

Explaining Disability = Ability + Barrier

Disability is an interaction.

A disability is "...**a physical, mental, intellectual, cognitive, learning, communication or sensory** impairment...whether permanent, temporary or episodic..., or evident or not, that, **in interaction with a barrier**, hinders a person's full and equal participation in society."¹

Look at the **bold-underlined** words above. The first set of words is similar to the abilities listed below and the second set describe an interaction with a barrier. Therefore, this document explains abilities, barriers, and their interaction create disability.

What are abilities?

Abilities are internal human functions that allow participation in life. Each ability is like a dimmer switch in that it varies between us rather than being an on-off switch where you either have an ability or you do not. Abilities also change up or down as time passes over hours, days, weeks, months, years or a lifetime. Abilities can also be combined to create skills. For example, wheelchair use is a skill requiring combinations of abilities such as any of the abilities under motor. Here is a list of human abilities:

- Affective Abilities
 - Emotions
 - Sense of Self
 - Social
- Cognitive Abilities
 - Combining, organizing, and comparing ideas
 - Creativity
 - Relationships in the environment, knowing where things are relative to each other
 - Focus
 - Memory
 - Sense of time
 - Language
- Motor Abilities
 - Interacting with the environment
 - Coordination, fine and gross movements
- Power to overcome an opposite force
- Unconscious muscle control
- Perceptual Abilities
 - Awareness of a body part position
 - Knowing the location of something in the 3D environment
 - Perceiving things as a whole despite different or incomplete information
- Sensory
 - Hearing
 - Vision
 - Taste
 - Touch
 - Smell
 - Vestibular/Balance

What are barriers?

A barrier is anything physical, architectural, technological, or attitudinal that hinders the full and equal participation of a person in society. A barrier can also be based on information or

¹ Accessible Canada Act as per [Accessibility plan - Canada.ca](https://www.canada.ca/en/accessibility-plan)

communications or anything that is the result of a policy or a practice². The list of barriers is long because every human is different. Therefore, barriers are determined on a case-by-case basis by the person.

Disability = Ability + Barrier

The formula shows that situations traditionally seen as a disability are not disability themselves but rather require Ability to interact with Barrier to become a Disability. Here are three examples:

1. A person uses a wheelchair:
 - a. Abilities: Motor and Cognitive Abilities above definitely relate to wheelchair use.
 - b. Barriers: Inaccessible environment, for example: narrow doors, stairs, small spaces, non-automatic doors.
 - c. Disability = Motor & Cognitive Abilities + Inaccessible Environment.
 - d. Solutions: Increase environmental accessibility then Motor/Cognitive Abilities are not as impacted by environmental barriers.
2. A person uses America Sign Language:
 - a. Abilities: A person using sign language will have specific language and hearing abilities that are different than society's default.
 - b. Barriers: The societal expectation to defaulting to oral communication.
 - c. Disability = Language/Hearing Ability + Society's Oral Default to Communication.
 - d. Solution: ASL interpreters at meetings reduce the default to oral communication barrier but does not eliminate it since the meeting is still oral first.
3. A person has a concussion:
 - a. Abilities: A concussion can change any of the affective, cognitive, motor, perceptive or sensory abilities listed above.
 - b. Barriers: One possible barrier is the societal expectation of working 8 straight hours with two 15 minute breaks and a 30 minute lunch (9-5, 5 days a week).
 - c. Disability = Various Abilities + Societal Work Time Expectation.
 - d. Solutions: One possible solution is a flexible work schedule that may include: a 9.5 hour day with a 2 hour lunch and two 15 minute breaks, flexible break times, flexible start and end times. This approach reduces the societal work time expectation barrier.

How does accommodation fit Disability = Ability + Barrier – (Solution)

Regarding the formula, one can place – (Solution) after Ability + Barrier to capture accommodation's fit. In effect, accommodation removes, reduces, or cancels Barrier. Here is the concussion example from above adjusted for an Accommodation:

Disability = Various Abilities + Societal Work Time Expectation – (Flexible Work Schedule)

Accommodation could occur through a formal program such as disability management, medical professionals, or human resources. It could also occur because a person successfully solves a barrier without any formal intervention. Accommodation will never have a single formal or informal answer...but the accommodation goal is always the same. Reduce. The. Barrier.

² Accessible Canada Act as per [Accessibility plan - Canada.ca](https://www.accessibility.ca/)