Environmental modification fact sheet

What are environmental modifications?

Environmental modifications are physical modifications to one's space. While we could consider large scale modifications that might require renovating or remodeling a space, small scale modifications can also drastically support participation within one's environment. These can be minimally invasive, affordable, and offer just as much support as larger scale modifications!

Why are environmental modifications important?

The physical environment can be one of the biggest barriers to participation for individuals with visual impairment. However, when modified appropriately, the environment can also become one of the greatest facilitators of participation and engagement in daily routines and activities.

What are the major considerations for environmental modification?

It's important to consider that individuals with different types of visual impairments (VI) will likely benefit from different forms of modification. We will refer to individuals with low vision, no light perception, and cortical/cerebral visual impairment (CVI).

The following are some of the primary factors that impact accessibility of the environment:

- Safety
- Organization
- Lighting
- Acuity
- Contrast
- Tactile Accessibility
- Consistency
- Complexity
- Color
- Novelty

Environmental modification considerations:

Universal

- **Safety**: this should always be a top priority. For individuals who have a vision impairment, this means keeping areas clear of immediate hazards, including items cluttering floors, hot food items or cooking appliances, sharp knives or other utensils, and any other items that could potentially cause harm.
- **Organization & consistency**: for an individual with a vision impairment, consistent organization often provides greater access. When an item or tool is consistently stored in the same place, it can offer greater independence and ease of use for the person with a vision impairment. This means:
  - **Reduce clutter**-keep areas neat and organized.
  - **Simplify**-less is more. Leave out only what is necessary, and keep other materials stored away in a consistent location when not in use.
  - **Reduce distraction**-consider the environment, noise, lighting, etc., and how it may impact a person's ability to attend to a task or navigate safely.

Low Vision

- **Lighting**: should be bright and effective, positioned in such a way to avoid casting shadows or adding glare to whatever the person is working on.
- **Acuity:** present items at a near distance. Increase contrast by using bright colors and dark/bold print and markers. Use large print to label appliances, cabinets, and containers.
- **Universal principles**-reduce clutter, simplify presentation, and maintain organization.

No Light Perception

- **Tactile accessibility-**label materials in braille or with tactile markers (various fabrics, velcro, bump dots) for ease of use (kitchen appliances, cabinets, toiletries, etc.)
- **Consistency-**maintain consistent organization and set up. This is paramount for individuals who do not have functional vision use at all.
- **Universal principles-**reduce clutter, simplify presentation, and maintain organization.

Cortical/Cerebral Visual Impairment (CVI)

- **Individual preferences-**This will vary according to the phase of CVI the individual is in. Refer to CVI functional vision assessments and reports for specific environmental recommendations.
- **Complexity-**complexity is a major factor for individuals with CVI. The following considerations are important to help reduce complexity:
  - o **Environment-**reduce clutter, sensory stimuli, patterns, colors, etc. which will reduce complexity of visual presentation.
  - o **Color-**consider the individual's preferred color, utilize highly saturated colors to mark physical boundaries (doorways, furniture corners), hand holds on tools and clothing, and other important visual features.
  - o **Lighting-**decrease lighting that pulls visual attention (glare from windows, overhead lights), and increase lighting that draws visual attention to visual stimulus (backlighting)

Environmental modifications in daily routines:

Bathroom:
- Store items in consistent locations
- Reduce clutter by keeping toiletries in cabinets or closets
- Label similar bottles with a rubber band for differentiation
- Label items in braille when appropriate
- Decant toiletries into specific, easily differentiated pump bottles or other containers
- Utilize color highlighting to locate hand holds on faucet, shower head, pump bottles, etc.
- Utilize dimmer switches and lighting control to minimize glare
- Consider changing wall paint color & contrast against fixtures (i.e. light/white fixtures, darker paint)
- Maintain mobile items (trash barrel, step stool) in consistent locations

Kitchen/Mealtime:
- Keep countertops clear of non-necessities
- Establish appropriate safety boundaries regarding the use of appliances, knives, kitchen tools, etc.
- Utilize a tray to designate workspace
- Label cabinets with braille, tactile markers, or large bold print as appropriate
- Label appliances with individual braille letters or tactile markers as appropriate
- Maintain organization of shelves and cabinets using drawer dividers, small risers, pot/pan organizers, etc.
- Allow for control of lighting with shades or dimmer switches
- Utilize color highlighting for refrigerator handles, faucets, etc.

- Maintain consistent seating at the table
- Consider contrast of plates against tabletop, utilize a contrasting placemat if appropriate
- Utilize a tray or raised tray to maintain place setting in field of vision, or to designate personal space

Dressing/Clothing Management:
- Label dresser drawers with large, bold print, braille, photos, or tactile markers as appropriate
- Reduce clutter in drawers by utilizing dividers and organizers
- Reduce complexity by keeping surfaces clear of unnecessary materials
- Maintain consistent organization
- Utilize a system for color coding and matching clothing: color reader apps, tactile markers, or human assistance
- Utilize preferred color highlighting as appropriate on fixtures, furniture, and clothing
- Label washer & dryer with bold large print, tactile markers, or braille for settings

Education/Working at Home:
- Clear workspace of clutter on surfaces and walls
- Reduce complexity of environment by facing away from doorways, hallways, and windows
- Reduce noise by closing doors or using headphones when appropriate
- Control lighting with window shades or desk lamp