

ENABLITY

Enabling the Disabled



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Introduction to
Disability

Need to Know Abbreviations

ADA.....Americans with Disabilities Act
provided civil rights protections to individuals with disabilities and guaranteed them equal opportunity in public accommodations, employment, transportation, state and local government services, and telecommunications

ADHD.....Attention Deficit Hyperactivity Disorder
a developmental disorder that is marked especially by persistent symptoms of inattention (such as distractibility, forgetfulness, or disorganization) or by symptoms of hyperactivity and impulsivity (such as fidgeting, speaking out of turn, or restlessness) or by symptoms of all three and that is not caused by any serious underlying physical or mental disorder

ASL.....American Sign Language
a sign language that is used especially for communication by and with deaf people and is the formal sign language of the United States

PTSD.....Post-traumatic stress disorder
a psychological reaction occurring after experiencing a highly stressing event (such as wartime combat, physical violence, or a natural disaster)

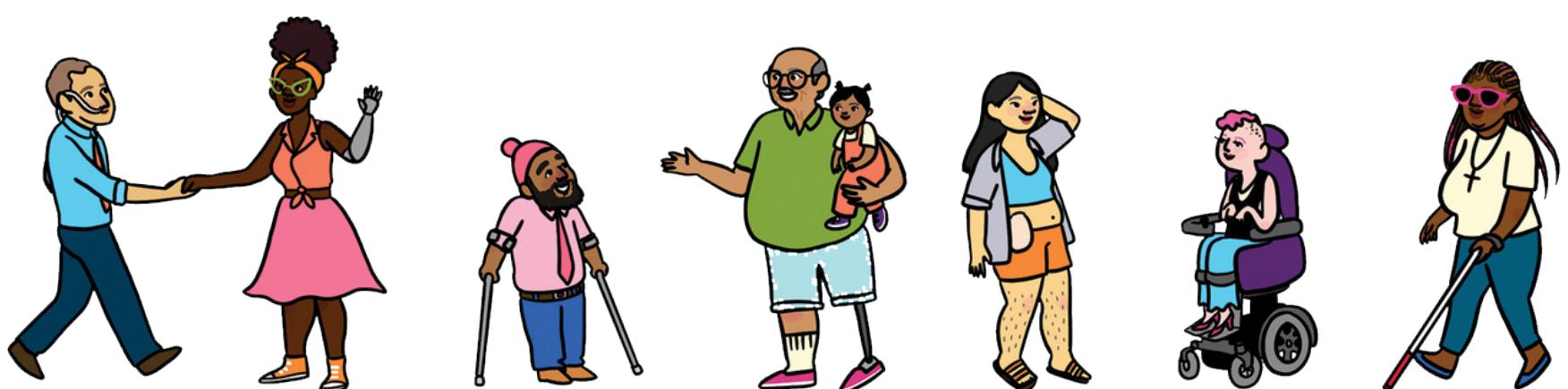
UDL.....Universal Design for Learning
a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn

What is Disability?

Disability is defined as “a physical, mental, cognitive, or developmental condition that impairs, interferes with, or limits a person’s ability to engage in certain tasks or actions or participate in typical daily activities and interactions” by Merriam Webster. This definition outlines the categories of disability, but does not expand on them. It is important to understand what all of these categories mean for an individual in order to properly design for the disabled community as a whole.

Physical disabilities are conditions that affect the body’s natural function, such as hearing loss, sight loss, or difficulty with limb function that hinders walking, reaching, lifting, or balance. Physical disability can start from birth or a person can acquire a physical disability, often in an accident like a car crash. Physical disability and the effects of such disability can vary from person to person in severity. Where one person may be born without an arm and learn to do everything one handed from birth, another may lose their eyesight later in life and struggle to adapt to the newness of their disability. Physical disability can also look completely different. When thinking about individuals with a physical disability, one often thinks of someone in a wheelchair or someone that needs a guide dog, but many disabilities are invisible and cannot be spotted. Individuals with complete hearing loss do not look like a “typical” disabled person, but their disability is just as valid as another and design should consider all kinds of disability.

Mental disabilities are conditions that affect a person’s mood, thinking and behavior, such as depression, anxiety, schizophrenia, or bipolar disorder. They can also be known as mental illnesses. Mental disabilities play with a person’s reasonable thinking and can cause disorientation, paranoia and mood swings. Many of these disabilities are commonly treated with medication to regulate symptoms and improve a person’s ability to function in society, but they are hard to cure or cannot be cured at all (Mayo Clinic, 2023).



Cognitive or intellectual disabilities affect a person's ability to think and understand information around them. Examples of cognitive disabilities include, autism, alzheimer's, an acquired brain injury or learning disabilities like dyslexia. Conditions like these can affect a person's learning and ability to retain knowledge and skills that are useful for independent living (Deque, 2023). Some intellectual disabilities like dyslexia can be worked on to give an individual the tools to push past these struggles reading, and assistive technology for those with dyslexia has been added to many web formats. Other disabilities like autism are a constant struggle, but methods can be utilized to calm individuals that are feeling overwhelmed. Each person is as unique as these solutions can be, but creating a space where someone can feel safe while figuring them out can be crucial to the future of anyone with a disability.

Down syndrome is another common intellectual disability, but like some other disabilities, down syndrome overlaps into the developmental disability category as well. Developmental disability can include an impairment in motor function, learning, language, or behavior (CDC, 2022). They are disabilities that a person is born with that hinder the individual's ability to develop. Developmental disabilities can be apparent at birth or require diagnosis as a child begin to grow. Down syndrome, cerebral palsy, and muscular dystrophy are all examples of developmental disabilities.

Disability can come in many shapes and sizes, but it is important to understand the needs of all forms of disability when designing a space to cater to their needs. Disability makes a person different, but it does not make them less. These individuals already have to work harder to accomplish the same tasks as anyone else, but that does not mean there aren't design solutions that have been proven to ease that struggle. Every person deserves to have a fulfilling life, and by recognizing the ways we can work against societal norms and help provide everyone with the same opportunities, we can create a better environment for everyone.

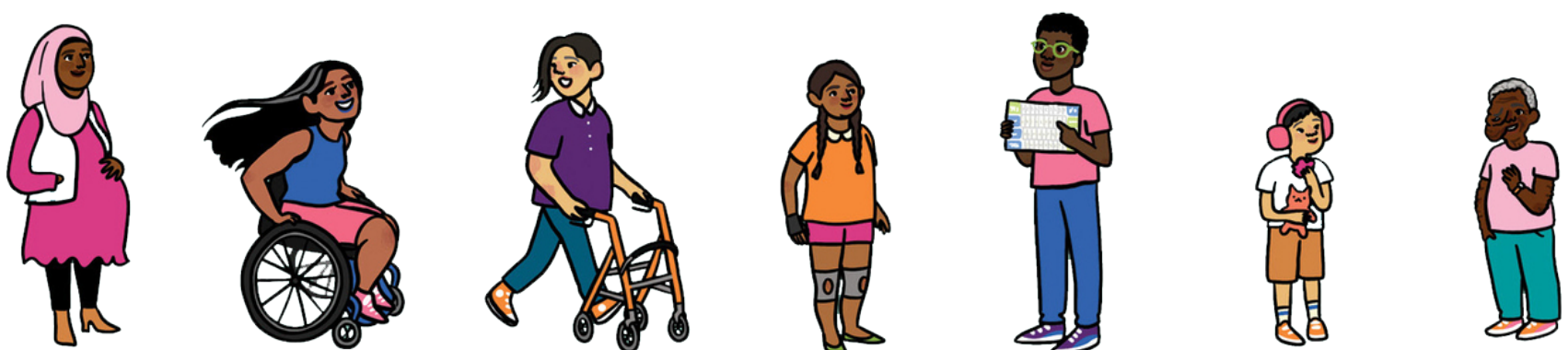


Figure 1.1

Disability in Architecture

Currently, in architecture there is a lack of urgency to design for inclusivity. There are guidelines put forward to create accessible buildings, but these guidelines are the minimum. The ADA guidelines, in general, ensure that all people can use all parts of a building and that people can get required information to get around a space. There are many kinds of disabilities that are not accounted for with these bare minimum rules and just as many creative solutions to include in designs to create a new way to design accessible buildings.



Figure 1.2

As designers, our goal is to create creative solutions to architectural problems, so why is this problem not focused on? Going beyond the minimum in terms of inclusivity is not only thinking about physical disabilities and their limitations, but also considering other types of disability and putting just as much emphasis on their design solutions as we do the physical ones. Creating spaces that are accessible for cognitive disability should be just as important as creating spaces for physical disabilities. Along with that, physical disabilities can look different than being wheelchair bound or having a visual impairment and can also be overlooked due to a lack of awareness of less common disabilities. An example of this is restroom changing stations. Restrooms have guidelines that require mothers have access to a location to change babies' diapers, but many adults or grown children with disabilities could also benefit from a space to change diapers, yet that is not a requirement and very rarely included in design.



Figure 1.3

A main way to promote accessibility is to have variation in elements of design and program of a building. Different elements of design have different causes on the environment that can either be helpful or harmful to a person with disabilities' experience in a space. Materiality, lighting, texture, and color choice can all influence a person's experience on a space and assist with creating a more inclusive space for everyone who visits it. These are just some of the ways we, as designers, can choose to think beyond the requirements and improve our designs. Each of these elements can assist with a variety of disabilities, but specific elements can be incorporated to assist with particular disabilities, such as designated materiality of walls or flooring to distinguish between rooms for those with visual impairments. The inclusion of many different examples such as materiality in one space can help to create a precedent for future designs and make designing with accessibility in mind more common in everyday designing. By creating a precedent study of how to include elements specifically designed to promote accessibility within architecture we can change the way architects design and promote going beyond basic requirements for architecture.

Design

Strategies

Disability Specific Design Strategies

The knowledge of beneficial design strategies for individuals with disabilities is extensive, but generalized articles on the matter cannot cover all that needs to be addressed when designing for a range of abilities. Each specific group of individuals has a variety of elements to consider that can sometimes contradict each other, which makes it impossible to create a perfect example of design requirements. Though it may be impossible to address every design consideration it is important to consider each and decide from there which elements are right for your design.



Figure 2.1

Physical Design

Physical design is an important aspect to consider when designing for individuals with varying abilities. Open floor plans not only assist with mobility, but also increase ability for effective communication between individuals that rely on sight. Designing with wide hallways can be helpful for people who move with assistive technology such as wheelchairs, crutches, or human assistance, while also helpful for two people to communicate using ASL since it allows them to walk next to each other rather than in a line. This also applies to sidewalks and pathways between furniture (“Customizing a Home for Deaf or Hard of Hearing Inhabitants” n.d.). Color can also have a major impact on a space. In general, neutral and soft colors are used to limit distractions and promote a calm atmosphere. For individuals that suffer from PTSD dark colors can be triggers and should be avoided, while green and orange promote joy (Westerlund 2023). For individuals with depression, blues and greens promote calm, while reds and oranges signal alertness in the body (“Stressed Spaces: Mental Health and Architecture” n.d.). In general, across most groups of people, blue is universally used to promote a sense of calm, but for individuals with dementia using cool colors to distinguish items can be a hindrance and warm colors are preferred.

Lighting Design

In general, lighting requirements for many disabilities are the same, but for a multitude of reasons. A space designed for various abilities should be designed with plenty of natural lighting. Natural lighting, in general, raises moods and settles people. Harsh lighting can cause strain to anyone's eyes, but in cases where vision is relied on more heavily this can be even more damaging. For example, the Deaf and hard of hearing community relies heavily on the vision to communicate, whether they are reading lips, signing using ASL or another form of communication. Natural lighting is less straining and thus preferred (“Customizing a Home for Deaf or Hard of Hearing Inhabitants” n.d.). In other cases harsh lighting can trigger stress or discomfort. Specifically, some individuals with autism have a sensitivity to lights and can struggle to be comfortable in spaces that have harsh, fluorescent lighting (Chatterjee 2021).

Lighting can also be used to promote safety and wayfinding. It can be used both inside and outside to highlight walking paths or aspects of a building. In restrooms it is important to heavily consider lighting. Oftentimes multiple-stall restrooms are sparsely lit, with lights only every few stalls. This can be a problem for individuals with poor sight, so lighting in restrooms and other regularly used spaces must be chosen and placed carefully. Lighting is also an important wayfinding component, highlighting important areas and directing traffic of people moving within and outside a building. At that moment. These individuals may also find it difficult to stay within outdoor gardens or courtyards if there is no lighting to represent designated areas of such spaces (Lifestyle 2014).



Figure 2.2

Acoustics

Acoustics also play a part in designing for varying abilities. Sound affects everyone, but there are certain characteristics that are affected more than others. Deaf individuals communicate through vibration in flooring or other materials to get another's attention sometimes, so it is important to consider proper materiality when looking at how acoustics affect designed space. For individuals with hearing loss it is also important to consider acoustics and the way sound echoes in our spaces. Echoes can make it even more difficult to hear, so for individuals that already struggle with this it is creating a space that works against what hearing abilities they do have. Machinery and electronics that emit

sound also creates unnecessary extra sound that can limit a person's ability to hear clearly. This extra noise can also be triggering to sensory sensitive individuals and affect the way they experience a space. By limiting echoes and extra sound, we can create spaces that assist limited hearing capabilities, instead of hindering them (“Customizing a Home for Deaf or Hard of Hearing Inhabitants” n.d.).

Navigation

Navigation is a key aspect in designing for a range of abilities. In some cases a person may be in a wheelchair, or need assistance getting around and need more space for such help to be given. In other cases, someone may get lost and confused in large spaces and need reminders or visual cues to navigate a space effectively. Needs vary, as do the design considerations implemented.

Physical disabilities can mean many different things, but some of these aspects overlap. Blocked pathways and unnecessary hallways can affect someone who is blind, deaf, has a mobility impairment, or is autistic. All of which rely on clear paths to effectively use and get around in a building. Their reasons vary slightly, but in general limiting obstacles that can hinder the use of assistive technology is a crucial way to ensure a space is accessible (“Customizing a Home for Deaf or Hard of Hearing Inhabitants” n.d.; “Universal Design & Inclusive Mobility: Keys To A Livable Community For All” 2018; Scope 2022; Lise 2021). This is also true about flooring. Flooring should promote wheelchair use without strain and rugs used should be no slip rugs to prevent falls (“Home Modifications for Cerebral Palsy” n.d.). When considering rugs though, it is important to consider color, as dark rugs can sometimes appear as holes to those with sight limitations or dementia. Another design consideration to implement for physical limitations is to reduce the demand on the physical body. Some individuals may be able to walk, but that does not mean that this is an easy task or that we should assume that means they can maintain physical activity like walking for extended periods of time (“7 Principles of Universal Design” 2020). To combat this a space devoted to accessibility should have adequate seating for individuals that may need to take a break between stretches of activity. The same can go for other physical activities, despite how small the activity is perceived to be. Some individuals may struggle with upper body mobility and find it difficult to write or reach and push buttons, as well as do continued repetitive movements, so it is important to have alternative options to such tasks. Audio recordings rather than physically writing can be a successful alternative. Accessible handles, light switches and outlets help individuals with physical disabilities do tasks without assistance and automatic elements like doors and sinks can be helpful for some individuals as well.

Keeping spaces clear and simple is helpful for individuals that struggle with direction or mobility. Clear sight lines are important for those with visual impairments and can assist with the use of ASL for Deaf individuals, this should be considered from both standing and seated positions to ensure it is also useful for those in wheelchairs (“Customizing a Home for Deaf or Hard of Hearing Inhabitants” n.d.). It is important to carefully consider placement of important features such as entrances and front desks, as people should not have to go out of their way to get assistance if needed. Every space in an accessible building should be large enough for someone to use with the help of assistive technology, human help or a guide dog. For individuals with autism it can be helpful for a building to be thought of in zones, with busier, louder spaces separate from spaces of relaxation or learning (Chatterjee 2021).

Bathrooms are a key space when designing for varying abilities. For wheelchair bound individuals it is important that bathrooms allow the needed space for transfer from a wheelchair to a toilet and also have handrails to assist the process. Lowered sinks, hand dryers, soap dispensers, and even changing stations can assist in creating an accessible space. For individuals with dementia color plays an important role in differentiating spaces and objects. Bathroom doors should be designed using a designated color to direct users to the correct spaces. Light switches, outlets, door handles, and other controls should also be colored to differentiate between wall color for easier use by both individuals with dementia and those with visual limitations. For those with dementia it can also be important to include features like water overflow sensors to minimize risk of someone forgetting to turn off water sources (Lifestyle 2014).



Figure 2.3

In order to ensure easy access in a building, multiple aspects of design should be considered throughout your space. Outdoor considerations such as accessible parking with clear paths to front doors are important to many disabilities. Creating space between accessible parking and general parking and reducing traffic in that area can help ensure safety for those leaving a car. For blind individuals it is important to include navigation systems like

directional paving, handrails, and braille signage to direct people to key spaces. Directional paving should be carefully considered and remain consistent throughout a space. For use of elevators or stairs, coloring designated important aspects like buttons or first and last steps is helpful for a user's safety. Use of vocalization for elevator floor numbers and cabin movement can help blind individuals navigate elevator use (Lise 2021). Non-physical disabilities can also benefit from accessible design for navigation. Signage and virtual navigation options can assist in an individual's ability to find their way around a space. Certain disabilities, like autism, down syndrome, or dementia, hinder the individual's ability to navigate spaces easily making clear and concise communication both verbally and through the use of signage necessary. Since color blindness is a common condition, designers should try to use color blind friendly colors in signage to ensure the information is clear and visible. The use of both words and images, as well as patterns and textures, can help clarify this signage. For individuals with down syndrome visual memory is usually superior to verbal memory so the use of visual elements to direct building users is key ("Color Blind Design Guidelines: A Comprehensive Guide" 2023).

Assistive Technology

Assistive technology is a key component to improving a space to create a more inclusive environment. For those with dementia adaptive tools that have larger handles and are colored or indicated with tactile guides can be helpful (Lifestyle 2014). People with learning disabilities can benefit from digital media options like increased text size, dyslexia reading tools, easy access to translations, text-to-speech, and definitions, along with variation in content presentation formats. For individuals with ADHD, assistive technology can be used to reduce visual distractions and contrast items of importance to draw attention to necessary information ("Designing for Users with ADHD" n.d.). People with spina bifida can benefit from adjustable furniture like tables that can tilt for better access, and variation in the way all necessary equipment is used ("Classroom Adjustments: Spina Bifida - Nationally Consistent Collection of Data" n.d.).

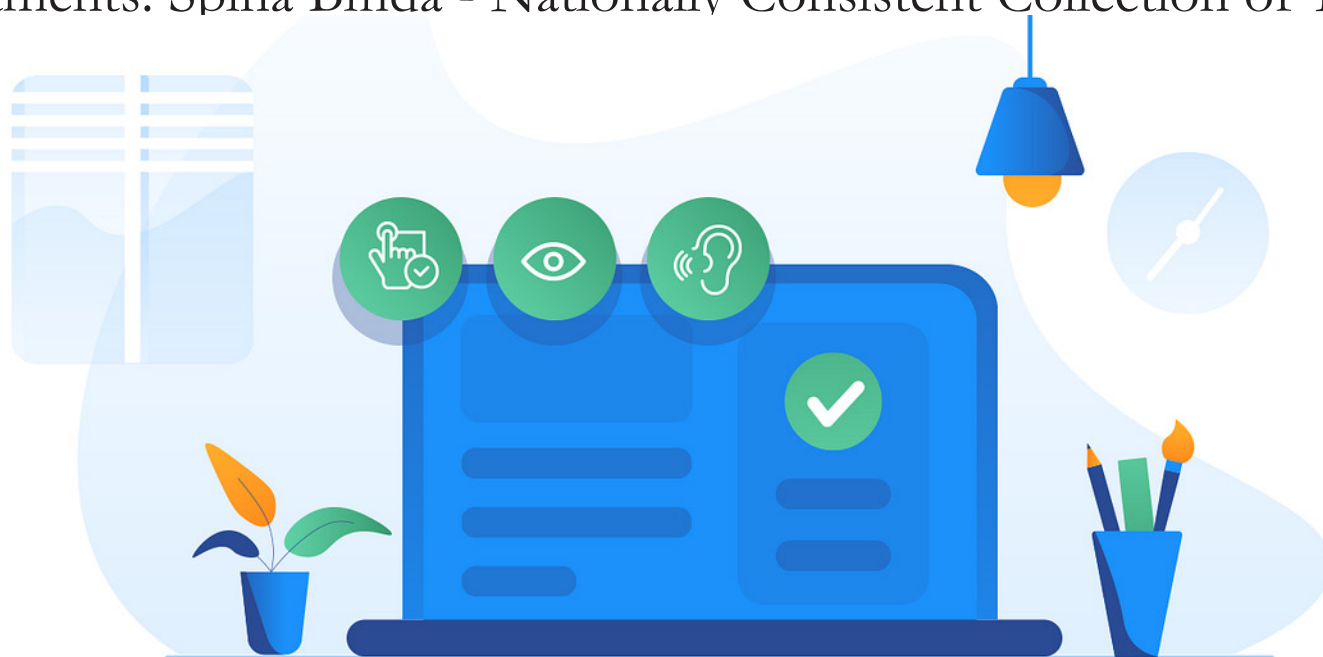


Figure 2.4

Communication

It is important for visitors of a building to understand everything going on around them. To ensure this designers must take into consideration various forms of communication and the adaptations needed for each. It is particularly important for us to consider the Deaf and blind communities when approaching this subject. Where many people may be able to see necessary information others cannot and require information to be audible. The same goes for individuals who cannot hear and need visuals to communicate this information. So, as designers, it is important to include variation in forms of communication, including both auditory and visual methods. This can include audio information systems, subtitles on video forms of communication, and staff trained to communicate effectively with both Deaf and blind individuals to assist with directions or necessary information to the use of a space (Carole 2021; Lise 2021). Variation in methods of communication can also include programs for phone or video based communication. Typing or writing as a means of communication can also be utilized for individuals who may be non-verbal, but in some cases where an individual does not have proper use of their hands to write or type other methods should be available. On top of person to person communication, it is important to communicate equipment uses and hazards in various ways as well. Much like how fire alarms both audibly alarm and flash, the same can be implemented for any equipment in a building. ATMs, intercom systems, or timers are examples of systems that may require multiple forms of communication. Audio cues can help blind individuals use these items in a way that does not require assistance from another person.

Safety

There are many safety considerations to make when designing for all abilities. The wide range of abilities create a wide range of solutions to ensure a safe environment for all visitors. When designing for individuals with dementia, for example, it is important to draw attention to aspects you want people to interact with and draw attention away from aspects you don't, such as emergency exits or doors that contain safety risks. Distinguishing components of your design with color can be crucial to clearly show the difference between hazards and importance (Lifestyle 2014). For individuals with spina bifida it is important to be aware of hazards at lower levels, since many individuals with spina bifida have limited sensation in parts of their body and may not feel it if they come into contact with hazards. Water pipes and heat sources should be raised, and metal outdoor surfaces should be limited as all of these can cause burns that some individuals will not be aware of until too late ("Hints and Tips for Bathroom Design: Spina Bifida - Closomat" 2023). On the other hand, removing regular hazards is also important, especially for individuals who are impulsive or unsteady on their feet. Tripping hazards can be harmful to anyone who is unsteady or be a burden to those with assistive technology to

get around a space. Many autistic individuals struggle with self control, so it is crucial to remove or limit sharp edges or potential launching pads and conceal wiring and plumbing, as to remove temptation surrounding these objects. Weighted furniture can be helpful also, to reduce the ability of an individual to throw objects (Chatterjee 2021).

Stimulation

Overstimulation can be a problem for anyone, but there are design solutions to limit visitors feeling overstimulated in your design. Air quality, temperature and smell can affect a person's mindset unknowingly, so it is important to carefully consider both when designing a building. Unnecessary clutter can also take away from a person's feeling of calm in a space. Conditions like PTSD and anxiety struggle with the addition of extra stuff in a space and can be negatively impacted from a disorganized space (Westerlund 2023). Getting outdoors is shown to help with overstimulation, so creating an accessible entrance to an outdoor courtyard or garden can be a successful tool in design. Outdoor areas should encourage activity, as physical activity can allow some individuals the ability to let out nervous or built up energy and is also encouraged to prevent early aging in individuals with down syndrome ("Sensory Rooms for People with Down's Syndrome" 2019). The transition from indoor to outdoor spaces can be overwhelming for some individuals though if going from a quiet and calm indoor environment to a loud, busy outdoor area, so the decision of which spaces to connect to outdoor spaces should be heavily considered (Chatterjee 2021). Access to the outdoors is a great strategy, but bringing greenery inside can also increase mood. Indoor plants are recommended for a variety of disabilities, such as PTSD, schizophrenia, and depression. Sensory rooms can be a good solution to when someone is feeling overwhelmed as you can change your environment to suit your current needs. As a person with down syndrome might feel the need to run from stressful situations, a sensory room is a good option for a retreat space in scenarios like this. Sensory rooms encourage interaction with items like lights, textures, and movement because of their specific materiality, as well as interaction with others. A sensory room should include various options for stimulation as well as various options for sitting or laying down like different textures, heights, materials and form of the sitting area. Sitting areas like this can also be helpful for relieving pressure for individuals with spina bifida. The room should limit distraction in a way that allows relaxation and promotes a better attitude. For individuals with tourettes stress triggers ticks, so having a space to relieve stress or just go to let them out can be helpful. Sensory rooms are also a good place for fidget toys that may be loud or distracting in other spaces ("Sensory Rooms for People with Down's Syndrome" 2019; "Classroom Adjustments: Tourette Syndrome - Nationally Consistent Collection of Data" n.d.).

Programmatic Case Studies

Case studies in video form informed the ways businesses can assist to help individuals with disabilities learn valuable life skills and improve independence. A successful space for the disabled community should include ways for willing individuals to get involved in the running of that space. Encouraging personal improvement for those individuals is a key step in enabling people of all ability levels to have fulfilling lives in the future.



Figure 2.5

“The Delhi Cafe Run By The Differently Abled” shows Echoes Cafe, a restaurant in Delhi, India that employs deaf individuals to work as servers. Echoes has become very successful, to the point that its customers have started to learn sign language to communicate with the workers more easily. Aside from the customers that learned sign language, the cafe has coded menu items that customers write out for the staff and communication cards to communicate common phrases in restaurants, as well as lights that signal waiters if assistance at your table is needed. For example, cards may ask for the bill, menu or specific silverware. Echoes Cafe has found that they have no need for individuals who can speak or hear, because their staff is perfectly capable of running the restaurant without hearing individuals. The staff at Echoes have been taught to believe in themselves and have gained self confidence by successfully running a business all on their own.

“How 1 Thrift Store Is Helping Young Adults With Disabilities” covers Zabs Place and how it is changing the lives of its workers. Zabs Place is a thrift store that was specifically created as a place to teach individuals with special needs job skills. The couple that started Zabs has a son with special needs and when they asked him what he would like to do after high school he said work. They realized there were no places to teach people like their son the necessary job skills needed to work after school, so they created one. After a four month training period, workers specialize so that they are doing tasks that help them train skills needed for their future employment. Through working at Zabs the workers are taught skills like self-sufficiency, how to dress properly at a job, how to present yourself in the workplace and many more life skills for a person in the workforce. The thrift store is running solely on donations, so everything brought in needs to be sorted. This means that games and puzzles need to be checked for missing pieces and this gives the individuals working at Zabs the opportunity to learn how to check the content of these items.



Figure 2.6



Figure 2.7

Places like Zabs create an environment where individuals that might have been put down or overlooked in the future can contribute and show their value to their community. Zabs shows its workers that they can succeed in life and teaches them confidence, while also giving them a comforting workplace and community. It is important for more places to encourage people with disabilities to contribute and allow them to feel safe in their workplace. Amazing places like Zabs exist to teach people these skills, but it should not be necessary to have a designated place like this. All sorts of businesses should welcome disabled workers into their space, not because they can't legally say no, but because we want everyone to feel like they are contributing to society. Having a disability should not deter someone from learning job skills or being a welcomed part of their community. Zabs Place should be an example to all businesses on how they can take part in pushing past societal norms and improving the lives of many differently abled individuals.

Literature Research

In *What Can a Body Do?* by Sara Hendren, she outlines how different aspects of life are affected by disabilities. The book outlines things such as independent living, navigation, and time, explaining how disability affects these aspects of life. In her chapter about time, she talks about streetlights and their countdown for crossing a street. She points out that depending on ability, this limited time can create a struggle for some individuals (Hendren, 2020, pg. 163). Her book is primarily an explanation of elements of life rather than speaking directly of architecture and how to implement elements in design.

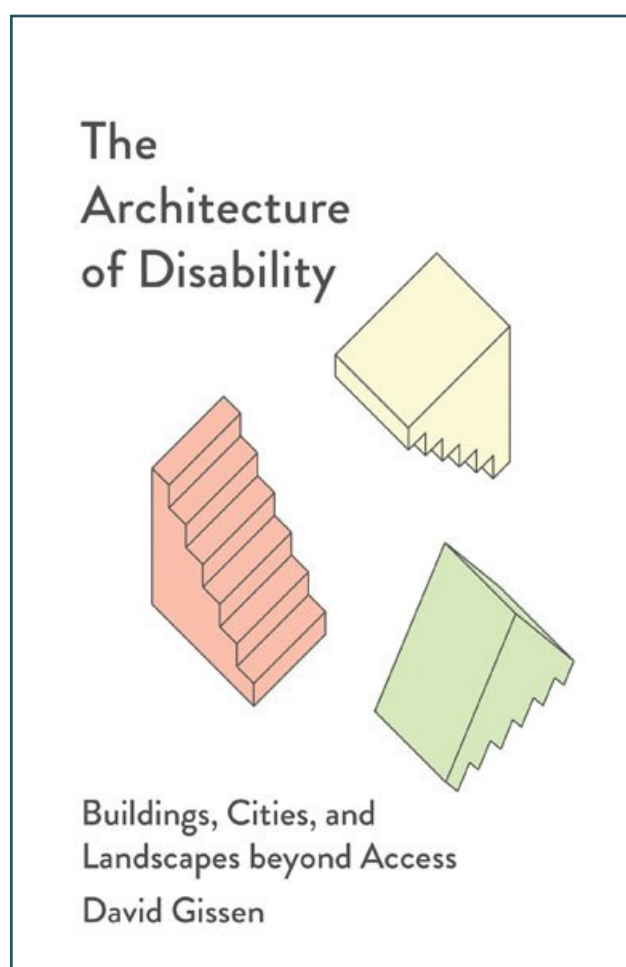


Figure 2.8

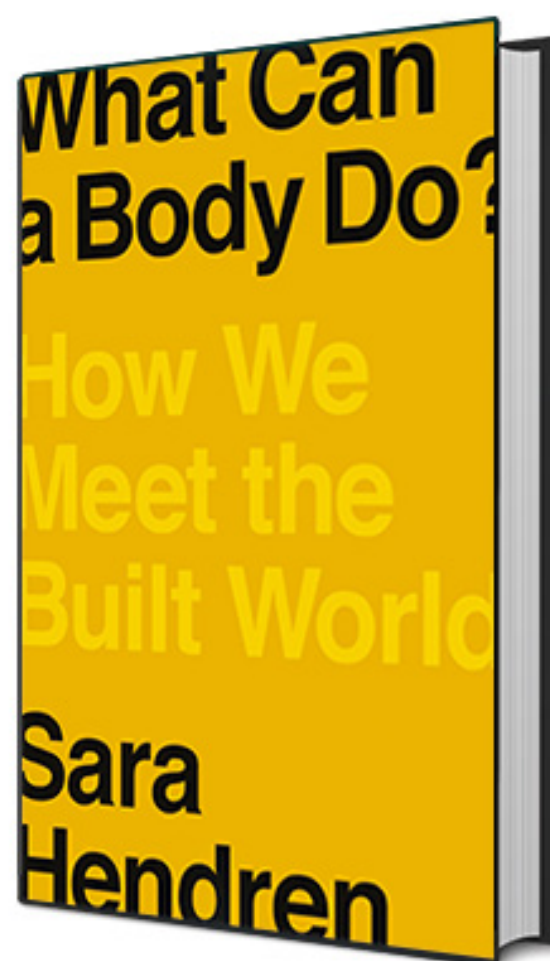


Figure 2.9

Probably one of the most progressive works on architecture and disability is *The Architecture of Disability*. David Gissen calls for a reform in architecture by rethinking, designing, and writing about disability in architecture to create a new history that the future can look to. He examines a variety of different designs to cement its central idea that, as designers, we have to drastically change our approach to design from accommodation for disability to designing with ability in mind from conception of an idea. In chapter six, he also talks about the construction of architecture and the history of construction workers developing injuries that can leave them disabled. This is made worse by the fact that construction sites are not disability friendly and can leave these individuals out of work they have done for years. It highlights the idea that much construction does not have only one way to complete it and these individuals could continue to work if measures were taken to make jobs like construction accessible. This is a great example of how the job field does not often see individuals with disability as serious workers and how we can adapt to start to change the way we see disability.

Interviews

By talking to individuals about their experience with disability, as designers, we can get inside knowledge on what they feel the community lacks and what aspects of design they feel are the most important and most effective for the betterment of the disability community.

In an anonymous interview with a deaf individual in college, a situation was brought up with the struggle to get professors to understand disability and the accommodations required of them by law to uphold disability forms. For example, a professor might be required for all videos to have subtitles, or for a professor to use a microphone connected to an individual's hearing aids, so the student can better hear the class information. Where the problem has arose is with some professors forgetting or simply not actually considering these accommodations as necessary, which then leads to the individual that needs them to have to go out of their way to either remind a professor or, in some cases go over the head of the professor to a superior if the professor has refused to make the necessary accommodations that are legally required of them by such disability documents. This is an example of a time when able-bodied individuals have a responsibility to accommodate others and shows that although assistive technology is out there, it is up to us to choose to use the technology to better the lives around us.

In an anonymous interview with the mom of a boy with autism, human assistance and staff training is talked about as an overlooked aspect that can be key to dealing with children on the spectrum. The mother goes into detail about a time she was trying to get her son into the hospital during a tantrum and staff walked over or around the boy. She explained that because she did not let this incident go, and rather complained about the treatment to higher ups at the hospital, the hospital's entire staff had mandatory training on the subject and the hospital now employs several wheelchairs at the doors to assist in transporting an individual to their appointments. Because she spoke out about mistreatment, anyone else visiting that hospital will now receive those necessary resources.

When asked about resources that would be helpful to add to a community, more after school programs were talked about. For a mother of a boy who needs constant attention, because he is a safety risk and is prone to movement, it is difficult to find placement in such facilities which then affects day to day actions. Her son cannot stay home by himself, so one of the parents must be home at all times he is not at school. This can create problems with employment for parents that could be easily addressed with more after school programs for children with disabilities.

Application



Figure 3.1

In order to create a functioning community for individuals with disabilities we must take into account all of the prior knowledge of design considerations for disability. Through the research and interviews that have been conducted, we can start to see the baseline formula for creating a community space for differently abled individuals and what resources are important to consider when designing a space like this. With this said, a community space for disabled individuals is not solely for individuals with disabilities.

A true community space is a space for anyone in the community. The idea to make one that particularly caters to the disabled community does not negate this fact. This space should be designed for use by everyone and anyone who comes into contact with it. We have a history of separating those with disabilities from those without, and this is the time to push past these social norms to create a space that is beneficial to all, while employing as many disability design considerations as possible.

On top of design considerations for functionality of the space, this community center should provide learning opportunities like those mentioned in the videos of Echoes Cafe and Zabs Place. Creating job opportunities in this community space will allow individuals to learn life skills that they can take in their lives beyond this physical space.

A community center should be one that cares about everyone's needs, so to create a successful community of care we need to explore all angles of disability research and design to achieve an inclusive building that can be the precedent for future buildings.

Program

A community center that achieves all these goals will need to include many different types of spaces. As stated previously, some individuals can get overwhelmed when going from calm, low energy spaces to busier environments, so for a successful community of care it is important to remember to designate areas of the building to certain tasks. Keeping social situations and busier environments from classrooms and sensory rooms is important. By separating these spaces we can start to form an idea of how a building like this would look and what spaces would be near each other.

In a calmer area of the building spaces for learning and reflection would be best to group together. Although, it is important to remember in a classroom setting some individuals may react strongly to failure or other stimuli in a class, so spaces like yoga rooms and sensory rooms, that we want to group together, may need some sort of separation from a classroom. Spaces for a calmer area of the building include:

- Multi-Sensory Rooms
- Classrooms
- Bathrooms
- Private Work Spaces
- Rest areas for Childcare
- Entrance and Lobby
- Senior Center
- Yoga Studio
- Small Scale Community Gathering Areas
- Office Space
- Storage Space
- Art Studio
- Library

In busier, more social areas of the building there is more to consider. Aspects of design that are money making, may need to be slightly separated from community spaces. Areas like a restaurant or childcare shouldn't be right next to a gym or group activity space. Areas to include in high energy areas of the building include:

- Community Gathering Area
- Gym Showers and Bathrooms
- Kitchen
- Restaurant/Cafe
- Delivery Location
- Child Care Center
- Teen Space
- Gym
- Indoor Playground Space
- Pantry
- Cafe Kitchen
- Storage Space
- Childcare Drop Off Point

Outdoor Areas can also be separated by calm and busy areas, most likely separated from each other by a fencing system or other divider. These outdoor spaces should directly link to their indoor counterparts, with calm indoor spaces connecting to calm outdoor spaces and vice versa. In general outdoor areas should include spaces such as these:

- Garden
- Private Reflection Spaces
- Playground
- Grassy Open Space



Figure 3.2

Job Opportunities

The inclusion of business in a community space like this is not only to gather income for the space, but also allows for the individuals that come to the space to be employed in a space they feel comfortable. By having a cafe space as well as a daycare space individuals can feel free to show their personality and find a job that suits them and their future goals for employment. In some cases washing dishes or serving food may be the best job for someone, while other people may thrive while caring for children.

On top of these jobs associated with the businesses connected to the community center, the community center itself can supply jobs for individuals looking to help with cleaning, organization, or administrative tasks. With jobs like these available, the community center can also employ the help of volunteers in these areas, so anyone can feel included in the improvement of their community.

By including job opportunities and volunteer positions in the community, all members of the community can feel purpose in their work. Everyone deserves to feel included and purposeful, so these opportunities are a great way to achieve both, while also teaching new skills to the people involved.

The Future of Enabability

The future of enablility in architecture promises a world where buildings and spaces seamlessly accommodate everyone, regardless of their abilities. Gone will be the days of ramps and lifts appearing as afterthoughts; instead, accessibility will be woven into the very fabric of our built environment. David Gissen’s “radical” calls to action in *The Architecture of Disability* will no longer be considered radical. They will be the new normal of architecture for disability. Universal design will play a major role in this change. The idea of universal design by definition means spaces will be created for all abilities and will remove the need for specialized spaces to accommodate individuals with differing abilities. By using tactile surfaces to guide the blind and adjustable features like countertops and sinks for those in wheelchairs, we can encourage a society where individuals feel confident with independent living. The use of technology is also key to enabling the disabled. As technology continues to improve, the inclusion of these new technologies in our design environments can continue to push the envelope in terms of accessibility. Technologies like robotics and voice activation will change the way individuals use spaces. For a person with limited mobility, the idea that voice recognition could open doors or adjust temperature and lighting could provide the confidence to finally live on their own. With smart houses beginning to pop up, the future of these adjustments doesn’t seem quite as far away. Accessible design is becoming more and more common, and we have already seen the benefits it can create for those with disabilities and without. The creation of ramping sidewalks for wheelchairs inadvertently benefited moms with strollers and anyone dragging a suitcase. What is the next “radical” idea that will seem mainstream in a few years? These designs are so ingrained in our society that we can barely imagine our lives without them. How can we be involved in the history of a new accessible design?

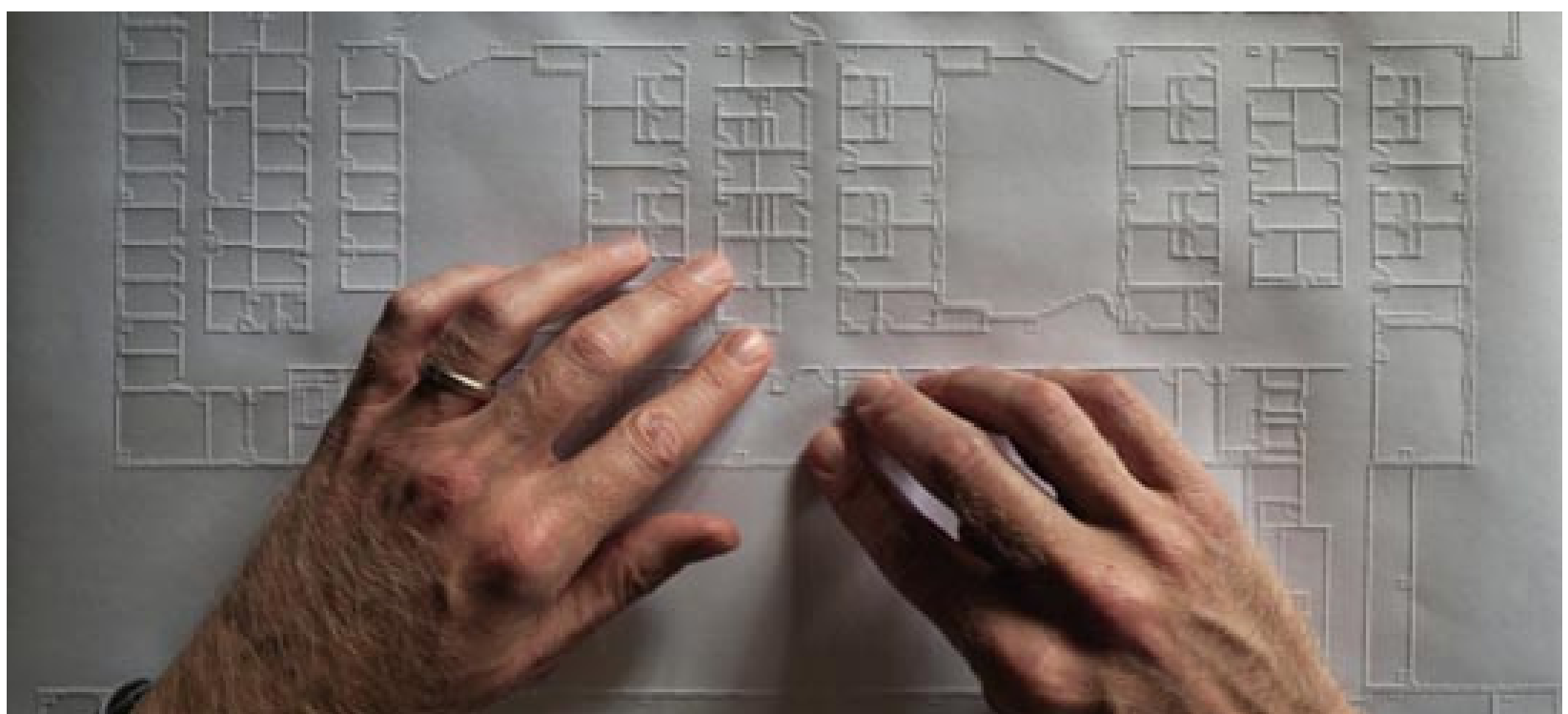


Figure 3.3

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