems:

“In places where audible information is conveyed to a group of persons (e.g., at conferences, meetings, sports events, entertainment), suitable hearing enhancement systems shall be available.

Hearing enhancement shall be provided in all of the following locations:

in all internal and external areas with sound reinforcement, and all areas over 75 m2 regardless of whether sound reinforcement is provided, e.g., public meeting rooms/areas (e.g. community centres, places of worship, function rooms and retirement living meeting areas), auditoria and school assembly areas, sporting venues and other arenas, theatres, rooms for judiciary purposes;

* public transport terminals/areas;
* health care facilities;
* at counters with or without screens, associated with service provision to the public (bank tellers, ticket windows etc.) and where there is a potential for interference during communication (e.g. noisy background);
* as part of security checkpoints and emergency warning intercom systems;
* as part of all public address, public announcements and audio-visual”

Is there anything that you would add or change? If yes, please tell us about it.

### Case 4b: Hearing or Audio Induction loop systems

A Hearing Loop, also known as an Induction or Audio Loop, provides a magnetic, wireless signal [from a microphone or sound device] that is picked up by the hearing aid when it is set to T-Coil (Telecoil) setting. Since the signal is being delivered directly to the Hearing Aid or Cochlear Implant, the sound is customized to each individual’s hearing loss. (Definition from Canadian Hearing Society)

Hearing loops can also transmit to special portable devices for individuals who do not have a telecoil.

1. In public spaces with assistive listening systems, such as theatres or community centres, it is recommended that stand-alone receivers with attached headsets be made available to individuals who lack a compatible personal device. Can you think of any downsides of this proposal? [no, yes-please describe]

Are there better solutions thank stand-alone devices and or hearing loops to providing greater access to sounds from microphones or sound devices?

### Last Question

We often think of sounds in rooms or buildings that are not directly related to what we are trying to accomplish as noise, but sometimes these sounds can be beneficial. Have you experienced indirect sounds in a building that made it easier for you to accomplish your goal? If yes, please tell us about them.

## Co-Creating Experience Instructions

<https://docs.google.com/document/d/19RD8OOWeQ8yrI9RaJp7VUVLcaeNS8m5fV2IagL20fY0/edit?usp=sharing>

## Story-Telling Narrative Analysis Technique

We support our analysis process with a general approach to narrative analysis described by Erin Sahlstein Parcell & Benjamin M. A. Baker[[1]](#footnote-1). This approach is excerpted and summarized below.

A Story-Telling analysis is a methodology whereby we can interpret stories based on everyday life experiences that are told within the context of research. When you conduct this type of analysis, make diverse—yet equally substantial and meaningful—interpretations and conclusions by focusing on different elements. These elements include, but are not limited to:

* how the story is structured,
* what functions the story serves,
* what is the substance of the story, and
* how the story is performed.

This entry discusses sources of data for the story-telling analysis. It also offers a concrete example to explore how to apply your analysis in context.

## Sources of Data for Narrative Analysis

We analyze both the narratives and accompanying material such as images or other media that are included. We may also review the source material that participants bring to the story-telling workshop. We ask participants to collect experiences for the elaboration of the final story, that focus on stories about a particular type of experience.

### Forms of the Story-telling Analysis

There are four typical forms of narrative analyses that may be used in concert with one another in a given study:

#### Structural:

* We examine particular characteristics of a story, such as plot elements. The assembly of a story can shed light on many things, such as how the storyteller makes sense of an event temporally.

#### Functional:

* We identify the purposes of a given story-telling moment, asking questions such as “What does this story do as a result of its telling?” and “What is the significance of how/when the story was told for the narrator?” the telling of a story can accomplish goals or purposes for the narrator. Narratives are told for a many different reasons, sometimes simultaneously.

#### Thematic:

* We study the substance of narratives and determine, for example, what motifs are present in the stories, what types of stories are told (e.g., stories of grief, survivor narratives, master narratives, counternarratives). Analyzing the content of an account helps us to determine what moments of personal experience the narrator has determined are noteworthy and meaningful. In this way, we can begin developing themes from the substance of narratives to look for across other stories and/or across cultures describing similar life events.

#### Performance:

* We examine, for example, how, where, and to whom the story is told as well as what identities are at stake in the telling of a given story and how the story speaks to larger discourses at play in a given community or culture. How a narrator chooses to perform the telling of his or her story says a lot about the narrator's personal style and choice relative to delivery as well as his or her place in the story.
1. Sahlstein Parcell, E. & Baker, Benjamin M. A. (2018). Narrative Analysis. in *The SAGE Encyclopedia of Communication Research Methods*. Edited by Mike Allen. DOI: <https://dx.doi.org/10.4135/9781483381411> [↑](#footnote-ref-1)