

Strategies for Effective Use of Vision in Educational Settings

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Because many hearing-impaired students rely primarily upon vision to obtain knowledge, it is essential that they effectively use their vision to maximize their reception of information. Further, persons having both hearing and visual impairments have special needs relating to effective use of their vision. Instructors, interpreters, and other support service personnel, by having a knowledge of classroom communication strategies important for maximizing use of vision, and by working with students on an individual basis, are better able to facilitate effective communication with each student.

Persons working and preparing to work with hearing-impaired students should become informed on how to help meet the visual needs of *all* hearing-impaired students. (Johnson & Caccamise, 1982, p. 35)

Hicks and Pfau (1979) stated that 99% of information is acquired through the avenues of vision and hearing. When a person has impaired hearing, it is evident that s/he will tend to rely more on vision to obtain verbal information, whether the communication mode is manual or oral. Moreover, hearing-impaired persons rely on non-verbal cues, acquired through vision, for additional environmental information. Thus, the statement by Johnson and Caccamise (1982, p. 35) concerning meeting the "visual needs of *all* hearing-impaired students" is of great significance to instructors and interpreters. If interpreters are to be facilitators of communication between hearing and hearing-impaired persons, then they must be aware of both factors that may be disruptive to the flow of communication and factors that enhance communication. One such factor is vision.

To maximize the effective use of vision by hearing-impaired students is to enhance communication. Instructors, interpreters, and other support service personnel need to be aware of how to enhance the use of vision by

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hearing-impaired students (Caccamise, Meath-Lang, & Johnson, 1981). One obvious consideration in maximizing effective use of vision is to position instructors and interpreters in such a way that the hearing-impaired students have no obstructions blocking their view (Chitwood, 1980). Semi-circular seating arrangements make it possible for hearing-impaired students to view other students in the class. For manual communication reception, Caccamise et al. (1981) additionally recommend that hearing-impaired students be "within 30 feet of the signer and at viewing angles between 0° and 60° toward the thumb side of the dominant hand" (1981, p. 363). Placement within this area ensures that the student with normal vision has a good opportunity to see and comprehend the signed message.

A common assumption among lay persons has been that hearing-impaired persons' other senses, particularly vision, are uniquely strengthened to compensate for the impaired hearing. However, research has indicated that this is a false assumption. On the contrary, it has been demonstrated that there is a higher incidence of visual impairment among the hearing-impaired population than among the hearing population (Hicks & Pfau, 1979; Johnson, Caccamise, Rothblum, Hamilton, & Howard, 1981; Walters, Quintero, & Perrigin, 1982). What strategies can be employed in academic settings to assist hearing-impaired/visually-impaired students in realizing the maximum reception of information?

First, instructors and interpreters should assume nothing about students' vision. Research has demonstrated that even if a hearing-impaired student is using glasses, s/he may not have appropriate corrective lenses (Barrett, 1979; Caccamise et al., 1981; Johnson & Caccamise, 1982; Walters et al., 1982). One reason for this may be lack of communication during visits to the student's vision specialist. Typically, eye examinations are conducted in darkened rooms which prevent the student from speechreading what the doctor is saying. Interpreters are used infrequently in these settings, and the tendency is for vision specialists (ophthalmologists and optometrists) to communicate their findings to the parents rather than to the student. Thus, hearing-impaired students rarely have the opportunity to receive information and clarification from their vision specialist regarding their visual functioning and needs.

Fischer (1981) suggests that interpreters who work with visually-impaired students should avoid fingerspelling as much as possible. Gross body movements are easier to see than the small hand movements used in fingerspelling. Research conducted by Hicks (1979) indicates that, for hearing-impaired persons who have diminished peripheral vision (for example, persons who have Retinitis Pigmentosa, which, when it occurs in conjunction with hereditary deafness, is referred to as Usher's Syndrome), signs will be perceived more accurately when the signer stands six feet away, when the sign is held twice as long as usual, and when the movement of the sign is restricted to an area close to the body and near the face. Thus, it is helpful

for instructors and interpreters to be aware that a student has loss of peripheral vision so that the style of signing can be adjusted accordingly.

Each person's vision loss and functional use of residual vision is as individual as hearing loss and ability to make use of residual hearing. Therefore, instructors and interpreters need to work closely with hearing-impaired students in determining the best arrangement of various aspects of the environment (such as seating and lighting) to facilitate effective communication with *each* student (Fischer, 1981). Naturally, this could present a problem if there is more than one visually-impaired/hearing-impaired student in the classroom. In such a situation, the instructors and interpreters may need to effect a compromise to meet the varying needs of all students. If there is an unresolvable conflict between meeting the needs of students with normal vision and meeting the needs of various visually-impaired students, it may be appropriate to have more than one instructor and/or interpreter in the classroom. Indeed, "many students with serious visual problems use individual interpreters" (Caccamise et al., 1981, p. 365). Although it is helpful to make recommendations about facilitating the communication process for visually-impaired/hearing-impaired students, it is impossible to generalize that a specific technique will benefit all visually impaired students.

Instructors and interpreters need to communicate and plan together relative to procedures to be used in class. For instance, interpreters and/or students may need to be furnished with lists of new words that may be unfamiliar, words that may need to be fingerspelled, and other information important to effective classroom communication. In addition to an interpreter, a notetaker can also be helpful to the visually-impaired student. Bravin (1981) states that notetaking should be considered as high a priority as interpreting for visually-impaired/hearing-impaired individuals. Instructors and interpreters also need to work together in order to provide students with an awareness of classroom procedures and activities. This awareness encourages students to be active participants in classroom discussions and in the learning process (Bravin, 1981; Caccamise et al., 1981).

Lighting, background, and seating arrangements, while important to hearing-impaired students with normal vision, are even more critical to the hearing-impaired student with impaired vision. General communication principles of avoiding light sources behind instructors and interpreters and wearing solid color clothing with a contrasting room background are also applicable to communicating with visually-impaired students (Caccamise, Stangarone, & Moore, 1980). Again, individual student needs must be considered. While bright lighting may help some visually-impaired students to see better, other visual problems may cause students to be overly sensitive to bright light. In addition, many students with distance problems can be assisted by sitting closer to the instructors and/or interpreters. However, as indicated by the Hicks Study (1979), students with peripheral vision problems might be hindered by seating that is either too far away or

too near the interpreter. Thus, individual needs and preferences must be taken into account when arranging seating for visually-impaired students (Caccamise et al., 1981; Hicks, 1979).

Another consideration is fatigue. Since many hearing-impaired students depend primarily on their vision to receive information, it is important that classroom procedures include breaks and activities that allow students to rest their eyes and reduce stress (Caccamise et al., 1981). Since interpreters do not have direct control over class scheduling and are often the "experts on deafness" in a mainstreamed educational setting, it is appropriate for them to discuss the matter of fatigue with instructors prior to class. Some instructors are not aware of the aspects of stress and fatigue, and this provides interpreters with an opportunity to inform instructors that when hearing-impaired students look around the room to *rest their eyes*, this does not necessarily mean they are bored or not paying attention.

Further information regarding education and support services for hearing-impaired/visually-impaired students can be obtained from the Bureau for the Education of Handicapped Children, Center for Services for Deaf-Blind Children, 400 Maryland Ave., SW, Donohoe Bldg., Room 4046, Washington, DC 20202 and the Helen Keller National Center for Deaf-Blind Youths and Adults, 111 Middleneck Rd., Sands Point, NY 11050. In addition, a three credit-hour graduate-level course, *Assessment of Visual Needs of the Deaf Population (EDC 499)*, is offered through the National Technical Institute for the Deaf/University of Rochester Joint Educational Specialist Program in Deafness. This course is open to all persons working with the hearing impaired, and the only prerequisite is a basic working knowledge of expressive and receptive manual communication.¹

As more instructors, interpreters, and other support service personnel who work with hearing-impaired students become cognizant of the importance of vision to the communication and learning processes, it is hoped that fewer visually-impaired/hearing-impaired students will "fall between the cracks" (Vernon, 1981, p. 993) in terms of having their individual vision and communication needs met. It is important that hearing-impaired students are provided opportunities to make maximal use of their residual hearing. However, use of that other important modality for receiving information, *vision*, should also be optimized.

¹Topics covered in this course include: (a) the rationale for establishing visual screening programs for all hearing-impaired persons and methodologies for implementing such programs, (b) visual anatomy and physiology, (c) visual pathologies and functional visual problems, (d) central visual processing and related problems, (e) visual screening procedures, (f) medical, personal/social, and academic/career follow-up, and (g) strategies for optimizing the use of vision. For detailed information regarding this course, the reader is referred to Dr. Donald D. Johnson, Professor, NTID Communication Program, Rochester Institute of Technology, P.O. Box 9887, Rochester, NY 14623.

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