
Thirty-Five Years in Aural Habilitation: A Personal Viewpoint

Trente-cinq années en habilitation auditive: un point de vue personnel

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Abstract

The last 35 years have seen significant advances in the field of aural habilitation and education of hearing impaired children. These have come through the growth of knowledge and technology permitting optimal use of residual hearing from the first months of life. Many children with severe and profound losses have been able to develop good speech and language, receive most of their education in regular schools, and proceed to college and university, taking up careers which were formerly closed to hearing impaired people. The pioneering efforts of speech and hearing professionals, together with the support of committed parents have made these attainments possible. Paradoxically, while all these advances were underway, the oral method was largely supplanted by total communication in schools and classes for hearing impaired children.

Résumé

Depuis trente-cinq ans, on a pu constater des progrès importants dans les domaines de l'habilitation auditive et de l'éducation des enfants déficients auditifs. Ces développements sont apparus suite à l'amélioration des connaissances et de la technologie permettant l'utilisation optimale des restes auditifs dès les premiers mois de la naissance. Plusieurs enfants avec pertes sévères à profondes ont pu développer de bonnes compétences de parole et de langage, être éduqués dans des écoles régulières et par la suite passer au niveau collégial ou universitaire et accéder à des carrières jusque-là inaccessibles aux déficients auditifs. Ces réalisations ont vu le jour grâce aux efforts innovateurs des professionnels oeuvrant dans le domaine de l'audition, de la parole et du langage, et grâce aussi à l'engagement des parents. Paradoxalement, au moment même où se produisait cette évolution, la communication totale a remplacé la méthode orale dans les écoles et classes pour enfants déficients auditifs.

Auditory Approaches

In 1955, I took up my first teaching position in a residential school which was nominally oral, that is, teaching was by lipreading and speech, while signing was common in the dormitories. Hearing aids were used mainly by the partially deaf (those with losses of about 70 dB) and were worn only in class. The school had one group hearing aid, and my class

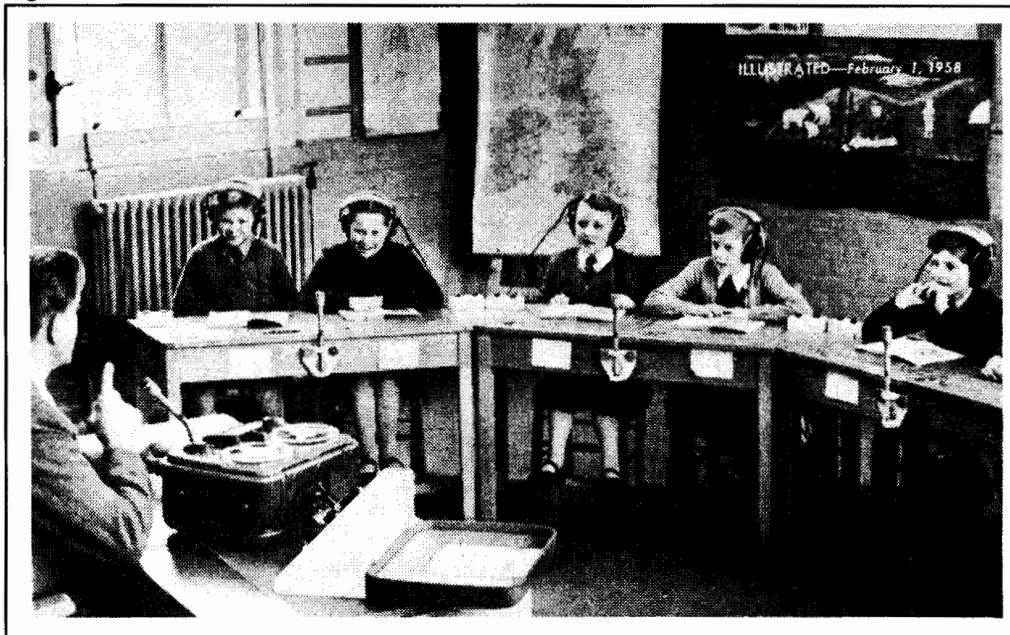
was assigned its use for "auditory training" once or twice per week. This approach was not very successful, and I eventually became discouraged. I knew from my training as a teacher of the deaf at Manchester University that in order to develop oral communication, it was important to use residual hearing continually as a supplement to lipreading and to ensure that children were in an environment where speech was commonly used (Ewing & Ewing, 1950).

I became enthralled about the possibilities offered by emphasizing the use of residual hearing when I visited Daniel Ling's class for deaf children in the town of Reading, England and heard the profoundly deaf children in his class talking. They had natural sounding voices and were in the process of becoming fluent users of English. Ling used a group hearing aid with his students for extended periods each day to develop conversation and to teach regular school subjects. The children also listened through headphones to tape-recorded stories and lessons, following a written text (see Figure 1). Ling's approach was based on that of Wedenberg (1951) and Whettnall and Fry (1964).

I was delighted when I was offered a position working with Ling, but greatly amused when, at the end of the interview, the Chief Education Officer suggested in all seriousness that I should have some speech therapy so that the deaf children would not acquire my Scottish accent! Little did I realise that hearing aids and auditory techniques would improve to the extent that today's hearing impaired children do acquire local accents and learn to speak more than one language.

In my new job, working in a Partially Hearing Unit in a regular school with children aged three to seven years, I was provided with the most up-to-date technology. I, too, had my own classroom group amplifier, but since such small children found the large headphones rather heavy for prolonged wear, I was also provided with an audio-loop induction system, which allowed the children to move freely within the classroom (see Figure 2). Meanwhile, I, the teacher, was tethered to the amplifier by a long cable connected to a fairly large microphone that I wore in a harness. I soon became expert at

Figure 1.



flipping the cable around as I moved from sandbox to water play. Now, I think I should have insisted on special insurance in case I broke my neck!

Considerable technological development has brought us from the first audio-loop systems used in classrooms for the deaf to FM systems, which can be utilized also in mainstream settings. Nowadays, the teacher wears a small light-weight microphone-transmitter unit that sends his or her voice to the child's ear via a receiving unit connected to the child's ear-level hearing aid. The FM system makes it possible for hearing impaired children to hear a good portion of what their teachers say and consequently can lead to higher educational achievement. Some teachers or speech-language pathologists may feel uncomfortable about having to deal with a lot of equipment. One can easily be intimidated by the latest technology. I remember with some amusement my unsuccessful attempt, as a new teacher, to make use of a tape-recorder plugged into a group amplifier. I was so embarrassed when I was shown that I had failed to switch on the recorder! That experience is not unlike what the neophyte computer user may encounter today.

The concept of maximizing residual hearing was not new, even in 1957; see Wedenberg (1951) for a history. Others, besides Ling, who were utilizing an auditory approach included Helen Beebe, Ciwa Griffiths, Hank Huizing, Doreen Pollack, and Edith Whetnall. These professionals and others working today have evolved slightly different procedures, as indicated by the several names which have been used (e.g.,

unisensory, acoupedic, aural-oral, auditory-oral, auditory-verbal). The rationale behind these approaches, however, is essentially the same, that is, the belief that fluent spoken language can only be acquired in the child's early years and that hearing, rather than vision, is the crucial avenue.

Learning to speak usually occurs effortlessly when hearing is normal and, naturally, the more residual hearing a hearing impaired child has, the easier it will be to learn to talk. Audition is crucial because of the peculiar nature of spoken language. Infinitesimal variations of sound alert us that it was "pat" and not "bat," "cats" rather than "cat," "walked" rather than "walk" or "walks." Tone of voice can indicate warmth and affection, sarcasm or wit. The better a child is able to hear his or her own voice and those of others, the easier it will be to develop good articulation and normal language. This, in turn, will facilitate the use of auditory and articulatory coding in short term memory and hence enhance verbal learning. In order for us to make maximum use of residual hearing, we need to begin as soon after birth as possible, and we need to harness technology.

Harnessing Technology

The contribution of technology to the education of hearing impaired children has grown substantially during the last 35 years. This is due to the restless and inquiring minds of audiologists, doctors, educators, electrical and bio-medical engineers, and others, and their willingness to work together

Figure 2.



in research and development. Those with background knowledge in several fields, such as Charles Berlin, Arthur Boothroyd, Daniel Ling, Mark Ross, and Derek Sanders, have been indefatigable in seeking improvements in hearing aid design, use of audio-loop systems, frequency transposition, earmold technology, and cochlear implants. They also have provided and continue to provide audiologists and educators with the practical and theoretical knowledge needed to ensure the appropriate application of the new technology.

One of the most recent technical innovations is the cochlear implant. This procedure, which involves surgery, has been in the news a great deal as it appears to have the potential of "making the deaf hear." The device has proved to be especially successful with adults and children who suffer a total hearing loss after speech and language has been acquired. I have seen at close hand the tremendous advantages that the cochlear implant has to offer. The most dramatic case was a student who came to us at age four years, shortly after recovering from meningitis. For an entire year we did everything we could, but without success. After being fitted with a single channel cochlear implant, she began responding to sounds and to speech. Slowly, she began to understand what

people were saying to her, and her speech began to improve. She became much more outgoing and spirited. She has now been wearing the device on a full-time basis for four years and is functioning academically ahead of her hearing peers. For most of these four years, this student has benefited from education in a fairly homogeneous and fast-paced class of 8 to 10 hearing impaired children, with some reverse mainstreaming. It is important to recognize that cochlear implant does not erase the educational consequences of profound deafness.

With the availability of multi-channel implants and improved processors, congenitally hearing impaired children are now among the possible candidates (Owens & Kessler, 1989). The importance of audiological and educational evaluation and follow-up must be stressed, and the parents must participate actively in the process. In order to benefit fully from a cochlear implant, the child has to be in an environment where there is lots to listen to — interesting sounds and talking playmates. Partial or full-time mainstreaming with support services are realistic goals. As with all hearing impaired children, audiologists, educators, and parents need to collaborate closely.

The Role of the Audiologist

Over the years, hearing impaired children have come to depend increasingly on the skills and knowledge of the audiologist. At the outset of my career, it was the ear, nose, and throat surgeon, usually assisted by an audiometrician, who assessed the extent of the hearing loss and recommended that the child be sent to a residential or day school. Further evaluation of hearing rarely was undertaken. This is in marked contrast to present practice wherein the audiologist is recognized as the professional most able to fully assess the hearing loss. However, even in the early stages of evaluation, an aural habilitationist or teacher of the hearing impaired, who sees the child on a more frequent basis, can be of great assistance.

At the Montreal Oral School, we have had our own educational audiologist, sound booth, and technician, since the early 1970's. I believe we were the first school for the deaf in Canada to take such steps. Our nursery children, in particular, benefit enormously from having ready access to audiologist, Irene Hoshko, who makes hearing tests fun. The nursery teachers accompany their students into the booth and are able to compare the child's responses during testing with those observed in free play or individual sessions. A change of hearing aid, or even of earmold, may permit a child to hear "sh" or "s" sounds as well as vowels. A check of middle ear status may suggest that a medical visit is required. Every little bit of extra hearing makes the language learning process that much easier.

Our classroom and itinerant teachers work closely with our educational audiologist in attempting to ensure that each

child is making the most of his or her auditory capacities. The insertion gain optimizer can help verify how the hearing aid functions in the child's ear. The students, too, as they grow older, begin to relate to the audiologist as a valued friend in whom they can confide about either personal matters or their likes and dislikes concerning particular hearing aids, FM systems, or the selection of assistive devices.

The wide array of assistive devices currently available, such as closed caption decoders for television and telephone devices for the deaf (TDDs), have opened up new avenues for learning, socialization, and independent living. Teenagers, in particular, revel in telephone contact. For adults, Bell Canada's message relay service, which allows a person with a TDD to communicate through a special operator with a person using a regular telephone, is a boon. The latter example is an indication of society's changing attitudes towards people who are in some way disabled.

Attitudes Towards People with Hearing Impairment

Society's attitudes towards those with special problems have undergone considerable change during the last twenty five years, and the rate of change recently has been quite marked. Individuals with hearing impairment have benefited greatly. The term, "hearing impaired," was introduced in the seventies to help combat the negative connotations of the word "deaf," especially the expression "deaf and dumb." The change in terminology also reflects the fact that very few people actually are completely deaf. On the other hand, there is a new pride in being deaf, having a deaf culture, and rejecting the paternalism of hearing professionals. Recently deaf students and staff at Gallaudet were able to instate a deaf president. Deaf people also have been appointed to top positions at Central Institute for the Deaf, St. Louis, and at the Alberta School for the Deaf.

Although the general public seems to be better informed, and children, in particular, are sensitized to various handicapping conditions as part of their curriculum, the problems of hearing impairment are still not well understood. For example, school administrators may find it hard to accept that hearing aids and an FM system are not sufficient compensation for the hearing loss and that regular support from a teacher of the hearing impaired is truly necessary. Administrators or teachers may actually query the right of students to have notetakers, interpreters, or special considerations in examinations, even when such concessions are mandated by a department of education. As more and more hearing impaired children benefit from the latest knowledge and technology, the general public will become increasingly aware that people with hearing impairment

can have the same aspirations and career goals as anyone else. The key is in early and effective intervention.

Early Intervention

It was exciting to be involved in the early intervention programs that emerged in the mid sixties. The McGill University Project for Deaf Children was formed in 1966 by Daniel Ling and myself, along with the support of the Junior League of Montreal and Health and Welfare Canada. Our aim was to undertake research in the detection and diagnosis of hearing loss in newborn infants and in the management of hearing impaired babies and their families. Following the pioneer work of Marion Downs, we attempted to detect hearing loss in newborns. Our team experienced difficulty. Many infants failed the screening tests but passed the follow-up tests at one month. In the meantime, their parents had been unnecessarily worried. Also we seemed to detect few infants with hearing loss. We had been using observational techniques as present-day technology was not available then. A research study we undertook revealed that when observers thought that a signal was being presented to the infant, they interpreted eye, head, or body movements as responses to sound (Ling, Ling, & Doehring, 1970). Surprisingly, today's sophisticated technology does not obviate such problems, and observation remains an important tool. We must not become over confident in the ability of machines.

As part of McGill's early intervention program, parent guidance was provided on a weekly basis. Various aspects of development were studied carefully. An auditory-oral approach was followed. Based on our experience and that of colleagues working in early intervention programs elsewhere, it became routine to fit two hearing aids and achieve full-time use within two weeks. The babies learned to listen to their own voices and those of family members. Parents were encouraged to help their child follow normal developmental guidelines in spoken language. As knowledge about early child language emerged, it was integrated into our program, and an interactional approach was followed (Ling & Ling, 1978).

The fruits of our particular early intervention program in Montreal are to be found in the presence of about 12 of those first students in six Canadian universities and a further two or three at Gallaudet. Others are married and/or holding down jobs. Similar high achieving young people from other programs can be found at professional meetings, such as A. G. Bell conventions. These results are in sharp contrast to the depressing statistics so often quoted in professional journals.

Most of those successful students mentioned above had their hearing loss diagnosed prior to 18 months of age and came from families who provided sustained effort from in-

fancy to adulthood. All have benefited from a consistent auditory-oral approach and from highly qualified teachers of the hearing impaired who provided full or part-time help according to individual need. Social and emotional support has been generously provided. Audiological and technical services have ensured optimal use of residual hearing. Lower achieving students tended to be those with additional disabilities and/or those from disadvantaged backgrounds.

The Leadership Role of Parents

Parents have contributed greatly to advances in the education of hearing impaired children. All of us who are parents can fully appreciate what a vested interest parents have. No one else can have the depth of concern, the lifelong commitment, or the willingness to make sacrifices. They have the motivation to seek out the best for their children.

Parents often have taken a leadership role in creating new programs and raising the necessary funds to do so. Often a first step was to pay for one or more individuals to go to another country to train as teachers of the hearing impaired. Sometimes parents have engaged the support of professionals in allied fields or professionals from other countries. One of the most famous is the John Tracy Clinic in Los Angeles.

Many of today's programs are the direct result of parents and professionals working together. The Montreal Oral School for the Deaf, founded in 1950, and the Vancouver Oral Center, in 1964, are two Canadian schools that were established by parents who wanted their deaf children to learn to talk. Support for the Montreal parents came from Mary Cardozo, speech-language pathologist and long-time CASLPA member and from Mrs. Spencer Tracy, herself. In Mexico City in 1963, it was parents who established a guidance center, Oira (Spanish for "hear"), with Daniel Ling and myself as consultants. At Anadolu University in Eskesehir, Turkey, parents were instrumental in setting up a school and research center in 1979 with Morag Clark of Great Britain as advisor. On a recent visit, I was most impressed to hear profoundly hearing impaired children chattering in Turkish, and I had the pleasure of participating in an English lesson with a small group of normal hearing and hearing impaired teenagers. (See Clark [1989] for a description of her interactional approach.)

Parents have formed organizations that have become effective in lobbying government, as happened in Quebec where the association AQEPA was largely responsible for obtaining free hearing aids for children. In Ontario, Voice for Hearing Impaired Children also has played a leadership role in funding auditory-verbal therapists, organizing conferences, and providing grants for research.

Professionals have much to gain from working closely with parents. Personally, I have found this aspect of my work extremely rewarding and have described it in detail elsewhere (Ling Phillips, 1987). I have the greatest admiration for the many young couples who have fought to ensure that their children received appropriate help and then have gone on to share their expertise with other families. Back in the mid sixties, when there was no children's hospital and no audiology facilities in Canada's capital city, a young mother began making fortnightly visits to Montreal with her six month old deaf baby. Can you imagine the nightmare quality of those train or car trips? Today, her 24 year old son, Scott, is enrolled in an MBA program at York University in Toronto, while she, Judy Simser, is one of the leading experts in aural habilitation and President of Auditory Verbal International. This organization, under the pioneering leadership of the late Helen Beebe (a speech pathologist), was founded in 1988. It is committed to helping hearing impaired children develop high level verbal skills through the use of residual hearing from infancy. This approach is in sharp contrast to the more popular total communication.

The Communication Controversy

The controversy over what is the most appropriate form of communication for hearing impaired children continues unabated. It is a very emotional issue, which shows little sign (no pun intended) of being solved by rational means. Total communication, which involves the use of systems such as Signing Exact English or Signed English, was introduced in the late sixties with great hopes that it would solve the longstanding problem of low reading levels in deaf children. Recent demographic studies show that this is not the case (Allen, 1986). It also has been shown that children who sign more speak less, and vice versa (Jensema & Trybus, 1978). Further, according to Quigley and Paul (1986), the best overall academic achievement is by students enrolled in high quality oral programs and by those integrated in regular schools. It is doubtful that the simultaneous use of speech and sign is an efficient avenue for communication.

Certain professionals supported by the deaf community are now challenging the use of sign systems, since they violate the grammar of American Sign Language (ASL) and reduce its value in communication. There is pressure for ASL to be used as the language of instruction and for deaf individuals or others who are genuinely fluent in ASL to be the teachers. They also propose that deaf children born to hearing parents should be placed in daycare where the caretakers would be deaf and fluent in ASL (Johnson, Liddell, & Erting, 1989). This approach is in stark contrast to the auditory-verbal or auditory-oral method, which places high priority on the

hearing impaired child being raised in an environment where spoken language is the norm.

Speech is by far the most common means we use to communicate with one another right from our earliest years within the family circle and later when we enter the neighbourhood community, go to school, and carry on throughout our adult years at work and during leisure hours. Hearing impaired children who do not learn to talk and who are born to hearing parents are at risk of being isolated. Very few people, even within the family, will become fluent signers.

Some years ago I felt that we were moving towards a recognition that what was needed was a variety of options so that children could receive the type of education that seemed to be most suited to their needs. Unfortunately, there are many school districts and even entire states that do not offer an oral option. Given that the vast majority of hearing impaired children have residual hearing and that they are born to hearing parents, surely they should be given the chance to learn to talk and, when appropriate, receive their education within regular school programs.

Educational Placement

When I started out as a teacher of the deaf, almost all children with severe or profound losses were educated in special schools, and most of these were residential. Even children as young as two years of age were sent to boarding school! Fortunately, today there are many parent-infant programs available, and today mainstreaming of hearing impaired children in regular schools is the placement favoured by most parents. While that is surely an important goal, it is not always the most advantageous at a particular point in time. School board personnel also may need help in assessing what type of placement is appropriate for a student. They may tend to underestimate the impact that even a moderate hearing loss can have on the child's educational progress. Regular help from a qualified teacher of the hearing impaired can make the difference between graduating with a high school diploma or being a drop-out.

In the forty years of its existence, the Montreal Oral School for the Deaf has evolved from a traditional (visual) oral school into a resource centre that provides programs for students with varying degrees of hearing impairment from age three to 21 years. Out of this year's enrolment of 165 students, over 100 are fully mainstreamed in their home schools with twice weekly support from one of our itinerant teachers. A further 30 students are integrated in one of several schools where they have access to daily sessions with one of our teachers. All other students, including those in the nursery, participate in some kind of partial mainstreaming. This usu-

ally takes the form of reverse mainstreaming in which an equal number of normally hearing students join the hearing impaired students for math, social studies, music, and special activities. Parents of nursery and kindergarten children have individual and group guidance. The challenge for an administrator such as myself is to take a flexible approach to programming in order to give careful consideration to individual needs and to ensure a generous supply of highly qualified staff.

Training of Professionals

In the last 25 years, there has been a dramatic improvement in the number and quality of programs available in Canada for training educators of the hearing impaired, audiologists, and speech-language pathologists. Prior to that time, Canadians had to go to the U.S. or Britain, or employers had to encourage already qualified personnel to immigrate to Canada. A common solution in education for the deaf was for schools to develop their own in-service programs. University programs, usually at the master's level, which include academic and practical components, are now recognized as essential. (See Clarke and Bibby [1984] for a description of Canadian programs.) Further, the explosion of knowledge in related fields has led to a need to broaden the scope and lengthen the duration of training programs for all hearing and speech professionals.

The field of aural habilitation and education of hearing impaired children draws upon knowledge relating to diverse subject areas, many of which also are basic to audiology and speech-language pathology. It was this rationale that led to the School of Human Communication Disorders rather than Special Education being chosen as the setting for the training of aural habilitationists and educators of the hearing impaired at McGill University. The inclusion of course work in research methods and involvement in a small research project were important components. While all colleagues contributed to the success of this program, special credit must be given to Daniel Ling for his outstanding leadership, especially in his commitment to provide professionals with the skills and knowledge that would give hearing impaired children the chance to learn to speak for themselves. His texts (Ling, 1976; Ling, 1989) provide comprehensive details of his approach.

The rapidity of change in the speech and hearing professions makes it crucial that we find ways of continuing our education. Personally speaking, I enjoy attending international conferences where there is always the chance of finally meeting colleagues known only through their writing. It was exciting for me to meet Marion Downs and Lily Tell (both famous for their work in early detection of hearing loss) at a recent international audiology congress in Jerusalem. While short courses and workshops at professional meetings are valuable, I believe it is much more stimulating to take a

mid-career break to catch up on emerging knowledge. I consider myself fortunate to have had the chance to study under Donald Doehring's incisive leadership. I also believe that university training programs should be obliged to offer seminars or refresher courses in the evenings or during the summer to assist working professionals.

Another avenue of learning that I have found useful has been to serve on the Federal Government Task Forces concerned with forming guidelines for the practice of speech-language pathology and audiology, and on childhood hearing impairment. Under the leadership of Eve Kassirer, Andrée Durieux-Smith, and Elaine Pressman, some twenty of us met to wrestle with words and learn from one another. You will find our commingled thoughts on aural habilitation sandwiched between the sections on speech-language pathology and audiology (Health & Welfare Canada, 1982).

Conclusions

I feel fortunate to have found a career that has remained absorbing and challenging for thirty-five years. I have enjoyed working as a teacher of the deaf, as an audiologist, as a parent counsellor, as a professor, and as a school principal. I feel proud to have participated in the growth of fine young hearing impaired adults and to have shared in the sorrows and joys of their families. I feel confident, too, of the capabilities of the young professionals who were once my students at McGill or Dalhousie.

We are now in the year 1990, almost on the threshold of the twenty-first century, and I make a plea for hearing impaired children. Let us use the knowledge and technology wisely and well, and let us continue to stretch the frontiers. I wish for the support of deaf adults in this venture. Those who received poor quality education in supposedly oral schools, twenty-five or more years ago, are understandably angry. Today's professionals have a responsibility to ensure that the next generation of hearing impaired adults are not equally angry that hearing and speech professionals failed to give them the chance to develop near normal speech and language, and to achieve good standards of literacy. Go out and meet those who have benefited from early intervention with an auditory approach. You may be surprised!

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