



# Visual Adaptations

Children who are deaf-blind but have a significant amount of vision can be assisted in using their vision to the greatest extent possible by adapting the environment and materials, or by teaching them strategies to meet the demands of the environment. Not all adaptations are appropriate for all children. Each child's visual needs are different according to a variety of factors. These include their visual diagnosis, the presence of other disabilities, their visual abilities, and environmental factors. Two factors to keep in mind when considering adaptations for a child are: Student or material/environmental adaptation, necessity, and level of demand on the student.

Student adaptations can be more effective because they are less intrusive and more flexible. This approach is best when the student is capable of generalizing the learned skill to a variety of environments. This is not always the case and the skill that the student has learned may have to be taught in each environment where it would be helpful.

Materials adaptation should be used when the student has difficulty adapting in the way required by the task. Material adaptations take a number of different forms: Lighting, color and contrast, size and format, and changes in workspace. Material adaptations should be made with forethought and only when required by the student. They should be made as minimal as possible while still allowing the student to complete the task effectively.

You do not want to make the student dependent on an adaptation when it is not necessary. In some situations it may be better to make small adaptations at first in order to place higher demands on the student to help them to learn to adapt. Once they have done so the task can be further adapted to increase efficiency. It is also important to remember that when all visual adaptations are ineffective non visual (tactual) adaptations must be considered.

## Student adaptations

1. Students should be taught techniques in a variety of settings to encourage independence and generalization of the skill.
2. Students benefit from good positioning. The less energy they expend on holding themselves up the more they can put into using their vision. This is a skill that they can be taught to self monitor.
3. Limiting fatigue will help students perform better. Break tasks up into shorter time periods to give their eyes a rest and limit visual fatigue. Extended time may also be necessary for a child to complete a task.
4. Children can and need to be taught to wait for their eyes to adjust to changes in lighting. This is most true if going from outdoors to indoors and visa versa.
5. Children can learn to view in different ways to maximize their residual vision. The most obvious is distance. Getting closer to or farther away from the object or person to be seen may make it easier. Some children tilt their heads to get the visual material at an ideal angle. They may also do this by moving the material.

## Material/environmental adaptations

1. Lighting interacts with many other factors but most importantly with contrast. Lighting can increase or decrease the contrast of visual materials. In a dark environment increased lighting will increase contrast but in a bright environment it will reduce it. Natural light is good but it needs to be controlled due to glare. Light that comes from behind the individual is best as it minimizes glare and does not strike the person directly in the eyes. A lamp with an adjustable

level of light is useful for this. Children who have trouble attending to material may benefit from shining light directly on it. This may help attract their attention.

2. As stated before contrast is effected by lighting but it is also effected by the materials them selves. Visual materials should be a different color from the background and backgrounds should be plain not patterned. For example if you want the child to see some red blocks put them against a blue or black background instead of an orange one. For print or pictures they should be as dark as possible on a clean background. A photocopy where the letters are gray and the background is also darker is not ideal for a child who needs good contrast.

3. Pictures need to have good contrast and be simple in format. Cluttered pictures will not be easy for the child to see. Also having many pictures on a page causes the same type of visual clutter.

4. Color can be an effective visual cue. It can be used to organize and classify or bring attention to important visual material.

5. Pictures or print should be spaced well. It is helpful if there is a good amount of space between pictures or words as it makes them stand out better. More space between lines can make tracking easier.

6. A student's workspace can also be changed to assist them in using their vision. An example of this would be to create visual boundaries by putting colored borders on a desk can be effective in focusing a child's attention. Using a tray can have the same effect, it also creates a tactual boundary to reinforce the idea of space. Materials can also be made more accessible by bringing them closer to the student. This can be done by using a reading stand and by adjusting the height of the desk or table.

7. This same concept is also true of the layout of a room. Areas of a classroom should be visually unique. This can be accomplished by using different colored carpet or by arranging the furniture to separate areas/activity centers from each other.

8. Enlarging materials is useful for children who have reduced acuity. This could be enlarging of pictures or print that the child needs to see. However enlarging materials is not necessarily the best adaptation for children with a field loss as they will see less of what has been enlarged instead of more.

### References

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Fact sheets from California Deaf-Blind Services are to be used by both families and professionals serving individuals who are deaf-blind. The information applies to students 0-22 years of age. The purpose of the fact sheet is to give general information on a specific topic. More specific information for an individual student can be provided through individualized technical assistance available from CDBS. The fact sheet is a starting point for further information.

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