Module: Developmentally Appropriate Orientation and Mobility

Session 5: Assessment

Handout H: Environmental Checklist for Developing Independence


The relevant research tells us that variations in the abilities and characteristics of children with visual impairments are related in part to variations in their environmental circumstances (Warren, 1994). A rich physical environment provides opportunities for exploration and development. Encouragement to engage the environment positively, rather than being protected from it, further enhances development.

This checklist is a tool to help identify factors in the environment that increase the independence of children with visual impairments. Looking at both the physical and social environment, the checklist is divided into three areas: (a) Physical Environment, (b) People/Expectations and Opportunities, and (c) Materials.

Check all areas that seem to be a concern so that interventionists can develop strategies to increase independence and mobility.

I. Physical environment

When looking at adapting and changing the environment, think about changes that will allow children to be more independent. For example, if there are no natural obstacles in the way, children will never learn how to go around an obstacle. However, if the room is so cluttered that children cannot move independently, they will be restricted in their movement and interaction with their environment. When adapting or changing the physical environment, consider

(a) making changes that increase children’s independence and benefit all children,
(b) introducing adaptations that are natural versus artificial,
(c) assessing if children benefit from familiar environments, and
(d) fading adaptations over time and ensuring that the child can negotiate the real world.
### A. Safety

<table>
<thead>
<tr>
<th>Environmental Feature</th>
<th>Potential adaptation/intervention</th>
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| **Stairs/drop-offs**                   | - Create contrast by painting the walls, rails, risers, and steps in contrasting colors.  
- Add textured floor strips or non-slip mats to stairs. |
| **Head-high obstacles**                | - Place a box, stool, or other item underneath overhangs (e.g., place a stool under a water fountain, a table under a shelf).  
- Use "high bumper" in specific areas. |
| (shelves, fire extinguishers, drinking fountains, phone booths, sinks on pedestals, free-standing stairs, open windows) |                                                                                                                                                                                                                       |
| **Low-lying obstacles**                | - Decrease clutter by putting objects away or by rearranging the environment.  
- Use rugs or different floor surfaces to define space around obstacles.  
- Give children time to explore unfamiliar areas.  
- Use "low bumper" in specific areas. |
| (stool, wagon, motor equipment, toys, mats, toy box, etc.) |                                                                                                                                                                                                                       |
| **Vertical obstacles**                 | - Keep doors closed and use contrasting tape on the edge of the door to make it more visible.  
- Use "bumpers" when approaching known obstacles. |
| (partially open doors, poles)          |                                                                                                                                                                                                                       |
| **Swing sets**                         | - Mark defined space under swings the width and length of "safe space."
- Install a fence around the area.  
- Place sensory cues at equipment.  
- Use the buddy system. |
| (moving swings, angled posts)           |                                                                                                                                                                                                                       |
| **Glass doors, glass furniture**       | - Use window decals as visual cues for glass doors.  
- Use protective covers on the edges of glass furniture.  
- Place glass furniture on contrasting colored rug for easier identification. |
|                                        |                                                                                                                                                                                                                       |
### B. Environmental factors to enhance vision and visual efficiency

<table>
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| **Lighting**         | • Assess how lighting affects children’s visual efficiency.  
                      • Children that are sensitive to light or respond more in dim lighting may benefit from dimmer switches to control lighting.  
                      • Position children so that light comes from behind.  
                      • Provide task lighting to increase detail vision for children with certain visual impairments.  
                      • Minimize glare by repositioning children or objects. Matte surfaces tend to produce less glare.                                                                                       |
| **Contrast**         | Provide contrast using colors.                                                                                                                                                                                                        |
| **Size and distance**| • Increase the magnification of an object by bringing it closer or by increasing the size. Allow children to bring objects as close as needed and encourage children to be close to you during daily routines.  
                      • Make sure that materials are positioned in children’s visual ranges. If children need to hold materials close to see, raise the materials on slant boards, wedges, or elevated surfaces so that they do not have to hold their heads down to see it. If children are using equipment such as a sidelyer, make sure materials are positioned within their visual field. |
| **Time**             | B. The speed at which an object passes through the visual field affects children’s ability to see it. A fast-moving ball may move too quickly for children to fixate and follow, but a balloon of the same size moving slowly may be easier to follow. |
C. Use of sensory clues and landmarks

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| **Distinct areas**    | • Use different types of tactile and visual flooring in each area (e.g., tile in kitchen area, carpet in living area, different colored flooring in work area, etc.).  
  • Use different types of shelving or cabinets (e.g., open shelving in work space, shelves with brightly colored doors in kitchen area, drawers in living area). |
| **Auditory landmarks, clues, and cues to enhance goal-directed movement** | • Use natural auditory landmarks that are stationary sound sources (e.g., clock ticking over door).  
  • Use natural auditory clues associated with an activity (e.g., water running in sink for clean-up).  
  • Enhance natural auditory cues (e.g., tap silverware).  
  • Use musical sound clues (e.g., tape playing at music area).  
  • Use repeated voice cues at the goal (use with one of the methods above).  
  • Don’t use  
    ▪ a moving sound source  
    ▪ sound sources that change from day to day  
    ▪ verbal directions from location other than the goal (e.g., don’t stand behind or beside children and tell them which way to go). |
| **Enhance landmarks to increase independence** | • Enhance landmarks so that children can be more independent. The door to a specific location can be marked with a textured sign, a different type of doormat can be placed in front of the door, an object such as a set of drumsticks can be taped to the door of the music room, etc. |

D. Arrangement for unobstructed travel

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<td><strong>Travel areas are free of clutter</strong></td>
<td>• If children are able to trail walls or furniture, identify routes that they can negotiate independently and keep them free of clutter (e.g., no trashcans or chairs against wall, no toy baskets).</td>
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</table>
| **Areas of child care room match routine** | • To increase children’s independent movement from one area to another within daily routines, arrange the room so that areas follow the sequence of the day.  
  • Arrange the tables to create straight travel paths.  
  • Carpet or different flooring can also designate straight paths. |
| **Rearranging furniture** | • When furniture is moved, it may take children with visual impairments longer to explore the changes; allow children to participate in moving the furniture (if possible) and try to keep furniture arrangement consistent. |
### II. People: expectations and opportunities

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| **Understanding who people are in the environment** | - Always introduce yourself before touching children. Be sure to tell children that you are leaving the room. Upon leaving, tell children where they are or leave them in contact with something in the environment.  
  - Use names so that children with visual impairments will know who is being addressed.  
  - A unique and individualized procedure can be used to initiate interaction with children who do not have symbolic communication skills, e.g., using hand-under-hand to guide them through "give me five," show them something that is personalized (e.g., braids, beard, jewelry), or use coactive signs for names. |
| **Becoming familiar with new areas and spaces**     | - As children move into unfamiliar environments, they may not feel secure to actively search out what is in the new environment. Allow children time to become familiar with, and systematically explore, the environment. |
| **Having time to do things independently**          | - It will probably take children with visual impairments longer to complete certain tasks. Give children adequate time to complete activities independently. |
| **Indicating transitions with nonvisual cues**      | - Children receive many visual cues indicating a transition to another activity. Try to provide nonvisual cues that indicate transitions to children with visual impairments. |
| **Interacting with other children in the community**| - Activities can be structured to facilitate interaction and cooperation among children (e.g., playmates can be shown how to be sighted guides, children can push each other in wagon or wheelchair).  
  - To help other children to feel comfortable, open communication about disabilities and impairments are important. |
| **Comfortable interactions with people in the environment** | - Avoid the "Who is this?" game. Say, "Hi, this is ____," instead of using questions as a way to interact.  
  - Educate others about how to interact with children who use augmentative communication or sign language. These children need opportunities to interact with others. |
| **Providing information about what the child is doing at the moment** | - It is not meaningful to describe everything that is happening around children. Provide labels and action words about what they have their hands on or what they are doing at the moment. The amount of information depends on children's ages and developmental status. |
### III. Materials

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| ❑ Materials stored in a consistent and accessible location           | • Materials should be in consistent places and in accessible locations. For children with limited mobility, materials should be presented to allow the most independent interactions that match their motor capabilities. For example, placing toys on their laps instead of putting toys in their hands allows children to actively reach for the toy. For children in wheelchairs, having shelves at their height is important.   
• Children should participate in setting up the task (beginning), doing the task (middle), and putting the task away (end). This allows them to get a big picture of the task and anticipate the next step. When children know the next step of the task, they can initiate that step.   
• Consistent locations will help a children learn spatial concepts.   
• For some children, it is important to have materials in a defined space, such as a blanket on the floor. |
| ❑ Materials selected or adapted to match sensory needs of children   | • Select or adapt materials with visual components, such as lighting, contrast/color, and size/distance.                                                                                                                          
• Select or adapt materials with auditory components, such as high pitch/low pitch; loud/soft; irregular or intermittent/constant; fast/slow; and how sound is activated.                                                                 |
• Select or adapt materials with tactile and proprioceptive components, such as weight, texture, resistance, vibration, and movement.                                                                                                                                 |
| ❑ Object cues to indicate the beginning and end of tasks             | • Use object cues to indicate what activity is next and a "finish" box to put the object into to indicate the end of the activity.                                                                                                                                 |
| ❑ Real objects                                                       | • Real objects should be used throughout the day in functional activities such as stacking cans on the shelf; making nature books using leaves, acorns, and other items from outside; using kitchen utensils for fine motor development; etc. |

### Reference