Assessment of Deafblind Access to Manual Language Systems (ADAMLS)

By

Robbie Blaha & Brad Carlson

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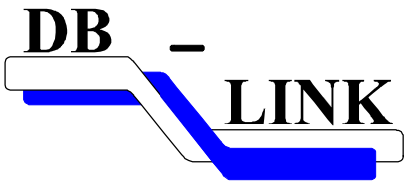

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A SPECIAL NOTE OF APPRECIATION GOES TO THE PARENTS/FAMILIES, CHILDREN AND□ FACULTY WHO ALLOWED US TO USE THEIR IMAGES FOR ILLUSTRATIVE PURPOSES.
□ OUR APOLOGIES FOR ANY BAD ANGLES, UNFLATTERING POSES OR CANDID EXPRESSIONS□ YOU MAY BE MORTIFIED TO SEE HERE – YOU ALL LOOK GREAT IN PERSON!

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PREFACE

The Assessment of Deafblind Access to Manual Language Systems (ADAMLS) is a resource for educational teams who are responsible for developing appropriate adaptations and strategies for children who are deafblind who are candidates for learning manual language systems. Our scope here is intentionally narrow; however we want the reader to remember how complex the approach to instructional strategies for children with deafblindness can be and we encourage you to refer to the resources listed.

A child who is deaf or hard of hearing depends heavily on the visual channel to access information and interaction. Sign language, fingerspelling and speechreading are visual by definition, and vision loss can greatly affect the ability of the child who is deafblind to access these modes of communication. Because little or no attention has been focused on this problem, it is typically not addressed in evaluations. As a result, many qualified students are considered incapable of learning these language systems, and educators may be so unfamiliar with adaptations and strategies to teach them that the child fails to show progress. Effective teaching practice requires that the influence of vision loss on the acquisition and use of manual communication forms be fully considered so that appropriate adaptations can be implemented.

The assessment tool should be used for all children with a dual vision and hearing sensory loss (deafblindness) in educational settings that use a form of manual communication. Communication is the means by which a child gains access to the curriculum and to education generally. Therefore, if there is a breakdown in this critical exchange, the child is essentially denied the right to a free and appropriate education. We hope the ADAMLS provides unique and important information in a user-friendly manner to fulfill a need that exists in the field of deafblindness.

We welcome your feedback as we continue to update this information. You may contact us via the DBLINK web site.

How to use the ADAMLS

Begin by reading Part 1, "The Assessment Process," steps A through H. This section briefly describes the activities necessary to lay the ground work for achieving optimal access to manual communication for the child who is deafblind. Each step leads you toward a thorough consideration of the possible adaptations and strategies that are the goal of this assessment.

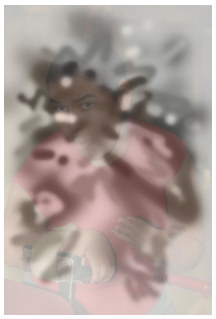
Once you have read and completed Part 1, then look through Part 3, "Assessment of Deafblind Access to Manual Language Systems (ADAMLS): Guide with Summary Results," to see if everything makes sense to you. This document is a checklist intended to help you obtain relevant information. Are you or someone on your team familiar with the concepts contained in it? Are you comfortable with the material? Maybe you've done this assessment before and know how to proceed. If so, go ahead and conduct the assessment using the ADAMLS. We encourage you to supplement the provided list of considerations as you identify the individual needs of the child you are working with. If you need further clarification or are not yet ready to proceed with all or part of the ADAMLS, refer to Part 2, "Assessment Questions and Possible Adaptations" which includes helpful descriptions and examples. Then proceed with the assessment.

Part 1:

The Assessment Process

Step A: Assemble the assessment team.

Obtaining necessary information for the ADAMLS evaluation process requires work by a team of individuals who can understand what the child is communicating, what is being communicated to the child, and what specific visual obstacles must be overcome for the child to detect and interpret manual language. Specifically, the team should include both a teacher of the visually impaired and a teacher of the deaf and hard of hearing. Each of these teachers has critical information that the other lacks, and so they must collaborate. Specific training in the evaluation and development of programming for children with deafblindness is not typically covered in training programs for teachers in either specialty. This information belongs to the separate field of deafblindness. Therefore, a trained teacher of the deafblind and/or a professional with a background in deafblindness should be on the team. Additional members should include the family, child, educational interpreter, intervener, and teachers.



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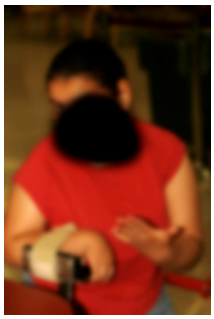

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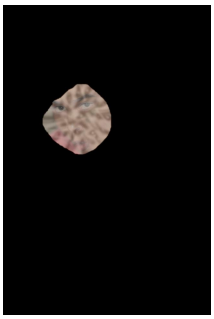

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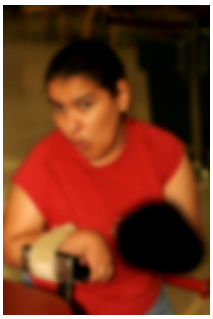


Illustration: 4

Step B: Conduct standard screenings/assessment.

Before beginning the assessment, the child should have a current eye examination by a certified eye doctor. After that, the evaluation of the effects of vision loss on recognition and use of visual forms of manual language relies on the functional vision evaluation (FVE) and the learning media assessment (LMA). Conducting these standard screenings should be the primary responsibility of the teacher of the visually impaired in collaboration with the team. Together, team members should determine how to gather this information. The teacher of the visually impaired may report the impact of the child's vision loss on signing, fingerspelling, and speechreading using either the FVE or LMA. This should occur prior to determining the adaptations specific to manual language for the individual. An additional evaluation by a low vision specialist may be needed. Many times a child may benefit from the use of such devices

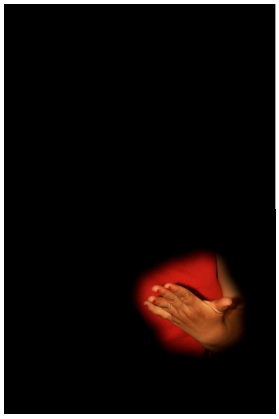
as a monocular, telescope, or special lighting or of other strategies to facilitate access to the preferred communication form(s). The teacher of the visually impaired should make this recommendation to the IEP committee if it would be beneficial.

Step C: Compile information.

As part of the FVE and LMA, the team must compile some specific information.

Consider the etiology of the child's sensory loss.

There are a number of syndromes with both a vision and hearing loss component. Knowledge of the specific one may have a bearing on the best educational approaches to use with the child and may indicate likely vision changes in the future. For example, Usher Syndrome brings about a progressive visual field loss. Children with Congenital Rubella Syndrome have a risk of developing cataracts and glaucoma. Resources such as the National Organization for Rare Diseases (NORD) and DB-LINK can provide this important information. There are other etiologies that can cause vision loss. Spinal meningitis can be associated with cortical visual impairment (CVI), which results in fluctuating vision and perception problems.



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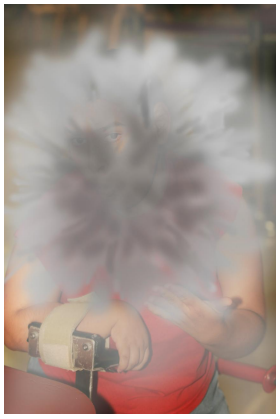

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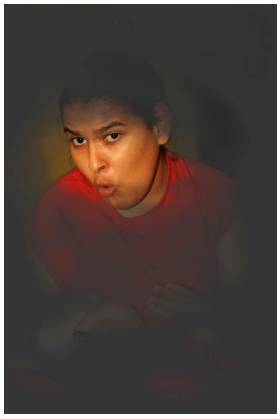


Illustration: 7

Evaluate the manual communication system currently used with the child.

There are presently several manual communication systems other than American Sign Language that are used throughout the country. Speechreading is commonly utilized by children to augment these methods or sometimes as an exclusive approach. Depending on the system used, a sentence or thought can be expressed in a variety of ways. Different approaches can result in different visual demands on the child. Chart 1 gives some simple definitions of these systems. It is not comprehensive or meant to be an endorsement or criticism of any method.

CHART 1

Sign Language and Manual Systems of Communication

American Sign Language (ASL)	"The native language of thousands of Deaf people who have Deaf parents. For them, it is not only a first language but also carries with it the culture of generations of Deaf people in America. Like other foreign languages, it has its own history, idiomatic expressions, structure and grammatical rules" (Humphries, et al 1980). It is a highly sophisticated visual language and it is not based on nor is it derived from English.
S.E.E. Signs	Sign systems developed in the early 1970s that are based on the English Language: Seeing Essential English (SEE 1) and Signing Exact English (SEE 2). "The most important principle in Signing Exact English is that English should be signed in a manner that is as consistent as possible with how it is spoken or written...." (Gustason& Zawolkow, 1993).
Fingerspelling	Manual production of individual letters of the alphabet through specific hand shapes. In the U.S., the American One Hand Manual Alphabet is typically used in conjunction with manual systems for words having no sign equivalent, for clarification, emphasis and so on.
Simultaneous Communication (Simcom)	Spoken English and a signed system used simultaneously and based on English syntax and grammar; also known as Sign Supported Speech (SSS) and Total Communication (TC).
Speechreading	Includes lipreading (de-coding speech by observing visible articulation cues of the lips, tongue, jaw, etc) but also capitalizes on gestures and body language, facial expressions, situational clues, linguistic factors, and any auditory input that is available to the individual (Kaplan, 1996).
Cued Speech	A visual communication system that identifies each distinctive speech sound in English. Eight hand shapes in four locations (cues) are combined with the natural mouth movements of speech to make all the sounds of spoken language look different. Shapes of one hand identify consonant sounds; locations near the mouth identify vowel sounds. A hand shape and a location together cue a syllable (Discover Cued Speech, 2002**).**

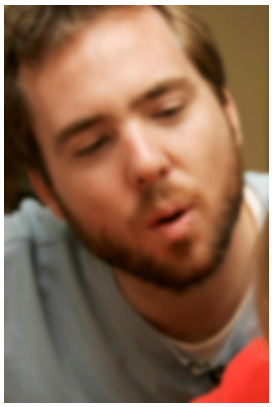
Note: due to the visual nature of signed systems, tactual modifications for these communication modes are in use. Hand tracking and tactual signing are adaptations to some of the above methods – strategies employed by persons whose vision prevents them from seeing the signs. These communication adaptations are elaborated upon in Part 2 below.

Step D: Observe the child.

For deaf or hard-of-hearing children, there are tests designed to check for receptive sign vocabulary. However, these tests typically give the child the advantage of seeing one sign at a time, from a consistent distance, with a limited number of responses. The results may accurately indicate the signs that the child knows in a clinical environment but tell you nothing about the child's ability to recognize them in other environments or situations. Vision loss may impede "functional" comprehension of these communicative forms—especially if lighting conditions are poor, there is glare, the child has an acuity problem and is across the room from the person signing, or the child has a field loss and is very near the person.

Illustration: 8

Also, tests to determine the child's ability to speechread may not take into consideration the impact of vision loss or of a less-than-perfect visual setting. Depending on visual functioning, a child may do very well in a close one-on-one situation. That same child may not be able to use speechreading at all or may use it only marginally in a typical classroom setting.



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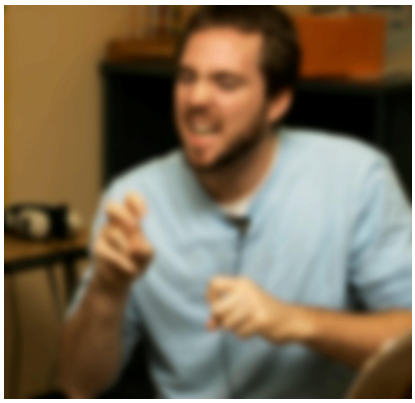


Illustration: 10

Therefore, to accurately evaluate the ability of a child who is deafblind to use signs, fingerspelling, speechreading, or cued speech, it is necessary to observe the child in real environments and situations. We recommend using the assessment questions from the ADAMLS as a guide to observing the child in a variety of interactions throughout a regular day. These observations can be carried out over the course of several days to broadly sample the child's functioning.

Be aware that it is possible to overestimate a child's visual ability to interpret manual language. He or she may be able to tell that someone is signing without being able to actually discriminate discrete segments of the sign or signs. For example, the teacher holds up a yellow art folder and signs "Time for art." Twenty feet away, the child can see the art folder, note that the teacher is signing, and guess that the instruction is to go to art class. That does not mean this child can discriminate all signs at twenty feet. Likewise, a child may observe the teacher's lips moving at the time of day when it is typical to go to lunch and be able to guess what comes next in the schedule. The child may not have been able to understand exactly what was being said because his or her level of visual acuity may only allow seeing faces clearly at a distance of one foot.

Since this guessing method works best in familiar routines, one might expect to observe a significant drop in the comprehension of sign language in new situations and environments. The child may require different instructional distances to read signs, fingerspelling, speechreading, and cued speech without contextual cues or when presented with novel information.

Step E: Interview the team.

Be sure to interview team members who have the most experience with the child in communicative interactions. This should include such people as the family, educational interpreter, intervener, teacher, and instructional aide. The assessment questions in Part 3 will help with these interviews.

Some children are at a level that allows for participation in the interviews and, in many cases, may be the best source for information about problems. However, it is important to recognize that children may not be aware that they have missed comprehending information in certain situations. Remember, you don't know what you have missed if you have missed it.

Step F: Validate your observations.

Observations and interviews should help you formulate a theory about how the child is using vision in relation to communication. Devise some situations to test the theory. For example, if you think the child has night vision problems, set up some situations to see how the child uses vision in darkened hallways, in the early evening hours, or when lights are turned off for overhead projector or video use.

The results may suggest specific adaptations to try. They are likely to be very individualized, not only from child to child, but from situation to situation for an individual child. This occurs because individuals are affected by different lighting conditions, the degree of familiarity with the situation, the number of other visual demands being made, and so on. If the child has a progressive or fluctuating vision loss, then the adaptations needed may also vary over time or within short periods of time.

Step G: Document the findings.

It is necessary to document the team's findings. For this reason, it is important to amend the learning media assessment (LMA) and functional vision evaluation (FVE) as needed to address the impact of vision loss on the child's ability to access his method of communication.

Step H: Convene the IEP Committee to update the individualized education plan.

The IEP committee should meet to update the IEP to reflect the team's findings. Specifically, the recommendations by the teacher of the visually impaired for modifications, adaptations, and accommodations should be discussed and agreed upon. After appropriate accommodations or adaptations have been made for the child, the existing communication system may need to be altered. For example, the child may not be able to efficiently use speechreading in most settings as a receptive communication form because of vision problems and may need a different communication method. There may be a need for training of family and staff to develop the skills to implement the adaptations. A number of resources for training can be found on the DB-LINK web site.

Illustration: 11

Another possible change to the IEP may be the need for additional staff. Modifications for any one child may place such a demand on the existing staff that there is a risk that the IEP will not be implemented. For example, taking the additional time to let a child with deafblindness study pictures or use a slower pacing of signs may break up the momentum of a group lesson. Making these changes consistently while conducting group instruction may become impossible and then be abandoned. As a result, the child who is deafblind is denied the appropriate level of instruction and the addition of a staff person may be needed to ensure full access to the curriculum.

Changes should be documented in the IEP so that everyone will know what is needed for the child to access manual language.

Illustration: 12

Part 2:
Assessment Questions and Possible Adaptations

1) What is the best placement and distance of manual language forms for the child with deafblindness related to his or her visual fields?

Signed communication typically takes place within a two-foot cubic area. Speechreading and cued speech require the child to be able to see the face of the speaker, finger positions for cueing, body expressions, and facial expressions. Children with field losses, or scotomas, may have considerable difficulty seeing some of this information, depending on the location and size of the field loss. Perceiving only part of a message greatly affects comprehension, and it is important to know the child's best area for viewing these communication forms. To make this determination, you will need to know the best placement for signing (e.g., central, upper, left, or right quadrant) or the best cueing space (e.g., a diameter of ten inches). Be sure to consider etiology and the information that you have gathered from the ophthalmologist's report when determining the space, placement, or distance of the manual language forms you want the child to access.

Illustration: 13

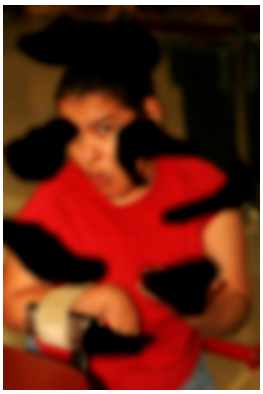


Illustration: 14

If there is a peripheral field loss (around the outsides), widen the field of view by moving farther away from the signer to allow the child to see more of the message delivered by the hands and the body. In your observations, take note of children who keep backing up when you sign to them. They may be trying to see more of you in their reduced fields. Also watch for children who touch your wrist or hand, reach out to reposition your hand, pull their head back, or use eccentric viewing positions, such as always turning the head down and to the left to more effectively

Illustration: 15

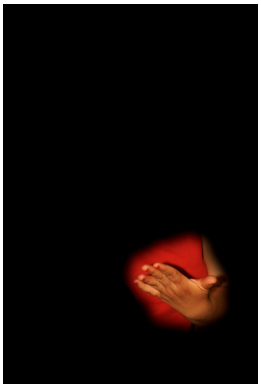


Illustration: 5

Illustration: 16

Illustration: 17

Illustration: 18

Illustration: 19

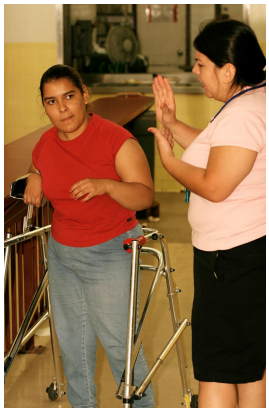


Illustration: 20

use their peripheral vision. Teachers may report having trouble getting the child's attention from a particular side. Try systematically signing or gesturing from different distances and locations within a quadrant.

Adaptations/strategies to consider for the child's educational plan:

Illustration: 21

Present signs consistently in the same quadrant, at the same distance and within a precise signing space.

Reduce signing space (e.g., sign *country* closer to the wrist than to the elbow). This helps a child with field losses by moving the sign into the visual field.

Fingerspell (rather than sign) some words if the movement of the sign takes it out of the child's field of vision (e.g., spell *Russia*, which is signed by placing the hands on the hips).

Illustration: 27

Substitute a sign that requires a smaller signing space if it does not change the meaning (e.g., instead of signing *wonderful* with both hands at the sides above the shoulders, substitute *good* with both hands at the front and center near the chin).

Alter the signing or speaking distance between the child and the partner based on the type of field loss.

Use a low vision aid, such as an expanded field telescope, to increase the amount of information the child receives.

Allow the child to turn his head to use eccentric viewing positions if needed.

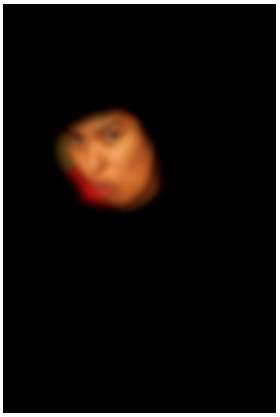
Use tactual signing or (hand) tracking in some situations.

Position oral interpreter or speaker so the child can easily see within his field of vision.

Illustration: 22

Illustration: 23

Note: When a child has both an acuity problem (blurred vision) and a field loss, it is more difficult to determine the best distance. Positioning the child far enough away to capture the face, body, and hands in the fields of vision may cause a loss of clarity of the image. Positioning the child closer to see features of the hands and face clearly may cause information to fall outside the fields of vision.



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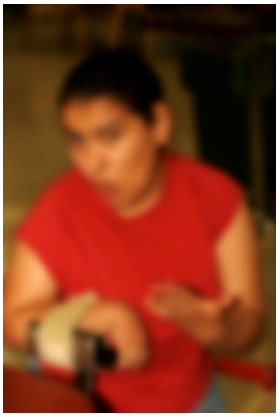

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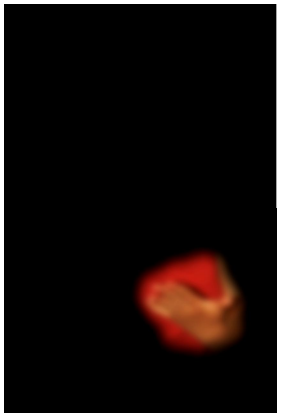


Illustration: 26

2) What is the best distance and rate of communication for the child related to his or her visual acuity?

For children with acuity problems, the appropriate distance and rate of visual communication may vary according to the complexity of the exchange, the amount of contextual support to aid in guesswork, and the characteristics of the individual sign, letter, cue, or facial and body expression. For instance, some signs are very concrete and have big, clear movements (e.g., *brush teeth*). Others are more abstract and have subtle, less discernible movements (e.g., *seven*). Signs may also resemble each

other (e.g., *purple* and *green*).

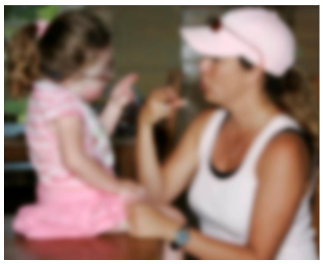
Because fingerspelling is stationary, it does not require the child to shift gaze. Conversely, it does not offer as many contextual clues as signs that incorporate movement, say, from shoulder to hip, like *king*. This movement can assist in decoding the message if the exact hand shape is missed, but the distinct contact points and movement of the sign give it away within the context of the topic being communicated. Also, many fingerspelled letters incorporate only subtle differences, making them difficult for people with acuity losses to distinguish (e.g. *A, T, N, M, O,* and *S*). The typical rate for fingerspelling is a rapid three to four letters per second, and this may present a problem for the child with a visual impairment.


Illustration: 29


Illustration: 31


Illustration: 33


Illustration: 34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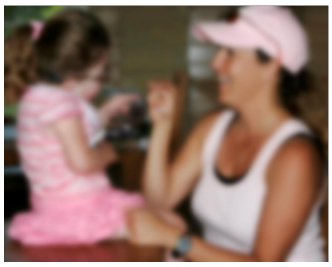
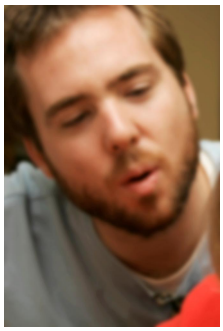


Illustration: 39


Illustration: 41


Illustration: 42

Hand cues used in cued speech do not contrast well near the face. Critical information carried by the speaker's hands and face may be missed by a speechreader if cues become blurry. Cued speech and speechreading may be difficult to impossible for a child with acuity problems to interpret when used under less-than-ideal conditions, and they may not be effective methods for some children who are deafblind.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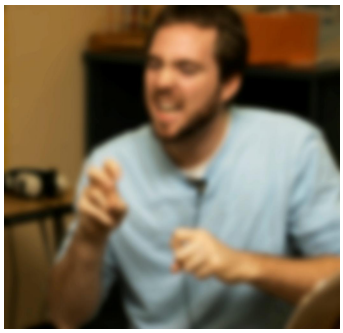
Illustration: 10

If the child has acuity problems, he will have to be close enough to his partner to bring the person's hands, face, and torso into acceptable focus. It is important to determine the best receptive distance for him in a variety of situations.

Also, when you combine any number of signs (and/or fingerspelled words), you may need to communicate more slowly and distinctly.

With severe acuity problems, the distance and rate required by the child with deaf-blindness will be significantly different from deaf or hard-of-hearing peers. Adjusting the rate and distance of your signs, fingerspelling, and hand cues or accommodating the child's needs when he is speechreading may be very difficult when you are communicating to children in a group. Sometimes teachers have the impossible task of teaching at the rate and distance typical of the majority and then trying to catch the child who is deaflblind up later. To provide appropriate access for the child with deafblindness, an additional staff person is often necessary to provide manual communication at that child's preferred distance and rate. However, you must find the appropriate distance and rate for use of any of these forms based on the child's rate of comprehension, which can vary across settings.

Illustration: 43

Adaptations/strategies to consider for the child's educational plan:

Vary the rate of signing, fingerspelling, speech, or cues according to the child's responses in different situations, such as when the information is complex or novel. (However, always keep the signing pace predictable.)

Vary the rate of signing, fingerspelling, speech, or cues according to the child's responses in different situations, such as when the information is complex or novel. (However, always keep the signing pace predictable.)

Make specific determinations about the child's best receptive distance in a variety of situations (e.g., advise that the child be within 24 inches of the partner to read fingerspelling).

Use tactual signing and/or fingerspelling when necessary (see question no. 10).

Use a low vision aid, such as a monocular, to increase the amount of information the child receives.

Provide additional staff to ensure that the child accesses manual communication.

Provide frequent visual "listening breaks" to offset eye fatigue.

Illustration: 44

3) Can the child visually discern nonmanual signals that add meaning to signs or speech?

Illustration: 45

American Sign Language (ASL) utilizes a complex grammar of manual sign and nonmanual markers. These must be viewed simultaneously because the nonmanuals affect the grammatical outcome of what is being expressed. A few examples of nonmanual signals are pursed lips, puffed cheeks, raised eyebrows, and a head nod. When specific signals combine with the manual sign for a word, the meaning changes (Baker & Cokely, 1980). The child can perhaps see the large hand movements, but not the more subtle movement of the face and head that signify the difference between a question, a rhetorical question, a statement, a request, a negation, and so on. In this case, she is not receiving the entire message and, therefore, misunderstands. A child who uses speechreading or cued speech also sometimes needs to be able to distinguish and interpret nonmanual signals to fully understand what is being conveyed.

Illustration: 46

Illustration: 47

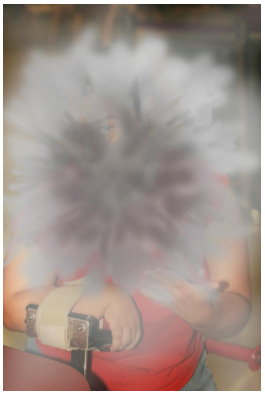

Illustration: 6

Illustration: 48

Illustration: 49

Look at the child's overall comprehension of information that is being presented. Also consider the child's ability to read people's moods or intents communicated through body language. Try some imitative games that require the child to pay attention to facial movements and hand or body movements at the same time. Does the child see both movements at a variety of distances?

Adaptations/strategies to include in the child's educational plan:

Provide nonmanual information in some other form. For example, instead of relying on facial expression, use additional manual signs to convey meaning. For example, sign *suspicious* and narrow your eyes, sign *yes* when nodding the head in the affirmative, and *not* when shaking the head to negate.

Show how grammatical information is expressed through body movements by demonstrating. Lean in close or otherwise allow the child to notice head movement for negation, assertion, conditionals, and relative clauses. Point to the raised brow for a yes/no question, to the squinted brow for a who question, and to the lips and mouth for intensities, temporal aspects, and amounts.

Illustration: 50

Try exaggerating nonmanual signals slightly in order to convey them clearly.

4) Does lighting affect the child's ability to visually access communication?

For some children, dim or very bright lighting may present challenges. As one friend who has visual impairments put it, "Light can either be my best friend or worst enemy."

Observe the child's ability to understand and respond to manual communication, speechreading, or cues in different lighting conditions. Watch for changes in skill level indoors and outdoors, under fluorescent lights and incandescent lights, in shaded or dimly lit areas, at twilight and at night, etc.

Adaptations/strategies to consider for the child's educational plan:

In low light conditions, have the child shift to tactual signing. For example, when the lights are dimmed for a videotape, a child with peripheral field loss and/or night blindness may need this support.

Use area lighting. Lamps or overhead spotlighting on the person communicating can be very helpful. Position the lights so that shadows do not fall on the signer's or speaker's hands or face. Cross lighting (with a light on each side) is best.

Use visors, hats, and sunglasses to reduce glare. For children with Usher Syndrome or other visual conditions, glare is a big obstacle.

Avoid signing or speaking to the child with your back toward a light source (e.g., standing in front of a window).

Provide the child with a copy of what is on the overhead projector.

Illustration: 8

5) Does the visual background affect the child's comprehension?

Professional sign language interpreters wear solid colors that contrast with their skin when interpreting because it provides a good background for their hands. This makes their signing clearer and easier to read.

The child with visual impairments has to work harder to pick out visual information when there is a "busy" visual background. Comprehension skills may increase or decrease when a child is decoding signs against different visual backgrounds.

Adaptations/strategies to consider for the child's educational plan:

Dress in contrasting, solid colors to make signs easier for the child to discriminate. Wear a smock to cover clothing that is patterned or not solidly colored.

Select the best color to improve background contrast. For instance, some children may be able to see better with purple as the background color rather than black.

6) Can the child follow signed conversations in group settings?

Group instruction poses different demands on a child's functional use of vision than one-on-one situations. In a group lesson, a teacher may start signing a sentence directly to the child at a distance of 6 to 12 inches and then turn to another child to finish the statement. Suddenly the teacher's hands have moved to a distance of 30 inches from the child. When this occurs, the child with a vision loss misses some of the signing simply because it has moved out of visual range. Likewise, the child may visually access a teacher's speechreading when sitting very close but misses what is being said when the teacher turns or steps away to address another child.

The distance and angle of the manual communication, cued speech, or speechreading continually changes as different people in the group take part in the discussion. The child constantly has to locate the person signing or speaking, refocus to see what is being signed or said and may even need to physically change position to bring that person into view.

Note: Taking the additional time to provide even the most basic adaptations necessary to include the child who is deafblind will frequently break up the momentum of a group lesson. A teacher may know the child needs additional time to study pictures, needs for other people to sign more slowly, needs to be close to see faces, has trouble tracking the movement of hands, and so on. However, consistently making the

necessary changes while conducting group instruction and providing the tactual support that the child who is deafblind needs may be impractical. As a result, it is a challenge to give the appropriate level of instruction to the child and additional staff may be needed during group activities.

Illustration: 51

Adaptations/strategies to consider for the child's educational plan:

Because of the inherent difficulty in group activities, seriously consider the addition of staff to allow one-on-one interaction when the child is included.

Indicate the person who will sign or speak next by pointing to and/or giving the sign name of the person.

Allow the child additional time to visually locate the speaker or activity.

Confirm that the child's attention is directed to the group's current speaker.

Check comprehension frequently.

Pre-teach the activity so the child is familiar with the topic and materials.

Alter the pacing of the group activity to allow the child to participate successfully.

When pointing to a referent, allow additional time for the child to visually locate and examine the referent before signing.

7) Would the child benefit from supplemental experience to assist in understanding the concepts behind the language?

Children who are deaf or hard of hearing have a wealth of incidental visual information to serve as a basis for language. This may not be the case for a child with deafblindness. Significant amounts of critical information are distorted or missing altogether for a child with a concurrent visual loss. For example, a child who is deafblind may never be able to see a bull standing in a pasture or a cow being milked, or for that matter see a cow at all. Showing a picture or giving a sign for cow assumes knowledge, not only of what the symbol represents, but of the concept of "cow," that may not exist.

Illustration: 52

Children who are deafblind need extensive, organized experiences with real objects and actions before they can truly understand pictures, spoken lan-

guage, fingerspelling, or signs that represent these objects and actions. Their sensory losses have denied them this experience. New information should not be introduced via speech (even with cues), a picture, or sign if the child does not have a firm experiential base to relate to it. Having the ability to remember and repeat information is not the same as understanding a concept. The lack of experience limits access to information.

Even children who have a good experiential base, may still need supplemental experience. Demonstration and modeling are used extensively with deaf or hard-of-hearing children. Children who cannot see the demonstration must do the action themselves. Children with field restrictions who can see the demonstrations must simultaneously attend to signing or spoken words and shift their gaze rapidly. In the latter case, some of the information from both sources may be lost in the process. It may be necessary for children to tactually and visually examine objects before they can recognize them at a distance. Those with acuity loss may also miss information or receive distorted information, and class demonstrations may prove equally difficult for them.

Illustration: 53

Adaptations/strategies to consider for the child's educational plan:

Provide supplemental experience to build an overall conceptual base.

Pre-teach by allowing the child to go through a demonstration individually before he or she participates in it with the group.

8) Would the child benefit from the technique of coactive signing when learning to produce new signs?

Coactive signing is a technique that encourages better expressive signing skills in visually impaired children who are unable to clearly see the instructor model signs. A child's who cannot see to form signs correctly, may produce signs that are difficult to read. When teaching a sign coactively, an instructor takes a child's hand(s) and helps to form the sign correctly. Coactive signing teaches a child how to make signs, but the child will still need to learn to read them when others produce them. Therefore, it is important to give the child an opportunity to see (or tactually read) teachers making signs in order to learn them receptively.

Adaptations/strategies to include in the child's educational plan:

Use the technique of coactive signing (physical guidance of the child's hands) to

facilitate production of a standard manual sign for expressive communication
(from Project SALUTE fact sheet)

Illustration: 54

Illustration: 55

9) Does the child initiate or benefit from (hand) tracking?

Tracking or hand tracking, when used in reference to signing, occurs when the person with severe vision loss places his or hand(s) on the wrist(s) of the signing partner. This technique enables a person to use the kinesthetic sense to understand where to direct their gaze to follow the signer's hand. Enough information may be gained from the orientation or general location of the hand to recognize the sign without seeing it clearly. For example, the difference between the signs *your* and *my* is in palm orientation. Tracking can also be used in conjunction with other adaptations mentioned in question no. 1 about placement and distance of manual language forms related to a child's visual fields.

Illustration: 18

Illustration: 17

Illustration: 23

Some children initiate tracking on their own. This usually indicates that they need more information than they are currently receiving visually. Tracking is an adaptation for the child to use when moving farther from the speaker is impractical, for example, while sitting next to a friend on the bus when optimum viewing distance is 4 feet. In many instances, children will need to be taught this technique and encouraged to use it often.

Adaptations/strategies to include in the child's educational plan:

Provide the opportunity for the child to utilize (hand) tracking.

Introduce the technique of (hand) tracking to the child by placing your forearm under the child's hand as you sign.

10) Does the child initiate or benefit from tactual signing?

Tactual signing is a receptive skill used by a person who already understands or is learning sign language but cannot visually read signs and fingerspelling. To receive information, "the deafblind person places one or both hands on the hand(s) of the signer in order to read signs and fingerspelling through the tactual sense. [It is] . . . a direct adaptation of a communication system originally intended for vision . . . to the tactual sense" (Reed et al., 1995). The expressive language by the student who is deafblind occurs normally without tactual involvement. It should not be confused with the expressive skill of coactive signing.

Illustration: 56

Children who learn sign language visually and then undergo a significant vision loss have to relearn the language tactually because signs feel different than they look. There may be emotional issues for the child to face when switching to tactual signing because it is an acknowledgement of vision loss. This is an extremely stressful change for a person who is hard of hearing or deaf and who now needs to adjust to a growing visual loss.

To be a skilled reader of tactual sign language, a person must do more than just learn how the signs feel. Learning how to place the hands to get the most information without interfering with the speaker's ability to sign is very important. In the beginning when ASL is being used, the child will typically use both hands. As skills increase or when the

Illustration: 57

Illustration: 58

Illustration: 59

child is very familiar with a partner, one hand may only be used. The child will need to learn to use a light touch on the hands of the person who is signing. The partner can fatigue very quickly, and over time, injuries like Carpal Tunnel Syndrome can occur if adequate breaks are not allowed. The person who is deafblind may also become fatigued because holding the hands in place for long periods of time is tiring, and reading signs tactually takes a great deal of concentration.

Illustration: 60

Keep in mind that some of the information conveyed in sign language is expressed through non-

manual markers like facial expressions, eye gaze, a shoulder shrug, etc. With tactual signing, alternate manual ways to convey the meaning must be employed. For example, one can sign *question* instead of using eyebrows and a head tilt, sign *not* or *don't* for a head shake. Additional factors can cause confusion when using tactual sign. Pointing or *indexing* is used to indicate pronouns. Some signs have similar locations, hand shapes and movements. Some verbs are *directional,* showing their actions through, sometimes complex, movements. In these cases using the names and nouns rather than indexical pronouns will help keep things clear. Signs that are similar such as *onion/apple, cute/funny, mother/father* should be clarified either by spelling them or otherwise making sure they are understood in context. Verb usage should be simplified where possible and comprehension checked when necessary.

While tactual signing is most often used by individuals whose vision loss is total, it is also used by people who have vision but are not able to see signs and fingerspelling clearly enough to understand them. If a child with low vision initiates this modification, respect it as an attempt to gain necessary information and provide the opportunity to receive signs tactually. Children may need to use tactual signing in some situations and not in others. For example, a child may need to rely on tactual signs in very dim light but be able to get by without it under good lighting conditions. In some instances, tactual signing can allow a child to follow a discussion with the hands while using vision to regard the item or situation under discussion.

Illustration: 21

Adaptations/strategies to consider for the child's educational plan:

Teach and encourage the use of tactual signing.

Provide alternate ways to convey nonmanual markers through manual signs, such as signing *question* rather than raising the eyebrows or *very* rather than pursing the lips or puffing the cheeks.

Provide frequent breaks to relieve fatigue in reading signs tactually. Avoid rhetorical questions that are difficult to render tactually.

Use nouns and names rather than pointing to index pronouns.

Take extra care to be sure directional verbs are understood.

Note: This is an abbreviated discussion of the important issues involved with tactual signing.

11) Does the child need additional environmental information provided?

When conversing with or interpreting for a person who is deafblind, additional environmental information must be provided along with the conversation or lecture. This would include descriptions of anyone else who is in the room, where they are, and what they are doing, who has their hand up, an unexpected noise, safety issues, etc. Without this information, some comments or activities may not make sense if people who are present are referring to things that the person with deafblindness cannot see or hear. The interpreter should have a seating chart with the names of the others in the group, and each person should speak his or her name before making a comment. It is necessary to communicate only what seems practical and important in the educational environment.

Adaptations/strategies to consider for the child's educational plan:

Provide additional environmental information to the child.

Allow extra time for the child to take in what others can see.

12) If the child will benefit from Braille, are there English-language acquisition issues typical of deaf or hard-of-hearing children tat should be addressed?

When determining whether print or Braille should be used for a child who is deaf or hard of hearing, teachers will need to keep in mind that slow reading rates and problems with comprehension may be related more to acquiring English-language skills than to the vision problem. In many ways, these children's learning needs are similar to those children who are learning English as a second language. A change in literacy medium from print to Braille may not improve reading performance when a child is having difficulty with English. Sometimes, children who are learning contracted Braille begin to incorrectly fingerspell in contractions. This creates problems in communication with others. There is debate in the field of deafblindness about the efficacy of using the more advanced contracted rather than uncontracted Braille for some children in this population. The following adaptations might be helpful to Braille students acquiring English:

Modify the language level to match the child's ability to read and understand English.

Generate stories and text based on the child's actual experiences or interests to help in understanding the English represented by the Braille.

Use fingerspelling to support the learning of the Braille alphabet.

Consider using (uncontracted) Braille for the child.

13) Are there instructional strategies, materials, and tools typically used with deaf or hard-of-hearing children that may present visual problems for the child who is deafblind?

Pictures to teach signs, cues and speechreading. When used for the child with deafblindness, it is important to determine the best presentation: color or black line drawings, high contrast, figure-ground clarification, perspective, etc.

Working on the floor and placing pictures or objects on the floor and then signing at chest level or speaking. With this method, visual demands are made in two places and at two distances, requiring gaze shifting and refocusing. Allow the extra time needed for the child to follow the lesson and check for comprehension

Holding two pictures or objects side by side and bobbing them up and down in a modification of the sign for *which*. The child with a vision loss is faced with the problem of trying to interpret moving pictures. Instead, offer choices in a manner that the child can see/follow.

Captioning in the form of subtitles displayed on a screen so that a person who is deaf or hard of hearing can follow the soundtrack of a program. The size of print (usually about one-half inch high on a 19-inch screen) and rate of presentation may be problems for a child with a vision loss. Closer seating may help or an interpreter may be needed to read the text to the child.

Communication Access Real-time Translation (CART) is a method of typing what is being said and projecting it onto a screen. Children with vision problems may have difficulties with the size of print and rate of presentation. Again, seating arrangements may help or it may require an interpreter.

Telecommunications Device for the Deaf (TDD). A child with vision loss may need adaptations to the keyboard such as larger and/or higher contrast labeling of the keys. Specially modified TDDs that come with an external large visual display are available. A specialized refreshable Braille device connected to a TDD (formerly known as a Telebraille) may be appropriate if the child is a Braille user.

Alerting devices with light or visual displays. These may need to be replaced with devices that are vibrotactile.

SMS text messaging devices such as "sidekicks." These have very small keyboards and visual displays, making it impractical or impossible for children who are deafblind to use. At this time there is no comparable technology that can be substituted.

Other emerging and changing technologies for the deaf and hard of hearing. One needs to examine these individually before assuming they will apply to children who have a combined hearing and vision loss. (Under "Resources," see the link to the Helen Keller National Center for information about emerging products.)

14) Are there modifications to standard interpreting arrangements or signed classroom instruction that need to be addressed?

It is possible that a child with deafblindness may need a completely different interpreting arrangement than that used by the deaf and hard-of-hearing children in the same classroom. Even in an environment where everyone is signing, additional support may be needed. For example, at a recent conference there were four participants who requested sign language interpreters. One of the participants could see the platform interpreter who stood by the speaker. Two of the participants required a tactile interpreter. The fourth person used a close-vision interpreter. All of these interpreting arrangements were needed simultaneously in order to make the information accessible to all participants.

Adaptations/strategies to consider for the interpreting arrangements of the child who is deafblind:

Platform interpreting. The interpreter is positioned near the speaker an optimal distance from the child.

Small group interpreting. The interpreter sits within two or three feet of a small group of children. This is an adaptation provided for those whose vision prohibits them from seeing a platform interpreter.

Close-vision (1 to 1) interpreting. This type of interpreting is provided when an individual's vision loss requires specialized placement of the signed information, frequently the case when a person has restricted visual fields or other impairments that require signs to be delivered within a particular space or from a particular distance. This also occurs when a person needs to use tracking.

Illustration: 61

Visual description/environmental information. When interpreting for a person who is deafblind the interpreter includes descriptions of what cannot be seen or heard (see question no. 11 above).

Tactual interpreting, a "hands on" technique in which the person who is deafblind receives the signs by following the interpreter's movements, etc., via direct contact with the hands (see question no. 10 above).

Feedback Interpreting, used in situations in which a presenter who is deafblind is kept informed about what is happening in the audience (laughter, questions, remarks, etc.) This information is conveyed to the presenter by an interpreter stationed nearby.

Oral interpreting for speechreaders. The interpreter mouths the words that are being said by the speaker at a distance that allows the deaf or hard-of-hearing person to lip read. Note: This is an abbreviated discussion of the important is-

sues involved with appropriate interpreter services. Not all interpreter arrangements are discussed.

15) Does the child have skills to advocate for the modifications he needs?

Many children, even at a very young age, will let you know when they cannot see what you are signing or saying. They may pull away from tasks or refuse to look. The older child may move your hands so they will be in his field of vision or become critical of your signing. A child may comment that you are speaking too fast or that something, like a mustache, is reducing the visibility of the lips for speechreading. Note how well the child can assess his ability to see in any given situation and how well visual difficulty is communicated to others. Ultimately, only the individual with deafblindness knows what adjustments and modifications are needed and being able to advocate for these remains important throughout the individual's life.

Adaptations/strategies to include in the child's educational plan:

Work individually with the child to teach how to communicate needed adjustments in an appropriate manner.

To encourage appropriate response, inform others in the environment that the child is learning self-advocacy skills.

Conclusion

Making the appropriate modifications for children who are deafblind is critical to their educational achievement. If their unique needs are not met, they are then in the **most restrictive** environment, no matter what the placement, cut off from any opportunity to learn. Unfortunately, these supports are not always easy or inexpensive to provide.

By conducting a thorough assessment of the child's visual functioning in accessing manual forms of communication, speechreading, and cued speech, you can determine the supports that are necessary. This will help you and your team to develop appropriate and accessible instruction for the child.

Part 3:
Assessment of Deafblind Access to Manual Language Systems (ADAMLS):
Guide with Summary Results

Begin by reading Part 1, "The Assessment Process," Steps A through H. This section briefly describes the activities necessary to lay the groundwork for achieving optimal access to manual communication for the child who is deafblind. Each step leads you toward a thorough consideration of the possible adaptations and strategies that are the goal of this assessment.

Once you have read and completed Part 1, then look through Part 3, "The Assessment of Deafblind Access to Manual Language Systems (ADAMLS) : Guide with Summary Results," to see if everything makes sense to you. This document is a checklist intended to help you obtain relevant information. Are you or someone on your team familiar with the concepts contained in it? Are you comfortable with the material? Maybe you've done this assessment before and know how to proceed. If so, go ahead and conduct the assessment using the ADAMLS. We encourage you to supplement the provided list of considerations as you identify the individual needs of the child you are working with. If you need further clarification or are not yet ready to proceed with all or part of the ADAMLS, refer to Part 2, "Assessment Questions and Possible Adaptations," which includes helpful descriptions and examples. Then proceed with the assessment.

Part 1, "The Assessment Process" and Part 2, "Assessment Questions and Possible Adaptations," can be found along with this guide at the DB-LINK web site, http://www.dblink.org/pdf/adamls.pdf

Etiology of the child's sensory loss:

Manual communication system currently used or considered for use with the child:

- ❑ American Sign Language (ASL)
- ❑ Signing Exact English (S.E.E. 2)
- ❑ Fingerspelling (Rochester Method)
- ❑ Simultaneous Communication (SimCom)
- ❑ Speechreading
- ❑ Cued Speech
- ❑ Other approach: _____

Places/situations where the child is being observed:

Information gathered from team interview that is critical to assessment:

CONCERN OR INFORMATION	VALIDATED BY OBSERVATION?	POSSIBLE STRATEGY TO ADDRESS NEED

ASSESSMENT QUESTIONS AND POSSIBLE ADAPTATIONS

1) What is the best placement and distance of manual language forms for the child related to his or her visual fields?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Present signs consistently in the same quadrant, at the same distance, and within a precise signing space.
- ❑ Reduce signing space. (e.g., sign *country* closer to the wrist than the elbow.) This helps a child with field losses by moving the sign into the visual field.
- ❑ Fingerspell (rather than sign) some words if the movement of the sign takes it out of the child's field of vision (e.g., spell *Russia*, which is signed by placing the hands on the hips).
- ❑ Substitute a sign that requires a smaller signing space if it does not change the meaning (e.g., instead of signing *wonderful* with both hands at the sides above the shoulders, substitute *good* with both hands at the front and center near chin).
- ❑ Alter the signing or speaking distance between the child and the partner based on the type of field loss.
- ❑ Use a low vision aid, such as an expanded field telescope, to increase the amount of information the child receives.
- ❑ Allow the child to turn his head to use eccentric viewing positions if needed.
- ❑ Use tactual signing or (hand) tracking in some situations.
- ❑ Position oral interpreter or speaker so the student can easily see within her field of vision.
- ❑ Other

2) What is the best distance and rate of communication for the child related to his or her visual acuity?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Vary the rate of signing, fingerspelling, speech or cues according to the child's responses in different situations, such as when the information is complex or novel (However, always keep the signing pace predictable).
- ❑ Work individually with the child to improve comprehension of signs, fingerspelling, speechreading, and cued speech through receptive drills.
- ❑ Make specific determinations about the best receptive distance for him in a variety of situations (e.g., must be within 24 inches of the partner to read fingerspelling).
- ❑ Use tactual signing and/or fingerspelling when necessary (see question no. 10).
- ❑ Use a low vision aid, such as monocular, to increase the amount of information the child receives.
- ❑ Provide additional staff to insure that the child accesses manual communication.
- ❑ Provide frequent visual "listening breaks" to offset eye fatigue.
- ❑ Other

3) Can the child visually discern nonmanual signals that add meaning to the signs or speech?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Provide nonmanual information in some other form. For example, instead of relying on facial expression, use additional manual signs to convey meaning. For example, sign *suspicious* and narrow your eyes, adding the sign for *question* instead of relying on the nonmanuals alone, or sign *yes* when nodding head in the affirmative, *not* when shaking head to negate.
- ❑ Show how grammatical information is expressed through body movements by demonstrating. Lean in close or otherwise allow the child to notice head movement for negation, assertion, conditionals and relative clauses. Point to the brow raise for a yes/no question, brow squint for a WH question and to lips and mouth for intensities, temporal aspects and amounts. The child with vision impairment may be unaware of this information.
- ❑ Try exaggerating nonmanual signals slightly in order to convey them clearly. (See the "Green Book," Baker & Cokely, 1980.)
- ❑ Other

4) Does lighting affect the child's ability to visually access communication?

Notes:

Suggested adaptations/strategies to consider:

- ❑ In low light conditions, have the child shift to tactual signing. For example, when the lights are dimmed for a videotape, a child with peripheral field loss and/or night blindness may need this support.
- ❑ Use area lighting. Lamps or overhead spotlighting on the person communicating can be very helpful. Position the lights so that shadows do not fall on the signer's or speaker's hands or face. Cross lighting (with a light on each side) is best.
- ❑ Use visors, hats, and sunglasses to reduce glare. For students with Usher Syndrome or other visual conditions, glare is a big obstacle.
- ❑ Avoid signing or speaking to the child with your back toward a light source (e.g., standing in front of a window).
- ❑ Provide the child with a copy of what is on the overhead projector.
- ❑ Other

5) Does the visual background affect the child's comprehension?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Dress in contrasting, solid colors to make signs easier for the child to discriminate. Wear a smock to cover clothing that is patterned or not solidly colored.
- ❑ Select the best color to improve background contrast. For instance, some children may be able to see better with purple as the background color rather than black.
- ❑ Other

6) Can the child follow signed conversations in group settings?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Because of the inherent difficulty of group activities, seriously consider the addition of staff to allow on-on-one interaction when the child is included.
- ❑ Indicate the person who will sign or speak next by pointing to and/or giving the sign name of the person.
- ❑ Allow the child additional time to visually locate the speaker or activity.
- ❑ Confirm that the child's attention is directed to the group's current speaker.
- ❑ Check comprehension frequently.
- ❑ Pre-teach the activity so the child is familiar with the topic and materials.
- ❑ Alter the pacing of the group activity to allow the child to participate successfully.
- ❑ Other

7) Would the child benefit from supplemental experience to assist in understanding the concepts behind the language?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Provide supplemental experience work to build an overall conceptual base.
- ❑ Pre-teach by allowing the child to go through a demonstration individually before participating in the group.
- ❑ Other

8) Would the child benefit from the technique of coactive signing when learning to produce new signs?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Use the technique of coactive signing (physical guidance of the child's hands) to facilitate production of a standard manual sign for expressive communication (Coactive Signing, 2005).
- ❑ Other

9) Does the child initiate or benefit from (hand) tracking?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Introduce the technique of (hand) tracking to the child by placing your forearm under the child's hand as you sign.
- ❑ Provide the opportunity for the child to use (hand) tracking.
- ❑ Other

10) Does the child initiate or benefit from tactual signing?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Teach and encourage the use of tactual signing.
- ❑ Provide alternate ways to convey nonmanual markers through manual signs, such as signing *question* rather than raise eyebrows *very* rather than pursing the lips or puffing the cheeks.
- ❑ Provide frequent breaks to relieve fatigue in reading signs tactually. Avoid rhetorical questions that are difficult to render tactually.
- ❑ When using ASL, increase comprehension by using nouns and names rather than pronouns.
- ❑ Provide comprehension checks when using directional verbs.
- ❑ Other

11) Does the child need to have additional environmental information provided?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Provide additional environmental information to the child.
- ❑ Allow extra time for the child to take in what others can see.
- ❑ Other

12) If the child will benefit from Braille, are there English-language acquisition issues typical of deaf or hard-of-hearing students that should be addressed?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Modify the language level to match the child's ability to read and understand English.

- ❑ Generate stories and text based on the child's actual experiences or interests to help him understand the English represented by the Braille.
- ❑ Use fingerspelling to support the learning of the Braille alphabet.
- ❑ Consider using grade one (uncontracted) Braille for the child.
- ❑ Other

13) Are there instructional strategies, materials, and tools typically used with deaf or hard of hearing children that may present visual problems for the child who is deafblind?

Notes:

Suggested adaptations/strategies to consider::

- ❑ Pictures to teach signs, cues and speechreading.
  - ❍ Use pictures which are visually accessible to the child. Describe in notes section (color or black line drawings, high contrast, figure-ground clarification, perspective, etc.)
- ❑ Working on the floor and placing pictures or objects on the floor and then signing at chest level or speaking. Visual demands are made in two places and at two distances, requiring gaze shifting and refocusing
  - ❍ Allow the extra time needed for the child to follow the lesson and check for comprehension
  - ❍ Reduce distance between materials and signed instruction.
- ❑ Holding two pictures or objects side by side and bobbing them up and down in a modification of the sign for *which.* The child with a vision loss is faced with the problem of trying to interpret moving pictures.
  - ❍ Offer choices in a manner that the child can see or follow.
- ❑ Captioning in the form of subtitles displayed on a screen and Communication Access Real-time Translation (CART), both present difficulties with the size of print and rate of presentation for a child with vision loss.
  - ❍ Provide preferential seating.
  - ❍ Provide an interpreter to read the text to the child.
  - ❍ Provide student with separate monitor for close viewing.

- ❑ Telecommunications Device for the Deaf (TDD).
    - ❍ Provide an adaptive keyboard such as larger and/or higher contrast labeling of the keys
    - ❍ Provide an external large visual display.
    - ❍ Provide a telecommunications device with refreshable.
- ❑ Alerting devices with light or visual displays.
    - ❍ Provide devices that are vibrotactile.
- ❑ SMS text messaging devices such as "sidekicks" and other emerging technologies for the deaf and hard of hearing.
    - ❍ Examine these individually to see if they are useful to the student. (Under "Resources," see the link to the Helen Keller National Center for information about emerging products.)
- ❑ Other

14) Are there modifications to standard interpreting arrangements or signed classroom instruction that need to be addressed?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Platform interpreting. The interpreter is positioned near the speaker, an optimal distance from the child who is deafblind.
- ❑ Small group interpreting. The interpreter sits within two or three feet of a small group of children. This is an adaptation provided for those whose vision prohibits them from seeing a platform interpreter.
- ❑ Close vision (1 to 1) interpreting. This type of interpreting is provided when an individual's vision loss requires specialized placement of the signed information, frequently the case when a person has restricted visual fields or other impairments that require signs to be delivered within a particular space or from a particular distance. This also occurs when a person needs to use tracking.
- ❑ Visual description/environmental information. When interpreting for or conversing with a person who is deafblind, the interpreter includes descriptions of what he cannot be seen or heard (see question no. 11 above).
- ❑ Tactual Interpreting, a "hands on" technique in which the person who is deafblind receives the signs by following the interpreter's movements, etc., via direct contact with the hands (see question no. 10 above).

- ❑ Feedback Interpreting, used in situations in which a presenter who is deafblind is kept informed about what is happening in the audience (laughter, questions, remarks, etc.) This information is conveyed to the presenter by an interpreter stationed nearby.
- ❑ Oral Interpreting for speechreaders. The interpreter mouths the words that are being said by the speaker at a distance that allows the deaf or hard of hearing person to read lips.
- ❑ Other

15) Does the child have skills to advocate for the modifications he needs?

Notes:

Suggested adaptations/strategies to consider:

- ❑ Work individually with the child to teach how to communicate needed adjustments in an appropriate manner.
- ❑ To encourage appropriate response, inform others in the environment that the child is learning self-advocacy skills.
- ❑ Other

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List of Illustrations

15) This person with restricted fields has chosen the face to focus on but completely misses what is happening on the hands.

16) Here the student may be backing up a bit to try to increase the field of view so he has the hand as well as the teacher's face in his vision.

17) Shown here is an example of the hand tracking technique mentioned. It is explained in detail under assessment question 9. Notice how the student simply lays her hands over the wrist area of the signer in order to follow where the hands are moving.

18) By using tracking, the student knows where to direct her gaze via kinesthetic feedback gained through following the wrist of the signer. Notice that she is also using eccentric viewing to utilize the optimal part of her vision.

19) This student is using eccentric viewing to look at the picture during the lesson. Without the knowledge that she uses this technique to her advantage there may be times when it appears she is not paying attention.

20) Note the eccentric viewing used and the accommodations by both the student and the teacher. The teacher is positioning her signing for best viewing under the circumstances and the student is adjusting her gaze to see best.

21) This student needs signs placed in her left quadrant. Notice the slight alternative to her tracking technique where she drapes her hand over part of the teacher's hand rather than the wrist. This gives her enough contact to help read the sign tactually, perhaps while attending to the materials in front of her.

22) This is an illustration of full tactual sign technique which will be discussed further in question 10. The student has his hands in contact with the teacher's hands in order to read what is being signed.

23) This is another example of the tracking technique in use. Remember that this may begin with the student reaching out to touch or reposition your hand.

24) Field loss plus acuity loss, as demonstrated here, causes severe loss of understanding in manual language settings. Fingerspelling and sign substitutions may help.

25) Adjusting for the field loss by repositioning gains a larger angle of view but the message is difficult to decipher due to the acuity loss. Reducing the signing space or using a low vision aid may be necessary.

26) Acuity and field loss shown with an attempt to see what the hand is doing. This results in important information falling outside the field of vision. Tracking or tactual signing may need to be used.

27) This shows an example of fingerspelling. Refer to Chart 1 and question 2 for some elaboration on this form of manual communication.

29) This fingerspelled letter is shown for comparison to the one blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

31) This fingerspelled letter is shown for comparison to the one blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

33) This fingerspelled letter is shown for comparison to the one blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

34) This fingerspelled letter is shown for comparison to the one blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

37) This fingerspelled letter is shown for comparison to the one *not* blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

39) This fingerspelled letter is shown for comparison to the one *not* blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

41) This fingerspelled letter is shown for comparison to the one *not* blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

42) This fingerspelled letter is shown for comparison to the one *not* blurred by a visual acuity problem in order to demonstrate the difficulty in seeing the subtle differences.

43) Multiple demands on the student's vision and attention are being made here (sign on the hand, facial expression, object in the other hand, the activity calendar). It is necessary to be sensitive to the pace the student needs to comprehend and to consciously attempt to separate out individual elements of the lesson and make sure he has seen them.

44) Here the teacher and student are using tactual signing to communicate.

45) An example of a nonmanual signal in ASL – lip pursing.

46) An example of a nonmanual signal in ASL – brow raising.

47) An example of a nonmanual signal in ASL – brow squinting.

48) Shows how a person with a central field loss could completely miss the nonmanual lip purse marker but see the hand.

49) Shows how a person with a central field loss might catch the nonmanual lip purse marker but then not see what the hand is signing.

50) Another example of brow squinting in combination with nonmanual markers using the tongue and lips (use the zoom magnifier in the tool bar to see details in the image).

51) In this case the student is physically in contact with the teacher to check whether or not she is currently using her voice. This gives him valuable feedback but at the same time makes rather large demands on her attention and ability to work with others at the same time.

52) Teacher showing student an actual tail of a bull.

53) Student having opportunity to conceptualize a bull.

54) Teacher shown using coactive signing with student to show correct expressive sign formation.

55) Teacher shown using coactive signing with student to show correct expressive sign formation.

56) Student in process of learning tactual sign.

57) This shows two handed tactual signing.

58) This shows one handed tactual signing.

59) This shows one handed tactual signing.

60) Fatigue is common during tactual sign sessions and breaks are necessary.

61) Hands-on tactual signing.

Note: the illustrations showing examples of vision loss are for instructive purposes and should not be taken literally. In reality a person's vision may be quite different than what is shown here both in the quality/perception of it and the amounts, placement etc.