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ABSTRACT

Abstracts from presentations given at the 1990 International Congress on Education of the Deaf are organized by 12 major topics: development of language skills; communication; instruction; cognition and learning; educational policies and services; organization and administration of schools and programs; students with special needs; psychosocial development and physical/mental health; education and work; college and continuing education; audiological and medical aspects of deafness; and deaf adults in society. Within each topic, the abstracts are organized alphabetically by last name of the presenter or first author. Two appendices provide an index of authors, co-authors, and panelists and a list of presenters and chairpersons. (JDD)

July 22-
August 3, 1990
New York
USA

International
Congress
on Education
of the
Deaf

PROCEEDINGS

... I ...

"I find the great thing in this world is not so much where we stand, as in what direction we are moving. We must sail sometimes with the wind and sometimes against it—but we must sail; not drift, nor lie at anchor."

Oliver Wendell Holmes

The Autocrat of the Breakfast Table, 1858

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PREFACE

The program of the 1990 International Congress on Education of the Deaf includes 106 concurrent program sessions and two poster sessions, with a total of more than 400 individual presentations, panels, and symposia. More than 600 presenters, panelists, co-authors, and chairpersons have come together from 56 countries to contribute to these sessions.

A *Call for Presentations* was distributed worldwide early in 1989, resulting in the submission of more than 700 abstracts for program consideration. The abstracts that appear in *Proceedings I* were selected by the *National Program Committee* for presentation. Unfortunately, many abstracts of high merit could not be accepted because of space limitations on the program.

Topics

The program for the 1990 ICED is organized around 12 major topics. These topics were selected in 1988 by the program co-chairpersons and the *International Program Committee*. Subtopics were added to clarify individual topics and to encourage presentations in particular areas of interest.

The 12 major topics are:

- Development of language skills
- Communication
- Instruction
- Cognition and learning
- Educational policies and services
- Organization and administration of schools and programs
- Students with special needs
- Psychosocial development and physical/mental health
- Education and work
- College and continuing education
- Audiological and medical aspects of deafness
- Deaf adults in society

The abstracts in *Proceedings I* are organized by topic (see Table of Contents). There are obvious overlaps across topics, and the placement of presentations and their abstracts under one topic rather than another was sometimes arbitrary.

Considerable thought was given to the question of whether to focus attention on specific needs and issues concerning the deaf children and adults of developing countries by adding one or more special topics. The program planners decided instead to integrate the presentations of particular concern to participants from developing countries into the existing topics in order to broaden discussion.

Abstracts

The abstracts within each topic are organized alphabetically by last name of the presenter or first author. For panels and symposia, abstracts are listed by last name of the moderator. The names of co-authors, co-presenters, and panelists are indicated also, and their countries are identified.

The date and time of each presentation are noted, together with its location. Using the date, time, and room number, the reader can identify the title of the session in which the presentation is given by consulting the *Program Schedule* that follows this preface. If the reader has the ICED *Program Booklet*, he or she can also identify the chairperson and the other presentations in the particular session.

Presenters were asked to submit abstracts in English, which is a second or unknown language for many. Some presenters asked a second person to translate the titles and content of their abstracts into English before these abstracts were submitted. Most abstracts received minor editing for formal consistency, and some were edited extensively to improve their readability in English or to reduce their length. In the editing, an effort has been made to keep the essential information in each abstract intact. If the editors were not always successful, they apologize.

Appendices

Appendix A is the "Index of authors." Alphabetically arranged, this list contains the names of authors, co-authors, and panelists who are associated with the abstracts. The page numbers of their abstracts are indicated for easy reference.

Appendix B is titled "Presenters and Chairpersons." Organized alphabetically, this list includes persons' names, occupations, organizational/institutional affiliations, and their cities and countries of residence.

Acknowledgment

We thank the staff members in the Division of Management Services for production support, the Department of Instructional Design & Evaluation for design, and the Division of Public Affairs for writing and management support of these *Proceedings*.

The Editors

A Word about Proceedings II

Proceedings II will include the major addresses presented at the Congress on Education of the Deaf. Registered participants will be notified when it becomes available in late 1990. Others who are interested in obtaining copies of *Proceedings I* and/or *Proceedings II* should write to:

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PROGRAM SCHEDULE

		Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Room 10	Room 11	Room 12
MONDAY	**9:00-9:45**	**Opening Keynote Address**											
JULY 30	**10:00-11:00**	**Plenary Session**			**Topic: Development of Language Skills**						**Topic: Communication**		
	11:15-12:45	Concurrent Session A											
		Speech Development: General	Cognitive Processing I	Manual Coding of Spoken Languages	Symposium on Real-Time Speech to Print Transcription Systems	Panel on Cross-Cultural and Educational Issues in Implementing a School-Based Mental Health Curriculum	Symposium on Literacy and Interactive Writing: The Use of Dialogue Journals	Curriculum Content	Educational Trends in Developing Countries	Educational Program Development	Hard-of-Hearing Children and Adults	Employment Characteristics	Audiological Services and Amplification
	14:15-15:15	**Plenary Session**			**Topic: Instruction**						**Topic: Cognition and Learning**		
	15:30-17:00	Concurrent Session B											
		Symposium on Vygotskian Perspectives on the Education of Deaf Children	Auditory Perception	Making Science Meaningful	Panel on Initiatives for Deaf Education in the Third World	Panel on New Developments in Hearing Research	Symposium on Mothers and Deaf Infants: Interaction and Support	Communication Systems and Patterns of Deaf Children and Adults	Language Instruction	Postsecondary Programs and Facilities	Applications of Video Technologies in Teaching I	Family and Marriage (Sign interpreted)	Early Identification and Intervention I
TUESDAY	**9:00-10:00**	**Plenary Session**			**Topic: Students with Special Needs**						**Topic: Psychosocial Development and Physical/Mental Health**		
JULY 31	**10:15-11:45**	Concurrent Session C											
		Literacy in English and Other Spoken Languages	Parent Views and Needs I	The Lives of Deaf People in Past and Present Times and Places	Topics of Special Interest to Educators in the United States	Cognitive Processing II	Panel on Special Educational Needs for Hard-of-Hearing Young Adults in Various Countries	Panel on Mathematics Education for Deaf Students: Issues and Directions	Speech Evaluation	Issues and Services for Deaf Children and Adults in Developing Countries I	Teacher Preparation Programs: Approaches, and Issues I		Approaches to Vocational Education
	13:30-14:30	**Plenary Session**			**Topic: Educational Policies and Services**						**Topic: Organization and Administration of Schools and Programs**		
	14:45-16:15	Concurrent Session D											
		Panel on International Perspectives on Teacher Preparation	Access to Postsecondary Education	Fitting and Use of Hearing Aids I	Panel on Students From Culturally and Ethnically Diverse Backgrounds	Bilingual Education: First and Second Language Learning I	Panel on Special Education Policies and Deaf Education Internationally	Schools for the Deaf: Programs and Roles I	Assessment and Prediction of Language	Applications of Video Technologies in Teaching II	Psychosocial Disorders: Assessment and Programming	Cognitive Assessment (Sign interpreted)	Parent Education I
WEDNESDAY	**9:00-10:00**	**Plenary Session**			**Topic: Education and Work**						**Topic: College and Continuing Education**		
AUG. 1	**10:15-11:45**	Concurrent Session E											
		Panel on Parents' Perspectives on Education and Work	An Advanced Computer-Based Speech Training System	Self-Identity and Personal Development	Multicultural Families and Students	Approaches to Reading and Writing Instruction	Attitudes and Roles of Parents Concerning Language and Communication	School Programs and Practices	Teacher Preparation Programs: Approaches, and Issues II	Early Identification and Intervention II	Analysis and Assessment of Children's Signs	Issues and Services for Deaf Children and Adults in Developing Countries II	Psychosocial Assessment
THURSDAY	**9:00-10:00**	**Plenary Session**			**Topic: Audiological and Medical Aspects of Deafness in Children**						**Topic: Deaf Adults in Society**		
AUG. 2	**10:15-11:45**	Concurrent Session F											
		Panel on "Deaf Way" Revisited	Audiology and Special Needs	Education and Employment	Mainstreaming Hearing-Impaired Students I	Language Instruction and Communication at the Postsecondary Level	Language Stimulation in Deaf Infants	Components of Deaf Children's Speech: Implications for Instruction	Quality of Communication Interactions	Parent Education II	Visually Impaired Deaf Students	Psychosocial and Wellness Intervention Strategies	Research on Reading and Writing
	13:30-15:00	Concurrent Session G											
		Panel on Multiply Handicapped Deaf Students	Electronic Communication	Cognition and Language Development	Technology and Instruction	Support Services and Program Completion of Postsecondary Deaf Students	Speech Feedback Systems	Language Development: General	Childhood Deafness: Prevention, Etiology, and Differential Effects	Cued Speech	Enriching Education with Art and Music	Mainstreaming Hearing Impaired Students II	Exploring Math Concepts	**Poster Session (Holiday Inn)**
	15:30-17:00	Concurrent Session H											
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FRIDAY	**9:00-10:30**	Concurrent Session I											
AUG. 3		Panel: An International Perspective on Education of the Deaf	Rights of Deaf People	Continuing and Adult Education	Panel on Support Services for Underprepared Postsecondary Students	Cochlear Implants	Schools for the Deaf: Programs and Roles II	Second (Foreign) Language Learning	Employment: General	Social Dynamics and Skills in Mainstream Settings II	Sign Language Components of Total Communication	Parent Views and Needs II	
	11:00-12:00	**Closing Keynote Address and Closing Ceremonies**											

Developing the phonological component of the severely hearing-impaired child's language system

Thursday, 10:15 **Room 7**

Abraham, Suzanne *(USA)*

Indepth descriptions of hearing-impaired children's errors on English speech sounds and the concomitant effect of these errors on overall levels of intelligibility have historically been phonetic-based investigations. In like manner, methodologies used to teach speech to hearing-impaired children have traditionally been phonetic-based approaches, focusing on the development and automatic control of appropriate oromotor movement for the articulation of isolated sounds. Commencing in the early 1960s, studies of normally hearing children with severe articulatory deficits and unintelligible speech provided evidence to suggest that there was an interactive relationship between articulation and aspects of language. Subsequently, phonological, or language-based, approaches to speech instruction evolved that focused on the speaker's ability to use speech sounds at the level of meaningful spoken language, with training emphasizing elimination of abnormal, inadequate, or disorganized speech sound patterns and establishment of phonemic contrasts that signal differences in meaning. Although limited in number, some studies of hearing-impaired children's speech have ascribed to a phonological framework. Findings indicate that phonological principles for speech assessment and instruction are a viable addition to traditional phonetic approaches to speech teaching with hearing-impaired children. The purpose of this paper is to describe the phonological component of severely hearing-impaired children's developing language systems based on current phonological studies. Guidelines for implementing phonological speech instruction are presented, including criteria for subject selection, behaviors to assess, and language-based instructional strategies found to affect generalization.

Development of a language assessment test for hearing impaired children

Tuesday, 14:45 **Room 8**

Agatsuma, Toshihiro*(Japan)*

Many institutes for hearing-impaired children are using tests that were developed for children with no hearing problems. It has been said that a language assessment test should be developed according to the unique characteristics of hearing-impaired children. As a result, the presenter constructed a Japanese GAEL TEST, which is a Japanese version of the GAEL TEST (Grammatical Analysis of Elicited Language) that was developed at The Central Institute for the Deaf (CID) in America. The Japanese GAEL TEST consists of two subtests according to the age of the children. They are GAEL Level 1 for preschool children and GAEL Level 2 for elementary children. Thirty-three (33) hearing-impaired children, aged 4 to 6, took the Japanese GAEL TEST Level 1 and 24 hearing-impaired elementary children took parts of the Level 2 test. The following results were found: (1) The children could concentrate their attention on the test when the test was administered individually. (2) The administrator could assess the abilities without being influenced by the poor perception and pronunciation of the hearing-impaired children because the test was carried out in a conversational style. (3) Vocabulary and grammatical knowledge could be assessed. Some of the test items and procedures were then revised to be more appropriate for the hearing-impaired young children.

Symposium on literacy and interactive writing: The use of dialogue journals

Monday, 11:15 **Room 6**

Albertini, John A.*(USA)*, Moderator
Meath-Lang, Bonnie (USA)
Baker, Robert*(United Kingdom)*
Collins, Judith*(United Kingdom)*
Witte, Ursula*(West Germany)*
Kreeft Peyton, Joy*(USA)*

The process of learning to read and write a language is viewed by some as an interactive or social activity. Teachers of writing argue that, just as children learn oral or sign language within a community that provides a purpose and audience for speech or sign, "...so an environment which provides a purpose and audience for writing is essential for the development of writing ability" (Mayher et al, 1983). Dialogue journal writing is one type of writing where audience and purpose are clearly defined. In a dialogue journal, teacher and student engage in a private written conversation, continuing daily or weekly for the duration of the course (adapted from Staton, 1983). Two premises underlying dialogue journal use are (1) that writing is a form of communication and (2) that a student-writer's attention should be directed to meaning rather than form. Beyond these simple premises and a few basic ground rules, the content and use of dialogue journals in instructional settings may vary widely. Various definitions of literacy, individual instructional purposes, and different linguistic and cultural environments all affect use of a dialogue journal and what is written. The presenters

on this panel will report on commonalities and linguistic and cultural differences in their use of dialogue journals with deaf students. Presentations and their authors are:
(1) Journals as a tool for creating writing communities (B. Meath-Lang)
(2) Use of dialogue journals in a northern English school system (R. Baker & V. Collins)
(3) Beginning writing with young German deaf students (U. Witte)
(4) Cross-cultural writing: German-American conversations at a professional school in West Germany (J. Albertini)
(5) Some issues to consider when implementing dialogue journal writing in other cultures (J. Kreeft Peyton)

The effect of repetition on the recall of a captioned film by hearing-impaired postsecondary students

Thursday, 10:15 **Room 12**

Andersen, Lloyd*(USA)*
Andersen, Catherine*(USA)*

This study investigated the repetition of the verbal element in a captioned motion picture as a means to enhance comprehension of the presentation for a deaf audience. Prior to viewing a captioned motion picture, 85 deaf students at Gallaudet University School of Preparatory Studies participated in one of three conditions. One-third of the students read the script of the film prior to viewing the film, one-third of the students saw a signed version of the script prior to viewing the film, and one-third of the students saw the film only. Within each of these three treatments, half of the students were classified as students with high sign language ability and the other half were classified as students with low sign ability. After viewing the film, students completed a post test designed by the examiner. Results of this study indicated that there was a significant difference between the high signers and low signers in the treatment group where students were shown the signed version of the script prior to viewing the film. In addition, groups of students who read the script prior to viewing the film did significantly better than students who had no information prior to viewing the film. Finally, there was no significant difference between students with high sign ability who saw the signed version of the script prior to viewing the film and those who viewed the film only.

A first evaluation of the Visual Speech Apparatus

Thursday, 13:30 **Room 6**

Arends, N.J.M.*(Netherlands)*
Povel, Dirk J.*(Netherlands)*

The results of a first evaluation of the Visual Speech Apparatus is reported. This is a recently developed visual aid for teaching several essential aspects of speech and is currently in use at the Instituut voor Doven in Sint-Michielsgestel, Holland. Twenty-two prelingually deaf children (ages 4-11) participated in a training program using the Visual Speech Apparatus, while their matched controls received a conventional training method. Both groups had the same teaching goals in their curriculum. They trained daily for 15 minutes during a school year with special training programs on the apparatus to reach sufficient control over primary speech skills. The performances were automatically collected by the computer, providing learning curves for each exercise. Every fifth session, the experimental subjects were evaluated on their speech skills by means of specific phonetic tests. Furthermore, all subjects took a version of the CID phonetic test once each term. The results are presented in a single subject design. Data on voice control (loudness, pitch, and timing) and the quality of pronounced vowels are shown in learning curves for each individual. The progress by both groups is compared. Conclusions are drawn from these data regarding effectiveness and suggestions for the form of optimal computer-guided exercises are proposed.

Use of dialogue journals among kindergarten-aged children

Wednesday, 10:15 **Room 5**

Bradley-Mueller, Heather*(USA)*
Papalia, Julie A.*(USA)*

The Pennsylvania School for the Deaf approaches teaching through a unit-based, whole language curriculum. Hence, neither written nor expressive language are taught in a traditional textbook manner. In the kindergarten classes, we have introduced a new method to approach beginning comprehension of the writing process. This method is the dialogue journal. Dialogue journals are correspondence books that are written between two individuals, the content of which is for the individuals to decide. Dialogue journal usage is becoming increasingly popular in language-arts programs around the country. Although these journals are generally used with older student populations, we have found that they can be quite successful at the preschool/primary level and that

many of the same "writing process issues" are addressed. For example, through dialogue journals, we have found that students come to learn some basic formats for written communication, a sense of audience, and a broader sense of writing as a means of communication. This presentation discusses how the students were paired for their journals, in which stage of the writing process we see the most growth, and some specific strengths and weaknesses of the program. We also discuss how the journals change when the students are paired with older students from the school. Finally, we offer suggestions as to how this type of program may be adapted to a variety of classroom situations.

A study of the language ability of hearing-impaired students in Taiwan

Tuesday, 14:45 **Room 8**

Chang, Bey-Lih*(Taiwan, China)*

This study was designed to investigate the language ability of hearing-impaired students in grades 3 to 6, and their language developmental trend, together with the best predictors of language ability. One hundred and sixty-two (162) students drawn from the school for the deaf and 119 students drawn from special class resource rooms at the regular schools (without any other significant handicaps) were selected as the subjects in this study. The results indicated that there were significant relationships between overall language ability and demographic variables such as intelligence, cognition, grade, socioeconomic status of the family (SES), the initial time of wearing a hearing aid, the current status of wearing a hearing aid, communication with parents and families, preschool training, educational placement, and reading extra-curricular materials. The hearing-impaired students' language abilities were inferior to their hearing peers', and the lag behind the hearing group varied with grade and items of language ability. The hearing-impaired students showed a positive linear growth in language ability as they advanced in grade. The best predictors of overall language ability were educational placement, grade, intelligence, the status of wearing a hearing aid, cognition, reading extra-curriculum materials, and communication with parents and families. In total, they accounted for 46 percent of the variance of language ability. The hearing-impaired students' writing ability was inferior to their hearing peers. They showed a quadratic trend in writing ability as they advanced in grade. The homophonous, stroke, or point missing in character, improper adjective, wrong word order, addition, omission, and substitution were found in their writings.

A comparative study on the language ability of hearing-impaired children, using different teaching languages

Thursday, 13:30 **Room 7**

Chen, Chai-Ping*(Taiwan, China)*

Hearing-impaired children using sign language as their main communication mode have been found to have low ability in writing language and also to be reluctant to utter speech. This is ascribed to the fact that these languages or methods are different both in form and in essence, from the oral and writing language system used by the mainstream society of which the hearing-impaired child is a part. Evidently, it is hard for anyone to "speak" one language and "sign" another one simultaneously. Unfortunately, no oral speech means no vocal thinking, and this would render the hearing-impaired person to live in a really silent world, never to be able to "think loudly", as hearing people are used to doing; the development of their language ability is thus retarded. Designed by the author in 1976, the Mandarin oral-manual integrated language system allows hearing-impaired children to speak and think in the same way as hearing people, with the help of a special system of fingerspelling. In the present study, a program is designed to test the language ability of two groups of pupils, one of which is taking the new language system and and the other group using sign language as the teaching language, by asking them to: (1) compose sentences from groups of words arranged at random with reference to corresponding pictures shown and (2) make sentences in their own words with reference to pictures shown. Each sentence made by pupils is analyzed in terms of "intelligibility," "conceptual clarity" (lucidity), and "vocal thinking ability." Statistics from the comparative study show that the new language system definitely has benefitted the Chinese hearing-impaired children.

Larynx frequency information for speech communication

Thursday, 10:15 **Room 7**

Ching, Teresa*(Hong Kong)*

The present work provides experimental evidence in the context of a tone language, indicating that the larynx frequency pattern of speech is of great communicative value to the profoundly deaf person who has to depend on lipreading to understand speech. The extraction of the voice pitch pattern and the use of a sinusoidal presentation significantly enhance speech perceptual ability. This simplified

acoustic signal is more beneficial than the entire speech signal to the profoundly deaf listener in a tone-language-(Chinese, in this case)-speaking environment. Video-recorded lipreading tests of syllable-based tonal distinctions and prosodically based contrasts relating to stress in di-syllabic words in Chinese were used to assess lipreading/labelling performance with voice pitch information. Simulations in normally hearing subjects show that the larynx frequency pattern is an important aid to lipreading in a tone language. Speech reception is significantly enhanced in the profoundly deaf subjects when lipreading with larynx frequency presented as sinusoids. A beneficial speech rehabilitative programme ought to be guided by the needs of the lipreader, and by the normal developmental sequence. A profitable approach to acoustic aid design and stimulation techniques must consider the sensory capabilities as well as the needs of the potential user.

A solution to Chinese language problems of hearing-impaired children

Thursday, 13:30 **Room 7**

Chuan-Chuan, Lu*(Taiwan, China)*

This presentation suggests an alternative solution to some of the language learning problems of hearing-impaired children who speak Chinese and use Chinese characters as their means of communication. Sound (pronunciation), form (structure), and meaning are the three basic elements of Chinese characters. There is no easily apprehensible relationship between the sound and the form of Chinese characters. Their structure is rather complicated, and most have a variety of derived meanings. With the triangular relationship between sound, form, and meaning of Chinese characters, hearing-impaired children have to spend long periods of time in understanding the interrelationship of Chinese language and characters. A number of problems may emerge as a result of this process. First, the emphasis on language education of hearing-impaired children is misplaced, with its emphasis on memorization instead of understanding and application. Second, language teachers tend to analyze the surface structure of Chinese language with a lack of integrated perception of its deep structure. Third, hearing-impaired children are restricted to limited language learning, that diminishes their potential for cognitive development and abilities to express. After a long period of observation and follow-up studies, a Chinese language teaching technique and learning method thathon can effectively reduce the hearing-impaired children's learning time and minimize the above-mentioned problems has been developed. The purpose of this report is to offer an alternative to language-learning problems while enhancing language learning of hearing-impaired children. It is hoped that those who are interested in the advancement of educational opportunities will share in this method, technique, and experience.

Comparisons of diagnostic measures of speech perception skills of severe to profoundly hearing-impaired adults

Monday, 15:30 **Room 2**

Clark, Catherine*(USA)*
Snell, Karen*(USA)*

Speech discrimination capabilities of severe and profoundly hearing-impaired young adults continue to be difficult to determine. Due to the population's severity of hearing loss, a score of zero or near zero occurs on standard audiological tests of speech discrimination. Several speech discrimination assessment tools have been developed for the severe and profoundly hearing-impaired population. The Speech Pattern Contrast Test (Boothroyd, 1984) was developed to measure speech discrimination skills of individuals with severe and profound hearing losses. Specifically, the subtests measure performance on stress, pitch, vowels (height and place, identification), consonants (continuance, place, and voicing identification), phoneme recognition, and word recognition. The SPAC test was administered to 19 students at the National Technical Institute for the Deaf. Information about students' speech discrimination skills obtained from the Speech Pattern Contrast Test and a more standard test of speech discrimination are compared.

Amplifying pragmatics for the hearing impaired

Thursday, 15:30 **Room 7**

Creaghead, Nancy A.*(USA)*

Despite advances in technology and educational methods, it is obvious that for many hearing-impaired adolescents, normal communication is not a reality. Clinicians who work with these children are aware of their communication problems, which extend beyond limitations in syntax, semantics and phonology. Hearing-impaired children exhibit deficits in the full range of pragmatic communication behaviors. The communicative skills of these teenagers suggest the need for stressing communicative competence at the preschool and elementary school levels. Developing these abilities requires the careful coordination of

amplification and teaching strategies. This paper presents information regarding the integration of amplification and teaching techniques in order to help hearing-impaired children develop pragmatic communication skills, including the full range of communicative functions, strategies for effective maintenance of conversations, clarification strategies, and social appropriateness. Attention is given to bridging the gap from amplification systems and teaching methods in the classroom to personal hearing aid use and communication in the "real world."

The effect of early hearing aid fitting on deaf infants' vocalizations

Thursday, 10:15 **Room 6**

Crul, Th.*(Netherlands)*
Hoekstra, C.*(Netherlands)*

The oral/aural option in pedo-audiology advocates auditory intervention as early as possible for young hearing-impaired children. The corresponding approach claims a positive relation between the utmost and early use of residual hearing, on the one hand, and the development of speech perception and intelligible speech production, on the other hand. The pedo-audiological center of the University of Nijmegen is actively engaged in the oral/aural approach and tries to enhance the objectivity of its claim by investigating the effect of early fitting of hearing aids on prespeech vocalizations and early speechlike utterances in audiometrically deaf children during their first years of life. The infants under investigation suffered from a hearing loss to a degree sufficient to remain operationally deaf, because without the help of hearing aids, no oral/aural feedback would have been available in order to develop speech monitoring. A great number of vocalizations have been sampled over a long period before and after the fitting of hearing aids. Speechlike utterances were phonetically transcribed by ear, and also an instrumental acoustic-phonetic analysis was performed in order to reveal speechlike characteristics in the uttered sounds. Both quantitative and qualitative changes are dealt with and compared with the vocalizations respectively of normally hearing infants and those of hearing-impaired children who, because of certain reasons, did not wear hearing aids.

Acoustic phonetic speech evaluation

Tuesday, 10:15 **Room 8**

Curtis, W. Scott*(USA)*

Speech instruction for the hearing impaired has utilized a set of distinctive features that allow the teacher to classify common components of phonetic errors by using one of several available distinctive feature systems as a classification scheme for extracting common productional errors from several defective phones. Recently, rules for language usage and phonogical processes, have been added to the inspection given errors in phonetic production. These two analyses have provided the teacher with a better defined target for speech training than earlier unsatisfactory phone-by-phone oriented programs. Improved targeting of errors may be achieved in the future with the application of error classifications based on acoustical parameters. While oscilloscopic models suggest six acoustic events in speech, and later spectrographic evidence suggests five acoustic events in speech, these instrumentally derived "features" have largely been ignored in speech testing and teaching due to crude technological equipment. Current digital equipment allows us to see examples of these acoustical classification schemes for phonemes and discuss their role in phonetic speech training activities in ways not convenient until now, as well as prosodic information, signal instability, vocal fold behavior, pitch, loudness, and nasal control.

Spanish translations of Ling's phonetic and phonologic level speech evaluations

Thursday, 15:30 **Mezz. Holiday Inn**

Cusack Long, Margot*(USA)*

The work of Daniel Ling in teaching hearing-impaired children to speak has received wide exposure in the English-speaking world. Although Dr. Ling and other professionals have presented workshops in Spanish-speaking countries, published materials related to Ling's approach are not available in Spanish. The *Phonetic Level Speech Evaluation* and the *Phonologic Level Speech Evaluation* by Ling (1976), along with guidelines for their administration, were translated into Spanish by this author as part of a week-long course delivered in Spanish at a school for the deaf in Venezuela. In this poster session, the author presents these materials and demonstrates the administration of the evaluation tools both in English and Spanish.

Reading and Total Communication

Wednesday, 10:15 **Room 5**

Davis, Mabel*(United Kingdom)*

It is nearly 20 years since the term "Total Communication" was introduced to Britain and the majority of schools for the deaf have now adopted this philosophy. Considering the main purpose of this alternative to pure oralism was to raise standards in the education of the deaf, it is reasonable to expect a significant improvement in reading levels. This does not seem to be happening and research from various countries has suggested that the Total Communication approach has failed. This paper argues that it need not fail if it is properly understood and the pragmatic functions of the various manual components inherent in this philosophy are clearly demonstrated. While teachers of the deaf are familar with the oral and aural aspects of Total Communication, they are less familiar with the manual aspects and even ignorant as to their practical applications. Workshops are needed to show exactly how, what, where, when and why each component part of manualism can help a deaf child to read. It is not Total Communication that has failed, but the lack of expertise on the part of the teacher and the poor quality of teachers' training that needs to be reviewed if we are to raise standards in our schools.

Relations between vocabulary and syntax knowledge and English literacy: A new look

Tuesday, 10:15 **Room 1**

de Villiers, Peter A.*(USA)*

Among the strongest predictors of reading comprehension achievement scores are measures of vocabulary and sentence syntax knowledge. However, specific implications of this relationship for English language instruction with deaf students are not clear from existing findings of these correlations. This presentation addresses the nature of the relationship between vocabulary acquisition and reading comprehension and between syntactic knowledge and the employment of English syntactic devices in discourse cohesion. The results of several studies of deaf students aged 9 to 18 years are used to argue that the crucial aspect of the correlation between vocabulary achievement and reading comprehension is mastery of the *process* of deriving meaning for new words from the sentence and discourse contexts in which they are encountered in reading. Our research on the process of acquiring new vocabulary knowledge from written context has clear implications for the ways in which vocabulary and vocabulary learning skills should and should not be taught. Other studies are used to argue that we need to distinguish between *syntactic competence*, which involves manipulating single sentences and *discourse competence*, which consists of the functional use of syntactic devices such as adverbial clauses, pronominalization, and relative clauses in extended discourse. It is this discourse competence in the functional use of syntax for producing and understanding discourse cohesion that is the crucial determinant of fluent writing and reading comprehension. Implications for English language curricula and classroom language activities are discussed.

A wearable tactile-kinesthetic feedback speech training device and a speech development system for the profoundly deaf

Thursday, 13:30 **Room 6**

Dowling, Michael V.*(USA)*

Many hearing-impaired speakers, especially those with severe to profound losses, must rely at least in part on their senses of taction, kinesthesia, and pallesthesia for sensory feedback information as they speak. They "feel" the action of their articulators, airflow, and vibratory cues from their head, neck, and chest to know if their speech or parts of their speech are correct, or while learning speech, they match the models of their instructors. Although various speech teaching methods, such as the Tadoma Approach, have focused on the use of touch and movement cues as a speech learning sensory avenue, there has been a paucity of literature focusing on how to train, heighten the sensitivity of, and use information from these "feeling" senses in the speech training process. Little information is available on establishing a "tactile-kinesthetic-pallestheic/vocal" feedback loop. This presentation outlines a system of speech teaching based on using internal tactile-kinesthetic sensory features and describes a wearable, portable, all in the mouth tactile-kinesthetic speech feedback device based on this system. This device provides tactile-kinesthetic feedback for inter-oral consonants and vowels which have critical tongue placement characteristics. This tactile-kinesthetic-based speech training system and wearable tactile-kinesthetic feedback device were developed in an effort to capitalize on what some profoundly deaf good speakers seemed to be doing, i.e., relying on their sense of touch and movement instead of audition for speech learning feedback purposes. In addition to describing the tactile-kinesthetic speech training device and system, results of the experimental application of such with two

profoundly deaf junior high school students are presented.

Reading through sign: Newcastle Signed Reading Project

Wednesday, 10:15 **Room 5**

Edwards, Dawn*(United Kingdom)*

It is noted that most well-tried, yet apparently unsuccessful, methods of teaching threshold and extension reading to deaf children are based on the conventional phonetically-based notation system of the spoken word. This paper outlines the rationale underpinning our belief that new reading materials should be produced to facilitate reading acquisition for the prelingually, profoundly deaf child. Although there are obviously no simple answers, it is suggested that pre-reading and threshold reading material based on the presentation of the manual deaf language may relieve some of the psychological and emotional alienation thought to accrue during the early education of some deaf children. It is also thought that the home, as well as the school environment, will benefit. We indicate how the new materials and their encompassing developmental reading scheme will be congruent with, and indeed a logical concomitant of, the philosophy that has now established the full value of manual languages.

A study of some text-cohesive devices in the writing of hearing-impaired children

Thursday, 10:15 **Room 12**

Engen, Elizabeth*(USA)*
Lieberman, Joanna*(USA)*

In recent years, the study of written language has demonstrated the importance of analysis beyond the sentence level. This development has affected research on both hearing and hearing-impaired children's writing. The literature reports numerous studies of the use of propositional analysis and text-cohesion analysis to study the written compositions of hearing-impaired children. Generally their results have shown that written language variables involving text-cohesive devices were more sensitive to the variance in hearing-impaired writers than other factors such as syntax, hearing acuity, or age. This study analyzes 75 samples of narrative story writing by hearing and hearing-impaired students between the ages of 8 and 15. It explores their ability to use the devices that contribute to textual cohesiveness through distancing, thematic variation, and information focus. Of particular interest are the syntactic structures described by Katharine Perera (1984), which are characteristic features of a differentiated written style. These sentence types include non-canonical constructions such as passive, cleft, and extraposed sentences that promote thematic variation. In addition, sentence-initial adverbial phrases and subordinate adverbial clauses contribute to thematic continuity in text. To date, very little research has been conducted on this aspect of writing in either hearing or hearing-impaired children. The study of these features of written text provides a new perspective on the development of writing in hearing-impaired children.

Assessing the verbal communication skills of hearing-handicapped children

Tuesday, 10:15 **Room 8**

Eripek, Süleyman*(Turkey)*

This study sought to assess verbal communication skills in hearing-handicapped children attending the special and regular classes in the metropolitan area of Eskisehir-Turkey in 1989. The research group's ages ranged between 8-12. Their hearing losses were at 90 dB and over. The average of the students' hearing losses in the special classes was 111 dB; in the regular classes, 113 dB. The number of students included in this group was 20 in special classes and 11 in the regular classes. In order to assess students' verbal communication skills, we collected information related to students' understanding of speech and their own intelligible speech. For this purpose, the students' verbal responses to the questions of a prepared test were recorded on tape. Responses were scored by a jury. In both groups, students' verbal communication skills were found to be generally low. No students gained the maximum 20. The average point was 4.84. The average point of the students attending special classes was 3.95; of students attending regular classes, 6.45. As a result, verbal communication skills of hearing- handicapped students who are attending regular classes were found to be better. This result can be explained in that verbal communication conditions in the regular classes are more appropriate for the hearing-handicapped children.

Factors predictive of the development of reading and writing skills in orally educated adolescents

Tuesday, 14:45 **Room 8**

Geers, Ann E.*(USA)*
Moog, Jean S.*(USA)*

One-hundred (100) profoundly hearing-impaired 16- and 17-year olds enrolled in oral and mainstream high school programs across the United States and Canada participated in extensive testing. Each student's current abilities in reading, writing, spoken and signed language, speech perception, and production and cognition were evaluated. Background and demographic information were collected from their parents. Results indicate that children with profound hearing impairments who have a combination of favorable factors, including at least average nonverbal intellectual ability, early oral educational management and auditory stimulation, and middle-class family environment with strong family support, have a potential for developing much higher reading, writing and spoken language skills than is reported for hearing-impaired persons in general (i.e., seventh grade reading levels rather than third-grade reading levels). The primary factors associated with the development of literacy in this sample were good use of residual hearing, early amplification and educational management, and above all, oral English language ability, including vocabulary, syntax, and discourse skills.

IBM's "Writing to Read" for hearing-impaired students

Thursday, 13:30 **Room 7**

Hamilton, Harley*(USA)*

This paper describes the first year of a pilot project in which the IBM program "Writing to Read" was adapted for use with hearing-impaired children. The major thrust of "Writing to Read" is to teach children the most common sound-symbol relationships of English so that they may become "phonetic" writers and then readers of their own and others' writings. At first glance, such an approach would seem futile with hearing-impaired students. However, after examining all the elements of the program, as well as recent research on reading, deafness, and the encoding processes related to reading, such a program seems ideal to test a "phonics" based approach as a supplement to beginning reading instruction. Support for such an approach stands out in the recent literature on reading and deafness. The most impressive piece of evidence comes from the work of Lichtenstein (1983), who found a strong positive correlation between hearing-impaired college students' use of speech for recoding print and their skills in English syntax, morphology, and reading. Also of great importance was the finding that a student did not need to have intelligible speech in order to utilize speech recoding. Thus, the investigation of "Writing to Read" as a tool for teaching hearing-impaired children to utilize speech recoding during reading began. The project was initiated in the fall of 1988 with approximately 30 elementary-age children at the Atlanta Area School for the Deaf. The results of the first year of using this tool are reported. These include substantial gains in writing, speechreading, spelling, reading enthusiasm, and a high level of teacher acceptance and motivation.

The teaching of language to a deaf child based on an oral approach

Monday, 15:30 **Room 8**

Hara, M.B.*(Limbe-malawi)*

The teaching of oral language to a deaf child should follow these principles: recognize the importance of conversation as the way of acquiring language, use the child's spontaneity and emotional involvement in the topic, and teach formal aspects of language in the context of life situations requiring language. The presenter discusses conversation as a language teaching approach, with specific suggestions, and discusses the teaching of speech within an oral language context. Speech-teaching strategies are described. The success of the oral method will very much depend on the right approach to conversation as a means of language acquisition by a deaf child and depend on the correct teaching of speech in order for the child to produce clear speech for communication.

The development of written language skills in a population of hearing-impaired children

Monday, 15:30 **Room 8**

Harrison, David R.*(United Kingdom)*
Simpson, Paul A.*(United Kingdom)*
Stuart, Arabella*(United Kingdom)*

This paper reports on the acquisition of written language skills in a population of 120 prelingually hearing-impaired children being educated in local mainstream schools in the county of Leicestershire,

England. The children are supported by specialist teachers of the hearing impaired, and a natural aural approach to the acquisition of language and communication is employed. The natural aural approach encourages the acceptance of written language, which reflects the level of syntactic development that has been achieved by the child. No syntax teaching is undertaken, and correction of the syntax of writing is seen as interfering in the natural process of language acquisition. Samples of the free written language taken from this population of children are used to illustrate this natural progression, in which distorted word order and deviant syntax, both common features of the writing of many hearing-impaired children, are not present.

How to diagnose and develop students' skills in written language

Tuesday, 14:45 **Room 8**

Hultin, Kenneth*(Sweden)*
Nordenskiold, Ing.-Till*(Sweden)*

This study examines samples of narrative writing produced by hearing students and students with varying hearing losses. The evaluations are based upon "An Inventory for the Assessment of Written Language" developed by Elizabeth Engen at the Rhode Island School for the Deaf. For the purposes of this study, the manual was translated into Swedish and appropriately adapted to the conditions of Alvikskolan in Bromma, Sweden. The translated manual is now in print and has been distributed throughout the school in order to encourage its implementation. In addition to its use at Alvikskolan, hopefully the manual will be made available to specialized schools for deaf students in the Scandinavian countries. This presentation gives a short account of both the results of the use of this manual in class for written language evaluation and the approaches to take in setting up new language goals for the students.

A study of the language development of hearing-impaired infants through home intervention

Thursday, 10:15 **Room 6**

Hwang, Teh-Yeh*(Taiwan, China)*

This is a three-year experimental research report. The main purpose of the study was to evaluate the effectiveness of early home intervention in developing listening skills and speech in hearing-impaired infants. At the end of the three-year study, 47 cases had more than six months' treatment, 42 cases had 12 months' treatment, 32 cases had 18 months' treatment, 26 cases had 24 months' treatment, 17 cases had 30 months' treatment, and eight cases had 36 months' treatment. After treatment it was found that (1) the hearing-impaired children had significantly higher scores in the following five developmental areas: gross motor, fine motor, situation comprehension, self help, and personal-social. The pre-scores of expressive language and comprehension conceptual ability of hearing-impaired children were much lower than those of hearing children, but after treatment, the development scores in these areas were also significantly higher. (2) Children who had treatment had higher receptive and expressive language scores than children of the same age levels who had not had treatment. (3) When auditory and verbal skills were included in assessment, the language development scores of hearing-impaired children, after treatment, were lower than those of hearing children, but when auditory and verbal items were eliminated, as far as possible, the scores exceeded the normative rate of development. (4) Children who had early treatment had higher receptive and expressive language scores than children without early treatment.

The use of auditory feedback in language teaching for hearing-impaired children

Monday, 15:30 **Room 8**

Kawata, Itu*(Japan)*
Wada, Kazuko*(Japan)*
Ebina, Chika*(Japan)*
Ozawa, Kiyoko*(Japan)*
Ishitoya, Eiichi*(Japan)*

It is of great importance to utilize auditory feedback in language teaching for hearing-impaired children. Since 1960, hearing aids and fitting techniques have made great progress. Hearing-impaired children, however, have not necessarily benefitted from their progress. Their speech production remains as unintelligible as before. The use of auditory feedback allows a better speech and linguistic performance by our children. We discuss our method of feedback and its results.

Training conversational competence in oral hearing-impaired preschoolers

Monday, 11:15 **Room 1**

Korkes, Nancy L.*(USA)*
Ying, Elizabeth*(USA)*

The documented pragmatic deficits of orally trained hearing-impaired preschoolers adversely affects their ability to interact socially in mainstreamed settings. While they develop adequate language skills and intelligible speech, they are poor initiators of conversation and rarely monitor the linguistic content of the message. When they receive an incomplete or unintelligible message, they fail to signal to the speaker that more information is necessary. Like their normal hearing counterparts, hearing-impaired children interrupt conversation, neglecting the visual and auditory cues that their partner has not relinquished his turn. This series of studies examines the effects of training on the ability of hearing-impaired preschoolers to improve their social-conversational interaction. Study one involved "increasing initiations." Signals such as pausing, widened eye gaze, and anticipatory gesture facilitated these children's awareness of their obligation to initiate conversation. Study two concerned "comprehension monitoring." The presentation of unintelligible and ambiguous messages created a context in which these children improved their acknowledgment of missing information and formulation of specific requests for clarification. Study three focused on "reducing interruptions." The awareness of visual and auditory cues governing one's speaking turn such as "Excuse me, I'm talking" and "My mouth is moving" reduced these children's inappropriate conversational entries. Implications for therapy and mainstreaming are discussed.

Written speech as means of communication at school and home

Thursday, 15:30 **Room 7**

Kovtunenko, I.V.*(USSR)*

It is known that with deaf children, written speech is more readily learned as compared with spoken language, since the perception of written symbols is easier for understanding than the perception of spoken language by ear and eye. While talking about written speech, we do not mean the technique of writing alone, but the skill to understand the written text and to reproduce it as well. Deaf school-leavers in our country often find it difficult to understand the meaning of notices, articles in newspapers and magazines, letters, notes, etc. It is even more difficult for them to write applications, petitions, notes, letters to relatives and friends, reports, etc. This is indicative of the fact that written speech is not a reliable means of communication for most of them. This research was aimed at studying the specific features of the development of independent written speech among deaf V-VII grade schoolchildren when the written material used was oriented toward communication. We also studied the very content of education and methods used in practice. The basic procedure of our research involved a pedagogical experiment, conducted in three forms: ascertainment, education, and control. Along with that we studied the curriculum and teaching procedures. The data obtained showed that the communicative trend of the content was vague and fragmentary. Many shortcomings included lexical and grammar mistakes, mainly due to the inability to correctly connect words within a sentence. The results of the research and analysis of the present day practices made it possible to specify the content of education, selecting those written works that are required by schoolchildren at school and home. At the same time, we worked out a system of exercises that were included in special textbooks in the students' mother tongues. The instructional aspect of this problem has been tested in practice and as such was included in a special instructional textbook ("Teaching Russian Language in V-VII Grades of Schools for the Deaf", I.V. Koltunenko, L.P. Noskova). The results of experimental education were indicative of the fact that the approach suggested was perspective. Under the new conditions, specific features of the written speech of the deaf schoolchildren are becoming more correct, and their statements become more clear and feature a certain communicative trend.

The Hi-Linc Project

Thursday, 13:30 **Mezz. Holiday Inn**

Kyle, James*(United Kingdom)*

Perhaps the greatest frustration for people who lose their hearing is being cut off from information. Although some people learn to lipread or use sign language, the majority with acquired hearing loss rarely achieve fluency in either and as a result they have a problem with access to information. Previous attempts at remedies such as notetaking, visual conferencing, and the palantyne system (similar to court stenography) have never been fully developed due to problems such as slowness or expense. A new system is being developed that is portable, inexpensive, easy to set up, and can be used by anyone with standard keyboard skills. The Hi-Linc system operates on an IBM personal computer and provides a written display of what a speaker says.

The principle is that an operator types as much of the speaker's text as possible and that this information, expanded or corrected as necessary, is sent to a large display (if there is a group of hearing-impaired people), or to another computer (if there is only one person). Since the computers involved are portable, Hi-Linc can be used almost anywhere and since the text is automatically saved on the disk, the whole transcript can be printed at the end of the session. The system is available for demonstration at the poster session.

The acquisition of British Sign Language in early childhood

Thursday, 10:15 **Room 6**

Kyle, James*(United Kingdom)*
Woll, Bencie*(United Kingdom)*

Because of the apparent difficulties of detecting hearing loss in children, and their relative infrequency, very few studies have examined deaf infants and their first steps toward language. For the last five years we have been filming deaf families with deaf and hearing infants, and hearing families with deaf infants. In this paper we describe the results on the pattern of interaction in BSL during the first year of life, which leads naturally into the development of BSL in the second year and fluent use of the language in the third year. Implications for preschool education are considered.

The Computer Integrated Speech Training Aid (CISTA)

Wednesday, 10:15 **Room 2**

Levitt, Harry*(USA)*
Youdelman, Karen*(USA)*
Yamada, Yoshinori*(Japan)*
Murata, Norio *(Japan)*
Head, Janet *(USA)*

The Matsushita speech training system consists of hardware and software that have been used in numerous schools and centers in Japan to train hearing-impaired children as well as other persons with functional or organic speech disorders. The system has several speech production sensors: a laryngeal transducer, a nasal transducer, an air-flow microphone, and a voice-activated microphone. The computerized system allows the user to display visually several (either singly or concurrently) features of speech production, to measure the changes in production, and to keep detailed data records. A unique feature of the Matsushita system is the palatograph, which records tongue-palate contact by means of a tongue position sensor or "artificial palate." New techniques for analyzing palatographic data have been developed and are being used to analyze data from five test subjects as well as archetypal palatographic patterns obtained from normally hearing speakers. Preliminary results obtained before and after training indicate that improved speech skills were evidenced post-training for all subjects on the production of consonantal sounds.

Procedures involved in word recognition and word spelling by deaf subjects

Thursday, 10:15 **Room 12**

Leybaert, Jacqueline *(Belgium)*
Alegría, Jesús *(Belgium)*

Recent models postulate that hearing individuals have two procedures to identify written words. The letter sequence can either be matched to an orthographic representation stored in the long-term memory (addressing procedure) or be translated into an internal phonological representation by the application of grapho-phonological rules (assemoling procedure). Word spelling would be based also on these two sources of knowledge in hearing subjects. To study the existence and efficiency of these two procedures in congenitally deaf subjects, we designed a series of reading and spelling tests in which the items vary in grapho-phonological regularity (regular vs. irregular words), frequency (words of high and low frequency), lexical status (words vs. pseudo-words), length (short and long items), etc. The data show strong similarities between the performances of deaf and hearing subjects, suggesting that deaf subjects, like their hearing peers, rely on both the addressing and assembling procedures. This shows that deaf individuals do not rely exclusively on a visual code in reading and spelling, as frequently supposed; they may develop information processing procedures based on sensitivity to phonology, despite their limited experience in hearing and speech. Our results also show that both the assembling and the addressing procedures are deficient in deaf subjects. The reasons for these deficiencies and their impact on the reading level achieved by deaf individuals are discussed.

Natural language computer programs for reading and language instruction

Thursday, 13:30 **Mezz. Holiday Inn**

Lichtenstein, Ed *(USA)*

This session features demonstrations of computer-based programs specifically designed to aid in English reading and language instruction for deaf students. In interactive fiction programs, the student becomes the main character of a story, solving problems and controlling the actions of the character in a text-based world. Such programs require that the student read actively, and critically, attending to detail, seeking out, and using information. These programs include an on-line dictionary and a parser that checks the grammar of students' input. The benefits of such programs for both language acquisition and reading comprehension strategies are discussed.

Teaching reading and writing through dialogue journals

Wednesday, 10:15 **Room 5**

Lieberth, Ann K. *(USA)*

Results of research and reports of achievement levels of hearing-impaired students document the problems and the need for the development of writing skills. Dialogue journals can provide a motivating teaching tool for both the teacher-in-training and the hearing-impaired student. Dialogue journals provide teachers-in-training with opportunities to apply a variety of techniques to model, expand, and correct written language, provide exposure to written language problems of the hearing impaired, and offer opportunities to analyze written language and target language structures for "informal" correction. The same journals provide hearing-impaired students with opportunities to use written language to communicate, practice in using conversational formats, use written discourse for a variety of real-life reasons, put "thoughts" on paper, and develop language skills without penalty. To these ends, a project was designed in which hearing-impaired elementary school-aged children and teachers-in-training communicated via dialogue journals. Pre-post-testing for the hearing-impaired children included measures of written language and reading achievement scores. Teachers-in-training were tested on: identification of characteristics of written language of the hearing impaired, ability to target language structures for correction, and ability to use informal strategies for correction of language in error. This presentation includes an analysis of the results of the project and implications for further research and application.

The reading development of deaf children: Critical factors associated with success

Thursday, 13:30 **Room 7**

Linbrick, Libby *(New Zealand)*

This paper is based on a study that examined the reading and language development of severely and profoundly deaf children over two years. The children, aged 5 - 12, were being educated within a total communication environment and an education system that stresses literacy learning based on whole language learning. Some critical issues associated with successful reading development were identified. The data suggest that when given the opportunity to learn to read using natural language texts and when using either oral or sign language, whichever the child prefers, the reading process for deaf children can be similar to that for hearing children. High positive correlations demonstrated between reading and language performance were interpreted as being bi-directional. That is, language development is both the cause and outcome of reading development. Time-on-task in reading for these deaf children, however, was demonstrated to be lower than for hearing children. Time-on-task in reading is discussed as a major contributing factor to the reported low levels of achievement in reading for most deaf children. Procedures for increasing time-on-task in reading for deaf children are suggested.

The development of perceptual-oral skills

Monday, 11:15 **Room 1**

Ling, Daniel *(Canada)*

For spoken language to be acquired, it must be effectively perceived, stored, and produced. Strategies for the development of the perceptual-oral skills among hearing-impaired children are being revolutionized as emerging technology, including improved hearing aids, cochlear implants, and tactile aids, becomes available. Recently acquired knowledge of many aspects of language acquisition can also lead to the enhancement of the procedures used to promote perceptual-oral development. The purpose of this presentation is to review some of the major advances in our knowledge of spoken language development and speech transmission technology and to suggest how they can best be integrated to provide optimal support for learning and teaching oral communication skills.

Developing a multimodality-based oral skills program in Total Communication and bilingual settings

Monday, 11:15 **Room 1**

Loncke, Filip *(Belgium)*

This paper highlights how Total Communication (TC), or bilingualism as general education, philosophies can affect the way we train oral skills in deaf children. We distinguish as oral skills: auditory skills, speechreading skills, and speech articulatory fluency. It is argued that these philosophies, if based on psycholinguistic and sociopsychological considerations, can lead to new avenues in teaching techniques. However, throughout the paper, we argue that in order to achieve acceptable results in particular areas such as the development of oral skills, spoken language competence, and sign language competence, the educator should try to evoke and stimulate in a well-defined way specific psycholinguistic processes such as intermodality, code-switching, code-awareness and psycholinguistic programming. The first part of this paper discusses underlying psycholinguistic and sociopsychological assumptions of the practices of training oral skills. It is shown that the educator of deaf children is seemingly confronted with choices leading to paradoxes in classical approaches to the training of oral skills. The second part suggests some solutions to avoid these paradoxes, mainly based on a psycholinguistic and sociopsychological interpretation of principles of Total Communication. The third part consists of the description of a training program that has been implemented in the Royal School for Deaf Children in Gent-Gentbrugge, Belgium, since 1984. Finally, some clues are given for further development of a similar program, and areas for research are discussed.

The picture spine: An easy way to evaluate speech intelligibility

Tuesday, 10:15 **Room 8**

Moog, Jean S. *(USA)*
Geers, Ann E. *(USA)*

Development of a measure of speech intelligibility is complicated by the fact that the speech intelligibility of the hearing-impaired is known to vary considerably depending on: (1) the experience of the listener; (2) the context in which the sentence was spoken; (3) the visibility of the speaker; (4) the phonologic and syntactic difficulty of the material spoken; and (5) the familiarity of the speaker with the material spoken. Two basic approaches have been developed for measuring intelligibility in hearing-impaired children. One is a "listener rating" approach in which the child is asked to say a list of sentences or read a paragraph, and a group of listeners attempts to rate the intelligibility on a rating scale. A second approach is the "listener response," requiring listeners to record all the intelligible words in a set of spoken sentences. The child's score is based on the number or percent of words understood. Both of these procedures have problems primarily in reliability and in practicality. The SPeech INtelligibility Evaluation, SPINE (Monsen, 1983) was developed as a test procedure because there was no reliable, easy-to-use test to measure the intelligibility of a child's speech. The SPINE consists of 10 sets of four phonemically similar words (e.g., feel, fail, fill, fell). The child reads each word aloud to the examiner from a randomized set of cards. Results are expressed as the percentage of words correctly identified by the examiner. Reliability, limitations, and suitable applications of the SPINE are discussed.

Establishment of generalized grammar structures for deaf children when teaching them to speak

Thursday, 10:15 **Room 7**

Nesterovich, T.V. *(USSR)*

As is known, improper grammar structure of speech occurring in statements of deaf children makes communication as well as adequate understanding of their statements difficult. A study conducted over several years has shown that, with deaf children at the age of 7, it is expedient to acquaint them with the most frequent phrase structures in the form of models, for example, with the structure of a sentence, containing subject, predicate, and direct object. In flexible languages, Russian among them, the object may have different endings due to gender and number. As the speech of children is enriched during the process of education, the models used become more complicated and serve different purposes. While studying, children choose statements familiar to them, whose grammar structure corresponds to the model; also they learn to determine the structure of a statement in new phrases, in oral or written form. In the course of their studies, deaf children develop generalized grammar structures to make sentences in unity with the changing and varied contents of the statement. Schoolchildren of 11-12 years can make grammatically proper sentences, expressing their ideas on a wide variety of topics.

Auditory learning by computer-aided instruction

Monday, 15:30 **Room 2**

Ochi, Kimimasa *(Japan)*
Takahashi, Nobuo *(Japan)*

In their training in hearing, we seek of children that they be motivated and interested in learning. Most children take an interest in TV games using a personal computer. Thus, we developed a CAI system to assist in learning environmental sounds and speech. This system varies according to the child's ability and pace. The system is constructed as follows: (1) a NEC PC-9801 personal computer, (2) a speech processing board (ADPCM processer), (3) a touch panel (pointing device for the child's response), (4) a 20MB hard disk (for sound data), and (5) an amplifier. Various kinds of sounds for the learning program are prepared as follows: (1) vehicle sounds, (2) animals crying, (3) numbers, (4) words, and (5) sentences. Children were trained on this system for several weeks. As a result, we found that auditory performance before training was insufficient. But we found this performance improving with the continuation of the auditory learning. Therefore, we are convinced that the use of the computer in auditory learning can be quite effective.

Comparison of new training methods with conventional training methods

Wednesday, 10:15 **Room 2**

Oko, Tatsuo *(Japan)*
Yamada, Yoshinori *(Japan)*
Murata, Norio *(Japan)*

In order to evaluate the effectiveness of Computer Integrated Speech Training Aid (CISTA) when it is actually applied to hearing-impaired children, the improvement of speech intelligibility achieved after one year of training was compared between an experimental group, to which this new speech guidance method was applied, and a control group to which a conventional speech guidance method was applied. Fourteen (14) second-grade hearing-impaired children of Tsukuba University Attached Kindergarten were divided into two groups for the evaluation. The speech training for five Japanese vowels was conducted for one semester, and the consonant training was conducted during the following semester during which no vowel training was intentionally performed. Speech intelligibility was measured before and after the first semester and again at the end of the second semester. Improvements in vowel speech were observed to the same degree for both groups at the end of the first semester, but the speech intelligibility of the control group after the second semester showed a decay of approximately 9 percent while no decay was observed for the experimental group. That is, the superior fixation of vowel speech improvement attained by the new training method was clearly demonstrated. Speech intelligibility for 100 Japanese syllables was measured at the beginning of the first semester and at the end of the third semester, and from this, nearly twice as much improvement was observed for the experimental group over the improvement of the control group.

Development and application of a simple discrimination test using word lists of family terms for Japanese hearing-impaired children

Monday, 15:30 **Room 2**

Onuma, Naoki *(Japan)*

In order to develop a practical speech discrimination test for hearing-impaired children, word lists of family terms: otoosan (father), okaasan (mother), oniisan (brother), oneesan (sister), ojiisan (grandfather), obaasan (grandmother), ojisan (uncle), obasan (aunt), papa (papa), mama (mama) were prepared. The tests were performed with 381 5-year-old severe to profound hearing-impaired children enrolled in 66 schools for the deaf all over Japan. It was found that they achieved more than 80 percent in their discrimination scores for "otoosan," "okaasan," and "oneesan" in the auditory-visual (speechreading) conditions. For the other word lists, they achieved more than 70 percent in their discrimination scores. In the visual-only conditions, the average scores were 18 percent to 29 percent down from the previous scores. By constructing the list with 10 easy words whose spectral and/or prosodic information is critical for their discrimination, several useful perspectives of the evaluation of the auditory skills of hearing-impaired children were obtained. Particularly, for the word group "oniisan," "ojiisan," and "ojisan," when confusion matrices within the word groups were investigated, a distinctive cue in their auditory perception would be defined by the simple test materials.

Phonological deviations in the speech of deaf children: Impacts of input limitations on the development of speech skill

Thursday, 10:15 **Room 7**

Öster, Anne-Marie *(Sweden)*

Deaf children's phonological systems are partially rule-governed and similar to those appearing in the speech of hearing children at some stage of their phonological acquisition. However, there exist many phonological characteristics in the speech of deaf children that differ from the phonological processes of normally hearing children due to auditory limitations, visibility of phonetic features, teaching methods, insufficient physiological control, and command of language. It is important to describe these systematically deviant phonological processes through linguistic analyses with the aim of outlining an individualized and effective speech-training program. Phonological analyses of videorecorded speech of some deaf children are described and the inventory of systematic deviations is reported and related to the impacts of those factors that children with severe auditory deficits are relying on when learning to speak.

Phonological production in hearing-impaired children: A new look at assessment and directions for intervention

Tuesday, 10:15 **Room 8**

Owens, Janet *(Australia)*

In a test of phonological process association, 31 severely and profoundly hearing-impaired children completed a modified version of the Phonetic Speech Analysis (PSA) (Schmitt, 1964) and provided 10 minutes of spontaneous speech. Subjects ranging in age from 5 to 13 years were randomly selected from integrated and segregated settings that adhered to Oral-Aural or Total Communication philosophies of communication. Results confirmed that severely and profoundly hearing-impaired children use systematic and rule-governed error processes in their speech. The modified PSA effectively identified the major phonological errors made by hearing-impaired children in their spontaneous speech, which was analyzed using Ingram's (1981) phonological process occurrence criteria, Shriberg and Kwiatkowski's (1980) spontaneous speech criteria, and a selection of phonological processes as reviewed by Khan (1985). The modified PSA also identified patterns of atypical phoneme substitution that were elicited during spontaneous speech. Further discussion addresses the differences in results as affected by method of assessment and method of communication, and the relationship of intelligibility to suprasegmental, phonetic, and phonological performance.

SpeechViewer: New tool for speech/language development

Thursday, 13:30 **Room 6**

Pearson, Patricia C. *(USA)*

The session describes use of the IBM SpeechViewer in aural habilitation therapy at the Eastern North Carolina School for the Deaf. Emphasis is placed on use of the software package with middle school and high school students. The improvement of oral speech production in severely/profoundly hearing-impaired youngsters is a tedious task with progress generally slow and labored. By middle school age, many students have decided that the costs outweigh the benefits. They are no longer willing to make the necessary effort to improve speech intelligibility. SpeechViewer, introduced by IBM in November 1988, provides visual feedback that has proved to be an effective clinical tool at ENCSD. Middle and high school students are excited about therapy sessions and the graphic representations of their improved speech productions. This presentation includes an overview of the SpeechViewer software package and videotapes of a variety of therapy sessions. Background information is provided on each student presented, including audiological data, amplification history, and speech/language evaluation results.

The development of auditory perception of deaf pupils

Monday, 15:30 **Room 2**

Plutalova, Larissa *(USSR)*

The primary aim of auditory training in the special school for the deaf is the maximum development of residual hearing of the deaf by means of the specially designed system of training. The training of deaf children is performed using sound-amplifying devices, both of a permanent type and individual hearing aids. As a result of experimental research it is stated that this purposeful development of residual hearing of the deaf permits the formation of auditory/visual bases for the perception of oral speech by the fifth year of study. Besides, the pupils are able to perceive certain speech patterns only by means of hearing. The

specific findings are described and lead to the conclusion that the use of this system of development of residual hearing accelerates the process of speech acquisition.

Enhancing linguistic concepts in hearing-impaired children through conversational scenarios

Thursday, 15:30 **Room 7**

Polter, Linda *(USA)*
Powell, Kathleen *(USA)*

Past and recent research indicates that conversation is the best environment for learning language, (Dore, 1978) (Kretschmer and Kretschmer, 1980). When addressing the hearing-impaired child, most programs focus on isolated drill and practice on sentence forms to develop the same conversational skills as those of a normally hearing child. In order to aid in the generalization of learning from the classroom to everyday life, a pilot program was developed at the Monroe County Program for Hearing Impaired Children at Ida, Michigan. Nine children from the hearing impaired program were selected to participate. All nine children were diagnosed as hearing impaired, with no other known or suspected impairments. Each child was pretested for usage of several linguistic concepts at the conversational level. The mode of testing was the use of scenarios, loaded with one or more of these linguistic concepts. Results of pretesting were compared with a random sample of non-hearing-impaired children in grades 1-4, given the same four scenarios. Results revealed significant differences between hearing-impaired and non-hearing-impaired children's usage of the concepts at the conversational level. In order to improve the hearing-impaired child's use of these concepts at the conversational level, a program was developed in which the hearing-impaired child received additional practice from a speech pathologist. This presentation describes that program and some of its consequences.

The Visual Speech Apparatus

Thursday, 13:30 **Room 6**

Povel, Dirk J. *(Netherlands)*
Arends, Nico *(Netherlands)*

This presentation describes The Visual Speech Apparatus. This is an aid for speech training of hearing-impaired children that visually displays several essential aspects of speech. The device has been designed with the practical teaching situation in mind. Consequently, development has been based on *"a priori"* learning principles and teaching goals. In constructing the device, attention has been given to incorporating didactic and pragmatic principles such as stepwise introduction of aspects, gradual increase of complexity, motivating exercises, flexibility, user friendliness, and compactness. This has led to an advanced, low-cost computer-controlled teaching system that enables the teacher to define customized exercises in a very flexible way for the gradual development of the three primary characteristics of voice control: loudness, pitch, and timing, as well as for the acquisition of the correct pronunciation of vowels and sustained consonants.

Classroom discourse and literacy learning in an elementary school mainstreaming program for deaf students

Tuesday, 10:15 **Room 1**

Ramsey, Claire L. *(USA)*

This presentation reports an ethnographic study of a class of deaf students who attend school in a "mainstreaming" program in a public elementary school. The study focuses on the classroom discourse and the literacy activities of five profoundly deaf second graders. Data-gathering techniques include participant observation, both formal and informal interviews with the teachers of the deaf and the regular second-grade teacher, videotaping of naturally occurring events in the classrooms, and conversations with the children. The purpose of this study is to describe in detail the interaction of varieties of language in a typical American elementary school deaf education setting and come to an understanding of the ways language use contributes to or fails to contribute to a social and linguistic milieu for deaf children's learning. Language in the classroom forms the center of the description because this has emerged as the best avenue for gaining understanding of language development, literacy learning, and interaction with hearing people as they actually take place in the lives of young deaf children at school, in contrast to idealized images of the way young deaf children's education proceeds.

Developing readers and writers of expository texts

Tuesday, 10:15 **Room 1**

Ringhand Truax, Roberta *(USA)*
Edwards, Bertha *(USA)*

This presentation describes the methods used by a team of teacher-researchers during a unit of study to facilitate the literacy learning of a group of intermediate hearing-impaired students. The efforts of this particular study focused on learning to read and write exposition. The general theoretical framework on language and literacy learning used by the teacher-researchers is presented and related specifically to the description of the development of the readers and writers in this study who used expository texts to communicate. Topics to be addressed in general and in specific reference to the unit of study include: (1) the purposes expository texts serve in communication, the general concepts reflected in expository texts, and the linguistic expository forms used in communicating purposes and content, and (2) the role of integrating face-to-face and written communication in becoming literate.

Utilization of the CISTA in speech guidance training at a school for the deaf in Japan

Wednesday, 10:15 **Room 2**

Sakuma, Reiko *(Japan)*
Ishibashi, Itsuko *(Japan)*
Murata, Norio *(Japan)*
Imai, Hideo *(Japan)*

Speech guidance for hearing-impaired children who are unable to hear their own speech is a very difficult task. The Computer Integrated Speech Training Aid (CISTA) is a highly effective training apparatus by which the speech is displayed on a color CRT in either a waveform or color pattern for easier visual presentation for hearing-impaired children. Since 1988, four of these units have been effectively used for speech training in the Chiba Deaf School where one class is guided by three speech trainers. Since students can recognize easily the difference in speech between the models and their own, training can be performed as if they are playing games, the training becomes motivational, and even self-training became possible. The training software corresponding to each of the Japanese syllables was prepared on floppy disks, and by this, speech training became possible for all the Japanese syllables. Thus, it can be said that a new speech training system was constructed by supplementing conventional training systems with this training software. Presently improvements are being made in matching the training software to the degree of hearing impairment, and training is continuing.

Assessment of auditory speech perception in hearing-impaired infants

Monday, 15:30 **Room 2**

Salisbury, Jean E.T. *(USA)*

Young, hearing-impaired children's speech perception has remained largely unexplored because existing techniques for assessing children's speech perception require a four-year receptive vocabulary age-equivalent, which severely hearing-impaired youngsters do not achieve until 7 or 8 years of age. In this paper, results are reported from a study that used an operant visually-reinforced procedure to assess hearing-impaired infants' perception of change in speech stimuli. The ability of 11 hearing-impaired (BEPTA=91.4 dB) children ages, 7-35 months and 11 normally hearing children, ages 8 to 36 months, was assessed. Spectral differences within stimulus pairs mark a bilabial-velar contrast in place of articulation. The duration of initial formant transitions was the sole difference across stimulus pairs, with values of 150, 75, and 25 ms, perceived, respectively, as vowels [ua-ia], semivowels [wa-ya], or plosive consonants [ba-ga]. Significant effects of hearing status and stimulus type were observed. Data also indicate that speech discrimination ability in hearing-impaired infants may decline with age. Findings are discussed in light of (1) factors influencing early speech perception, (2) effects of hearing impairment on development of speech perception in early life, and (3) development of clinical speech perception tasks for use with infants.

Development of orthographic vocabulary: Strategies of deaf children in memorizing orthographic information

Thursday, 10:15 **Room 12**

Schaper, Maike *(Netherlands)*
Reitsma, P. *(Netherlands)*

This report of a reading-research project centers on the question of which way(s) deaf children aged 7-13 years memorize orthographic information of words. Results of this study indicated that almost all children aged 7 to 9 years use a dominant visual strategy. From age 9, some deaf children develop a preference for an overt/covert articulatory strategy. Compared

with a visual strategy, the use of an articulatory strategy gradually becomes a more effective way to memorize written words.

The language aspect of curriculum

Monday, 15:30 **Room 8**

Scouten, Edward L. *(USA)*

This presentation is an attempt to counteract the prevailing attitude relative to the supposedly insurmountable problem of achieving acceptable English acquisition for prelingually deaf children. This has evolved through our tendency to minimize language to the extent that those disciplines that are not specifically composition and reading are designated as "non-language." Such subjects are presumably not hobbled by the restrictions of correct grammar and syntax, but depend solely on gesture. As a result, prelingually deaf children have received fewer and fewer opportunities for *seeing* and *practicing* English as a medium of communication. Consequently, today, the average school for the deaf graduate has a reading level of fourth or fifth grade, while the intricacies of English are bypassed through his habitual flow of gestural communication. Inability to handle English isolates the average deaf graduate from the better job opportunities in the hearing world of work. To resolve this predicament, *all* teachers of *all* disciplines at *all* levels must become language teachers, through example. Only they, through strong leadership, can create a language-learning environment wherein prelingually deaf children can *see*, *imitate*, and *learn* the language that their school is charged to teach them. For deaf children, there are no non-language subjects.

A picture diary

Thursday, 15:30 **Room 7**

Sekine, Hideko *(Japan)*

Our deaf children as well as normally hearing children feel and think about a great many experiences in a single day. But our deaf children cannot express these feelings and thoughts enough. Therefore they keep a picture diary with their mothers every day, through which they can learn to express their feelings. Before the day is over, deaf children are encouraged to talk with their mothers about their experiences. Their mothers should try to understand what their children are interested in. Mothers can draw pictures and write sentences about their child's interests. The next day, the child can talk together with his friends and teacher about yesterday's picture dairy. They can talk to their friends using language that includes what they remember from yesterday. Other suggestions are presented.

Literacy as an international goal for all deaf people: The UN resolution

Tuesday, 10:15 **Room 1**

Sheikh, Riaz Ahmed *(Pakistan)*

We must be deeply concerned by the fact that more than 100 million deaf people in the world today do not have access to school education, and one out of four of them is neither able to read nor write. We should be highly appreciative of the plans set forth by the United Nations, aimed at completely eradicating illiteracy in the world by the year 2000, starting from the LITERACY year 1990, with the firm conviction that the promotion of LITERACY and imparting an education to deaf children is indispensable for securing human dignity and fundamental human rights, as well as for social, economic, and cultural development of the world community.

Cued Speech and spoken language

Thursday, 15:30 **Mezz. Holiday Inn**

Sheridan Quenin, Catherine *(USA)*

This poster presentation describes the use of Cued Speech as a tool for developing spoken language skills, both receptive and expressive, and literacy in profoundly hearing-impaired children in the USA and abr . In use for more than 20 years, Cued Speech is a onemically-based system of handshapes used in locations near the mouth in conjunction with speech as a visual analog of the auditory signal. Cueing allows the hearing-impaired person to receive a complete representation of a spoken message. A recent investigation of the reception of cued language by hearing-impaired students is described in which continuous discourse tracking was used to compare subjects' abilities to speechread with and without the addition of cueing. Implications for the development of communication skills are discussed.

Development of literacy skills in a population of hearing-impaired children

Tuesday, 10:15 **Room 1**

Simpson, Paul A. *(United Kingdom)*
Harrison, David R. *(United Kingdom)*
Stuart, Arabella *(United Kingdom)*

This paper considers the reading and vocabulary development of a population of 120 prelingually hearing-impaired children being educated following the natural aural approach in their local mainstream schools in the county of Leicestershire, England. Reading levels are described as determined by the new MacMillan Reading Analysis. Vocabulary scores are ascertained according to the English Picture Vocabulary Test. Comparisons are drawn between these results and those of other reported samples. The methods by which the children's language acquisition is monitored, using a system of monthly verbatim transcripts of spoken language and samples of written language, are described, and the benefits of this form of monitoring child language acquisition are discussed.

The role of speech acts in children's response to literature

Thursday, 15:30 **Room 7**

Topol, Deborah *(USA)*

The importance of pragmatic skills in the development of language has been recognized in most recent approaches to language development for deaf children. Little attention has been given, however, to the relationship between students' pragmatic skills and their development of literacy. A particular feature of written narratives and stories is that much of the action is carried by character dialogue in order to predict the form of its plot or to access a deeper understanding of a story or literary piece. A cross-sectional analysis of deaf readers' ability to understand a set of written speech acts is offered, as well as a discussion of the role these speech acts play in much of young children's literature. The acts of promising, warning, trickery, and deception are highlighted in a series of test texts, and readers' responses to the meaning of these utterances are coded for depth of understanding. This presentation includes an overview of a curriculum in literature that addresses the role of pragmatic and other linguistic markers in narrative texts, with implications for innovations in currently available reading and literature programs.

Teaching English as a foreign language to deaf students in Japan

Friday, 9:00 **Room 7**

Tsuchiya, Michiko *(Japan)*

English is one of the foreign languages in Japan that students, both deaf and hearing, are required to study, starting at the level of junior high school, and through college. It has been a quite frustrating experience for the deaf students to learn a foreign language such as English in addition to Japanese. It can be pointed out that English textbooks that they use in class are intended for the regular class and that the English lessons are intensively based on pronunciation and other aspects of speaking the language. As the deaf student has a different language development from the hearing student because of hearing impairment, the use of American Sign Language was introduced to help the deaf students understand the grammatical structure of English by means of visual communication. The effects of the use of the signs in class were observed and among them were as follows: (1) understanding English by visualization became possible, (2) communication in the classroom improved, and (3) motivation for learning more, showing a positive attitude toward studying English. However, problems remain yet unsolved, such as the necessity for development of an English textbook for the deaf students, few instructors who are skilled in American Sign Language, and an educational philosophy against the use of manual communication.

Oral language skills of Hebrew speaking hearing-impaired children

Tuesday, 14:45 **Room 8**

Tur-Kaspa, Hana *(Israel)*
Dromi, Esther *(Israel)*

Most of the published information on the oral skills of hearing-impaired children (HIC) comes from studies conducted on English. Hebrew grammar is radically different from that of English. Therefore, the goal of describing how HIC learn this language is important for the practical purposes of selecting targets for intervention, and for the more theoretical goal of studying how HIC process spoken languages. A descriptive-qualitative model for the assessment of the oral skills of HIC was developed and implemented. Oral and written language samples were elicited by preplanned identical probes, and analyzed by the following measures: a measure of pragmatic appropriateness, a measure of morpho-syntactic structures, and a measure of grammatical deviations.

The measures provided clinical information on: (1) the normative forms of the Hebrew language that were acquired by HIC; (2) the typical grammatical errors or deviations that were noticed in this population; and (3) the degree of correspondence between the oral and the written skills of the subjects. Although most subjects acquired basic formal grammatical skills, many faced difficulties in the application of some structures. Subjects' spoken and written skills were closely similar in grammar, but different in pragmatics. HIC had difficulties in marking the agreement rules for gender, number and tense that are obligatory in Hebrew. The model of assessment will be presented, the results will be compared with findings on English, and discussed within the broader scope of the oral linguistic abilities of HIC.

Principles and criteria for the development of pronunciation skills among deaf people

Monday, 11:15 **Room 1**

Volkova, K.A. *(USSR)*

Speech is the most prevalent means of communication among people and speech is formed most successfully in the process of communication. So the communicative value of lexicon and phraseology is one of the main principles in the selection of language materials to use with deaf students in training correct articulation. It is necessary first to choose and arrange topics of practical value in the education process, after which the vocabulary for each topic should be carefully chosen. The following criteria should be given priority in the choice of the vocabulary: semantic-communicative value, frequency, high stylistic capacity and combination, high phraseology valency, and normalized phonetic balance. The content and grammar of the material should be known to pupils, it should lead to the formation of articulation, correspond to the method of teaching, include various language units--phrases, words, syllables, sounds where sound substitutions are possible in cases when the child hasn't acquired the correct articulation. The speech material should reflect the principle of opposition of similar articulation, the variety of types of speech activity, present different literary genres. The application of principles and criteria of speech material selection in the system of the formation of articulation leads to better enunciation of the speech of the deaf.

The use of visual materials in language teaching for hearing-impaired children

Monday, 15:30 **Room 8**

Wada, Kazuko *(Japan)*
Kawata, Itu *(Japan)*
Ebina, Chika *(Japan)*
Ozawa, Kiyoko *(Japan)*
Ishitoya, Eiichi *(Japan)*

A method that makes use of visual materials in language teaching for hearing-impaired children was originally developed in the United States. Since 1975, we also have been instructing these children by means of visual language. In the present paper we discuss our visual materials, method, and results. In addition, we compare our method with the one developed in the United States.

The study of a foreign language by eighth grade American deaf students and its effect on academic self-esteem and achievement motivation

Friday, 9:00 **Room 7**

Welch, Olga *(USA)*
Hodges, Carolyn R. *(USA)*

In *Speaking in Many Tongues: Essays in Foreign Language Teaching*, Wilma Rivers, commenting on the growing base of research supporting the broad academic benefits of foreign language study, emphasized that an essential objective of foreign language educators must be "to consider the needs of all youth: the gifted, the average, the less able, the handicapped, and the disadvantaged" (1983, 120-130). As the idea of an "open-door" rather than elitist policy determining who studies a foreign language increasingly becomes adopted, foreign language educators are faced with the task of designing programs that fit those students with special needs. This presentation focuses on how foreign language study may be used to motivate hearing-impaired adolescents and to improve their English proficiency skills. By acquiring reading and writing skills in the target language (German), these students improve self-esteem as well as gain a new skill. This improved self-esteem, in turn, becomes a positive factor affecting their performance in their native tongue. Specifically, the presenters discuss current research on foreign language acquisition as it relates to self-concept development in hearing-impaired youth, connecting this research to preliminary data from their pilot project with eighth-grade students at the Tennessee School for the Deaf (Knoxville). The project focuses on the relationship between academic

self-esteem, foreign language study (German) and achievement motivation. Implications of the study for classroom instruction with hearing-impaired learners are also examined.

Multimodal communication techniques for stimulating language development in hearing-impaired infants and toddlers

Thursday, 10:15 **Room 6**

Williams, Lenore M. *(USA)*

A communication development program for hearing-impaired children from the age of 0 to 3 years is described. The program begins with parent education to familiarize them with what their child can and cannot hear, and the importance of different learning styles in different children. Children participate in a center-based program several days a week, where communication development is done in a variety of modalities: auditory training, speech, speechreading, and signs. Stories, songs, and other material are presented multimodally, and when concepts have been established, work is done unimodally to observe child reaction to different modalities. Parents are shown how to observe child reactions at home. A transdisciplinary team (audiologist, psychologist, speech therapist, teacher of the deaf, and the child's parent) does an observation report regularly. The framework of this observation report, and a list of areas parents are trained to observe, is given. When the child reaches the age of 3, parents choose the major communication modality to be used for further schooling: oral/aural, Signing Exact English, or American Sign Language. Data are presented as to the types of parent choices made over the past few years.

The Computer Integrated Speech Training Aid (CISTA)--outline of the apparatus

Wednesday, 10:15 **Room 2**

Yamada, Yoshinori *(Japan)*
Murata, Norio *(Japan)*
Nonomura, Eiichi *(Japan)*
Imai, Hideo *(Japan)*

A new speech training aid named Computer Integrated Speech Training Aid (CISTA) has been developed by which speech training by means of display on CRT can be performed on the speech of hearing-impaired persons. It has been developed under the cooperation of Matsushita Electric Industrial Co. Ltd., and Matsushita Communication Industrial Co. Ltd. This apparatus is developed to perform more efficient integrated speech training of the speech of handicapped people, and is capable of displaying not only the acoustic characteristics of speech but the articulating behavior itself in real time. Ten training parameters, including the intensity and pitch of voice, neck vibration, discriminaton between voiced and unvoiced, nasal vibration, contact pattern between tongue and palate, velocity of expiration, plosion, frication, and the speech spectrum are detected and processed from the information retrieved by means of microphone, and throat, nasal, tongue and expiration sensors. Depending on the purpose, a combination of a few of these parameters is adopted and displayed on the color CRT that is monitored by the trainee. The trainee tries to match his or her speech pattern to the model pattern during the training. The training models prepared under a systematic program are stored in the floppy disk that is available to the trainees for their self-training, and a particular model suited for the individual can also be prepared by the trainer at the time of training. This apparatus has been adopted for practical applications by a school for the deaf and its clinical effectiveness has been proved.

Subtitling of television programmes for the hard of hearing

Thursday, 13:30 **Room 2**

Akiyama, Takashiro *(Japan)*

There are two kinds of TV programs intended for the hearing impaired now available in Japan: programs with sign language interpretation and teletext programs with captions. Programs with sign language are being produced exclusively for use by the deaf. Among such programs are NHK's "For the Deaf" and ordinary TV programs in which a sign language interpreter appears on part of the screen. The latter type has the shortcoming that viewers often find it difficult to see the sign language, as the picture of the interpreter occupies only a small part of the screen. NHK's research institute has studied ways to make sign language more readable on the TV screen as well as the issue of devising a common sign language that can be used nationwide. In teletext, conveyance of words in Japanese necessitates the transmission of more than 5,000 Chinese characters, posing a technically difficult problem, thus causing a delay in putting the system to practical use. The system was nevertheless started in 1983. Regarding methods for captioning TV programs for the hearing impaired, studies have been made on the number and amount of characters and on the issue of how to express by caption such program elements as sound effects and background music. This presentation mainly reports on several problems of captioning for the deaf in Japan.

Written word identification by deaf children: Role played by Cued Speech

Thursday, 13:30 **Room 9**

Alegría, Jesús *(Belgium)*
Charlier, Brigitte *(Belgium)*
Capouillez, J. M. *(Belgium)*

Studies on word identification procedures and on their development in hearing children have demonstrated the importance of alphabetic processes. That is because these are "generative," allowing the identification of words encountered for the first time. In deaf children, because of the lack of precise phonological representations of words, these processes are hindered. This severely restricts autonomous reading acquisition. Cued Speech (CS) is a system aimed at providing deaf children with phonologically unambiguous oral messages. It can then be expected that it contributes to the elaboration of word representations that possess a complete phonological structure. The main question of this series of studies is to consider whether these representations can help the child to identify written words he encounters for the first time. The basic paradigm consists of presenting the subjects with new words using drawings and CS. Shortly after, the same drawings were presented with the correct orthographic version of the words they represent and three other written distractors. The subject's task was to choose the correct orthography out of the four proposed. The correct choices reached about 80 percent. This high value was also obtained at a retest about 15 days after. This demonstrates that the internal representations of words developed through CS have a phonetic structure allowing the identification of those words seen in writing for the first time.

Communication for the deaf in Zambia

Friday, 9:00 **Room 10**

Bwalya, Abel Lukulu *(Zambia)*

This paper discusses definitions and various types of communication, including total communication. Techniques for achieving effective communication in a situation where there is lack of special equipment and other resources are presented. In addition, this paper outlines the objectives and findings of the 1985 Zambian Sign Language Survey as it relates to effective communication for the deaf. Specific long term objectives of that study include collection of data that will assist in establishing the extent to which hearing-impaired persons in Zambia use sign language, establishment of a catalogue of Zambian signs (including Zambian cultural signs), revision of the Zambian Sign Language Booklet, and standardization of sign language in Zambia.

Survey of communication practices in schools for the hearing impaired in the United Kingdom

Thursday, 15:30 **Room 5**

Child, Dennis *(United Kingdom)*
Evans, Lionel *(United Kingdom)*

In 1980-81 Jordan (1982) conducted a survey of methods of communication in UK special schools and units for the hearing impaired. An oral method was used in about 90 percent of the units, but about half of the special schools had by then introduced a Total Communication approach. Since then, policy changes in the educational provisions have led to more hearing-impaired children being placed in ordinary schools or units. The reduced number of special schools now cater largely to hearing-impaired children with more severe communication difficulties and multi-handicaps. This study investigated the current situation in special schools in the UK. A

questionnaire was sent to all special schools listed in the RNID directory of facilities for the hearing impaired in the school year 1988-89. The survey indicated the number of schools using oral and/or Total Communication approaches at primary (5-11 years) and secondary (11 to 16 years) levels. Schools using a Total Communication approach were asked about forms of signing and how these varied with age. Information was also sought on (1) roles of deaf people in the schools, (2) training of parents and school staff in signing, and (3) use of specially produced books and materials in sign. Findings were compared with those of Jordan.

Methods of teaching deaf children in Singapore and Malaysia

Thursday, 15:30 **Room 5**

Chua, Tee Tee *(Singapore)*

Part of this project began in the Department of Pedagogy & Educational Psychology, Faculty of Education, University of Malaya, Malaysia in 1988 and part of it began in the Department of Education of Children with Special Needs, Institute of Education, Singapore in 1989. The objectives of the study are: (1) To identify communication methods actually being used by the hearing impaired (HI) in Singapore and Malaysia, (2) To identify various teaching methods of communication with the HI, and (3) To study the choice of methods preferred by special education teachers and HI students. Completed questionnaire data from 540 HI students and 325 special education teachers from all 14 States of Malaysia have been collated and are being analyzed while the Singapore data will soon be collected. Results and recommendations arising from the two studies will be presented.

Cued Speech: is it only for the deaf?

Thursday, 13:30 **Room 9**

Clarke, Ann *(Northern Ireland)*

For the past three years, Thornfield School in Belfast, Northern Ireland, has been pioneering the use of Cued Speech with a variety of Speech and Language disorders, including some children with a secondary hearing loss. At present, Thornfield is the only school for language-impaired children in the United Kingdom to have adopted Cued Speech. Thornfield is a residential school, and all the staff, including teachers, speech therapists, classroom assistants, and housemothers have been taught Cued Speech in order to improve the level of communication throughout the school and to ensure a uniform approach in the management of the children. This paper briefly mentions the usage of Cued Speech with children with different types of speech and language disorders and examines in more detail the effectiveness of Cued Speech with a group of children with specific learning difficulties who attend the school. It discusses some of the advantages and disadvantages of Cued Speech in both speech therapy and classroom situations.

Bilingual competence in sign language and spoken/written language

Tuesday, 14:45 **Room 5**

Cornett, R. Orin *(USA)*

Concomitant competence in two or more languages is already being achieved by preiingually, profoundly hearing-impaired children. Examples are presented of fluency in the following combinations: two spoken/written languages, American Sign Language plus spoken/written English, and Belgian Sign Language plus spoken/written French. Examples are also given of fluency in two spoken/written languages, plus substantial competence in as many as two additional languages by the age of 16. Bilingualism is herein considered to have been achieved if the person in question can communicate clearly and with little effort in each of the languages, with native users. Four elements common to the examples are identified as essential to a workable, practical model for achieving bilingualism in an indigenous sign language and the spoken/written language of the area or country. Since this model, with minor alterations, has actually been in use for some years, data can be furnished and proficiency can be demonstrated. Weaknesses in some other models that have been proposed are identified and discussed. Practical means of implementing the suggested model through modification of existing programs are also presented.

Four basic principles for formulating sign language

Wednesday, 10:15 **Room 10**

Dinggian, Gu *(China)*

This paper deals with sign language based on the quantity of different parts of speech and their forms. A comparison is made between the common sign language used by the Chinese deaf and the signed English used for preschool and elementary level students in the USA. The following are four basic principles for formulating sign language: (1) Principle of Generality, (2) Principle of Essence, (3) Principle of Unity, and (4) Principle of Stages. These are discussed.

Characteristics of deaf preschoolers' sign language

Wednesday, 10:15 **Room 10**

Everhart, Victoria S. *(USA)*
Lederberg, Amy R. *(USA)*

Past research has described grammatical processes in the sign language productions of school-aged deaf students that were representative not only of an English-based sign system, to which they had been exposed, but also characteristic of American Sign Language (ASL). This study examined deaf preschoolers' sign language and described its ASL and English-like aspects. Ten 4-year-old deaf children of hearing parents (all enrolled in a preschool program utilizing an English-based sign system) were videotaped while communicating with a signing experimenter. Language samples were coded for instances of gestures, points, pantomime, and English, ASL, or "standard" signs. Also noted were sign modifications (i.e., structural modifications in execution of a sign that add meaningful information), simultaneous communicative acts, and signed utterances resembling English syntax. The children's sign language contained both English and ASL-like characteristics. Correlational analyses revealed that use of English signs and signed utterances resembling English syntax were related, revealing successful use of aspects of an English-based sign system by some children at age (4) Use of pantomime was related to use of sign modifications and simultaneous communicative acts. Although no children received explicit ASL training, some nonetheless incorporated these ASL-like aspects into their communication system.

Holistic perspectives on bilingual/bicultural education for the deaf

Thursday, 15:30 **Room 1**

Ewoldt, Carolyn *(Canada)*
Israelite, Neita Kay *(Canada)*

There is growing interest in bilingual/bicultural education as a means to improve the educational status of deaf students. While the presenters support the use of native sign languages in school settings, we make the point that the substitution of one communication system for another is not the only answer. Education, like all human endeavors, is highly complex. We can no longer take a mechanistic, hierarchical approach and expect the problems to be solved, making the assumption that the suppression of native sign language is the only cause. The prevailing model has failed too many deaf children. In this presentation, we offer a different worldview--a holistic approach to deaf education that encompasses more than the choice of languages. We show the changes that would result from this worldview, not only with regard to the language rights of deaf children, but also to patterns of classroom discourse, methods of teaching, and choices of materials. As well, we consider broader issues such as redefining the role of a teacher, redefining what constitutes success, and adopting a new view of what learning is all about. We suggest that this change in philosophy and the resulting changes in approaches and methodology also are necessary to provide long lasting and satisfying solutions.

Bilingual deaf education: ASL literacy and English literacy

Thursday, 15:30 **Room 1**

Gallimore, Laurene *(USA)*

There is great concern that education programs for the deaf have failed. Deaf high school graduates often find that they do not know English well enough to pass college entrance exams, to get jobs, or even to read their local newspaper. Many of these students are not fluent in the language of the American deaf culture, American Sign Language (ASL). There is mounting evidence that suggests that these students have simply not been given the opportunity to acquire these languages; oftentimes they have not been exposed to ASL at all, and have only had exposure to codes of English: Signing Exact English, simultaneous communication, or sign supported speech. This underexposure to comprehensible language input has left many students illiterate in English. These students who have been exposed to impoverished language models often lack self esteem and pride for the visual world of the deaf culture. This presentation is a discussion of current research concerning bilingual/bicultural education for deaf students. It reports on the results of an experimental project in which deaf students were exposed to an ASL curriculum designed to promote literacy in both ASL and English. Participants will have an opportunity to discuss ideas on how to improve literacy (ASL and/or English) in the deaf students they teach.

Language and communication: Changing attitudes of parents

Wednesday, 10:15 **Room 6**

Gregory, Susan *(United Kingdom)*

The findings reported in this paper are taken from those of a larger research project involving interviews with 80 young deaf people and separate interviews with their parents. The study was a follow-up to one

carried out in the early 1970s, where the same families were interviewed when the children were 5 years old and under. (See also paper by Sheldon, Gregory and Bishop). This particular paper looks at parental attitudes to communication modes at home and school, and changes in these views over time. At the time of the original interviews, oralism was the predominant ideology and most parents were committed to this approach. Now the children have grown up, and parental attitudes show more flexibility. Factors contributing to changes in attitude are considered. A particular focus is the relationship of parental attitude to the child's developing communication competence and the preferred mode of communication of the young people themselves.

Plans to develop a sign language system as part of a Total Communication program in an Indonesian school for the deaf

Friday, 9:00 **Room 10**

Gunawan, Imas Ar *(Indonesia)*

ZINNIA Hearing-Impaired School is located in Jakarta,Indonesia, and is the first school in Indonesia to utilize Total Communication and a sign language system as one of its components in the learning / teaching process. Unfortunately, we still lack an official sign language system. What we have now is a spontaneous local sign language system used by our deaf students that is difficult to be understood because it is very subjective and not recorded. We therefore have tried to develop a system of sign language to be used not only with our hearing-impaired students but also with deaf people generally.

We need to consider a deductive system for deaf students, as a basic foundation for creating and developing sign language in the school. This "Deductic Pedagogic System" should be supported by materials adapted from ASL. To make this system acceptable and able to be absorbed by the deaf student, we have to consider ahead of time how the sign language will be internalized and how it will be practiced in life by the deaf student as well as by the teacher and the normally hearing community. The particular sign language must lend itself to effective use as a communication approach among deaf children themselves, between the deaf student and the teacher, and between deaf persons and persons in the hearing community.

Signing Exact English: Educational tool or social problem?

Monday, 11:15 **Room 3**

Gustason, Gerilee *(USA)*

During the 1970s, there was a large shift in the United States from oral-only programs to the use of Total Communication. The impetus for that shift was dissatisfaction with the poor English achievement of many deaf students. Several sign systems were developed during that decade that modified and added to the signs of American Sign Language in order to represent English visually. The most widely used of these, according to 1979 and 1985 surveys, has been Signing Exact English. Recently it has been suggested that such systems are unnatural, impossible to sign completely, ineffective in developing English skills in deaf students, and an impediment to successful social integration within the deaf community. Responding to such comments, this presentation shows a short videotape of deaf students from toddlers through college age interacting with each other and with adults, demonstrating their communication styles. The presenters also show samples of the English writing skills of these students and present brief background information on each, including social interaction information with both deaf and hearing individuals. Future research needs are noted.

Improving the skills of parents, teachers, and interpreters in providing a complete signed English model to deaf students

Monday, 11:15 **Room 3**

Gustason, Gerilee *(USA)*

Language development depends on the presence of a complete, perceivable language model. One approach to the development of normal, natural English skills in deaf children is for the adults in the environment to present in manual signs a complete English representation of what they speak as they interact with the child. However, researchers have noted the physical difficulty inherent in this, since the human body is capable of speaking approximately twice as fast as it is capable of signing. Accordingly, many individuals attempting to sign complete English tend to drop signs, resulting in the provision of an incomplete, distorted model. This presentation discusses techniques for evaluating and improving the completeness of such signing, and incorporating visual features borrowed from American Sign Language to replace unheard variations in spoken production that

signal questions, emphasis, mood, etc. A sample of a detailed feedback form and a brief self-check form are shown.

Facilitation by Cued Speech of morpho-phonological rules acquisition

Thursday, 13:30 **Room 9**

Hage, Catherine *(Belgium)*
Alegría, Jesús *(Belgium)*
Perier, Olivier *(Belgium)*

If Cued Speech provides clear non-ambiguous visualization of spoken language, it should be capable of building up internal representations of phonolcgical type. These could provide a basis for identifying significant morpho-phonological features and deriving the morpho-syntactic rules governing their variations. A series of experiments have been designed to test the above hypothesis by addressing various aspects of French morpho-phonology. Most of the morphological markers are affixes or short unstressed function words difficult to perceive by deaf children through lip-reading alone. The first experiment concerns grammatical gender, which is a major stumbling block for deaf children while it is acquired very early without effort by the normally hearing. All French nouns are either feminine or masculine, and, except for persons, the attribution is arbitrary. Morphologicall·, the distinction is marked by different articles, typicauy feminine or masculine endings and the adjective's accord (masculine: *un* manteau blanc, feminine: *une* chaussette blanche). Deaf children educated with Cued Speech were asked to produce the correct article for known or unknown words. Not only did they succeed with known words, but also they were able to derive the correct gender of unknown words from the morphology of their endings. The demonstration of such a generative competence supports the hypothesis that Cued Speech facilitates the acquisition of subtle morphological features of spoken language which lipreading alone does not adequately convey.

Sign systems used in Japan

Monday, 15:30 **Room 7**

Hasegawa, Hiroshi *(Japan)*
Mori, Noriko *(Japan)*
Tanokami, Takashi *(Japan)*

There are three sign languages in Japan in rough classification. One is Traditional Sign Language (TSL) corresponding to the ASL in USA. The next is Pidgin Sign Japanese (PSJ), which is fairly close to Japanese. The last is Signed Exact Japanese (SEJ), which was created by a member of Tochigi school for the deaf and society of the deaf in Tochigi pref. in 1968 and has been improved upon. SEJ includes many new signs and does not prevail widely among hearing-impaired people except in Tochigi pref. The most prevalent sign system is PSJ, but many Japanese words and phrases do not have corresponding signs and the deafened and hard of hearing feel difficulty in their expression with signs. We are now organizing a team for research on signs. The following two are subjects to be studied: the selection of sign expressions for PSJ that will express Japanese more exactly in normal conversation and improvement in signs to be able to express Japanese exactly even in special fields. This will be particularly useful in colleges for the deaf. We report several problems of Japanese signs and the basic policy of the research team on signs.

NTID computer-aided speech to print transcription system

Thursday, 13:30 **Mezz. Holiday Inn**

Henderson, Janette *(USA)*
McKee, Barbara G. *(USA)*
Stinson, Michael S. *(USA)*

Since 1981, the National Technical Institute for the Deaf(NTID) has been researching and developing a real-time graphic display system(RTGD) for use as a classroom support service for deaf students. A court reporter/stenographer keys the speech of the lecturer into a computer, which converts it almost instantly to a near-verbatim, written display on a television screen. Students have responded favorably to this support service but the initial expense of this system and the continuing cost of a court reporter have led us to develop a less expensive alternative. This alternative, the NTID computer-aided speech-to-print transcription system (C-Print) runs on a laptop computer (IBM or compatible). It uses two commercially available software packages; a word processor (WordPerfect), working in conjunction with a computer shorthand system (Productivity +). The software contains a dictionary of abbreviations along with their equivalent expansions. The abbreviations developed at NTID use a set of phonetically-based rules and the software allows for up to 6,000 root words in the dictionary plus suffixes. As the typist types in the abbreviation, the associated expansion appears almost instantly on the screen of the laptop for immediate viewing. The session is stored in the word processor and may be edited and printed at a later time. Appropriate training materials are being developed and data on the skills required by the typist, the length and type of training required, as well as the expectations for speed and accuracy are available. The system is demonstrated in the poster session.

Assessing deaf children's bilingual competence

Wednesday, 10:15 **Room 10**

Hoemann, Harry W. *(USA)*
Gonter-Gaustad, M. A. *(USA)*

Twenty-seven pupils (CA 5-12) from an urban deaf school were required to imitate 48 televised signed sentences incorporating grammatical features of American Sign Language (ASL) and 48 sentences incorporating grammatical features of Manually Coded English (MCE). Hearing losses occurred at birth or prior to age 3 and were at least 80 dB (ISO) in the better ear. In other respects a heterogeneous sample was considered to be desirable for exploring individual differences in the acquisition of bilingual competence. The pupils' linguistic environment included both ASL and MCE throughout their period of enrollment. Performance improved with age. There was a significant partial correlation, with age held constant, between ASL and MCE performance, suggesting that the acquisition of ASL did not interfere with the concurrent acquisition of English. The partial correlation between parents' signing skills as rated by school staff and performance on the imitation test was .14 for ASL (N.S.) and .52 for MCE ($p<.05$), indicating that deaf children's acquisition of English may be influenced by their home environment. The relative difficulty of certain grammatical structures in ASL and MCE and their pattern of acquisition by deaf children are areas of further study.

Usage of telephone and facsimile devices by the hearing impaired in Japan

Thursday, 13:30 **Room 2**

Hoshina, Nobuaki *(Japan)*

In respect to uses of telephone and facsimile, 101 hearing- impaired adults responded to a questionnaire. Included in the questionnaire were the following five items: (1) Do you make telephone calls? (2) Can you understand speech on the telephone? (3) Do you have telephone aids? (4) Do you have any aids for the call ring? (5) Do you have facsimile? Only 30 percent overall had the experience of making telephone calls, though for persons in their 20s, the rate was more than 50 percent. The rate gradually decreased in the middle and upper age groups. Most of the telephone users reported difficulty in receiving other persons' speech, and in talking to specific persons. More than one-half of all were facsimile owners. Especially for the middle age group, about 75 percent had their own facsimile. The rate of facsimile ownership among the hearing-impaired was remarkably higher than among hearing persons. As the functions of facsimile are more suitable for the handicapped, it seems that for the hearing handicapped the rate of ownership will increase in a few years. Besides having effective equipment, the user should have special techniques and abilities for using them. Most of the responsibility for training students in their use should be the school's and teacher's.

A study of television captioning for hearing-impaired students

Thursday, 13:30 **Room 2**

Isihara, Yasushi *(Japan)*
Nishikawa, Satoshi *(Japan)*
Obata, Shuichi *(Japan)*

It has been well established in previous studies that the comprehension of information presented in television programs can be enhanced for deaf viewers when the program is captioned. The physical parameters for superimposing captions on the television screen must take the reading ability of viewers and nature of the program into consideration. The purpose of this study was to examine what effect the number of letters involved and the length of display time of television captions has on the comprehension of television programs. Thirty-seven deaf students in junior and senior high schools for the deaf in Japan were presented with two kinds of captioned television programs, such as drama and documentary. Two types of superimposed captions were used for each television program, varying in the number of letters used. In one, each letter of the spoken word was included; in the other, a summary of the spoken word was superimposed. The video material for each television program was presented at one of two durations of display time—normal speed and normal speed x 2/3—with each of these two different types of captions, namely full captioning and summary captioning. After they viewed the video materials, the students were administered comprehension tests. The results were as follows: (1) For viewers of higher reading level ability, complete captioning of the drama program improved comprehension, (2) A prolongation of display time appeared to be effective with regards to the documentary program. From the results, it was concluded that the reading ability of viewers and the nature of the program should determine the physical parameters, that is, the number of letters displayed and the length of display time, for superimposed captions on a television screen.

Theoretical and empirical foundations of bilingual/bicultural education: A research review

Tuesday, 14:45 **Room 5**

Israelite, Neita Kay *(Canada)*
Ewoldt, Carolyn *(Canada)*

This presentation draws on international research findings to support bilingual/bicultural education for the deaf. Literature is reviewed on several topics concerning native sign language acquisition and its relation to proficiency in the majority language, as well as academic achievement and social development. Included are studies of: (1) deaf children of deaf parents (DCDP) compared to deaf children of hearing parents (DCHP); (2) interaction patterns of deaf children with deaf mothers and deaf children with hearing mothers; (3) acquisition of native sign languages by DCDP and DCHP; (4) educational issues related to native sign languages versus artificial systems mapped onto oral languages; (5) deaf students' ability to access print without mediation through oral language, and the effects of native sign languages on reading and writing proficiency; and (6) socio-historical factors pertaining to the deaf as a cultural and linguistic minority. This research provides a framework for a discussion of current thinking regarding the use of native sign languages in school settings. In countries where bilingual education is established policy, DCHP and DCDP achieve similar levels of cognitive and linguistic development and also commonly attain levels of development comparable to hearing age-mates. Findings such as these have significant implications for educational policy in North America, as they indicate the value of bilingual/bicultural education for deaf students.

Referential communication and communication breakdown between deaf children

Thursday, 10:15 **Room 8**

Jeanes, Ray *(Australia)*

A study of the interaction of pairs of signing and non-signing profoundly deaf children (age 8, 11, 14, and 17) was undertaken to determine how "listeners" and "speakers" handle communication breakdown. Samples of interactions were obtained by using a standard referential communication task paradigm. The tasks were videotaped and transcribed taking note of what was spoken, signed, fingerspelled, gestured as well as vocalized, together with lip patterns, facial expression, and head movement. The stimuli used in the referential communication tasks included both simple and more complex "nonsense" drawings, three objects in varying relationships, and copying diagrams. Transcripts were analyzed at a number of different levels to attempt to: (1) describe the development of referential communication skills in deaf children; (2) determine the degree to which deaf "listeners" recognized messages that were incomplete, ambiguous, or misleading; (3) determine what strategies deaf "listeners" employed to seek further information or clarification of an inappropriate message; and (4) determine the degree to which deaf "speakers" could appropriately modify their message in the light of feedback from the "listener." The findings from this research are discussed with reference to their implications for the communication development of deaf children.

Current communication trends at schools for the deaf in Japan

Thursday, 15:30 **Room 5**

Kusanagi, Shinro *(Japan)*
Ueno, Masuo *(Japan)*

Recently in Japan the methods of communication in education of the deaf have been changing. The purpose of this study was to clarify the usage of communication methods at schools for the deaf in Japan. In June and July, 1989, questionnaires were mailed to all 108 schools for the deaf in Japan and responses were returned from all the schools (100 percent). The results were as follows (the following results do not include the multi-handicapped): (1) 18 schools (16.7 percent) of 108 schools for the deaf used only the oral method. The other 90 schools (83.3 percent) used not only the oral method but also fingerspelling, sign and cued speech as their "main," "combined," and/or "supplementary" methods. (2) 96 schools (88.9 percent) used the oral method as the "main" communication method. (3) With the oral method, 69 schools (63.9 percent) used fingerspelling, 75 schools (69.4 percent) used signs and 57 schools (52.8 percent) used Cued Speech. (4) Almost half of the schools used Cued Speech in the nursery department (47.4 percent) and elementary department (44.1 percent) as the "main," "combined," or "supplementary" method. Fingerspelling and signs were used less than Cued Speech. (5) Conversely, many schools (51.1-88 percent) used fingerspelling and signs at the junior and senior high school levels as "main," "combined," or "supplementary" method. But Cued Speech was used much less (9.3 percent) than fingerspelling and sign. We could derive certain suggestions from these results about future communication trends at schools for the deaf in Japan.

Assessing BSL competence in deaf children in Total Communication programmes

Wednesday, 10:15 **Room 10**

Kyle, James *(United Kingdom)*
Ackerman, J. *(United Kingdom)*

In the context of increased understanding of the communicative needs of deaf children and of legislation that requires the reporting of positive aspects of the child as part of the Statement of Special Educational Needs, it has become clear that we require techniques to assess deaf children's development of sign as well as that of speech. To date, very little has been done to meet this need. In this study a sample of 60 deaf children, aged between 4 and 11 years, were filmed and tested in their knowledge and use of BSL. In this paper, we report the results of this testing and indicate the differences between deaf children from deaf families and others. Some guidelines for assessment of sign language skills are presented.

The pedagogical meaning of interaction-analysis within a home counseling service for prelingually deaf infants/toddlers

Thursday, 10:15 **Room 8**

Lichtert, Guido *(Belgium)*

Over the last few decades, parent-child interaction has been given quite a lot of attention within the linguistic and psycho-pedagogical literature. The use of video as an instrument for micro-analyses has been common practice. From our work with very young prelingual deaf children, we have, in various fields, tried to apply these studies in our daily practice. Observation scales were designed for this purpose. The analyses of the "educator-child"-interactions by means of video and precoded observation scales are used in order to determine the child's attachment-type, examine the link between the attachment-behavior and the communicative development, observe and adjust the stages of development in pre-verbal communication, observe and adjust play-interactions between parent and child, make the acceptance process applicable and to adjust it, observe and adjust stimulation, sensitivity, and responsiveness in general, and the linguistic stimulation and responsiveness in particular, be of help with regard to differential diagnosis between communication-disorders and communication-impediment, observe and adjust styles of interaction of teachers and group-leaders. Together with the designed counselling strategies, these analyses make a useful instrument for the pedagogue to chart some of the fundamental processes with regard to language-education and education in general, and to adjust them where necessary.

Deaf teachers in the bilingual education of the deaf in Sweden

Tuesday, 14:45 **Room 5**

Lindahl, Ulf *(Sweden)*
Andersson, Ronny *(Sweden)*

In 1988, the Swedish authorities decided to give deaf teachers, educated at the University of Stockholm in the two areas "Swedish Sign Language" and "Swedish as a second language for the deaf," formal authorization to instruct deaf schoolchildren in these subjects. The decision was possible thanks to the official resolution formed by the Government in 1981 that recognized Swedish Sign Language as a language and recommended that Swedish Sign Language should be used in the instruction of deaf children. In accordance with this resolution, the new school curriculum for the education of the deaf was ratified in 1983. It states that teachers must support deaf pupils' development towards bilingualism in Sign Language as their primary language and Swedish as their written language. The presenter discusses some of his experiences from instruction in the two subjects at the National High School for the Deaf, where he has worked as a teacher in bilingualism.

The influence of perceived communication ease on academic success

Thursday, 10:15 **Room 8**

Long, Gary L. *(USA)*
Stinson, Michael S. *(USA)*
Braeges, Judy *(USA)*

The extent to which a student feels that he or she communicates effectively with teachers and peers impacts directly on school motivation and academic success. This assumption is being tested in a series of studies that examine relationships among students' self-reported ease of communication, self-perceptions relevant to school motivation, and measures of academic outcomes (e.g., GPA, SAT scores, attendance). In the first phase of study, students at a school for the deaf completed a Perceived Communication Ease questionnaire (PCE) and a school motivation questionnaire. The PCE asks questions about communicating with teachers and peers. The motivation questionnaire asks about feelings of competency, autonomy, relatedness to others and engagement in the school enterprise. Scores of the Perceived Communication Ease questionnaire were found to be related to school motivation and academic

success. Further, by combining information about communication perceptions and motivation perceptions, multiple highly significant correlations with various academic outcome measures were obtained. This suggests that students' perceptions of their communication and motivation levels are highly predictive of their academic success. Results of the next phase of this work will also be presented, which involves testing deaf high school students who are fully and partially mainstreamed, and students attending additional day/residential schools, are also presented. Of particular interest is the effect mainstreamed students' perceptions of communication ease have on their academic outcomes.

A data-based response to "Unlocking the Curriculum"

Thursday, 15:30 **Room 1**

Luetke-Stahlman, Barbara *(USA)*

In 1989, three members of the Department of Linguistics and Interpreting and the Gallaudet Research Institute released a paper titled, "Unlocking the Curriculum: Principles for Achieving Access in Deaf Education." (Johnson, Liddell, & Erting, 1989) that was subsequently distributed throughout the United States via Gallaudet publicity mechanisms. The paper discusses the "failure of deaf education" and includes a "model program for educating deaf children." Among the guiding principles of the model are the features that American Sign Language (ASL) should be considered as the first language of all deaf children and it should be used as early as possible. The model calls for deaf and hearing teachers to team teach throughout the grades, the deaf teacher providing a proficient model of ASL to segregated (deaf only) classes of suggested 16 students. English is to be taught using a transition model of bilingualism. Wrap-around daycare provided by deaf adults is "an absolutely necessary component of the program." Parents are to be encouraged to assist in this care, allowing them to learn ASL and "specific techniques of reasonable and effective interaction with deaf children." The purpose of this presentation is to provide a data-based response to the Johnson et al. 1989 paper. More than a dozen research studies are reviewed in the response. The presenter concludes that the attention given to the Johnson et al. 1989 paper should be redirected into empirical investigation, formal grant proposals, and the dissemination of quality research.

Characteristics of effective simultaneous communication: Implications for the teacher and for teaching

Thursday, 10:15 **Room 8**

Mallery-Ruganis, Dominique *(USA)*
Wilkins, Dorothy *(USA)*
Fischer, Susan *(USA)*

Given the diversity of the deaf population that exists in many classrooms, it is important to provide access to communication for all. For students with an oral background, an oral component is necessary. By the same token, for students with a sign language background, a sign language component is also necessary. The use of simultaneous communication (SC) is sometimes the only feasible compromise in many education settings. Simultaneous communication can be more or less successful. Since SC is a channel through which many students get information in the classroom, it is imperative to understand what makes it effective. In a previous study (Stinson et al., 1989), 36 deaf professionals at NTID met in small groups and were shown videotapes of 3 experienced SC users. The deaf viewers were asked to identify and rank salient characteristics of SC. Forty-one such characteristics were identified. Two of the experienced SC communicators shown on videotape were judged to be both comprehensible and comfortable to watch. The third SC communicator was judged difficult to understand and uncomfortable to watch. In this study, we review the three videotapes to see if differing values of the characteristics identified as most important are in fact present in the first and second samples as opposed to the third. Preliminary results suggest that the salient characteristics identified by deaf professionals as important to simultaneous communication discriminate among the three experienced signers. We discuss the implications of this research for the teaching of simultaneous communication.

Teacher talk and student response

Thursday, 10:15 **Room 8**

McEnroe, Catherine *(USA)*

Teachers exert varying degrees of power and control in their conversations with their hearing-impaired students. Wood, Wood, Griffiths, and Howarth have examined teachers' general conversational moves and children's responses in an effort to describe the interactions that would explain why children seemed more or less active and talkative in different interactions. This presentation examines this relationship between teacher control and child response and defines Wood, et al.s' five conversational

moves representing high teacher control through low teacher control. The five moves are: enforced repetition, two-choice questions, wh-type questions, personal contributions, and phatics. Teachers can be aware of the controlling nature of their conversational moves and can manipulate conversations to decrease low response and increase high response levels from their hearing-impaired students. Videotaped examples of students with significant hearing impairments show that, as the teacher uses less control in conversation, the student's response level increases.

The wind of change is blowing in Kenyan education for the hearing impaired

Friday, 9:00 **Room 10**

Nchebere, Joseph Kigunda *(Kenya)*

Kenya has a population of about 25 million people. The country has about 20 ethnic groups. English is an official language, while Kiswahili is a national language. There are 30 schools and units for the hearing impaired. Education for the deaf started about 30 years ago, and the oral/aural method has been the prevailing practice. Research was recently carried out to examine the use of sign language and Total Communication in comparison with the oral/aural method. Based on a high rate of illiteracy and semi-literacy among students, the Ministry of Education, Kenya decided that there was a need to start an alternative method of teaching hearing-impaired children. A pilot school using the simultaneous method was started. After the method had been in use for two years, its effectiveness was evaluated in comparison with the existing oral method in order to determine whether it should be introduced in other schools for the deaf. Students from the school that had used an alternative method for only two years scored better in the academic tests than those from the oral/aural programmes. The English language comprehension test results were particularly revealing. Students in the school where Total Communication was used scored much higher than students in the oral/aural schools. Based on the data analyzed in that study, it was evident that deaf children need sign language. This realization has triggered research into Kenyan Sign Language. As a result, Kenya Institute of Special Education has developed the first dictionary, "A Basic Kenyan Sign Dictionary." Another group almost ready with their book on Kenyan Sign Language is the Kenya National Association of the Deaf. The Ministry of Education, through the Kenya Institute of Education (Special Education Section), is also printing a textbook on Kenyan signs to be used in school.

Cooperative language programs for deaf adolescents utilizing bilingual principles: Metalinguistic aspects

Tuesday, 14:45 **Room 5**

Neuroth-Gimbrone, Cindy *(USA)*
Marlborough Logiodice, Colleen (USA)

This presentation discusses a unique language program for deaf adolescents utilizing bilingual theory and teaching methods. It is unique as it addresses the language needs of deaf adolescents who have not yet developed English language proficiency by utilizing the student's own sign language. Current language programs for deaf adolescents are based upon language acquisition theory focusing on young children and do not meet the needs of adolescents who are deaf. Nippold (1988) presents evidence that adolescents learn language differently than young children. Other researchers (e.g., Grunwell, 1986; Van Kleeck (1984) stress the need for adolescents to possess metalinguistic competence in language to become proficient users of written language. The authors concluded that the development of metalinguistic abilities in the deaf adolescent's first language, Sign Language, would facilitate development of their second language, English (i.e., reading, writing, speechreading, spoken English). Therefore, a program to develop metalinguistic competence was created. This program has two interrelated components—classroom and individual language therapy. Students learn to linguistically analyze sign language and their second language, English (i.e., written and spoken). Results have indicated that metalinguistic competence has been developed and generalized by students involved in this program. Development of these metalinguistic skills has directly increased students' proficiencies in English.

Communication practices of hearing-impaired high school students in special schools in Manila, Philippines

Monday, 15:30 **Room 7**

Pamaran, Rhodora M. *(Philippines)*

This project is a pioneering attempt to provide information on the communication practices of hearing-impaired high school students with their family, teachers, hearing peers, deaf friends, and with other hearing people. The data were gathered primarily with the use of questionnaires supplemented by personal interviews with parents, teachers and hearing peers. The participants in this study were 35 hearing-impaired high school students in residential and day schools in Metro Manila. The various communication modalities used were signs and fingerspelling, lipreading, speechreading, writing,

interpreting, and auditory training with amplification. Findings led to the following recommendations: (1) For the students to be able to communicate effectively and correctly, sign language and the manual alphabet should be considered as special subjects in the elementary grades. (2) To foster wholesome interaction between deaf students with the members of their family, and with their teachers and school administrators, there is a need for in-service training programs, possibly at the beginning of the school year. (3) Teachers of the deaf must explore all necessary avenues to make them hear, speak, sign, speechread, fingerspell, and write to enable them to understand everything they see and live with.

What first language for the deaf child?

Tuesday, 14:45 **Room 5**

Perier, Olivier *(Belgium)*

While there is general agreement that sign language should be the first language for deaf children of signing deaf parents, there is no consensus concerning deaf children of oral deaf or of hearing parents. Some educators contend that most profoundly deaf children cannot acquire their hearing parents' language at a normal age, whether by audio-oral methods or by total communication using simultaneously signed and spoken language. They consider sign language as the only first language capable of fulfilling the young deaf child's psycholinguistic needs, and advocate postponing efforts to develop spoken and written language until several years later. Besides the sorrow thus inflicted to parents when told that their language is unfit for their child, such an option deprives deaf children of early inputs necessary for preservation, development and maturation of brain structures and abilities related to residual hearing utilization and to the acquistition of phonological representations. The most favorable period for the building up of oral skills will thus be missed, with partly irreversible consequences for spoken language reception and production abilities, and possible adverse effects upon the process for learning to read. The possibility now exists for hearing and oral deaf parents to bring up even profoundly deaf children with and within their own language: this can be achieved by the early implementation of audio-oral techniques, supported by adequate communication through an exact form of sign*ed* language, which can be provided, among other systems, by a combination of sign*ed* language (such as signed French or signed English) and Cued Speech.

Introducing the use of the Slovene Sign Language as an element of Total Communication in Yugoslavia

Friday, 9:00 **Room 10**

Podborsek, Ljubica *(Yugoslavia)*
Trtnik, Andreja *(Yugoslavia)*

In 1988 the use of the Slovene Sign Language was initiated as an element of TC at the School for the Hearing-impaired, Ljubljana, Slovenia, Yugoslavia. The paper presents initial problems as well as the positive results already achieved by the use of the new method. Slovene is a synthetic language featuring six cases, three genders, and other grammatical categories difficult to teach the deaf. Teaching Slovene in Slovene Sign Language has showed some very encouraging results.

E-Mail: The way forward

Thursday, 13:30 **Room 2**

Ratnanather, J.T. *(United Kingdom)*

Following the author's 1985 ICED paper on his experiences as a deaf undergraduate, this paper describes his subsequent experiences from 1985 to 1989 as a Ph.D research student in Mathematics at the University of Oxford and as a visiting graduate student at Cornell University. Particular attention is paid to the impact of world wide academic computer networks on his research and also on his personal development. The nature of the research necessitated the use of a mainframe computer whose communication capabilities were exploited to the fullest. In the course of the research, I learned of the existence of a wide range of electronic magazines and forums. In particular, there is a forum on disability and computers called L-HCAP. Information on various aspects of disability, some of which are not related to computers, is exchanged between subscribers including non-academic users via a private network of PC users such as FIDONET and COMPUSERV. It is suggested that these networks in addition to academic networks: BITNET, UUCP, NSFNET, JANET (UK), JUNET (Japan), ASCENT (Australia), and EARN (Europe) should link professionals, academics, and technicians concerned with aspects of deafness and, more importantly, deaf people themselves all over the world. Such a network could form both an educational and a social sub-culture of the deaf community. Examples are presented.

Signed English and the hearing family

Monday, 11:15 **Room 3**

Ritter-Brinton, Kathryn *(Canada)*

This paper presents one principle case study with supporting evidence from several others that illustrate the effects of naturalized use of Signed English within hearing families with one or more deaf children. In the context of this paper, the term "naturalized" indicates consistent use of Signed English by *all* family members whenever a deaf family member is present. The necessity for naturalizing the language system of choice and families' personal experiences in accomplishing this goal are discussed. Families' reasons for choosing a Signed English system are presented. A case study of a family of two parents and three children is described. Information from other families rounds out the presentation. This paper is not intended as an argument for "the best way" to educate deaf children. Rather, it is intended as a forum in which to present some hearing families' perspectives on the use of Signed English as a communication system within their family and some results of naturalized use that have been noted with their children.

Role of the family in the deaf child's acquisition of language and culture

Wednesday, 10:15 **Room 6**

Rooney, Timothy E. *(USA)*
Finneran, Mike *(USA)*

The presentation focuses on the roles that the family and the school play in the acquisition of language and culture by hearing-impaired children. The basic assumption is that the parents of the hearing-impaired child make the decision about which native language will be used and taught to the child. Sequentially, it is assumed that children acquire their culture from language exposure and incidental learning or experiences with the nucleus family. Such assumptions provide unique opportunities for professionals in the field of deaf education. In light of the political and emotional aspects of American Sign Language, what possibilities are there for the hearing-impaired child whose parents select English as the family's and child's native language? How does the culture of the English speaking family get imparted on the child? How does the role of ASL in the deaf community impact on the family decisions, rights, and responsibilities? This presentation presents a developmental progression model based on the idea that parents do make the primary decisions for the child AND that current research supports any decision made, provided that the language selected is a complete system, with complete and natural exposure. Future research needs are addressed.

Symposium on real time speech to print transcription systems.

Monday, 11:15 **Room 4**

Stinson, Michael S. *(USA)*, Moderator
Henderson, Janette *(USA)*
Kyle, James *(United Kingdom)*
Miller, Linda *(USA)*
Stuckless, Ross *(USA)*

Several special services have evolved since the 1960s to support hearing-impaired students enrolled in postsecondary programs, including interpreting, notetaking and–more recently–speech to print transcription systems. These transcription systems, which have proved beneficial to many students, all use a hearing transcriber listening to the presentation and typing a verbatim or edited version of the presentation. This symposium's first presentation reviews currently available software and hardware and includes a summary of the research on such systems and a prediction about what we can expect to see in the immediate future in this area. Three reports follow that focus on the current range of systems.
(1) Stenographic systems: These systems require a court reporter/ stenographer who enters spoken language into an input device in phonetic shorthand, which is then processed by a computer and displayed as a series of words on a television screen.
(2) Dictionary of abbreviation systems: The NTID transcription system is one of several systems that operate similarly to stenographic systems, but instead of entering phonetic codes, the transcriber enters an abbreviation of a word that is then automatically expanded on screen for the viewer. Real time is reached through extensive use of such abbreviations.
(3) Natural abbreviations or typed notes: The University of Bristol Hi-Linc system uses both abbreviations expanded by the computer and actual editing or notetaking techniques in order to achieve real time. This symposium includes:
(1) An historical overview of speech to print transcription (R. Stuckless)
(2) Stenographic Systems I - Implementation (L. Miller)
(3) Stenographic systems II - evaluation (M. Stinson)
(4) Dictionary of abbreviations system (J. Henderson)
(5) Natural abbreviations or typed notes (J. Kyle).
Participants will be able to see each of the three systems discussed during a poster session.

Swedish as the second language for the deaf

Thursday, 15:30 **Room 1**

Svartholm, Kristina *(Sweden)*

According to the Swedish Curriculum for Special Education, deaf children are to be "assured a development towards bilingualism" in the two languages, Swedish Sign Language and Swedish. This assurance entails instruction in both languages, treated as different subjects in the school schedule. While instruction in sign language as a subject corresponds to ordinary mother tongue-instruction, Swedish is to be treated as the second language for the deaf. In Sweden, we have by now a great deal of experience in teaching hearing immigrants Swedish as a second language (L2), as well as knowledge about this second language learning process itself. In some respects this knowledge is also applicable to the education of the deaf; in others it has to be adjusted. The main difference is, of course, that for the deaf L2-learning has to be based upon the visible representation of L2, i.e., Swedish in its written form, in contrast to sign language. This presentation discusses some aspects of the teaching of Swedish from this point of view. The basis for discussion is a brief summary of the main results from the presenter's linguistic research in this area, where she has studied the written language performance of the deaf in comparison with other, hearing L2-learners.

Signed Exact Japanese

Monday, 11:15 **Room 3**

Tadano, Reiko *(Japan)*
Itoh, Masao *(Japan)*

The purpose of this paper is to discuss our research on Signed Exact Japanese (SEJ), including the structure of SEJ and its uses in education of the deaf and in the social life of deaf people. A demonstration is given in SEJ.

A fresh approach to Total Communication: Rationale for a syllabic sign system in Malaysia

Monday, 11:15 **Room 3**

[illegible].G. *(Malaysia)*

Manually-coded Malay (Bahasa Malaysia Kod Tangan) has been used in the official Total Communication programme of the Malaysian Ministry of Education since 1978. While it has enabled the country's prelingually deaf children to develop good manual communication skills, it has unfortunately had very little success in helping them to acquire competence in the Malay language. Fluent speakers of multi-syllabic languages find it extremely difficult, if not impossible, to carry out a simultaneous word for word transliteration (as distinct from "translation" or "paraphrase") of their own speech into manually-coded language. The manually signed version of any item of speech frequently differs very appreciably in grammar and syntax from the vocally signed (i.e. spoken) language, though it may still convey identical semantic content. Consequently, TC language intervention programmes based on the Simultaneous Method have not had much notable success in assisting prelingually deaf children develop competence in their respective target languages. It is argued that speakers of multi-syllabic languages should be able to attain complete automaticity of expression in at least one manually expressed form of their respective languages, provided that the manual signs employed are absolutely isomorphic in syllabic structure with the vocally expressed signs of the spoken language. It follows as a direct consequence that the use of such manual signs will provide a practicable means whereby multi-syllabic spoken languages, in fluent and linguistically accurate form, can be made visually available to prelingually deaf children by their care givers in everyday face-to-face situations, thus enabling such children to acquire visually communicated versions of spoken languages in a manner analogous to that in which hearing children acquire spoken language. Because the Malay language is particularly suited for use with a manual syllabaric sign system, a long-term project to test the validity of the above thesis was initiated early this year (1989) by the National Society for the Deaf, Malaysia. Some preliminary findings from this project are reported.

Developments in the use of telecommunication devices for the deaf (TDDs) in the United States

Thursday, 13:30 **Room 2**

Taylor, Paul *(USA)*

Since the highly successful 1988 Speech to Text conference on the Gallaudet University campus, rapid progress in telecommunications for the culturally deaf has made possible the removal of telephone barriers from some two million Americans. An update on telecommunication devices for the deaf and statewide telephone relay center services is provided. Data regarding call volumes and operating costs are shared. Advocate philosophy and governance of relay services are discussed to assist educators and advocators to establish similar services in their countries.

Cued Speech and ASL: The best of both worlds

Thursday, 13:30 **Room 9**

Turner, Alison M. *(USA)*

As a means of raising the literacy level of deaf children, TC as currently practiced has been unsuccessful. Theories are currently circulating regarding using ASL as the first language of deaf children, and it is hoped that children will then access English, as a second language, through the written word. While this may be possible for a few, the majority are likely to find the latter task impossibly difficult. Hearing children use their spoken language base to relate to the phonetically based symbols of the written word. The ASL path suggested for deaf children could leave us with more illiterate deaf children than any method of approach yet devised. Cued Speech deserves much greater consideration as a tool to overcome the literacy problem. It was invented to help deaf children access our spoken language visually at an early age and thus learn to read in the normal manner at the appropriate age. In practice, its use has produced a remarkable degree of normal literacy, provided it has been used consistently from an early age, both at home and in the classroom. Cued Speech can thus free ASL to be true to itself. ASL can then serve as the primary means of communication between deaf people if so desired and its linguistic richness preserved.

Feedback, please: What are your captioning preferences?

Thursday, 13:30 **Mezz. Holiday Inn**

Verlinde, Ruth A. *(USA)*
Schragle, Peter S. *(USA)*
Enders, Marilyn J. *(USA)*
Panara, John E. *(USA)*

Over the past few years, several approaches to preparing captioned materials have been developed. Some captioned programs are pre-prepared in a verbatim (word-for-word) format, while the language of other pre-prepared programs is carefully edited. Other programs, particularly news programs, are produced in real time. These three types of captions are seen frequently on broadcast programming. Yet, there has been very little feedback from deaf audiences relating to their feelings about these different captioning approaches. Information is needed regarding whether captions are understandable and easy to read. What do viewers prefer--verbatim, edited, or real-time captions? How can captions be improved for future audiences? In this poster session, the captioning team from the National Technical Institute for the Deaf (NTID) will show short video excerpts from the three major types of captioned programs along with descriptions of each type of captioning. Viewers will then be asked to give their opinions about the captions and to check off their preferences on a short survey. They will also have an opportunity to informally discuss captioning with members of the NTID captioning team. The session will provide an excellent opportunity for members of the viewing audience and captioning professionals to share insights.

A method for communication by parents at home, with the early use of hearing aids

Wednesday, 10:15 **Room 6**

Victor, Prem *(India)*

Typically, the deaf child communicates within the home using a non-verbal 'esoteric language.' The placing of a pair of hearing aids on the child's ears necessitates a change in the communication medium. Requesting parents to completely stop using their esoteric language at home is not only impractical, but also has no valuable technical reason. Communication between parents and their deaf child should always be maintained at its maximum at home, at all times. A method had therefore to be evolved taking the above points into consideration. Valuable support is taken from the first language of the child (esoteric language) but the child also will have to learn to perceive the sounds heard through the hearing aids. The child will have to slowly shift and become a 'hearing-dependent' child. This method consists in 'speaking-only' (a sentence) in context with what the child is looking at. The child on hearing the sentence, often will turn toward the speaker. If the message is being processed, then a 'wait-time' is given. If, however, processing is incomplete, the same sentence is repeated accompanied simultaneously by the esoteric language communication. The next sentence spoken will start the cycle over again. Monitoring of this format is possible by having the parents record their conversation on a cassette tape every four weeks. This cassette tape helps us to analyze the parents' language input at home. These are regularly analyzed. This format has been in use for many years with our parents, which has made the early months of communication easy and purposeful.

Attitudes of mothers of deaf children toward sign language

Wednesday, 10:15 **Room 6**

Weisel, Amatzia *(Israel)*
Dromi, Esther *(Israel)*
Dor, Sara *(Israel)*

Despite the long history of debates about the introduction of sign language (SL) and its relative educational gains for HI children, most educators and researchers agree that for some HI, usually characterized by a high prevalence of additional handicapping conditions (AHC), sign language (SL) should serve as a primary mean of communication. However, few mothers learn SL and use it at home (e.g., Erting, 1985). Mothers' willingness to learn and to use SL is probably associated with their Attitudes Towards Sign Language (ATSL). The goal of the present research was to identify and to assess the relative importance of factors which effect mothers' ATSL. The following factors were examined: selected child's characteristics, selected mother's characteristics, the family situation, and mothers' attitudes toward people with physical disabilities. All the questionnaires were adapted and validated for Israeli subjects, and Attitudes Towards Sign Language (ATSL) were measured by a 42-item, Likert-type questionnaire, which included three subscales: behavioral, cognitive, and emotional. The subjects were 42 Jewish, married, hearing mothers of severely and profoundly HI children who were studying in a special elementary school for the deaf. Preliminary findings of the study include: (1) Mothers of children with more severe HI, more AHC, and of higher ages tended to express more positive ATSL, especially on the behavioral subscale of the questionnaire. (2) Mothers who were more pessimistic about their children's succeeding in life, showed more negative ATSL. (3) More positive ATSL were associated with higher levels of family SES, higher levels of expressivity in the family, and more participation of family members in recreational activities. Theoretical and practical implications of these results are discussed. It is suggested to view ATSL as a complex multidimensional phenomena and to consider this complexity in any intervention programs for attitudes change.

English use in the deaf community

Monday, 15:30 **Room 7**

Winston, Elizabeth A. *(USA)*

Two languages play important roles in the lives of deaf people in the United States--American Sign Language (ASL) and English. ASL, as the primary means of visual communication, is slowly being recognized as the natural, accessible language of deaf people. English, although long espoused as the necessary language of communication for deaf people, does not fill this role in deaf society. This is in spite of concentrated effort by the educational system to impose English on deaf people as a means of integrating them into hearing society. This presentation examines two questions related to English use in deaf people's lives: (1) What is the role of and importance of English in their lives?; and (2) How can English be used effectively in the education of deaf children? Data were collected by a variety of means, including group discussions with deaf adults in a variety of settings and journal entries of deaf students discussing their English use at the college level. Results indicate that English and ASL have patterns of use, patterns which the deaf people in this study believe should guide the development of language policies in deaf education.

Verbal-sign bilingualism in the deaf

Monday, 15:30 **Room 7**

Zaitseva, G.L. *(USSR)*

Efficiency of the education of the deaf is strongly determined by our understanding of the nature and mechanism of verbalizing bilingualism. The present research was aimed at defining developmental characteristics, functioning in communicative activity, and interaction of sign and verbal languages in senior deaf students. The main means of education in the Soviet schools for the deaf is verbal speech (oral and written); sign language is used as an auxiliary means. In such conditions, communicative functions turn out to be distributed among different communication systems. Verbal speech (VS) becomes the main means of communication with hearing people; Russian Sign Language (RSL) is used for non-formal natural interpersonal communication among the deaf; signed Russian (SR) is used mostly in official situations. This study showed a high correlation between the levels of VS and SR development. The levels of development of VS and RSL, as well as RSL and SR, happen to be different. Senior deaf students efficiently communicate using RSL, and they also comprehend sufficiently well information presented in RSL. Development of VS and SR in many students is deficient, which interferes with communication and the exchange of information when VS and SR are used. The data prove the necessity of, first, further development of the education of the deaf; and second, organizing special classes for SR development. The data prove the need for wider use of RSL in the education of senior deaf students.

Mathematical context: Developing curriculum for a technical school

Thursday, 13:30 **Room 12**

Bonadio, Ann *(USA)*
Baldassare, Dorothy *(USA)*

This presentation discusses a process for developing what the presenters feel is a successful curriculum to help students develop the level of mathematical skill necessary for success in their chosen careers. By sharing our own mathematical knowledge with each other and by working closely with people in other vocational/technical departments to learn how they use mathematics, we were able to put together a curriculum that we feel is both mathematically correct and applicable. We also tried to structure the curriculum so that we would be teaching at several layers of mathematical sophistication at the same time. We wanted to give the students exercises that would provide them with practice in the skill being addressed, but which would also involve more advanced concepts to be addressed in their future math courses. Not all students are at the same layer of understanding of these problems, but our hope is that through repeated exposure to the same concept, all the students will eventually arrive at a mathematically sophisticated level of understanding. Examples of layering are provided.

Assessing the mathematics skills of deaf students entering an engineering program

Thursday, 13:30 **Room 12**

Bozzelli, Dominic T. *(USA)*
Saur, Rosemary E. *(USA)*

Mathematics is of primary importance in engineering. In order to achieve accurate placement in a beginning mathematics course, it is important to assess the background skills of deaf freshmen engineering students. Many times these students do not perform well on popular standardized tests, despite high ability. Developing a test to meet the demands of a particular program is one answer to this dilemma. A mathematics skills test has been adapted for use in placing NTID baccalaureate students in their first college calculus course. The test has been normed against all incoming hearing engineering students at Rochester Institute of Technology for the past two years. The use of this test follows what appears to be a national trend whereby colleges and universities are using "in-house" tests as supplements to or in place of standardized exams. The test being used is a revision of an existing test. To assure the integrity of the test, reliability measures and item analyses were performed. The predictive value of the test was determined by comparing test results with subsequent course grades. The test has been administered to entering baccalaureate deaf students, and used to advise students on appropriate placement. Accuracy of the placement has been good and encourages the continued use of the test.

"Circles in a Forest"--an enriching experience in art and language with senior pupils

Thursday, 13:30 **Room 10**

Burger, C. *(South Africa)*
Roux, E. *(South Africa)*

Structured on a literary work, this project was undertaken by the art and language department of the De la Bat School in Worcester, South Africa. *Circles in a Forest* was read by the pupils. This book is an international best seller, and right of translation was sold in seven languages before it was published in its original language, Afrikaans. After reading the book, the pupils were taken to the Knysna Forest where the story unfolds. All the modalities - the visual, the tactile, and the olfactory were stimulated to enrich this experience. The subjective was accentuated, and the pupils were asked to express their feelings in colour, line, and form. Colour slides were taken to monitor their experiences. The pupils were also motivated to do research and collect and organize relevant information. Each child was free to develop and explore his own field of interest. This assisted with development of vocabulary and language structures. Because the pupils had a personal experience of what was written in the book, the book became more than the printed word. Another circle was completed; the word became meaningful and created a deeper emotional insight that was revealed in their own written work. This paper presents a description of the project.

Print: Potential raft in the mainstream

Thursday, 15:30 **Mezz. Holiday Inn**

Carroll, Cathryn *(USA)*

As mainstreaming becomes an international phenomenon, it becomes important to find ways to bring deaf culture and the deaf community into the classroom of the hearing-impaired child. Isolated in separate schools throughout their districts, without the presence of deaf adults to provide them with a sense of identity and belonging, teachers may find that a printed, communication vehicle is a critical part of their students' classroom experience. Children whose hearing loss is severe enough that it requires

placement in special programs are members of a broad national and international community and they have a right to participate in its culture. The newsletters of clubs for the deaf may be helpful, but for young deaf people who are just developing competency in the spoken language of the community, they are difficult to read. Further, these newsletters are understaffed and tend to focus on extremely local material. A vehicle is needed that is broader in scope and makes reading simple and fun. "World Around You," a national publication for deaf and hard-of-hearing students published by Pre College Programs at Gallaudet University, has attempted to provide this kind of vehicle to students in the United States and to interested English-users around the world. As such, it may provide the basis for an international model.

Equal access by deaf students through computer-aided telecommunications

Thursday, 13:30 **Room 4**

Coombs, Norman *(USA)*
Friedman, Adele *(USA)*

Computer medicated communication (CMC) at Rochester Institute of Technology and NTID facilitates mainstreaming of deaf students, and enables them to make gains in critical thinking, reading, and writing in both mainstreamed and all-deaf classes. One of the presenters, an RIT professor, uses captioned videos and computer conferencing to teach an RIT American History course. He is blind and some of his students are deaf, but both handicaps vanish in telecommunications as it overcomes a double handicap barrier. Late-deafened adult students find they participate more than in any previous class. Because CMC tends to encourage a simple, direct writing style, it is also less intimidating to deaf students with limited proficiency in written English. The anonymity encourages unusually open discussion and sharing. Computer telecommunications provide a subject for study as well as an instructional strategy in another course offered through NTID on the Individual and Technology. Students in the all-deaf class write dialogue journals on electronic mail and discuss controversial issues in a computer conference. The appeal of CMC cuts across skill levels in both computer literacy and written English. The privacy of electronic mail frees students from their classroom personae. A new mutuality of teaching and learning benefits all members of the electronic community.

Exploring in the pre-school with the High Scopes curriculum

Monday, 11:15 **Room 7**

Cotter, Julia *(USA)*

The High Scopes curriculum was developed in the 1960s when the idea of "preschools" to help offset the ramifications of poverty on young children became the trend. The positive long-term effects of quality preschool programs on these children are well documented. If we consider the hearing-impaired child to be living in a state of language deprivation, it becomes possible to see how a curriculum such as High Scopes can be used to meet the needs of these children. The curriculum is cognitively based. It uses Piaget's theories of play and development. It gives guidelines as to setting up the classroom, materials to be used, how to facilitate the child's exploration/experiencing of his environment, and how to record keep. High Scopes allows for group/individual and structured/unstructured experiences. Creativity by the young child is always encouraged, along with learning by doing. The teacher "trusts" the child to be learning what is important to him at the time. During these experiences, language and speech development happen in a natural environment.
The presentation focuses on the "flow" of a preschool classroom using this curriculum. The goals of the classroom are discussed. The adaptations needed for a hearing-impaired class are also discussed.

Panel on support services for underprepared postsecondary students

Friday, 9:00 **Room 4**

Croft, Frances *(USA)*, Moderator
Edwards, Cynthia *(USA)*

This session concerns the ways in which a postsecondary institution can address underprepared students. Three areas are discussed: (1) learning opportunities provided and supported by the Alternative Learning Center and library, (2) services for students with learning difficulties, and (3) overview of tutoring services that address specific students needs. Brief presentations are made in each of these areas followed by discussion.

Panel on mathematics education for deaf students: Issues and directions

Tuesday, 10:15 **Room 7**

Daniele, Vincent A. *(USA)*, Moderator
Sachs, Marvin *(USA)*
Goodstein, Harvey *(USA)*

A panel featuring mathematics educators from NTID and Gallaudet University discusses issues related to the current state of mathematics education in the United States and Canada, and suggests directions for educational efforts over the next several years. Specific topics include: achievement levels and other characteristics of entering college students; new curriculum standards established by the National Council of Teachers of Mathematics; current teacher training activities conducted by the NTID and Gallaudet Mathematics departments; and the role of technology in mathematics education. Conference participants are encouraged to ask questions and offer comparative statements regarding the nature of mathematics education in their own countries.

Models for improving students' achievement: Curriculum development and academic progress at KDES and MSSD at Gallaudet University

Thursday, 15:30 **Room 12**

Deninger, Michael L. *(USA)*
Delk, Linda (USA)
Hallau, Margaret *(USA)*

Kendall Demonstration Elementary School (KDES) and the Model Secondary School for the Deaf (MSSD) at Gallaudet University have made significant progress in developing innovative programs of instruction for use with deaf and hard-of-hearing students since being established 20 years ago. The schools now disseminate more than 150 separate instructional products and train professionals across the United States who work with deaf and hard-of-hearing students. This presentation describes several major facts of curriculum development and evaluation research at the two demonstration schools, with special attention to program and instructional strategies that have led to significant increases in student academic achievement. Longitudinal gains in achievement scores of students from both schools are presented along with comparisons of these students with other deaf students in the United States. Data are presented to support the fact that KDES and MSSD students score appreciably higher in reading and mathematics on the Stanford Achievement Test - Hearing Impaired Version, even though KDES has a much higher percentage of minority students and both schools have a much higher percentage of students with severe and profound hearing losses than the national comparison group. Transporting these programs to other schools has been a goal of KDES and MSSD for several years. A three-year project in which the successful reading and writing programs in use at the KDES and MSSD were replicated in mainstream programs in the state of Ohio are also presented, providing evidence that these instructional programs can be implemented in a variety of school settings. Additional benefits that can be derived for isolated teachers of the deaf in public schools from a replication project such as this are also explored.

A circle of clay

Thursday, 13:30 **Room 10**

Geisser, Peter J. *(USA)*

For many years, art has been a tool for teaching at the Rhode Island School for the Deaf. It has been used as a means of teaching not only aesthetics but of providing moral education in the form of community involvement and service. In September of 1988, the senior class began a year-long project that put deaf students into the mainstream of serving other people. The basic goal was to create decorative murals for the Child Development Center (CDC) at Rhode Island Hospital. The secondary goal of the project was to give the senior class a leadership role in a monumental project that would benefit the community outside of the school for the deaf, and to likewise give younger deaf students a chance to create something beautiful for others. The most important goal was to bring together many students with special needs, and give them an opportunity to work toward a common goal. A unique "mainstream" situation was created, where the participants with various and different needs worked together and became aware of each other's limitations and capabilities. The presentation describes how students of the school for the deaf went out to various special education programs and made 4,621 tiles with more than 500 children of all ages, abilities, and disabilities. The presentation also describes how the tiles were installed on the walls of CDC at the Rhode Island Hospital, and literally encircled the entire sixth floor of the building. The involvement of students from local colleges and art schools is also described, as well as the interactions of the participants. The final work of art is not only enormous and extraordinary but a poignant witness of what deaf people can do for others, containing the power of the human spirit in a work of art.

Making the science curriculum work

Monday, 15:30 **Room 3**

Getz, Lorry B. *(USA)*

In 1989 the Lexington School for the Deaf completely redesigned its elementary and junior high science curriculum, making the curriculum focused and exact while at the same time making it effective and more understandable. The purpose of this presentation is to show what other schools can do to make their science curriculum more effective while making science a more integral part of the elementary curriculum. At Lexington, five major areas were used to develop the new curriculum. In each area a series of questions was asked to get a better picture of where we are and where we want to go. The five areas and some examples of the questions we asked follow.
(1) Continuity and Flow - Does the science curriculum flow smoothly from one grade level to the next?
(2) Minimum Teaching Essentials - What are the basic concepts that we want our students to know at each grade level? These should correspond to the state, city, and individual IEP objectives. (3) Basic Skills - At the end of each grade what are the basic language, math, and equipment skills we want the students to have? (4) Crossing Over - Can what is being taught in science be used to support and continue the work that is being done in other subject areas?
(5) Community Outreach - Can we use facilities and services in the community (eg., museums, zoos, parks, and speakers) to supplement the classroom experience?

Simple storytelling techniques using video for deaf children

Monday, 15:30 **Room 10**

Handa, Kiran *(India)*

Deaf children enjoy listening to stories, but the material available for them is very scarce in languages other than English. The problem gets more complicated in India where there are as many as 14 major languages with many more zonal differences. These difficulties result in the non-availability of commercial material because it is not economically feasible to produce them. This paper deals with simple ways of preparing material locally. It describes the techniques for telling the stories to the children in their regional or local language. One of the resources for telling the stories is the video. No commercial videotapes are available in India, but video recording can be done of the story programs that appear on the regional television network. With some editing, these recordings can then be used in the classrooms for telling stories to deaf children. The captioning of the tapes will be very expensive and the facilities to do so may rarely be available. Instead, an inexpensive and easy technique of "Strip Supported Captioning" using mechanical means has been tried. The facility of half-inch video recording is now available in India in almost every town. This has been used to advantage for creating story series having the deaf children participate as actors themselves. This seems to have lots of excitement for the children and this also accelerates their learning process. Classroom dramatization techniques also seem to show encouraging results. The other methods, like photos and written strips, participative exercises, use of audiovisual aids have also been tried for storytelling. Results of these techniques are reported.

American Sign Language videodisc: Applications to instruction

Tuesday, 14:45 **Room 9**

Holcomb, Samuel *(USA)*
Newell, William *(USA)*
Poor, Geoffery *(USA)*
Young, Marsha *(USA)*

The Sign Communication Department at NTID has created a videodisc that is a visual archive of more than 2,000 signs. The 900 signs taught in the Basic Sign Communication curriculum (Newell et al, 1984, NAD) are included. The remaining signs were chosen for frequency of use and/or to provide topical lists of basic vocabulary (e.g. animals, food, countries). Sign language uses inflection of sign movement and facial expression to modify meaning. Due to limitations of space, usually only basic uninflected forms of signs are demonstrated on this videodisc. Signers for the project were screened and selected by S. Holcomb and W. Newell of the NTID Sign Communication Department. We sought to provide a diversity of signers with regard to age, race, and sex while providing a consistency with regard to fluency and ability to demonstrate signs on videotape. By combining the technologies of videodisc and computer, we are constructing interactive reviews, drills, a means to look up signs, and a means to reference similar signs that may be confusable because of production similarities.

Emerging microworlds in a classroom of hearing-impaired students: Interactive video technology

Tuesday, 14:45 **Room 9**

Jones, Christopher F.G. *(Scotland)*

There is a positive move in Scottish schools toward the implementation and application of interactive technology in the classrooms for the hearing impaired.

After evaluation of interactive video materials for hearing-impaired children in schools and units throughout Scotland, both teachers and their pupils have accepted the technology and have recognized the place for interactive video in their classrooms. This has future implications that the Scottish Education Department has recognized by supporting a new project into the development of materials using interactive technology (interactive video, CD-ROMS, CD-I and CD-XA) to meet the learning needs of the hearing impaired. Due to the sheer magnitude power of interactive technology, there are dangers that it could be used as a glorified electronic blackboard perpetuating traditional teaching and learning methods, as opposed to the creation of environments that enable children to take an active role in their learning. By using the thematic approach, microworlds enable children to explore in a specific knowledge base, such as a large supermarket, using visual and textual information. Microworlds support curricular areas such as geography and mathematics, they allow the use of language, and they support different cognitive processes while relating the content and process to the real world within the microenvironment.

Religious education of Catholic deaf children and pastoral guidance of Catholic deaf people

Thursday, 13:30 **Mezz. Holiday Inn**

Kolbrink, Sj. *(Netherlands)*
van Eijndhoven, J. *(Netherlands)*

The "International Catholic Foundation for the Service of Deaf Persons" is concerned with the religious education and guidance of Catholic deaf people all over the world. Representatives of various countries exchange views and experiences through congresses and symposia. The Instituut voor Doven is one of the participants in this foundation. The religious education and guidance of the deaf focuses on: Pastoral guidance of the parents of (young) deaf children; religious education of deaf children/adolescents from age 4 to 21; and spiritual guidance of deaf adults. At the forthcoming Congress of the Foundation in Rome in 1991, experiences and recent development of methods will be discussed among its participants from various countries. All of the above-mentioned points will be demonstrated/ presented by means of proceedings, videotapes, theses, posters, etc.

The Emotional-Expressive Method: An approach to music education for the deaf

Thursday, 13:30 **Room 10**

Lau, Chiu-kay *(Hong Kong)*

The Emotional-Expressive Method is based on the following principles: (1) Music is potentially innate in the deaf. (2) The deaf are inclined to perceive music emotionally. (3) The deaf have a "total perception ability" that enables them to perceive music holistically and through multi-sensory channels. (4) The deaf possess a "music expression-acquisition device" inherent in the brain. Demonstrations show that the deaf can successfully do the following music activities: explore and perceive music, compose music, express, and perform music, and move and dance rhythmically. The Emotional-Expressive Method was designed by the presenter to teach music to the deaf. The method consists of the following three approaches: (1) The Emotional-Oriented Approach: the teacher creates a communicative emotion in the learning situation. Then the group mood replaces the personal emotions. (2) The Expression-Oriented Approach: when pupils are emotionally prepared, they are directed to undergo the activities mentioned above. They feel free to perceive, explore, compose, express, and move to music. (3) The Total Perception Approach: going with the above two approaches, the Total Perception Approach is used to teach the pupils to perceive music, making use of multi-sensory input with the auditory as the main channel and encouraging total impression, perceiving music as a complete message. An analytical process may be introduced to enable them to perceive music more precisely and therefore enrich pupils' Total Perception.

Guidelines for science programs for hearing-impaired adolescents

Monday, 15:30 **Room 3**

Mertens, Donna M. *(USA)*

The National Science Foundation is concerned about the under-representation of hearing-impaired individuals in science-related careers. Therefore, they funded a two-year project designed to serve gifted adolescents from across the country who are profoundly deaf, hard of hearing, or hearing impaired with other disabilities. Thirty-two (32) students attended four-week workshops during the summer to learn about marine science and to explore career opportunities in science. A comprehensive evaluation of the program was conducted using interviews, observation, and document review. The results were used as a basis for developing guidelines for science programs for hearing-impaired adolescents. The

guidelines were not designed to be a complete "how to" manual for such programs. Rather, they represent "nuggets of wisdom" that were gained during the two-year program. The guidelines encompass the areas of recruitment, instructional processes, project management, staffing, facilities, recreational activities, and evaluation.

Music for people with special hearing capacities

Thursday, 13:30 **Room 10**

Mowers, Robert *(USA)*

This paper discusses the development of a music program for hearing-impaired students at the National Technical Institute for the Deaf (NTID). It shows how the inclusion of a dynamic music program can enhance the educational experience for many hearing-impaired students by developing skill and understanding as may pertain to: (1) poise, (2) confidence, (3) cultural awareness and insight, and (4) a fulfilling and satisfying quality of life. The creative use of electronic assistance is discussed as it pertains to the music program at RIT/NTID.

The special content and considerations in teaching science to deaf students

Monday, 15:30 **Room 3**

Nemoto, Masahumi *(Japan)*

In Japan deaf students learn science in the same way as normally hearing students. At University of Tsukuba school for the deaf, I teach science to deaf students in the senior high school division. The subject "science" is composed of "general science," "chemistry," "biology," and "physics." In these subjects, information about sound, the ear and hearing mechanism, and courses about auditory disorders, including heredity, should be stressed for the deaf students. Students need considerable knowledge and ideas about these areas to overcome the difficulties that may lie ahead and to carry on in their lives successfully. This presentation reports concretely how to teach the origins and heredity of auditory disorders in "general science" for the first level students in the senior high school for the deaf, and what results have been obtained.

Video resume preparation: An innovative approach to communication instruction

Thursday, 15:30 **Mezz. Holiday Inn**

O'Brien, Elizabeth H. *(USA)*
Kelly, Jacqueline F. *(USA)*

An innovative approach to communication instruction has occurred through an experimental project involving the production of a five-minute video resume by NTID students as part of their job search preparation. The purpose of the video resume is to help students secure a cooperative work placement by providing a potential employer with a non-threatening introduction to an applicant with a hearing impairment. The production of this video has also proven to be an excellent format for students to improve their communication skills. Students have an option regarding which communication mode they will use with their video resume. Preparation of the video resume provides a format for the student to incorporate correct spoken English into meaningful communication. Examples of resumes are shown and feedback from professionals, including potential and actual employers, are discussed.

Multimedia remote teaching of sign language and the national language: A French prospect

Thursday, 13:30 **Room 4**

Perbost, Jean-Paul *(France)*

The recent development of new technologies opens new and unexpected prospects in remote teaching including the possibility of teaching sign language and the French language in this manner. The National Centre for Remote Teaching (CNED), a public institution, and a branch of the National Education Ministry, provides any sort of teaching at any level. In response to the expansion of new needs in the field of remote teaching, it has an interest in applying a variety of new technologies, including computer-based systems, as new pedagogic tools. These new technologies are then an opportunity for the development of training in French Sign Language (for hearing parents of deaf children, students, interpreters, hearing teachers, etc.), and of the French language for teaching deaf pupils and deaf adults on a large scale. CNED is in a good position to start such remote multimedia teaching: floppy disc for IBM or compatibles for micro systems, TV programmes, Telematic, Video-disc, CDROM, CD Video, new networks such as Interactive video, and NUMERIS. The proper use of the media by the public concerned

with deafness and the complementary integration of different medias surely imply a better pedagogy.

The National Curriculum in England and Wales: Assessing the attainments of deaf pupils

Thursday, 15:30 **Room 12**

Phillips, Rob *(United Kingdom)*

The Education Reform Act 1988 (ERA) is bringing radical changes to the public education service in England and Wales. Its measures include the phased introduction of a National Curriculum between 1989 and 1997. Under ERA, all pupils have a statutory entitlement to a broad and balanced curriculum, including access to the National Curriculum. The National Curriculum is taught according to prescribed programmes of study, attainment targets are specified nationally for each subject, and pupils' abilities to meet these targets are measured using Standard Assessment Tasks. Some pupils with special educational needs will have difficulties in following the National Curriculum and coping with the assessment procedures. While the Department of Education and Science has made it possible to modify or waive the statutory arrangements in certain strictly defined circumstances, the Department intends that pupils with special educational needs follow as much of the National Curriculum "as is possible and right for them" and that attainment targets apply to these pupils. This presentation considers the National Curriculum assessment arrangements and their implications for deaf children. It demonstrates how some Standard Assessment Tasks have been developed to provide a fairer measure of the attainments of deaf pupils.

Developing computer literacy in deaf students

Monday, 11:15 **Room 7**

Pollard, Gerald *(USA)*

This presentation describes five computer courses being taught to middle school and high school students at the Texas School for the Deaf. These include computer literacy, advanced computer literacy, Pascal 1, Pascal 2, and LOGO. It focuses on a model of instruction the author feels is unique regarding classroom instruction for the deaf. This model provides a "hand shake" between the computer, workbook materials, and the learner. By typing in short programs that illustrate a concept and writing in their workbooks what happened on the screen, students dialogue with the computer and the workbook materials and begin to make generalizations about what is happening. Once a principle is understood, students practice predicting what will happen. They learn to debug (find and fix mistakes), solve problems themselves, and write their own programs. Most importantly, they learn that they can gain information on their own and not be dependent on the teacher as the information provider. This instructional delivery model places the teacher in a significantly different role when compared to the traditional teacher's role of being the information provider. How to change gears as a teacher, how to prepare effective workbook materials, and what materials are available for dissemination are also discussed.

An alternative method of history presentation to hearing-impaired pupils

Monday, 11:15 **Room 7**

Rabe, Deon deV. *(South Africa)*

"An Alternative Method of History Presentation" was the result of an action research program during 1986 and 1987 at the De La Bat School for the Deaf in Worcester, South Africa. The aim of the research was to develop a method of history presentation that would help the hearing-impaired pupil to develop independent thought, empathy, and communication skills. The research model consists of seven phases: (1) The idea, (2) Literature research, (3) Preparation, (4) Presentation, (5) Monitoring, (6) Evaluation, and (7) Reconsideration. The method consists of a written passage with built-in questions to stimulate the pupils' independent thought. The pupils get the opportunity to present their ideas with their reasons. They have the privilege to differ from each other. This leads to mutual communication and establishment of vocabulary. By using the method's five steps of thought and the new concepts in their arguments, they develop language skills and thought. The pupils develop empathy and a sense of culture through assignments they receive from their teacher. They execute these assignments by means of roleplay, library usage, and textbooks. This method has many possibilities that could be explored by an enterprising teacher.

Who's afraid of standardized testing? The deaf test taker

Thursday, 15:30 **Room 12**

Ragosta, Marjorie *(USA)*
Mounty, Judith *(USA)*

Research at Educational Testing Service (ETS) indicates that deaf test takers have more difficulty with college

admissions tests than do any other group of examinees with disabilities. Problems may be even more severe with regard to licensing and certification tests. Recently, there has been increased effort at ETS directed toward meeting the needs of deaf test takers more adequately. Increased accessibility of standardized tests is essential to the improvement of educational and occupational opportunities for deaf people worldwide. The first part of the presentation discusses results of several studies on the performance of deaf candidates in two ETS testing programs: the College Board Scholastic Aptitude Test (SAT) and teacher certification tests. Thereafter, the presentation focuses on possible strategies for helping deaf candidates improve their performance on academic and occupational examinations. Consideration is given to questions that arise in developing these strategies, for example: Are there ways in which the English used in tests can be made more accessible for deaf test takers? Should interpreters translate only test directions or test content as well? Should some subtests be available in signed format (on videotape)? Should deaf test takers be offered the option of signing responses to essay questions instead of writing? Finally, preliminary results of research currently in progress in an effort to develop the above strategies is shared.

Self-instruction by hearing-impaired students in science

Monday, 15:30 **Room 3**

Rockwell, Dale L. *(USA)*

There is a paucity of research in the development of reading materials and utilization of computer technology for learning science in the classroom. This study examined two approaches to self-instruction through use of instructor-developed science modules. The first approach involved the reading of modules and writing answers on study sheets. The second approach also involved reading of the same modules, but the student interacted with lessons on the computer for assessing comprehension reviewing and testing. A 2 x 2 factorial design was used to determine the effect of the two approaches and of language proficiency. The dependent variables were the test scores and learning time records obtained as the subjects interacted with the models. As a theoretical framework, the study design used a model of classroom instruction that assesses student performance in terms of learning time. An analysis of variance determined whether there was a difference in the scores and learning time records due to treatment, language proficiency, and the interaction of treatment and language proficiency. A single main effect of language and three interactions were found for the 10 performance measures. The Computer-Assisted Instruction (CAI) groups took longer to finish the individual models but completed the tasks in less time than the Paper-and-Pencil (P/P) groups. The study supports the application of CAI as an effective approach to the learning of science concepts by compression of time-on-task.

Computer controlled interactive videodisc for self-instruction in lipreading and American Sign Language

Thursday, 15:30 **Mezz. Holiday Inn**

Sims, Donald *(USA)*
Newell, William *(USA)*

Data showing effectiveness of interactive video*tape* using response-time measures is described for speechreading self-instruction programs that have been used at the National Technical Institute for the Deaf for the past eight years. Prototype video*disc* programs feature learner controlled fast access to: (1) separate articulations of the words used in the sentence-level training stimuli, (2) front vs. side view and (3) male vs. female talkers. The two speechreading videodiscs contain 2,400 word and sentence training stimuli concerned with everyday social and on-the-job communication. The American Sign Language videodisc contains 1,100 signs. English sign-glosses and English word synonyms for the signs allow learners to access the appropriate sign or signs to more than 3,000 English words. Prototype software that allows look-up of words, presentation of synonyms, and receptive/expressive drill practice for signs that are potentially confusable because of production similarities is demonstrated.

Reading the world through mathematics

Thursday, 13:30 **Room 12**

Stone, Joan B. *(USA)*

It has been said that becoming literate is a process of "learning to read the word and the world." While language instruction tends to focus on reading the word, reading the world is commonly thought to the domain of the "social studies," i.e. history, sociology, economics, etc. it is the thesis of this presentation that even an apparently asocial content area such as mathematics offers opportunities for deaf students to experience the cultural and political aspects of our daily lives, to read the world in a way that is perhaps different from their social studies classes but nevertheless to read in an important way in a time of rapid technological change. School curriculum plays a major role in the development of social and cultural awareness for all students. For many deaf students, the school curriculum may be the central means through which such issues are explored. This

presentation shows how common mathematics instructional practices can be extended to illustrate the socially constructed nature of mathematics itself. It is suggested that learning to read the world through mathematics may enhance the process of learning to read the world through the social sciences, as well as the process of learning to read the word itself. Work in basic level mathematics classes at the National Technical Institute for the Deaf (NTID) has shown that an explicit focus on the interactions of mathematical symbols, sign language, graphic representations, and written English language can help to ameliorate severe difficulties a student may have in any one of these areas and can lead to a deep awareness of the social and cultural context of contemporary mathematics.

Integration of the Video Encyclopedia of the 20th Century into the curriculum of a school for the deaf

Monday, 15:30 **Room 10**

Strahan, David N. *(USA)*

One of the newest and most exciting of the technologies now being used on the campus of the California School for the Deaf-Riverside is the Video Encyclopedia of the 20th Century. This presentation focuses on the ways in which the Video Encyclopedia of the 20th Century has been successfully integrated into the curriculum of CSDR. The Video Encyclopedia of the 20th Century is a 79 hour series of videotapes or videodiscs of video history from Thomas Edison's early films to Gorbachev gaining power in the Soviet Union. At CSDR, the Social Science, Language Arts, and Media-Technology-Services departments all use the Video Encyclopedia in vastly different ways. Students assemble short film clips as part of classroom presentations. Teachers use segments of the Video Encyclopedia as support materials for lecture and class discussions. And the Broadcast Journalism Class creates short "THIS DAY IN HISTORY" reports using the Video Encyclopedia segments that are captioned or signed and presented on the CSDR daily television news program, NEWSIGN. Samples of the work of students and staff are shown as part of the presentation.

System Assisted Lectures (SAL) for the hearing-impaired student

Tuesday, 14:45 **Room 9**

Takahashi, Hidechika *(Japan)*

At Tsukuba College of Technology for the Hearing Impaired, we have developed for classroom usage a communication system to serve teacher and student. In the usual setting, the student studies the textbook and tries to understand the lecture by reading the teacher's lips and by looking at the blackboard for visual information. However, it is very difficult to focus concentration on the teacher's lips and the blackboard at the same time. With this in mind, we have developed an assistive system that employs the use of an electronic system, that is to say System Assisted Lectures (SAL). In this system, the teacher writes the words and patterns on a writing-board with a write-pen, and the written contents are recorded on a stereo-audio-tape in real-time and simultaneously presented on a TV screen as part of the system. The student is then able afterwards to reproduce the visual information from the audiotape by use of a TV set and adapter, for example, for private study and review.

The arts in action: An international coalition

Thursday, 13:30 **Room 10**

Timms, Marjorie L. *(USA)*
McCarty, Tim *(USA)*

In 1986, a coalition of American and Canadian artists, educators, and advocates for the arts in the education of deaf students was formed in support of their belief that experiences in the arts allow us to express ourselves as individuals within a civilization, its culture and subcultures; encourage critical and conceptual thinking; require self-discipline; demand interactive and time management skills; develop vital skills for success in life, i.e., socialization, motivation, communication, and related learning skills, such as: sequencing, memorization, reading, and problem-solving. Given this common understanding, The Arts in Action exists to serve the belief that the arts should become an integral part of all deaf students' lives. Educational programs should provide regular, ongoing, quality arts-related activities and events. Communities should provide deaf people with access to, participation in, and observation of the arts. The arts community should be accessible to deaf artists; such opportunities should encourage and enable deaf people to express, appreciate, and understand their own deaf culture, as well as to be a part of the local and national culture. The Arts in Action has been established to serve as an advocate and as an international liaison in this effort.

Glossary for the Deaf--A laservision sign language dictionary

Monday, 15:30 **Room 10**

Tjomsland, Kristi Bente *(Norway)*
Eriksen, Olle *(Norway)*

The primary language for Norwegian deaf students is Norwegian Sign Language, and they learn written Norwegian as their second language. When the students have reached a certain reading level (i.e., they understand the basic structures and grammatical rules of the written language), they still need a lot of lexical information. In order to give the students an understanding of the meaning of words in the written language, we provide access to a translation of words and expressions into Norwegian Sign Language. There has been some skepticism as to the effectiveness of making such a translation between a spoken/written language and a sign language on a word (and expression) level and not on a sentence level. We have done some research on these two approaches, and found that there was no difference regarding the students' reading comprehension for two test groups: one group that had access to translation on a word/expression level only, and another group that had access to translation on both word/expression and sentence levels. We have produced a Laservision disc containing 1,500 signs covering the words in a book ("Fairy Tales from 17 Countries"). The student types a word on the computer keyboard, and one or more signs for this word are presented in full motion video on the computer monitor.

The effective usage of the computer in deaf education for physical experiments at the college level and other future tasks

Monday, 15:30 **Room 3**

Tsuchida, Satoshi *(Japan)*

Today in Japan, as in America, we are making full use of the computer in the field of education. A few years ago, a number of teachers who were interested in computers developed computer programs for science and mathematics using program languages such as BASIC and PASCAL. But if we wish to design practical programs, we need much time and much knowledge of the computer. In recent years, authoring systems for CAI have been developed by instructional research centers, colleges of education, and computer companies. The people who developed these systems say we should be able to create CAI courseware even if we do not have much knowledge of the computer. But those authoring systems that we will use in Japan can only make tutorial courseware or simulation programs, and the interface of those programs for adaptation to multimedia are limited by each peculiar function of the respective authoring systems. For this reason, before we create CAI systems that combine the computer and VTR, or LD (laser disk system), we first have to solve many difficult computer-related problems. Especially in the education of deaf people, programs must include concise and well-selected commands and visual information, because students have limited access to information in daily life and do not have adequate vocabulary to explain abstract thoughts. Now, we are developing some methods for practical computer systems for deaf education that are adapted to multimedia. This presentation offers an outline of CAI as used in Japan and introduces materials to be used by the deaf in physical experiments for self-study, as follows: (1) some examples of computer-controlled VTR, (2) a promising system that combines multimedia and computer, and (3) a self-study visual CAI system for the deaf in physical experiments at the college level.

Problems of computer-based education: Identifying effective applications of computers to the education of deaf children in the USSR

Thursday, 13:30 **Room 4**

Vitukhina, I.A. *(USSR)*
Kukushkina, O. I. *(USSR)*

Introduction of computer technology into the educational system in the USSR led to the appearance of a new trend in pedagogy--the search for new ways of increasing the effectiveness of instructional methods used in teaching deaf children. Empirical data today suggest that the computer can become a powerful means for remedial intervention in the education of deaf children. The problems that are currently being discussed in connection with the use of computers include a methodology for involving new technology in the educational process, and general pedagogical and specific (special pedagogical) principles of using computers in the school for children with severe hearing disorders. At present in the USSR a series of issues connected with the search for rational modes of computer use in the education of deaf children is being studied. The problem of using computers as a means for remedial education turns out to be of major interest. The following problems are advanced as stages on the path toward the solution of this task: (1) analysis of the main methodological approaches to the use of new technological devices in school education, (2) study of the characteristics of the activities observed in deaf children while acquiring the skills of using the computer as a means for solving different problems, (3) adaptation of software (specially developed for hearing-impaired children, as well as for normal children) based on different

theoretical approaches to computer use in education, (4) development of methodological recommendations for the use of computers in education of junior, middle and senior deaf students, and (5) study of the methodology of using computers for remedial purposes related to the development of thought and speech in hearing disordered children.

Physical and social ecology--A curriculum approach

Monday, 11:15 **Room 7**

Volpe, Marcia H. *(USA)*

How one organizes instruction reflects how one perceives learning. Educational content and processes form the basis for much of life in classrooms. However, all too often the specific subject matter remains at a surface level of consideration. As educators, we must consider the fundamental concepts inherent in what and how we teach, and the experiences our students bring to each encounter. This session explains an integrated Social Studies and Science curriculum developed at The Pennsylvania School for the Deaf. The program is developmental and thematic in nature and builds on basic physical and social science concepts. The curriculum is child-centered and is appropriate for preschoolers (beginning at 2 years of age) through adolescents. Central to the curriculum are beliefs about autonomy and ownership for both students and teachers. Learning experiences are active, wholistic, and personally relevant to the students and their lives. In light of a growing awareness of cultural diversity and global education, this curricula approach helps to prepare students as citizens of the Earth.

Hearing-impaired and hearing children learning mathematics: Similarities and differences

Thursday, 13:30 **Room 12**

Wildig, Sarah L. *(United Kingdom)*

Studies of the attainment levels achieved by hearing-impaired and hearing school leavers have shown that the standards achieved by the hearing-impaired school leavers are considerably lower than those achieved by their normally hearing peer group. What are the reasons for this? Are the hearing-impaired children experiencing a different learning environment; and are they acquiring skills in a different way, or in the same way as hearing children but more slowly? This paper sets out to look at some of the similarities and differences in the learning environments and learning process experienced by hearing-impaired and hearing children in the study of mathematics, in order to try and identify some of the causes for the difference in attainment levels.

A proposal concerning development of creative art ability in the deaf

Thursday, 13:30 **Room 10**

Ya-xiong, Jiang *(China)*

Since the founding of the People's Republic of China, the government has devoted much attention to the training and education of handicapped people, especially the deaf. Many schools for the deaf have been established during the past 30 years. However, because of the large population in China (and consequently the large number of deaf people), and because of the backwardness of the country's economy, most schools for the deaf are junior high schools, with few schools for specialized training. I have received a ninth-grade education. From my childhood, I have been interested in painting and calligraphy, which were hardly taught at all at school. After graduation, my career has been in the arts and crafts field. I am competent at my job due to my interest in arts and my observation of others' creative work. Among the deaf there are many talented people who are wholly dedicated and who have strong memory skills. It is possible to train and develop a large number of qualified personnel if a better program is developed. Thus I propose the following steps, which can be achieved progressively with the devoted attention of governments, whether the countries be western, eastern, northern or southern; no matter whether they are large or small, rich or poor: (1) First, do not ignore deaf children. Instead, primary schools and high schools for the deaf should be set up. They have the right to receive education. (2) Establish vocational schools for the deaf according to individual interest and ability and the family's economic situation. Vocational schools for the deaf should accept and train these youth who, after graduation, can be involved in specific careers and lighten the burden on both family and society. (3) Establish institutions of higher education such as a "Fine Arts Institute for the deaf" to pay special attention to the deaf of exceptional ability.

Instructional design and development: Deaf education in Greece

Thursday, 15:30 **Room 12**

Yacobacci-Tam, Patricia M. *(USA)*
Lampropoulou, Venetta *(Greece)*

During the 1980s, the Ministry of Education in Greece brought the field of Deaf Education to the forefront for study and development. It was during this time that the presenters undertook the responsibility of conducting an evaluation of the present status of Deaf Education throughout the country of Greece. A needs assessment was conducted resulting in the documentation for critical, priority goals that needed immediate attention for implementation. Based on these findings, a process was designed to facilitate the changes necessary to begin work on the identified goals. Resources were determined and appropriate programs were designed and implemented (seminars, lectures, curriculum committees, etc.). This presentation focuses on the following: (1) selection of objectives/goals, (2) audience participation (parents, teachers, deaf adults, administrators), (3) content development of the specialized programs, and (4) intercultural considerations in curriculum development.

Computer networks in a writing lab: Elementary and secondary applications

Thursday, 15:30 **Mezz. Holiday Inn**

Yoreo, William *(USA)*
Kelley, Patricia *(USA)*

The next common application of computers in the classroom will be the use of network systems. A "state of the art" network system has been established at the American School for the Deaf for enhancement of student writing. Procedures for its implementation and use are presented. A goal at the American School for the Deaf was to provide computer writing labs for all students in elementary and secondary programs. Two network systems were established, one in Lower School for use with first through sixth grades, and a second one in Upper School for use with junior high and high school students. All students, including our multiply handicapped students, use the lab a minimum of an hour and a half a week. Schematic drawings of the hardware system are presented. Technical aspects of the system and the support required for the training of teaching staff and maintenance are explained. The curricular applications for the writing lab also are discussed.

Computerized laser videodisc programs for training speechreading skills

Monday, 15:30 **Room 10**

IJsseldijk, F. *(Netherlands)*

The new technology of interactive laser videodisc offers improved possibilities for training the communication skills of hearing-impaired children and adults. Compared to traditional communication-therapy, training with interactive videodisc programs has many advantages: the teacher need not be present, the client/student can choose his/her own learning program in a more relaxed neutral learning environment, with constant and immediate feedback from the computer. Different aspects of the interactive videodisc-system, being developed at the Instituut voor Doven in Sint-Michielsgestel, will be demonstrated: (1) Choices of different (analytic, synthetic) lipreading programs with various ways of presentation (with/without sound, different speed of presentation and different viewing angles). With the visual lipreading information turned off, the programs may be used for auditory training. (2) An interactive instruction program is availabl · containing text, lipreading images, and model words. (3) All lip-reading and auditory stimuli can be accessed by the teacher or client and presented in a variety of ways with different characteristics and features. (4) The computer records all training results of the client.

Symposium on Vygotskian perspectives on the education of deaf children

Monday, 15:30 **Room 1**

Akamatsu, Tane *(Canada)*, Moderator
Gavelek, James *(USA)*
Andrews, Jean F. *(USA)*
Lylak, Eugene *(USA)*
Wilcox, Sherman *(USA)*
Lubovsky, Vladimir Ivanovitch *(USSR)*
Bonkowksi, N. *(USA)*

The purpose of this symposium is to examine the cognitive and linguistic development of deaf children from within the social-historical perspective as explicated by Vygotsky and his colleagues. The principle idea of this perspective is that individual development is tethered to the social and historical development of the community into which he or she is born. Vygotsky's view of the role of language in developing thought goes far beyond language in the sense of a formal system of symbols. It is the way that language is *used* that determines the extent to which cognition develops, and indeed, the very nature of that cognition. Therefore, far more than the syntactic and semantic functions of words, the pragmatic functions of words--which is to say the use of words in social contexts--are what enables the development of concepts from the primitive cluster to the scientific concept. Since the outcomes of any research are tied to the particular conceptual lens of the researcher, the symposium suggests new explanations for old findings, as well as new research initiatives. The symposium includes the following presentations:
(1) Acquisition of word meaning in social contexts (T. Akamatsu, J. Gavelek, N. Boukowski)
(2) Cognition shifts for vocabulary acquisition (E.Lylak)
(3) How literacy develops in social contexts: Guided instruction with deaf children (J. Andrews)
(4) A Soviet perspective on the implications of Vygotsky's work for the education of deaf children (V. Lubovsky)
(5) Alternative views through alternative leases: The interactionists perspective (S. Wilcox)

Predicting linguistic progress from cognitive assessment of hearing-impaired children

Thursday, 13:30 **Room 3**

Aplin, D. Yvonne *(United Kingdom)*

Findings from an investigation of Van Uden's profile of dyspraxia (e.g. Van Uden, 1983) in a population of 106 Manchester children with sensori-neural hearing losses are reported. The main test profile to emerge for the Manchester sample was verbal/non-verbal in contrast to the strong eupraxia/dyspraxia profile of Van Uden's sample. This paper reports results of regression analyses to find the best predictors of oral language in the sample from a battery of cognitive tests and other measures. Different predictors emerged for the use and understanding of language in these children, who ranged in age from 7 to 16 years, in mean better-ear hearing loss from 23 to 120 dB and in WISC-R Performance IQ from 45 to 146. The children were classified into five main aetiology groups (which will be discussed in the paper submitted by Dr. V. K. Das). The implications of mean score differences found for these groups on the tests used for cognitive assessment are outlined. The main educational implications of the study are discussed for teachers who might develop the use of certain learning strategies with hearing-impaired children and for educational psychologists who might include certain tests in their assessment battery.

The attainment of the concept of classification in deaf children

Thursday, 15:30 **Room 10**

Bogdanova, Tamara G. *(USSR)*

The cognitive development of the deaf child is a challenging area for study. In our experimental study problems related to the attainment of concepts of deaf children will be considered. We compare the performance of deaf children to hearing children of the same age (8-9 years old) on tasks reflecting concept of classification attainment.
The concept of classification summarizes the process that results in the logical combination of items that are similar into homogeneous groups. A child is given a group of 27 objects that differ in shape, color, and size and asked to "put together the things that go together." If he can consistently group the objects that are the same color, or the same shape, or the same size, he is beginning to attain the concept of classification. If he can't, there are three types of help available to him. We have investigated the ability of deaf children with normal intellectual potential to use different types of help. Our study indicates that deaf children perform as well as hearing children during this age period on some tasks. However, the absence of language ability in the deaf children has influenced the mastery of more difficult concepts. Their deficient language produced an inability to use a prior set or piece of knowledge If the linguistic abilities of the two groups of children--deaf and hearing--were equivalent, their cognitive attainment might be equivalent as well.

Symbolic play and language development in normally hearing and hearing-impaired preschoolers

Thursday, 15:30 **Room 10**

Brown, Margaret *(Australia)*

The symbolic play of four normally hearing and four hearing-impaired preschool children was investigated. Both groups of children attended the same integrated kindergarten programme. The subjects were matched as closely as possible for age, sex, socio-economic status and birth order in the family. None of the subjects had any other known disability. Videotaped recordings of each subject's symbolic play were made during three randomly selected kindergarten sessions. Initially, interaction behaviors were analyzed and subsequently the symbolic oral references and symbolic action content of all symbolic play episodes was analyzed using a code developed from the work of Garvey and Berndt (1977). Intercoder reliability was 85 percent for the interaction coding and 96 percent for the symbolic coding. The results showed no significant difference between the two groups on interaction, nor on the percentage of free play time spent in symbolic play. The analysis of the symbolic content revealed that the hearing group referred significantly more to plans, roles, objects and settings than the hearing-impaired group and tended to use oral references more than action. The hearing-impaired group, in contrast, used action more frequently than oral references. Correlations between scores on the symbolic coding and language development (MLU) showed a positive correlation between MLU and reference to setting and a negative correlation with action with object for the normally hearing group. For the hearing-impaired group a positive correlation emerged between MLU and reference to plan. The theoretical and practical implications of these findings are discussed.

Visual information processing of spatial information

Monday, 11:15 **Room 2**

Clark, M. Diane *(USA)*
Harris O'Brien, Deborah *(USA)*

The study explores the optimal spatial arrangements for presentation of information to deaf subjects in a visual display. Prior research has found that deaf subjects have a tendency to focus on different locations within the visual display in comparison to hearing subjects. Deaf subjects seem to prefer a more parallel input strategy that includes a top-down scan rather than a left-right scan. A 3 x 3 matrix was visually presented for one second on the VCR monitor. Next a blank screen was displayed followed by an arrow pointing to one of either the rows or columns of the matrix. The arrow cued the subjects as to which row or column to recall in their answer booklet. The task consisted of four practice trials and 40 test trials. Preliminary analysis of the data show that deaf subjects have comparable levels of recall to the hearing subjects. The pilot study found no significant differences between recall levels for rows or columns. Currently, an analysis of correct recall at each of the nine positions of the matrix is being conducted. This last analysis will point out any differences between the input strategies of the deaf and hearing subjects. Understanding the information processing strategies that deaf individuals use to input information will help in the development of teaching strategies. Once we know the preferred method of study for the deaf student, then instructional methods can be developed to maximize these abilities.

Metacognitive processing strategies of deaf high school students in reading

Tuesday, 10:15 **Room 5**

Ewoldt, Carolyn *(Canada)*
Israelite, Neita Kay *(Canada)*
Dodds, Rod *(Canada)*

Comprehension monitoring and use of varying reading strategies for different materials were investigated in deaf high school students of average intelligence. Little research has been done on metacognition in deaf readers. The students read and retold three types of material: expository text, poetic text, and a well-formed story. They were interviewed about their strategies for reading each text and strategies they would use to help peers. They were asked to rank the texts for comprehensibility and interest. Their teachers were asked to rank the texts and describe strategies they would employ to help their students comprehend. Comparisons were made between teacher and student perceptions of texts and strategies. Among the findings are the following: (1) Students considered the poetic text to be the most difficult, as did their teachers. However, while some teachers considered this text too difficult to be used, students ranked it the most interesting of the three. (2) Students made successful judgments about their comprehension and reported rereading as a major strategy for understanding difficult parts. (3) Suggestions students gave for helping a peer understand a text were largely independent strategies, while the teachers' suggestions were largely strategies that fostered dependence. (4) Students demonstrated through their retellings that inference is an integral part of the reading process. The study demonstrates the necessity for re-evaluation of measures used to assess deaf readers' comprehension and the need for a change of attitudes toward the proficiency of deaf readers.

Language, meaning systems, and formal thought in deaf adolescents

Thursday, 13:30 **Room 3**

Ferrari de Zamorano, María Alicia *(Argentina)*

"Language, meaning systems, and formal thought in deaf adolescents" is an attempt at further developing some ideas advanced in a previous study about the relations between language and thought in deaf persons, based on Jean Piaget's theory. The objective is to analyze the operative-formal thought in a group of deaf adolescents, placing special emphasis on language. The interest in language stems from its particular importance for the deaf person since, on the one hand, a deaf person does not learn alone, and, on the other hand, language plays a major role in the operative-formal period, according to the above mentioned author. The hypothesis maintains that the language used by the deaf adolescent entails an operative role, being the highest expression as an outcome of the logic pertaining to such kind of thought. That "operative" role would derive from previous structures, starting with language as one of the first actions to be apprehended by the deaf child. Thus, language would be a meaning system to be developed through a double assimilating effort: of actions and of language as action. The results show that lived experiences intervene in the constitution of meaning systems and determine the very possibility of language.

The effectiveness of a thinking skills programme on the educational attainment of secondary age deaf students

Tuesday, 10:15 **Room 5**

Finer, Alan *(United Kingdom)*

In recent years there has developed in schools a greater emphasis on cross-curricular themes in an attempt to break down compartmentation and to recognize the need to personalize learning experiences and to make them more relevant. Relatively few studies have reported on the cognitive changes that occur during adolescence. It is known, however, that there is a growing ability to think about possibilities divorced from reality, entertain ideas about the impossible, explore challenges to existing ideas, and to reflect upon thoughts and feelings. There is a need to develop an awareness of the subtle cognitive processes that underlie learning tasks and to adopt appropriate teaching styles. These issues will be highlighted in the context of the National Curriculum. The work of Feurstein and his Instrumental Enrichment programme has been used with low attaining pupils and those with moderate learning difficulties, providing a programme course based on teaching materials derived from various psychometric tests. Empirical evidence indicates significant gains in pupil confidence with the development of systematic and relevant approaches to learning. A major problem, however, is the apparent lack of transfer and generalization of ideas to other contexts. The described investigation utilizes a course that provides a conceptual framework underpinning the many curriculum changes currently underway in schools. The course consists of a series of visually based discussion tasks that highlight and develop numerous essential cross-curricular pupil resources. The materials address a range of overlapping cognitive, linguistic, personal, and social issues, all of which are relevant to the specific needs of deaf students. The need for deaf students to manage complexity, ambiguity, interpret abstraction, share ideas, work independently or in a group, entertain alternative viewpoints, and understand and communicate clearly for a range of different purposes - describing, reporting, explaining, interpreting, justifying - is paramount. This paper describes the investigation that will involve prelingually deaf students of secondary school age located in resourced mainstream schools and compares the progress made by students who study taking a special course featuring the above with students following a traditional range of courses.

Identification of language-impaired, hearing-impaired students through the use of perceptual-motor and memory tests

Thursday, 13:30 **Room 3**

French, Dorothea *(Canada)*

The purpose of this study was to investigate the value of van Uden's (1983) set of 15 perceptual-motor and memory tests in identification of an additional language impairment in hearing-impaired children with exposure to sign language. Two groups of hearing-impaired subjects were selected, based upon teacher/supervisor ratings as to whether the student had an additional language impairment and also based upon having scores above or below the 50th percentile on the deaf norms of the Rhode Island Test of Language Structure. Scores on the van Uden tests, adjusted as necessary for covariates of age, IQ, and degree of hearing loss, were utilized in a discriminant function analysis. Tests 15 (Word Repetition), 7 (Benton Visual Retention Test 1), 12 (Syllable Repetition), 3 (Visual Attention Span), and 2 (Paper Folding) entered the analysis and correctly classified 91.18 percent of the cases.

Some people have names--false: Teaching children to think critically and logically

Tuesday, 10:15 **Room 5**

Geisser, Maura J. *(USA)*

This paper discusses the development of a philosophy program at the Rhode Island School for the Deaf utilizing logic and reasoning as one of its major components, and the relationship and necessity of language, logic, and semantics in getting middle school hearing-impaired children to think critically and logically. In logical reasoning it is necessary for children to formulate questions, to classify, and to form concepts. As a child's language acquisition grows, so does his/her capacity to think and reason. It is crucial that the gap between the hearing-impaired student's ability to reason and think reflectively, and his/her language be addressed. Reasoning skills, the ability to think clearly and critically, and create logical judgment, are critical in dealing with problems and values in everyday life. The hearing-impaired middle school child should be aware of the various functions of linguistic and semantic structures in order to aid him/her in developing arguments, syllogisms, and judgments. In order to do this kind of reasoning the hearing-impaired child must first understand the basics of logical structures and syntax, have internalized them, and be able to produce them in his own style, ie., "You can't say some people have names because all people have names." Various teaching/learning techniques are discussed.

A study of the intellectual performance of hearing-impaired students in Taiwan, using Raven's Progressive Matrices Tests

Tuesday, 14:45 **Room 11**

Lin, Grace Bao-Guey *(Taiwan, China)*

The main purpose of this study was to investigate the intellectual ability of hearing-impaired students throughout the Taiwan area. Using Raven's Progressive Matrices Tests (CPM, SPM, APM), the researcher examined 2,055 hearing-impaired students, graded from 1-9 and aged from 6-22. The results found: (1) The reliability and validity for CPM, SPM, APM demonstrated that the Chinese Version of Raven's Matrices Tests was suitable for the use of hearing-impaired subjects. (2) The standardized special norms of Raven's Matrices Tests were satisfactorily established for the hearing-impaired students. (3) The hearing-impaired students' intellectual ability seemed to increase with age and/or grade level. However, the growth tended to be slow after 11 years of age and then dropped after 16. (4) The male hearing-impaired students were superior in intellectual capability when compared to female hearing-impaired students. (5) The intellectual ability of the students in the special classes for the deaf was better than that of the students in the special schools for the deaf. (6) The effects of the degree of hearing loss did not seem to influence the performance of the hearing-impaired students' intellectual ability. (7) The hearing-impaired students lagged much behind normal hearing students in the performance of intellectual ability. (8) The longer the period of preschool education the hearing-impaired students received, the higher their intellectual ability appeared to be. (9) The hearing-impaired students who used oral method as the primary mode of communication with their parents performed better on the APM Test than those hearing-impaired students who used combined methods or total communication. (10) The hearing-impaired students with deaf parents or with a hearing-impaired mother scored higher than those with either normally hearing parents or with a hearing-impaired father.

The development of symbolic play in hearing-impaired children

Thursday, 15:30 **Room 10**

Lyon, Mary *(Canada)*

Studies of the development of symbolic play in children with normal hearing have consistently reported a sequentially ordered pattern of development reflecting increasing decentration, integration, and organization or planning. In addition, the development of symbolic play has been reported to be related to social, cognitive, and language development. This presentation describes one part of an investigation into the symbolic play of 39 hearing-impaired children aged 12-48 months. Children were videorecorded playing with a standardized set of toys on two occasions at a 12-month interval. The onset (i.e. most competent or mature) and the mean (i.e. average or characteristic) level of symbolic play was compared both with the age ranges for successive levels reported in the literature and with the subjects' expressive and receptive language abilities. Onset levels of symbolic play up to levels normally reported in the first 30-36 months, were demonstrated by these hearing-impaired children within the age ranges reported in the literature for the normally hearing. Symbolic play and language abilities were significantly related on both occasions. The relationships were stronger for measures of mean symbolic play than for onset levels, indicating that performance rather than competence in symbolic play is associated with language. These results, considered in light of the relationship between play and other aspects of development, have a number of implications for the management of young hearing-impaired children.

A cognitive fluency assessment model

Tuesday, 14:45 **Room 11**

Mittelman, Lorna *(USA)*
Quinsland, Larry K. *(USA)*

Teachers of hearing-impaired students are often puzzled by the unique manner in which ideas are expressed in writing. In an attempt to take some of the mystery out of the relationship between student thought processes and the written manifestations of these thoughts, a Cognitive Fluency Assessment Model was developed. Teaching English to hearing-impaired students has been based traditionally on a framework derived from the medical model, which views deafness as a disorder with calamitous results in the development of the individual. In contrast to this traditional model, the presenters suggest a paradigm that views student abilities in a neutral framework. The purpose of this paradigm is to provide a model in which student differences among each other are understood more accurately and utilized more effectively and successfully. The presenters examine this different perspective as student "thinking" types are described using observable classroom communication behaviors and respective writing samples. Central to this presentation is the assumption that increased sensitivity to student cognitive diversity is a precursor to any form of significant intervention.

A cognitive assessment system (CAS) and its application with deaf children

Tuesday, 14:45 **Room 11**

Ojile, Emmanuel *(Canada)*

Cognitive Assessment System (CAS) is a model of assessment with its base in neuro-psychology and cognitive information processing models. The unique aspect of the CAS is that it hypothesizes the attentional and planning factors in addition to the Simultaneous-Successive processing scale traditionally emphasized in assessment instruments such as the Kaufman-Assessment Battery for Children (K-ABC). The CAS model of assessment has been used with persons varying in age, sex, mental ability, achievement and cultural background. The implications of using the CAS with deaf people in educational and clinical settings is discussed along with a sample demonstration of the assessment model.

Comprehension of narrative texts: To reconstruct and to remember a short tale by deaf pupils

Thursday, 13:30 **Room 3**

Ramspott, Ana *(Spain)*

The orientation of this work has, as a reference, other studies about the comprehension of narratives, which have been based on cognitive psychology and linguistics. The basic material of the work is a short tale, "La sima sin fin," which is shown to the deaf subject in six random sequences; each subject has to order them and he immediately has to do a summary without seeing his order. It has been seen that most deaf pupils cannot put the sequences in a canonic order; but some sequences, which reproduce determinate sentences of the narrative, are recognized and returned easier than others by the subjects. The research tries to delimit the linguistic and extralinguistic factors that are responsible, for the most part, for the difficulties in correctly ordering the sequences.

Development of cognition processes in the imitative activities of deaf children

Tuesday, 10:15 **Room 5**

Rau, M. Yu. *(USSR)*

Loss of hearing and specific speech development, resulting from deafness, produce specific features in cognition processes of deaf children. The imitative activities (drawing, modelling, applique work, artistic construction) are based on specific cognition of objects and phenomena, which differ from the regular "everyday" ones due to versatile and accurate ideas, obtained hereby, about the real world. Completed processes of using images, and of their mental transformation when producing objects of imagination, are important creative aspects in this type of activity. As our studies show, the imitative activities of deaf children are successful under conditions of special (complete and stage by stage) education. The children are taught methods of investigation and imitation by means of visual aids (drawing) that show sequences of perceptual and drawing activities. The widely used summing up of "mobile applique work" (that is making one of many) facilitates analytical and synthetical activities, and prevents difficulties in the use of mental images. In education, speech is given the utmost attention as a means of arranging activities of cognition and imitation. This system we have developed to teach deaf schoolchildren imitative activities facilitates their perception, with complete and precise ideas about the world of objects, the development of visual memory, and imagination. Therefore, imitative activities become one of the ways

of facilitating the psychological development of deaf children.

Algebra word problem processing in deaf college students

Monday, 11:15 **Room 2**

Robinson, Victoria J. *(USA)*

A written test of six progressively more difficult algebra problems was administered to 32 deaf freshman engineering students. Typical errors on the word problems were cataloged and categorized, and three subjects were selected to participate in videotaped interviews during which two more algebra word problems were solved. This time, the subjects were asked for the rationales underlying their solutions. The types of errors that they committed were analyzed. The authors were interested in discovering whether deaf subjects make the same types of errors as hearing subjects and with the same frequency. The protocol used was taken from an article by John Clement. These deaf subjects committed the same errors, and another type of error was also frequently committed. This error is described using Clement's nomenclature, and a possible explanation for this error type is offered.

The relation between field perception and the recognition of the geometric figures: Pedagogical implications in the deaf adolescent

Monday, 11:15 **Room 2**

Rosich, Nuria *(Spain)*

This experiment examines some implications of field dependence for learning elementary geometry. Of particular interest are the strategies that profoundly deaf students use to recognize, to construct, and to define geometric figures such as the trapezium, the parallelogram, etc. The analysis of their responses shows interactions with specific field perception tests like the "Embedded figures test," leading us to give closer attention to cognitive aspects in learning geometry. The results of this work give us some data that should be useful in improving the teaching of this mathematics area to profoundly deaf children.

Implications of schema theory for teachers of hearing-impaired youngsters

Thursday, 15:30 **Room 10**

Schirmer, Barbara R. *(USA)*

The purpose of this presentation is to examine the nature of conceptual knowledge within the hearing-impaired youngster. Conceptual knowledge is organized cognitively into structures called schema. Perceiving, interpreting, and classifying new information into schema is an active cognitive process, as incoming information evokes associations with existing schema. When new information requires the reorganization of cognitive structures, schema undergoes qualitative change and cognitive development has taken place. The more experience that a youngster has with a specific concept, the richer the child's schema becomes. Alternately, the base of prior knowledge represented in the child's schema enables the youngster to more fully understand new information. The body of research into schema theory suggests that teachers should present new information in such a way that hearing-impaired youngsters connect and integrate it with their prior knowledge. This implies that teachers need to be aware of each child's background for any given concept so as to provide learning experiences that help build the child's schema. An example is that of vocabulary instruction. Vocabulary is particularly relevant since it involves the learning of terminology to represent concepts as well as the learning of concepts represented in terminology.

Problem-solving: A focus on processing skills

Thursday, 13:30 **Mezz. Holiday Inn**

Senior, Glenda *(USA)*

Many college students have been exposed to schooling that focuses on the product rather than the process by which "the answer" is reached. As a result, these students have had little experience in analyzing their own thinking activities, behaviors, and strategies that culminate in an answer. This presentation describes the problem-solving component of a thinking skills course offered at the National Technical Institute for the Deaf (NTID). Sample problems are used to illustrate students' strengths and weaknesses in the problem-solving situation and general observations of student cognitive skill development and problem solving behavior before and after the course are mentioned.

A study of the Spanish deaf adolescent's psychological development

Monday, 11:15 **Room 2**

Silvestre, Nuria *(Spain)*

This research studied some aspects of deaf adolescents' psychological development in relation to the educational conditions in which they grew up and in relation to their capacities to learn. The sample consisted of 37 profoundly deaf pupils, 12-17 years old, who were in a mainstream program in the public schools of Catalonia, Spain. Data were gathered with respect to educational conditions--how many years the subject has been integrated, what kind of special help has been received, etc. Two questionnaires and interviews with the specialists and the subjects' mainstream class teachers were used to obtain these data. The subjects' cognitive processes were studied by means of several Piagetian proofs: the discovery of the pendulum rule, the animals inclusion, and by means of the Embedded Figures Test of Witkin. The results are discussed with regard to the specific characteristics of the deaf student group in comparison with the hearing control group, intragroup differences, and educational implications.

Problems in assessment of intelligence with deaf children

Tuesday, 14:45 **Room 11**

Telliegen, P.J. *(Netherlands)*

Because general intelligence tests depend to a great extent on verbal skills, their usefulness with deaf children is limited. A drawback of using only the non-verbal part of a general intelligence test like the WISC is that its composition in terms of intelligence factors is restricted and that the administration of the performance tests still requires verbal instructions. By adaptation of the testing procedures, and by devising special norms, tests can be made suited for the deaf but at the cost of losing comparability with hearing subjects. In 1989 the third revision of the Snijders-Oomen non-verbal intelligence test, SON-R 5½ - 17 years, which examines a broad spectrum of intelligence without depending on language was published. The standardization has been performed on both deaf and hearing Dutch subjects. The test results of the deaf children (excluding the multihandicapped) on the SON-R are slightly lower compared to hearing children (mean IQ=97) and the difference is mainly related to abstract reasoning. The construct validity of the test is discussed in regard to the relation with socio-cultural factors, medical factors, educational assessments, and the relationship with language skills.

The use of concept maps for science education

Thursday, 15:30 **Mezz. Holiday Inn**

Templeton, David *(USA)*
Davenport, Lisa *(USA)*
Long, Gary L. *(USA)*

Most science educators will agree that the abundance of content materials is growing at an exponential rate. Many hearing-impaired (and hearing) learners have difficulty grasping science concepts based on their own reading of texts. Consequently science teachers are faced with the task of communicating large amounts of complex information in a short period of time in the classroom. This poster session is designed to illustrate a concept mapping approach used to present material in the applied science and allied health domains. Conceptual maps and findings from a study in which we examined the impact of concept maps on student comprehension and retention will be displayed. In this study, three separate groups of students received either a standard lecture, lecture plus maps, or lecture plus maps and visual symbols, to present scientific information about the digestive system. Students' delayed recall of the lecture information was measured three days following the presentation. Findings are reported. This poster session includes a discussion of the development of concept maps and their application as a teaching tool for hearing-impaired learners. Maps are presented during the poster session in English, Spanish and Japanese.

Learning styles and the strong sides of learning disabilities

Thursday, 13:30 **Room 3**

Van Uden, Antoine *(Netherlands)*
Vermeulen Van Werde, Liane *(Netherlands)*

It is a complaint of many parents and educators that the diagnostic reports of their children usually overemphasize the weak sides. A correct diagnosis of learning disabilities, to be found in about 35 percent of the prelingually profoundly deaf, must emphasize also the possible strong sides of the child, and outline a compensating therapy accordingly, in order to satisfy the child's right to the best possible communication and social integration. The following strikingly strong sides have been found: - in dyspraxia ("clumsy") children, a strong visual simultaneous memory and constructive ability; - in hysteroid children, a strong inventiveness and creativity; - in "chaotic" children, a strong interactive power; - in profoundly deaf children with some residual hearing, striking echoic articulatory reactions; - in physiologically totally deaf children, a strong vibration sense with similar echoic reactions.

Compensating therapeutic programs with learning styles using these strong sides will be explained.

Parents' involvement

Friday, 9:00 **Room 11**

Abascal, Carmen Sagredo *(Spain)*

After six years of experience with a training program for parents of deaf children, this presenter has observed that the level of parent participation and its implications for their children's educational development depends in large part on: (1) the process of deciding on the communication systems to be used with their child, (2) their reasons for selecting the training center and their attitudes toward it, and (3) the burden of the expense that parents must take on to pay for their child's education. These subjects are discussed and analyzed in this presentation.

The deaf and education in Ghana

Monday, 11:15 **Room 8**

Adjei, Samuel Nsiah *(Ghana)*

Before 1957, hardly anyone in Ghana knew or even dreamed that the deaf could be educated. But, due to the effort of the late Rev. Dr. Andrew Foster, an Afro American deaf man, a school for the deaf was started in September 1957, with 27 Ghanaian deaf people in a borrowed classroom, as a private enterprise. In 1962, the Government took over the full responsibility of the school by providing free tuition, boarding and lodging, together with free text and exercise books. Religious education is among the foremost subjects of the curriculum. Vocational education started from the third year and it became compulsory for every deaf student. This is because the Government is of the view that every deaf person who has completed elementary education should be employable. At the end of the elementary education, deaf students write the same Middle School Leaving Certificate Examination as their hearing peers. The Government does not give special certificates to the deaf. The only difference is while the hearing child takes ten (10) years to complete his elementary education, the deaf child takes thirteen (13) years. There are twelve (12) residential schools for the deaf and two (2) non-residential integrated schools in Ghana. There is also a secondary/technical school for the above-average deaf children. Presently, a few deaf Ghanaians do further studies at Gallaudet University in Washington, D.C. There is also a college where teachers of the deaf, blind and other handicapped people are trained. The Department of Social Welfare has established vocational rehabilitation centres for all handicapped people, including the deaf. I was a product of one of these centres.

Educational policies and services in Bangladesh

Tuesday, 10:15 **Room 9**

Ahmmed, Moinuddin *(Bangladesh)*

Bangladesh, though a small country of 55,598 square miles, is one of the most densely populated areas of the world, with a population of 89.9 million. As there are no genuine statistics, it is very difficult to ascertain the total number of deaf in Bangladesh. According to some international organizations and voluntary bodies, the total number of deaf is ten laks (1,000,000). Deaf people in Bangladesh are not considered social outcasts, but as an integral part of the society who can be made useful citizens by receiving the necessary opportunities. That is why the Dept. of Social Services and some voluntary organizations established several schools, from nursery to secondary levels. However, parent education has not been made available. Counselling for placement and appropriate educational environment is generally given by the teachers when they are brought to school. Provisions for education and care of deaf persons in urban areas are sufficient to meet their needs. Expert services are provided for this rehabilitation. While professional preparation for the staff is inadequate, nevertheless, efforts are being made to prepare the teachers and other staff in training institutions. Still, the attitude of society toward deaf persons is not rational. Discrimination is found almost everywhere in Bangladesh. Legislative efforts are not being made by the state. Professional publications are non-existent, but general periodicals and journals sometimes try to publish the cause of deaf people. Though steps so far are inadequate, attempts are gradually being made to ameliorate the condition of deaf persons in Bangladesh.

Legislative trends in education and welfare of the deaf in Nigeria

Monday, 11:15 **Room 8**

Alake, S. F. *(Nigeria)*

The earliest educational provision for deaf children in Nigeria, a country reputed to be the most populous in black Africa, dates back to 1958, when a group of philanthropists and missionaries initially decided to provide part-time amusement sessions for some indigent, street-roving, deaf children in Lagos, the then capital city. Now, with a combined enrollment of 10,500 deaf children in nearly 70 schools and programmes for the deaf throughout the Federal capital and 22 states of the country, there is no doubt that Nigeria has achieved a landmark far ahead of any other country on the African continent. Despite this significant achievement, education and welfare of the deaf (indeed, the handicapped in general) constitutes

a largely uncharted field with few regulatory laws and guidelines, resulting in lack of uniformity in practices. Whereas, in countries of Europe, Asia, and America, regulations governing (1) right to an education (2) identification and placement of deaf children (3) administrative structures and organization (4) provision of facilities and services, etc. have long been entrenched in specific laws, it is only in recent years that Nigeria has awakened to the need for enacting regulations to insure the continuity of practices in education of the deaf. This paper discusses current legislative trends in education and welfare of the deaf in Nigeria.

Parent education at the Parents' Own Clinic for Deaf Children, Calcutta

Thursday, 10:15 **Room 9**

Bose, Anubhuti *(India)*

In order to help the hearing-impaired child in his linguistic acquisition along with his overall harmonious development and growth, it is essential for the parents to accept and love him first and then do what is needed. With the objective of motivating the parents to understand the child's problems, accept the challenges, and guide him through oral and aural methods for an integrated life, the Clinic has undertaken a variety of programs. Counselling starts by dealing with frustration, which hearing impairment produces in the parents as well as in the child. Educational programmes include information pertaining to hearing loss, amplification devices, social, emotional, and language skills, behavior management, etc., as well as demonstrations by professionals interacting with the child that the parents can observe and repeat in dealing with their children. Under the supervision of educators at the Clinic, the parents work/demonstrate with the child at the Clinic/home where they can evaluate their own level of skill and the progress of their child, and receive reinforcing resources from the professionals. Parents' contacts with hearing schools for their children's integrated education, their participation in related seminars/conferences/meetings/publications/exhibitions, etc., contribute much in educating the public in this field. Late diagnosis of hearing impairment, inadequate amplification devices, and low levels of economic and educational standards of the parents are the major problems that the Clinic encounters in meeting its objectives.

Panel on international perspectives on teacher preparation

Tuesday, 14:45 **Room 1**

Brelje, William *(USA)*, Moderator
Khoko, Berio *(Limbe-Malawi)*
Delaney, Mary *(USA)*
Hoshina, Nobuaki *(Japan)*
Clark, Morag *(Turkey)*
Oganessian, Eugene *(USSR)*

One of the purposes of the Association of College Educators in Hearing Impairment (ACE-HI) is to bring together professional teacher educators to share ideas and to seek solutions to problems of common interest. To enhance this possibility, ACE-HI has organized a panel of internationally recognized teacher educators. Five individuals from countries that represent a spectrum of political and economic perspectives (Japan, Limbe-Malawi, Turkey, the USSR, and the USA) will present a 10-15 minute presentation each. Following the presentations, a period will be reserved for general discussion.

Teacher perceptions of preparation needs in deafness

Wednesday, 10:15 **Room 8**

Bunch, Gary *(Canada)*

Recent trends in the education of deaf students necessitate thoughtful examination of the content of preparation programs for teachers of deaf students. Among the changes creating this need are the increase in numbers of integrated students, the proportionate increase of multihandicapped children in residential and local schools, and new findings and altered practices in communication. Practicing teachers are in a particularly strong position to comment on the content of preparation programs given their intimate knowledge of at least one such program, and their daily direct involvement in teaching. A questionnaire designed to reflect recent preparation standards in Canada and the United States was distributed to teachers of the deaf across Canada. Analyses were performed for each of the major instructional areas of Foundations, Language, Curriculum and Instruction, Communication, Speech Science and Audiology, and a General area. Considered in these analyses were topics germane to each major area, the priority of each topic for inclusion in a preparation program, the relative emphasis of each within a preparation program, and whether each should be offered at a basic preparation level and/or an advanced level. Recommendations are made for the design of programs for the preparation of teachers of deaf students.

Educational policies and programmes the context of Third World countries, particularly India

Wednesday, 10:15 **Room 11**

Chauhan, D.S. *(India)*

Few developing countries are able to provide free access to education for most deaf children, even though this should be their birthright. Present day Dickensian conditions are prevalent in India - not enough schools - primitive methods - absence of dedicated and committed trained staff - misplaced emphasis on vocational training and total absence of opportunities for higher education. The deaf in advanced countries are blissfully unaware, with an atmosphere of "couldn't care less" arising primarily from ignorance of the abysmal conditions, and society and Government's unhelpful attitudes. There is an imperative need to create adequate educational infra-structures for the deaf right from the primary level, creation of more middle level education institutions, and vocational training centres for the deaf persons who voluntarily opt out of formal studies after middle level education. We need to upgrade existing educational institutions and open more such institutions up to the High School/Secondary level. There is an urgent need for an institution of higher education for the deaf. No such institution exists in the whole of East/Middle East/Asia. With progressive improvements in educational levels, the demand for such an institution is increasingly being felt. It should seek advice and guidance from Gallaudet University, which is to be the model. Recommendations are presented.

Teacher performance appraisal: Evaluating preservice teachers

Thursday, 15:30 **Room 11**

Compton, Mary V. *(USA)*

The Council on Education of the Deaf (CED) in the United States has established comprehensive standards for certification of programs to train teachers of the deaf. These standards include supervision of the student teaching phase of practicum experiences. Central to pre-service supervision is the development of a process to record, monitor, and evaluate teaching performance of student teachers in order to ensure the preparation of professionally competent teachers of deaf students. Although numerous categorization systems exist by which both cooperating teachers and university supervisors collect detailed observational data concerning teaching performance, few reflect research concerning the validity of student teacher involvement in obtaining information concerning how to improve their emerging teaching competencies. This presentation describes the Teacher Performance Appraisal Inventory (TPAI), an instrument designed to provide objectivity to the process of observing and analyzing instructional behaviors of novice teachers of the deaf. Components of the TPAI include management of instructional time, management of student behavior, instructional presentation, instructional monitoring, and instructional feedback. Each component is described and strategies for interpreting observations and formulating student teacher development plans are delineated.

Recruitment of deaf students into teacher preparation programs

Thursday, 15:30 **Room 11**

Coryell, Judith *(USA)*

The value of deaf teachers and the need to increase their presence in the pool of teachers of deaf students have been repeatedly reported in professional literature, by professionals in deafness and by deaf students themselves. They are valued by colleagues and students as vital role models as well as effective teachers. As a target group, deaf people are a largely underrepresented and underutilized source for relieving the shortage of teachers of deaf students in the United States. The questions is clear: How can deaf students be recruited into teacher preparation programs, and, ultimately, into the teaching profession? Based on a theoretical model of marketing in higher education, a study was conducted to determine a "Marketing Mix" profile for attracting deaf students into the profession. Twenty-one of the existing programs that prepare teachers of deaf students were identified as enrolling sizeable numbers of deaf teacher trainees. A total of 30 program characteristics or recruitment strategies used by these 21 programs are significantly different from the remaining programs which do not attract many deaf students. These factors, in part, comprise the "Marketing Mix" for recruiting deaf students into teacher preparation programs. This profile, and an inventory for individual programs, is described.

Parent-infant education in schools for deaf children: Before and after PL 99-457

Wednesday, 10:15 **Room 9**

Craig, William N. *(USA)*
Craig, Helen *(USA)*

This presentation compares the results of two surveys of schools for deaf children in the United States of

America, one conducted before the passage of PL 99-457, and one afterward. Both surveys deal with the extent and type of programming offered for infants and toddlers with impaired hearing, and for their parents. In 1982, a nationwide survey of parent-infant programming in schools for deaf children was sponsored by the Conference of Educational Administrators Serving the Deaf (CEASD), with an 82 percent response rate. Of the 94 schools responding, 88 percent reported full or part-time programming for hearing-impaired children 0-4 years of age -almost half with both on-campus and home-based instruction, another 47 percent with school-based only; and 6 percent with home-based only. The characteristics and types of program and evaluation procedures varied from school to school and are reviewed in this presentation. In 1986, PL 99-457 was passed, extending mandatory public school education to 3-4-year-old children with disabilities and providing incentives for services to infants and toddlers with handicaps, and for their families. In 1990, a follow-up survey was then conducted by the presenters to determine any changes in services offered by schools for the deaf to the 0-4 population of hearing-impaired children and their parents. Comparative results are presented, along with a discussion of implications of the public law and ramifications for future programming.

The early intervention program at the Instituut voor Doven, Sint-Michielsgestel

Monday, 15:30 **Room 12**

de Leuw, L. *(Netherlands)*
Brokx, J. *(Netherlands)*
Admiraal, R. *(Netherlands)*
Broesterhuizen, M. *(Netherlands)*

As soon as deafness is diagnosed in an infant, immediate treatment should be started and the parents should be given adequate guidance, counseling, and education. When the Early Intervention Program of the Instituut voor Doven started in 1956, it especially focused on the child him/herself. In recent years it changed into a more family-orientated program. A speech-therapist supports and stimulates the child's communicative development, whereas a social worker is more concerned with the family support. These two professionals are supported by a multi-disciplinary team consisting of an audiologist, otologist, ophthalmologist, physical therapist, psychologist and educational psychologist, teacher of the deaf, and the houseparent. An individual educational program meets the needs of the individual child and the family for an optimal development. Based on thorough differential diagnosis, assessment and evaluation, each child may be enrolled in one of the five elementary schools of the Instituut voor Doven or be mainstreamed in a regular school program. Three of the five elementary schools differ in use of communication code: oral, graphic-oral, or finger-spelling. The other two schools offer special programs for multiply handicapped children, i.e., deaf-mentally retarded and deaf-blind. Mother-child interactions are being examined through research. Communication is being studied by determining frequency and duration of eye-to-eye contact and initiations and responses in the dialogue.

Early identification, verbal intelligence, and mainstreaming

Wednesday, 10:15 **Room 9**

De Raeve, Leo *(Belgium)*

This study describes the great importance of early identification and treatment of hearing-impaired children. The study was conducted on 118 children with severe or profound deafness in the Royal Institute for the Deaf in Hasselt (Belgium). Our follow-up study shows two tendencies. First, children on which we started the treatment before 3 years of age, got an average *verbal* intelligence score (at the age of 12-13 years) on the WISC-R of 78.8 and one-third of this population was mainstreamed when tested. Second, children who were older than 5 when we started the treatment have at the same age an average *verbal* IQ on the WISC-R of 61.3, and none of them were mainstreamed. Our conclusion is that the sooner we can identify hearing-impaired children, the more they'll benefit from the treatment, which will result in a higher verbal IQ and a better chance at mainstreaming.

Needs of parents of hearing-impaired children from a primarily maternal perspective

Friday, 9:00 **Room 11**

Denison, Deborah A. *(Canada)*

This study examined the needs of parents (primarily mothers) of hearing-impaired children and their perceptions of the ways in which existing programs do or do not meet their needs. Data were gathered and analyzed from three sources: (1) taped indepth interviews with 18 mothers of hearing-impaired children (six in each of the following age groups: preschool, junior and senior high school); (2) participant-observations on three occasions during a parent sharing group for parents of junior and preschool age children and (3) evaluation forms

following courses for parents of preschool children and for parents of adolescent students. In addition, a draft of the findings and a brief questionnaire were mailed to each of the 18 parents to obtain their reactions to the researcher's reporting and interpreting of the data. Feedback obtained was incorporated into the study as additional data. The findings suggest that the needs of parents are part of an evolving process. Parents of hearing-impaired children need objective information on deafness and how to help their children. An equally strong need, however, also emerged: the need for a responsive support system that encourages personal growth. As these two areas were addressed, parents needed an opportunity to regain both a sense of personal/emotional well-being and a realistic perspective on their child and her/his hearing-impairment. After these needs were sufficiently met, parents started seeing a need to become agents of change where the system did not accommodate the needs of their children.

Education of deaf children: An African perspective

Wednesday, 10:15 **Room 11**

Dery, Stan E. *(Ghana)*

Over the past 20 years, most African countries have made some attempt to provide education, albeit of a limited kind, for hearing-impaired children. Faced with rising numbers of hearing children of school-going age to provide for, and limited resources at their disposal, African governments cannot stand up to the demands of extensive modern provision for deaf children, whose numbers in most cases have not even been estimated, to facilitate effective planning. As such, not all hearing-handicapped children, and for that matter children with other categories of disability, have access to the special educational treatment they require. This presentation examines how some of the key issues, including early identification and intervention, hearing aids, integration, and the training of personnel, are conceptualized and tackled within the African context.

The effects of a child's deafness on the parents

Tuesday, 10:15 **Room 2**

Fortich Morell, Louis *(Spain)*

This paper is a portion of research begun during the 1986-87 academic year by the Psychopedagogical Educational Services of the Valencian Institute of Audiophonology and the Department of Psychology of the University of Valencia. The first step taken to determine how a child's deafness affects his/her parents was to make up a Personal Opinion Questionnaire, to be answered by the parents on the effect their child's deafness has had on their lives. A total of 92 percent of the parents of the students at the Provincial School for the Deaf responded to the 127 items on the questionnaire (N=170). The Psychology Department carried out a factorial analysis of the principal components, varimax rotation, in which the first 14 factors explain 50 percent of the variation. These are presently being studied. A percentage of affirmative responses for the various items on the questionnaire was also obtained. One interesting fact: 41 families or one-third of the sample showed grave anxiety. This study is discussed in more detail. Our next objective is to write a second questionnaire with broader applications and with the possibility of offering psychological evaluation and support to the parents of deaf children.

Organization of an effective parent education program to support full-time school enrollment

Thursday, 13:30 **Mezz. Holiday Inn**

Gammel, Charles *(USA)*

The author's school, Magnolia Speech School, began accepting children below the age of 2 for full-time enrollment in special classes for the deaf in the early 1970s. This author now has approximately 15 years of experience in working with the parents of very young, profoundly deaf children who are enrolled fulltime in an educational program designed for deaf children. He has developed a parent education program that begins with a pre-enrollment orientation, and continues until the child reaches the age of 6 or is mainstreamed into a regular educational program for children with normal hearing. This program provides parents with direct instruction, emotional support, and practical avenues through which they can assist in their children's education. The poster session illustrates some of the case histories of specific children and graphically portrays some of the trends that have been seen in our parent education program. An informal discussion will assist participants in sharing useful ideas about concurrent parent/child educational programs as a part of larger institutions. Videotapes of actual parent educational sessions are available.

A model of correspondence education for service delivery in remote areas

Thursday, 10:15 **Room 9**

Garrity, James *(USA)*
Meyer, Sandra *(USA)*

Opportunities for personal contact between parents of hearing-impaired children and service professionals is often severely limited by geographical distance from center-based programs. In this session, a model of correspondence education for augmenting the delivery of educational services to families is presented, along with suggestions for integrating correspondence education into parent-infant programs. Such a home correspondence model for educational service delivery accommodates a broad variety of parental lifestyles and situations. Surveys of parents participating in correspondence education have shown it to be an effective and rewarding model. Further evidence of the success of this model as a means of early intervention has been seen in the contact with parents enrolled in the John Tracy Clinic Correspondence Education Program. A model of correspondence education utilized by the John Tracy Clinic to provide services to more than 60,000 families internationally is presented, in addition to suggestions for integrating correspondence programming in education. Program areas include: (1) communication skills, (2) parent/child relationships and child development, and (3) games and activities to facilitate and promote parents' interaction with their children. Principles of correspondence education that make this a flexible model appropriate for application across a broad range of ages and disabilities are discussed.

Program to train Hispanic teachers to meet the cultural and educational needs of Hispanic hearing-impaired children in the United States

Wednesday, 10:15 **Room 8**

Gonzáles. Ramón, Jr. *(USA)*
Moulton, Robert *(USA)*

This presentation focuses on the scarcity of Hispanic teachers of the hearing impaired in the United States. Also, it covers issues related to academic achievement, communication, language, and the barriers of the culture that hinder the Hispanic deaf individual and his/her family. Information on current demographic studies relating to the rapidly growing Hispanic population in the USA is given. It describes the Hispanic Deaf Education Teacher-Training Program at Lamar University in Beaumont, Texas, which is currently the ONLY program of its kind in the USA that specifically trains Hispanic teachers to work with Hispanic hearing-impaired children and youths. This unique program specifically addresses the problems of teaching Hispanic hearing-impaired students by training educators of Hispanic origin who speak Spanish and who are sympathetic to the Hispanic culture and community. By summer of 1990, this program will have concluded the second year of a five-year grant funded by the USA Department of Education.

Parents' views on intervention by professionals at time of diagnosis

Tuesday, 10:15 **Room 2**

Hall, Kathleen *(United Kingdom)*
Worrall, Margaret *(United Kingdom)*

This survey focuses on the experiences of a group of parents at the time their children were diagnosed as hearing impaired and in the weeks immediately following. It aims to discover their views on the intervention by professionals at this critical time and to identify helpful and unhelpful practices. All the parents consulted had children with severe or profound hearing losses which were diagnosed not less than five years previously. This criterion was imposed so that the parents could give a retrospective view of events around the time of diagnosis and make judgments in the light of their child's subsequent development.

Experiences of involving parents and community in raising the hearing-impaired children

Tuesday, 14:45 **Room 12**

Handa, Kiran *(India)*

Being a deaf child is a multiple tragedy for someone in most of the developing countries. Parents take on the child as an added burden on the family and spend little time on their deaf child. In India, the major population of deaf children lives in villages in rural areas, where the parents in many cases are illiterate and which makes the problem even more complex. Parents most of the time keep the child hidden indoors to avoid embarrassing questioning from the people around and this results in social isolation of the child and deprives him of instructional inputs both at home and on the street. The community also neglects the deaf child and does not provide needed support and interaction. Several activities were undertaken to change the attitudes of both parents and the community so that they could also become instructional tools for the child. Parent counselling included making them aware of live examples of deaf persons who have become successful. Booklets giving

these details were distributed. Videocassettes of regular movies containing insertions about what a deaf child is capable of doing were given to parents and community people for viewing free of charge. Parents were shown good live examples of deaf children where family participation existed. This paper gives details of changes in the attitudes of parents thereafter. The difficulties of the uneducated parents were solved by involving more people from the community. The educated persons, particularly the senior citizens with some hearing impairment, were identified to participate with the child. Whenever possible, paid tuition was also arranged. College and student participation is also illustrated. The effect on language skill and overall development of the deaf child is shown by comparing the cases of children having nearly equal residual potential but with and without the home and community involvement in the instructional process. The positive effect of the involvement is illustrated.

Panel on educational interpreting

Thursday, 15:30 **Room 4**

Hurwitz, T. Alan *(USA)*, Moderator
Holcomb, Thomas K. *(USA)*
Zawolkow, Esther G. *(USA)*
MacNeil, Barbara *(USA)*

This panel on Educational Interpreting discusses critical issues related to educational interpreting in a variety of educational settings, particularly elementary and secondary schools that include deaf students. Individuals serving on the committee are: a school administrator, a classroom teacher, an educational interpreter, a parent, and a deaf student. The issues for discussion include (1) role and responsibilities of an educational interpreter, (2) working conditions, training and certification issues for educational interpreters, and (3) effective use of an educational interpreter by all individuals in a classroom, including deaf students, teachers, and hearing students.

New approaches in early intervention

Monday, 15:30 **Room 12**

Johnson, Mary Jane *(USA)*

With the advent of new public laws (Public Law 99-457) in the USA governing mandatory services for young hearing-impaired children aged 0-3 years, new approaches to programming for these children must be developed. This presentation addresses several developmental issues regarding the hearing-impaired population aged 0-3. A brief overview of current research in the following areas is discussed: mother/child interactions as the basis for later language learning, the impact mother/child interactions have on a child's social/play development, and the influence that the field of psycholingusitics and social cognition are having on approaches to early intervention. Based on this research, an integrated developmental model is presented that attempts to meet the communicative/language, social/play, and cognitive needs of hearing-impaired infants and toddlers. In conjunction with this model, informal and formal assessments are presented that evaluate several areas that are critical to later language learning, as well as a discussion of the merits of these assessments in evaluating young hearing-impaired children. Finally, innovative techniques are recommended for more appropriate programming to meet the multifaceted needs of young hearing-impaired children and their families.

Establishment of early identification and intervention services for the deaf in Zambia: A pilot research project

Wednesday, 10:15 **Room 9**

Katishi, Salome M. *(Zambia)*

A pilot research project to examine the viability of implementing Zambia's 1977 Educational Policy Recommendations on early identification and intervention for deaf children is being conducted by the Zambian Ministry of General Education, Youth and Sport, in conjunction with the Ministry of Health. Preparatory to the initiation of services, this has involved the development of screening instruments, selection of a demographic area that would be considered representative of the population of Zambia (Kafue), and the training of personnel. The services include semi-annual screening of infants aged 7-18 months at four centers, the diagnosis and assessment of identified infants, case meetings on these infants, and the development and delivery of child-parent curricula. This project and its evaluation are discussed, together with the recommendations presented to the Zambian government.

Teacher preparation programs and personnel in the United States

Tuesday, 10:15 **Room 10**

King, Cynthia M. *(USA)*

This presentation is the result of a study of teacher preparation programs and personnel in the USA. An historical perspective on trends in teacher preparation programs is provided. It is shown, for example, that 21 programs closed in the 1980s, whereas 12 new programs were begun or reinstituted. Comparisons in

federal funding for teacher preparation over the past three decades are made. Comparisons are also made between the number of graduates from teacher preparation programs and the number of hearing-impaired students. Sharp declines in the number of graduates occurred in 1982 and 1986. Related to the teacher preparation personnel themselves, it is reported that only 58.4 percent hold doctoral degrees, in comparison to more than 85 percent in other areas of special education. More than one-quarter (28.8 percent) had less than three years of experience teaching hearing-impaired students. Almost half (47.2 percent) had some kind of experience in the public schools, although only 12.8 percent had such experience with hearing children. These and other demographic characteristics of the teacher preparation personnel are compared with those of teachers and with those outlined in the CED guidelines. This report summarizes the current status of teacher preparation programs and personnel, and makes recommendations for future practices.

Training of special educators of the deaf in developing countries

Thursday, 15:30 **Room 11**

Leelavathy, P. *(India)*

The incidence of hearing impairment in the newborn in the developing countries like India, is increasing alarmingly in spite of the preventive measures launched by the private voluntary organizations and global institutions like UNICEF and WHO. Apart from preventive tactics to meet the challenge of this growing problem, rehabilitative strategies on social, educational, and vocational fields are instituted in India to help the existing two million hearing-impaired children in the school-going age. Among the personnel from various disciplines involved in this uphill task, a special and specific group--special educators--is vital. Since the training of the hearing impaired is a multi-disciplinary approach, teamwork has became inevitable and especially so in a vast and huge population who live in rural parts where the approaches are very difficult. The Clarke School for the Deaf, Madras, trained a special team consisting of three persons to work for one lakh (100,000) population in the Thiruporur block, Chengelput District, Tamilnadu. The experiment conducted with the help of this team is detailed in this paper. Since the cost of this team work is highly economical, its success leads us to present this paper, which can be adopted by other developing countries.

Sharing and communicating the speech-language therapist's skills with teachers of the deaf in Africa

Wednesday, 10:15 **Room 8**

Lewis, Robyn E. *(South Africa)*

Linguistically sophisticated language assessment and remediation procedures are applicable to teaching the deaf to communicate. However, African countries have a serious dearth of trained speech and language professionals who are skilled at using such techniques. We hypothesized that able, experienced teachers, although lacking formal training in linguistics and language remediation, could be trained to use complicated procedures with their deaf pupils. Two such procedures, the Language Assessment, Remediation and Screening Procedure, or LARSP, and the Developmental Sentence Scoring, or D.S.S., were adapted, integrated, and presented in the form of workshops to teachers who speak English as a second language. An intensive course on English grammar was followed by practical application of the therapy method within a pragmatic and syntactic framework, thus encouraging active participation of delegates. Follow-up observations in schools for the deaf indicate that the teachers are able to adapt this assessment and remediation procedure to their work with the children in the classroom.

Care of hearing-impaired children in Taiwan

Monday, 15:30 **Room 12**

Lin, Ho-Hwei *(Taiwan, China)*

In 1972, a special clinic for children with hearing and speech problems was created in the Department of Otolaryngology at National Taiwan University Hospital. Early diagnosis and early intervention were the most essential goals. However, what we are concerned mostly with is whether every child is properly managed after diagnosis. In the past two decades, more and more hearing-impaired pre-schoolers were taught to speak and then integrated into ordinary primary schools. Yet, most of them are still enrolled in one of the three public schools for hearing-impaired students throughout the island without any previous habilitation. In fact, only one fifth of the hearing-impaired preschoolers were well cared for by their enthusiastic parents and teachers. This report focuses mainly on the progress, problems, and other perspectives of care of hearing-impaired children, especially the preschoolers, in Taiwan.

Efforts on behalf of deaf children and their parents in Sweden

Friday, 9:00 **Room 11**

Lindvall, Inger *(Sweden)*

This is a presentation of the National Federation for the Deaf concerning hearing-impaired and language-disturbed children and the work to improve the situation for these children and their parents in Sweden.

An early intervention program for the deaf child and the family

Monday, 15:30 **Room 12**

Loots, G.J.L. *(Belgium)*

During recent years, early intervention teams for deaf children were set up in Belgium according to a multidisciplinary model. These early intervention teams are stimulating deaf children during their first years of life in the acquisition of language and speech. Admitting the importance of early language and speech training directed toward the child, we think, as an early intervention team, that our most important objective has to be directed toward the family of the deaf child. Having borne a deaf infant may tug at the family climate and communication, which has an important influence on the further development of the child. In this paper, a movement program is presented and evaluated. This movement program is directed toward all members of the family. We show how it restores a positive family climate and stimulates fluent and easy communication among the members of the family.

The influence of attitudes on education of the deaf in developing countries

Wednesday, 10:15 **Room 11**

Mba, Peter O. *(Nigeria)*

Attitudes of society toward the handicapped is a matter of great concern to special educators world-wide. Research supports the fact that in both civilized and backward communities, disability is perceived as relegating the disabled to a minority group whose members ceaselessly contend with the problem of relationship and dependency. In many developing countries, few of the ablebodied majority are perfectly at ease in the company of any members of the disabled minority. Problems inherent in the education of the deaf such as multilingualism, early identification and assessment, limited educational programs and facilities, lack of qualified staff, dearth of evaluation and teaching aids, limited financial support from the government, inadequate support for public enlightenment programs, indiscriminant integration of deaf children into schools for normally hearing children, and a host of other problems are compounded by the lukewarm attitude of those in authority, which in turn is a reflection of the prevailing negative attitude of the general public toward the handicapped--including the deaf. This presentation, based on information gathered firsthand from developing countries in Africa, South America. Central America, China, and Indonesia, highlights the retarding influence of negative attitudes on the education and rehabilitation of the deaf in the Third World. Suggested steps to attitude change are also discussed.

Symposium on mothers and deaf infants: Interaction and support

Monday, 15:30 **Room 6**

Meadow-Orlans, Kathryn *(USA)*, Moderator
Koester, Lynne *(USA)*
MacTurk, Robert H. *(USA)*
Spencer, Patricia E. *(USA)*
Howell, Ruth F. *(USA)*

This symposium summarizes three years of research on the social, communicative, and cognitive development of deaf infants. Although the primary focus is on 20 deaf infants with hearing mothers and a matched group with normal hearing, data also have been collected from hearing and deaf infants with deaf parents. The longitudinal research design required that infants and mothers be observed in project labs at ages 9, 12, and 18 months; a visit was made to the home when infants were 15 months old. The study focuses on the relationships between the face-to-face interaction of these mothers and infants and the infants' motivation to engage the physical environment, their ability to cope with interactive stress, and their developing communication competence. These relationships are viewed within the context of family response to the diagnosis of deafness and available support from internal and external sources. At 9 and 12 months, infants' motivation to engage or "master" objects was assessed. At 12 and 18 months, ability to cope with stress was examined by analysis of the Ainsworth Strange Situation. After each of three visits, free play of mother and child was videotaped for analysis of mothers' functional use of language and infants' communicative initiations and responses. On two different occasions, mothers were interviewed about family stress and available support networks. Presenters report on:
(1) Face-to-face interactions of mother-infant dyads under both normal and stressful conditions (L. Koester)

(2) Infants' motivation to engage inanimate and social "objects" (R. MacTurk)
(3) Early communication of mothers and babies (K. Spencer)
(4) Family stress and support (K. Meadow-Orlans)

Parent education: A retrospective study of outcomes for hearing-impaired children

Tuesday, 14:45 **Room 12**

Meyer, Sandra *(USA)*
Salisbury, Jean E.T. *(USA)*

In spite of the proliferation of parent-infant programs for hearing-impaired children, little is known about long term outcomes in parent education. In this presentation, findings of a survey examining long-term outcomes for 111 participants in a program for parents of preschool hearing-impaired children are reported. It is premature to make causal attributions about parent education; parent-child variables that facilitated families' completion of the program may also account for differences in outcome. However, results do indicate significant differences between participants and nonparticipants; and parent education does appear to be correlated with positive outcomes. Parents were surveyed 4 to 14 years after completion of a correspondence education program. Communication, educational, vocational, and home-environment factors were investigated for hearing-impaired children 8 to 22 years of age. Parent attitudes about their hearing-impaired children were also explored, including parental aspirations, concern for child's use of language, knowledge of educational progress, involvement in educational activities, press for child's independence, and adaptation to child's deafness. Differences in outcomes for participant and non-participant parents and children are discussed. Program content is described, and the projected benefits of this parent education program discussed. Implications for parent program planning in early intervention and for future research are discussed.

The silencing of contradiction: A qualitative study into the professional socialization of teachers of deaf children

Tuesday, 10:15 **Room 10**

Migsch, Gertraud *(Austria)*

This study aims to throw light upon the conscious and unconscious thought processes that form the basis of the professional activities of teachers of deaf children and thus to increase awareness of the subjective ways of dealing with institutional processes in schools of the deaf. The empirical study contains three sections: (1) an account and evaluation of experiences as participatory observer in the classroom, (2) observations and interpretations of teacher-pupil relationships, and (3) an account and interpretation of interviews to investigate the subjective work experiences of teachers of the deaf. The dissertation pinpoints, in the case of five of six teachers questioned, an increasing emotional withdrawal and alienation from the deaf children. This emotional distancing is interpreted as: (1) a consequence of the continuing communication breakdown between the hearing teachers and their deaf pupils, and (2) a result of professional socialization. Teachers found very little support from their superiors and colleagues for a constructive analysis of the problem of the bilateral breakdown in communication between the deaf and the hearing. The study clearly shows that the desire of teachers to be safe as an integral part of the institutional staff structure is greater than the wish for changes in the institutional communication structure, which they have experienced to be unproductive due to its rigidity. The study provides critical suggestions for discussion from the rarely investigated perspective of teachers of the deaf.

In-service training for teachers in schools for the deaf in Japan

Wednesday, 10:15 **Room 8**

Miyake, Ryo *(Japan)*

Technical expertise in deaf education should be made the most of so that children with hearing impairment can become socially independent and so educational intervention at the school is raised to a high quality. For this to occur, teachers with technical knowledge and skills are required. Concurrent training for teachers in/out of the school or field study should be promoted. The author reports the results of a survey (1988-89) on in-service training for teachers of the hearing impaired. The issues covered by the questionnaire are: (1) the theme of field study of each school as a whole, (2) the extent and kind of in-service training offered teachers both in and outside the school, and (3) the principals' ideas and attitudes toward the training.

The hearing-impaired teacher of the hearing-impaired student: A national survey in the United States

Tuesday, 10:15 **Room 10**

Mobley, Robert T. *(USA)*

Studies by Corbett (1981) and Johnson (1983) indicate that between 13 and 16 percent of teachers of the

hearing impaired are themselves hearing impaired. Other than these studies, scant data exist about the hearing-impaired teacher of the hearing impaired. A survey of several teacher preparation programs indicates that all have seen a decline in the number of hearing-impaired applicants, causing concern to many in the field of teacher preparation, especially in the Gallaudet University Department of Education. Department members are aware that with a wider range of job opportunities available to hearing-impaired individuals, more will select occupations other than teaching. The need for appropriate role models in day and residential, public and private programs for hearing-impaired children and youth must be addressed. The purpose of this study is to conduct a national survey of 1,500 hearing-impaired teachers of the hearing impaired. The thrust of the survey is to collect demographic data on a wide range of variables. Questions of an ethnographic nature are also being asked. Data are being analyzed descriptively.

Present situation of the education for the hearing impaired in Sri Lanka

Tuesday, 10:15 **Room 9**

Moonasinghearachi, D.M.S.K. *(Sri Lanka)*

Education for the hearing-impaired in Sri Lanka was inaugurated in 1912 by a Christian missionary named Mary F. Chapman. Most of the hearing-impaired children attend a special residential school for the deaf. We have 15 such schools, and nearly 150 partially-hearing units in normal schools. According to a survey conducted in Sri Lanka in 1985, special residential schools and partially-hearing units accommodate only 25 percent of the total population of the hearing impaired. The rest are not provided with needed services due to the lack of personnel and funds. Children are admitted to our schools at the age of 5. Before that they should attend pre-school. At present we have only five pre-schools which were inaugurated by Japanese experts sent by the Japanese government. Educating the parent is an important activity in this field. So far we do not have such programmes. Sixty-nine (69) percent of the teachers of the special schools were not trained to educate the hearing impaired. We seek international support to improve the quality and standard of teacher training programmes. Hearing aids and audiological equipment must be imported from various countries. Due to their high prices, neither our schools nor our parents can afford them We are seeking assistance to implement an effective vocational training programme to help them to make their own living after completing school.

Need for improved services for the deaf in Third World countries

Wednesday, 10:15 **Room 11**

Mtaita, Eliakunda M. *(Tanzania)*

There is some communication with the deaf at home and in school at least in every country. The level of communication differs from one country to another, depending on facilities available. There are some factors that limit effective communication with the deaf in Third World countries. Here is where the speaker is very concerned. Poor economy is mentioned and its effects such as lack of medical, social, and education services. The number of deaf persons in Third World countries is somewhat higher with minimal necessary services. The majority of deaf persons never go to school. They spend their lifetime at home. This situation is discussed. A small number of deaf people get the chance to take formal training. In some cases they are faced with the problem of bilingualism. The lives of deaf children at home and in school are discussed with special reference to the type of school they attend. To improve the child's communication, the roles of teachers, parents, siblings, and the community at home are given. Mention is made of the importance of spiritual care to the deaf. Religious leaders must know how to communicate with the deaf. Finally, suggestions are given on how to improve services to the deaf in Third World Countries.

Panel on special education policies and deaf education internationally

Tuesday, 14:45 **Room 6**

Nash, Kenneth R. *(USA)*, Moderator
Cayton, Harry *(United Kingdom)*
Suto, Masahiko *(Japan)*
Draffin, G. Stanley *(Canada)*
Curtis, Gary *(USA)*

Over the past 20 years, educators of the deaf have increasingly found that broad national policies set down for special education have become the prime guidelines and dictates for deaf education. Programmatic survival and success have come to depend more fully on a clear understanding of national legislation and what it means for the education of deaf children. National policies evolve from the social, legal, and cultural roots of each country. No two systems are the same–though the goals often sound the same and many provisions look similar. There is much to be learned from a comparison of national policies and the response made by deaf people, parents, and educators. The purpose of this panel is to provide a comparative review of special education policy in selected countries and to

explore the implications of those policies for the education of deaf children and young adults. Among the questions to be explored are the following: Who are the prime lobby groups that shape policy? What is their relationship(s) to the lawmakers? Who is responsible for the interpretation and implementation of policy? Where do deaf people, parents and educators fit in? What do terms such as "equity," "equality," "equal opportunity," and "least restrictive environment" mean within the context of a nation's socio/legal tradition? How does a nation define a child as "in need of special education?" What does "special education" mean? How do the professionals document a child's need so that services can be delivered, i.e., what is a nation's equivalent to an "IEP" and how well does it work? How are disputes and conflicts between parents and authorities resolved? How are resources allocated to the achievement of national special education policies and how well do programs for the deaf fare? How might national economic, legal, demographic, and political forces influence special education policies over the next ten years? And finally, what might those forces mean for education of deaf children?

Professional training of teachers of deaf pupils in the Soviet Union

Thursday, 15:30 **Room 11**

Nazarova, Natalja *(USSR)*

The accumulation and integration of special knowledge for educators to work in the field of education of the deaf requires extensive preparation. This in turn leads to the extension of training programs. But unfortunately, the time available for this extended training is limited. The overcoming of these contradictions is possible with the help of a systematic analysis. By using this tool, one can regard the professional training of teachers of the deaf as a social dynamic organization system and treat the content of training as a set of mobile complex subjects that are oriented, on one hand, on the final result, i.e., on the complex of qualification demands, and, on the other hand, on modern science. An organization of the training process, and definition of the content of this process is proposed as one of the possible ways of reorganization of the professional training of students in education of the deaf in the Soviet Union.

Parents as partners in the education of deaf children

Tuesday, 14:45 **Room 12**

O'Connor, Therese J. *(USA)*
Szabo, Maria *(USA)*
Mapp, Idalia *(USA)*
Carris-Rivera, Katherine *(USA)*

A Parent Outreach Program has been developed at St. Joseph's School for the Deaf in New York, USA, to provide a comprehensive, bilingual forum with special sensitivity to ethnic and cultural differences. (The school population is 59 percent Hispanic, 30 percent Black, and 11 percent White, most of whom are inner city families). This program utilizes the services of the school's bilingual social workers as group leaders and integrates their skills to service the parents in an educational as well as a counseling setting. In contrast to a previous approach in which parents were instructed by a teacher-level parent educator, this program views the parents as partners. It also allows the Social Services Department to assume a more visible role in the school. School social workers have traditionally worked on a referral basis in an educational setting. The current direction of social work at the school is to provide services through a holistic approach, utilizing a cross-professional model of social work practice: educational, clinical, and concrete social services to meet the informational, emotional, and social needs of the parents. Parental response to the program has been positive. As their children move through the school, they become involved with different levels of the continuum, which encompasses school curriculum, sign language, deaf awareness issues, parent involvement and responsibility, etc. Thus, they gain the expertise to deal not only with the handicap but also with normal child development and ongoing school achievements and requirements. We are pleased with this Parent Outreach Program and continue to plan for its future so that each year will see growth and fulfillment for all those involved in becoming active participants in preventive intervention.

Current trends in special education provisions for the deaf in Malaysia

Monday, 11:15 **Room 8**

Omar, MD. Hashim bin *(Malaysia)*

This paper will examine current special education provisions for the deaf in Malaysia, an advanced developing nation in Southeast Asia. Like most human endeavors, special education for the deaf, at secondary and upper secondary levels in particular, has had its strength and its weaknesses. Taking into account that Malaysia is currently undergoing rapid

changes as a result of development, industrialization, and modernization, new trends in special education for the deaf are also examined and highlighted. Key topics for discussion will include historical background and perspective on education for the deaf in Malaysia, current special education provisions and different patterns of the "integrated approach" in the administration of special education for deaf students, the widening of special education facilities services, opportunities and scope in line with "The National Industrial Master Plan," the current population and economic growth that demands curricular update and strategic special education planning to meet the needs of the labor force in the nineties and the year 2000, some implications in the implementation of the one percent quota of jobs in the government services for the handicapped and the deaf in particular, in accordance with The Service Circular No.10/88, the review of the 1961 Education Act and finally, finance in special education.

Forming study groups for learning parenting skills

Tuesday, 14:45 **Room 12**

Ortolani, Vincent *(USA)*

This presentation will enable participants to review a program that brings parents together to learn and promote positive parenting skills. A brief explanation is offered of a parenting skills program developed by Rudolph Dreikurs and Alfred Adler based on the use of encouragement instead of praise, four mistaken goals of a child, use of natural and logical consequences, collision of parent's values with child's values, and problem ownership (whose problem is it--parent's or child's?). An example will be presented of how a grassroots parent education organization was started by a parent of a deaf child, and how this group of parents succeeded over the past 18 years in organizing study groups and conferences that teach parents how to: raise their children without corporal punishment and yelling, create effective parent-child communication, decrease common parent-child conflicts and sibling rivalry through positive means, and develop child's sense of individual responsibility for actions.

Parent education: The Nigerian experience

Thursday, 10:15 **Room 9**

Oyesola, Adelaide O. *(Nigeria)*

In Nigeria, as in many other developing countries, most parents of deaf children are either uneducated or they have a low level of education. The majority of parents also belong to the lower socio-economic group, and the struggle for survival takes up all their time, leaving them no spare time for adult education. Again, the majority of deaf children are born to normally hearing parents who also have many other children in the family to look after. The overall situation is compounded by the fact that many local languages are used in rural areas of the country. The result is that educators of the deaf do not find it easy to organize parent education programs, even though this service is very much needed in a developing country such as Nigeria. Parents' ignorance of early intervention measures, language development, and the emotional needs of the deaf child breeds negative attitudes toward the child, and this in turn is a major barrier to the child's educational development and social adjustment. This is a barrier that our parent education program seeks to surmount. As the founder of one of the oldest and largest residential schools for the deaf (The Ibadan School for the Deaf) in Nigeria, my presentation shares my experiences in organizing a strong parent-teacher association as a machinery for promoting parent education. The paper also discusses some of the other achievements of our parent-teacher organization since its foundation several years ago.

Impact of deafness on Third World countries

Tuesday, 10:15 **Room 9**

Pelaez, Diana *(Colombia)*

Colombia is considered a Third World country. Attention to deafness, early testing, and further identification are not routinely implemented. The hospitals and health centers are not aware of high risk for deafness and parents are not well informed. Mothers do not look for prenatal care as soon as they know they are expecting a baby. Health expenses are not a priority consideration. Their main needs are food, shelter and clothing, not education. The medical and educational staff are not concerned about deafness, its causes, effects and the way to deal with it. Deaf children attend school at a later age if they attend school at all. They come from low socio-economic status families who are not literate and do not expect their offspring to be literate. Deaf children who are going to school do not have balanced nutrition and their homes are not a stimulating environment. Deaf students think they ought to be working in order to get money and help with the needs of the family. There is no law requiring the schools to provide services to deaf children and parents do not do anything about it. The schools for the deaf survive from support given by private business or agencies, which is not adequate. The lack of material and human resources is blocking the development of deaf education, and the opportunities

are few to get vocational training in order to get a job and become a productive individual in our society.

Parent education: Infant services

Thursday, 10:15 **Room 9**

Rooney, Timothy E. *(USA)*

During the past two years, the Early Education Program in San Jose, California, has developed and implemented a Parent Education Program that is based on the belief that the parents are the primary teacher of the child, that the parents make essential choices regarding the methods for educating their hearing-impaired child, and that the native language of the family is appropriate to the child's cultural and linguistic needs. The program is based upon the notion that professionals have the responsibility to educate families regarding all aspects of child development, cognition, and language acquisition. Using research from several related fields, the Parent Education Program fosters the idea that any decision the family makes regarding which language will be used to educate the child is appropriate, provided that the language selected is systematically presented as a complete language (Luetke-Stahlman, 1989). The presentation discusses the criteria for topic selection, the scheduling of topics, the coordination of speakers, etc. The presentation also addresses current trends and political issues that families are made familiar with and local community resources that will assist families in making choices.

A family weekend for parents of deaf and hard-of-hearing children

Tuesday, 10:15 **Room 2**

Stevens, Jan *(Belgium)*

Every year during a long fall weekend, the Flemish Parents' Association organizes an educational session for parents with deaf and hard-of-hearing children. The aim is to give the parents the opportunity to become conscious of their own problems and to share this together. It includes the opportunity to pose questions for a panel of experts. This experts' panel is composed of people from various disciplines contributing to education and instruction of the deaf. Besides the experts' panel, we also have a panel of adult deaf persons, who from their own experience can answer parents' questions. This is usually the best part of the session, since the parents are confronted with deaf models, who offer them a clear image of their child's future. The children are also thought of. All the deaf and hearing children participate together in a separate program. They are looked after by a group of deaf and hearing young volunteers and experience a total integration in all kinds of activities in these three days. For the hearing young people, this is also a rich experience, since they learn to socialize with deaf youngsters through play. The interaction among parents is extremely important, particularly since some parents already have answers derived from their own experience that they can share with the others. In that way, parents find the understanding and courage to continue to grow as parents with their handicapped child.

Deaf parents' views on deaf education

Tuesday, 10:15 **Room 2**

Thumann-Prezioso, Carlene *(USA)*

When a deaf couple has a deaf infant, they enter parenthood with expectations about the child's future. This paper describes the stated attitudes, beliefs, opinions, and assumptions deaf parents have with respect to the education of their deaf children. Since 1984, we have been conducting research on the interaction and communication of deaf parents with their deaf infants and toddlers. As part of this project, the parents were interviewed and answered questionnaires related to their personal history, pregnancy,and the diagnosis of their deaf infant. The questions we asked often led to discussions about the parents' expectations for their child's educational future. We visited each home once a month and during those visits, the topics of the infant's hearing loss and education were frequently discussed. All of these interchanges were videotaped and transcribed. This research report describes the differing viewpoints and decisions made by deaf parents with respect to their child's educational future. We also point out the conflict that sometimes arose between these parents' educational goals for their children and the reality of the existing deaf education system in the United States today.

Teacher training programs of the St. Michael's International Resource Centre

Tuesday, 10:15 **Room 10**

van Eijndhoven, J. *(Netherlands)*
Schakenraad, M. *(Netherlands)*

The Instituut voor Doven in Sint-Michielsgestel has a long tradition in sharing knowledge and expertise with schools for hearing-impaired children in many countries, among which are developing countries in Asia, Africa and South America. In the last decade, training programs have been intensified. From 1981 on, several training courses for teachers of the deaf have been organized in Sint-Michielsgestel, each lasting for three months and with a total number of

participants exceeding 150. More recently, teacher-training activities have been organized at schools in the developing countries. A private foundation was established in cooperation with some charitable organizations. Specific objectives of the foundation are direct training of teachers of the deaf, offering structural solutions by supporting national or regional teacher training colleges, developing diagnostic facilities, exchanging staff, establishing libraries with recent literature, and advising on the organization and building of new schools for deaf children. The International Programs of St. Michael's Resource Centre focus primarily on the dissemination of knowledge and teaching skills, and not on the construction of school buildings or the supply of technical equipment. Good diagnostic assessment, highly qualified teachers, and a differentiated educational approach are considered to be of critical importance.

A sharing of "know-how" among Asian and African countries

Monday, 11:15 **Room 8**

Victor, Prem *(India)*

The Asian and African countries have as a tradition, looked toward the Western developed countries for technical know-how, equipment, resource materials, consultants, and new ideas. However, there is a new realisation that successful programmes for the deaf developed from within a developing country have a greater problem-solving potential and easier implementation within another developing country. One such evidence is seen in the Early 'Diagnosis', Early Intervention and Total Integration model. This model, developed in New Delhi, is being duplicated in Bangladesh and China, and Kenya, Indonesia, Singapore and Philippines have also shown a keen interest and may follow suit. A few recent events will contribute to this further. Among these are the publication of the "Asian and South Pacific News Letter on the Hearing Impaired" from Japan, the setting up of "Initiatives for Deaf Education in the Third World," and the Asia-Pacific Regional Conferences on Deafness. While one has to keep abreast of recent advances in developed countries, a greater sharing of know-how among Asian and African Countries greatly benefits the deaf in these countries.

Parents and teachers: Foes or allies?

Friday, 9:00 **Room 11**

Wilson, Jimmie Joan *(USA)*

For a parent of deaf children, sending them to school often seems to be a total relinquishing of involvement in their educational future. Parents often may not feel encouraged to participate in the education of their children, and deaf education staff may see parents as interfering, demanding too much attention, or voicing too much criticism. On the other hand, most educators agree that a parent's role in a child's schooling is a crucial variable for success. Two questions are, "How can parents of deaf children be encouraged to understand and assume an appropriate role in their children's education?" and "How can deaf education staff view parents as integral components of the education system?" The presenter, a parent of two deaf sons now in their 20s, and a professional in tertiary support services for deaf students since 1969, will share experiences, insights and suggestions for establishing and maintaining a positive relationship between parents and staff.

Types and stereotypes

Tuesday, 10:15 **Room 9**

Woodford, Doreen E. *(United Kingdom)*

The paper examines some ideas concerning the developed countries' ideas, judgments, and expectations regarding the education of the deaf in developing countries. It presents some realities and contrasts them with current misconceptions. In addition, it suggests avenues of information gathering.

Foreign aid and the international deaf community

Wednesday, 10:15 **Room 11**

Wrigley, Owen P. *(Thailand)*

With the recent expansion of interest in issues of the deaf community has come new concern for the deaf in developing nations. Few developing countries offer any educational opportunities whatsoever to deaf children. Of those nations that do offer education for deaf children, most are concentrated in one or two of the largest cities, with none available throughout the rest of the country. These schools are usually primary level only, supplemented with modest trade skill introductions. In the several countries that have established their own advocacy organizations, foreign assistance has played a key role. Nevertheless, foreign aid is not a guarantee of success, and often

brings its own peculiar problems. This paper examines both social and educational developments in S.E. Asia, based on the past eight years of direct foreign assistance to the adult deaf community in Thailand. Funding programs provided support for activities, including establishment of a national association, experimental parent-child services, creation of an independent deaf-run business, new cooperative relations between the adult deaf community and school and government officials, and publication in two volumes of the Thai Sign Language Dictionary. In addition, an overview of issues of the development dialogue that are unique to the deaf community, as well as those that are immediately parallel to broader foreign aid programs are discussed. Also, the first tentative steps by other national deaf groups to support development efforts by indigenous deaf communities are examined.

An American/French student exchange program

Friday, 9:00 **Room 6**

Andrews, Anna *(USA)*
Brown, Marilyn *(USA)*

The American School for the Deaf in West Hartford, Connecticut and the Institute National de Jeunes Sourds de Paris have recently established a student and teacher exchange pro[illegible] Because of the strong historical relationship betw[illegible] two schools, the exchange program develope[illegible] natural outgrowth of the foreign language classes [illegible]ught at each school (French at A.S.D. and English at I.N.J.S.). By visiting a foreign country, students are able to experience first-hand the language that they are learning in the classroom. They are also given the opportunity to see a different culture and compare it to their own. Teachers have also benefited from the exchange, since they are able to confer with their foreign colleagues on pedagogical issues related to the education of hearing-impaired students. In this presentation, we explain the history of the student exchange program, the rationale behind it, and describe the two-week visit of six A.S.D. students to Paris in April 1989 and the visit of the French students to A.S.D. scheduled for April 1990. We also detail the classroom preparation of our students for an enriching experience of travel and cultural diversity. We explain our school's future plans for continuing this valuable program, and the benefits accrued by the students, the staff, and the school community at each site as a result of the exchange.

Educational practices at the National School for the Deaf in Japan

Wednesday, 10:15 **Room 7**

Baba, Akira *(Japan)*

This paper offers a brief overview of the educational program of University of Tsukuba, National School for the Deaf. The school is part of the public school system of Japan, deriving its funds from the Japanese government. The school program is divided into four departments; kindergarten, elementary, junior high, and senior high. The school has confidence in the ability of deaf students to develop the use of language, both oral and written, and believes that the deaf are capable of a normal developmental growth in their studies. The school focuses on the development of aural/oral skill through intensive language instruction. Over a period of 11 years, 198 deaf children enrolled in the kindergarten and 129 of them have continued their studies on the campus. Sixty-seven (67) of them were integrated in hearing schools, as they have excellent language and academic skill. Five students transfered to another deaf school. At present, 36 of the 129 students on campus have an academic achievement equal to hearing students of the same age. We hope that they will pass the college entrance examination. The school also has a vocational training program at the postsecondary level, which helps to improve their social adjustment.

Development of education of the hearing impaired in Hong Kong and the future role of special schools for the deaf in Hong Kong

Friday, 9:00 **Room 6**

Bow, Sui-May *(Hong Kong)*

This paper discusses the development of education of the hearing impaired in Hong Kong in the following five time periods: (1) The Foundation Period, (2) The Cultivation Period, (3) The Wide Spread Period, (4) The Scientific Period, and (5) The Coordination Period. The lessons learned in Hong Kong may offer some insight to developing countries. In addition, on the future role of special schools for the deaf in Hong Kong, practical suggestions are made for implementation of successful "integration" within schools for the deaf and with students in regular schools.

A model for mainstreaming prelingually profoundly deaf children in regular nursery and elementary schools

Thursday, 13:30 **Room 11**

Brands, T. *(Netherlands)*
Vermeulen, R. *(Netherlands)*
Meijer, G. *(Netherlands)*

In 1983, the Instituut voor Doven started a mainstreaming program for deaf children in regular nursery and elementary schools (4-13 years of age). Today, 12 children have been mainstreamed and are being supported by peripatetic teachers who are experienced staff members of the Dr. Van Udenschool, the oral program at the Instituut voor Doven, with 109 profoundly deaf children aged 4-13 years. In our view, mainstreaming is not a goal in itself, but merely a means to a certain goal, i.e., educating the deaf child to become a full member of society. This concept of mainstreaming has been realized by placing the child full time in a regular school in his/her neighborhood and without special services such as interpreters. In this way the child lives with his/her own family and friends, which will facilitate social

interaction with hearing peers and enhance normal language development. The peripatetic teacher visits the school regularly in order to instruct the teacher in the classroom and the parents. The peripatetic teacher may also help the child with specific school tasks. The mainstreaming of the children is evaluated annually to assess cognitive, communicative, social, and emotional development. So far, results have been positive. In this paper, some case-studies are presented.

The Philippine School for the Deaf: An educational resource and service center

Tuesday, 14:45 **Room 7**

Capulong, Yolanda T. *(Philippines)*

The Philippine School for the Deaf provides educational opportunities and allied services to the hearing impaired to maximize their potentials for productivity and to ensure their integration in the mainstream of society. It is a national semi-residential school and the only government-owned institution for the deaf in the country. It was established in 1907. The school curricular offerings include Pre-Elementary Education, Preparatory, Elementary, I-VI; Secondary, 1st to 4th year; Literacy Class for adult beginners and Continuing Education (typing and filing, food trades, electricity, garment trades, cosmetology, automotive); and Non-Graded Multiple Handicapped classes. Furthermore, the school serves as a resource for hearing assessment, research with special focus on sign language, speech, and communication, which prove to be valuable in the field of hearing-impaired education. Service-wise, it always makes the following facilities available to the public: Communication Training Laboratory, Speech and Hearing Clinic, Audio Visual Center, Guidance Testing and Job Placement Center, Medical and Dental Clinic, Dormitory, Library, and Publicity and Research Center. It has established linkage with many industries and organizations, with the goal of improving student services. It is now moving toward the smooth implementation of the country's educational thrusts on national unity, peace, progress, and accessibility to education.

The establishment of integration resource units for the deaf in Zimbabwe

Thursday, 13:30 **Room 11**

Chimedza, Robert *(Zimbabwe)*

The establishment of resource centres to integrate hearing-impaired children into regular schools in developing countries is fraught with many problems. In Zimbabwe, the policy statement on special education (1987) adopts integration as its principle alternative for more educational facilities for the handicapped. In line with this policy statement, for the first time, January 1989 saw the establishment of resource centres integrating hearing-impaired children into regular schools. This innovation in the Zimbabwean context met with problems as well as successes. The whole concept of integrating hearing-impaired children into ordinary schools was completely foreign in Zimbabwe. The programme was initially met with resistance based on negative attitudes and cultural stigmas against the handicapped in general. This problem was eventually overcome through public awareness schemes, and our Community Outreach Programmes mounted effective nationwide campaigns during the preparation period. It is inadequate simply to identify the children, find classroom space, and provide the specialist teacher without appropriate thorough preparation of the school community. Programmes for such preparations were run concurrently with those preparing the hearing-impaired children to function at par with their hearing peers. The following problems were noted in the programme: (1) negative attitudes and stigmas, (2) inadequate support personnel, (3) professional isolation for specialist teachers, (4) sparse distribution of limited and scarce audiological equipment, and (5) lack of parental support.

Implementing change in educational programmes (Part 1)

Monday, 11:15 **Room 9**

Clark, Morag *(Turkey)*

Current dissatisfaction with the standards achieved in many programmes for hearing-impaired students is a healthy factor. Having accepted that all is not well, the question that looms large is, "How can this programme be changed for the better?" While a completely new beginning may well seem the best way forward, it is not always possible to begin again. What then is to happen to existing programmes anxious to improve? Experience (over the period 1986 to the present day) has proved to the author that significant changes *can* be made across a range of programmes covering those that would be categorized as "Traditional Oral," "Cued Speech," and "Total Communication." Criteria for successful change (illustrated by excerpts of videotape) include: (1) the necessity of genuine desire for change, (2) the setting of expectations (with both staff and parents) of realistic end results of the new approach to be adopted. (3) the need for a thorough understanding of the philosophy underlying the new approach, (4) rank ordering of the steps that will lead to change, (5) retraining of both parents and staff, (6) acquiring new equipment and training in its use, and

(7) constant monitoring of results during the period of change.

Implementing change in educational programmes (Part 2)

Thursday, 15:30 **Mezz. Holiday Inn**

Clark, Morag *(Turkey)*

This poster presentation consists of a development of some of the practical issues highlighted in the concurrent session presentation of the same title. Videotaped excerpts from programmes within which the author has been involved in the implementation of change illustrate some of the following features: (1) the desire for change must come from within the programme, (2) the need for a thorough understanding of the philosophy on which the new approach is based, (3) the importance of setting realistic expectations of what can be expected from the new approach, (4) an understanding of the possible time scale within which change can be expected, (5) the importance of parent involvement, (6) the breaking down of areas of change into manageable units, (7) the re-training of staff, mainly on an in-service basis, and (8) consistent monitoring of the programme during the period of change.

Education, mental health, and staffing issues in a five-day residential program

Tuesday, 14:45 **Room 7**

Cohen, Richard M. *(USA)*

The five-day residence offers an opportunity to meet the educational and mental health needs of youngsters who must for various reasons live at home only on the weekend. In New York State, regulations stress distance from home and educational need as the basis for such a placement. This presentation focuses on the approach of the five-day residence at the Lexington Center in Queens, N.Y. Since the youngster placed in this particular setting is also experiencing learning difficulties, it is not unusual to also find many issues that are not solely educational that must be addressed. These areas include membership in multi-problem families with limited ability to communicate with their deaf child, high risk behavior (e.g. suicidal ideation, drug and alcohol experimentation), lack of motivation, lack of support for educational values, and issues of self-image, among other factors. The educational, mental health, and concrete service needs of these youngsters present a challenge for program and staff of the residence. Rather than a custodial approach, the program must respond in a holistic manner to the many needs of the residents. Issues to be discussed are program development and review, staffing patterns and credentials, staff recruitment and training, clinical issues, handling crises, staff burnout, and the interface between education and mental health on both the programmatic and staffing levels.

A new resource role for the center-based school

Tuesday, 14:45 **Room 7**

Darcé, Phillip *(USA)*
Loftin, Anne *(USA)*
Sallop, Marvin *(USA)*

As more and more hearing-impaired students are educated at the local level, residential schools, the traditional centers of expertise related to deafness, are challenged to fill new roles. Day school programs are increasingly challenged to find professionals specializing in deafness who can meet the educational, diagnostic and support service needs of students and staff. The Educational Resource Center on Deafness at the Texas School for the Deaf is working in partnership with the Texas Education Agency, the Regional Day School Programs for the Deaf, and local school districts to meet those challenges. Many of TSD's specialized resources and personnel are available to school districts and day schools. By starting with its existing resources and services traditionally reserved for enrolled students, TSD has been able to modify and deliver specialized services needed by day school programs. Thus, TSD is establishing itself as a valuable service provider in the education of hearing-impaired students throughout Texas, not only those on its own campuses. This presentation addresses why such a partnership is desirable and outlines what kinds of services TSD makes available to schools, agencies, and universities. Examples of activities resulting from the partnership are shared.

Panel on an international perspective on education of the deaf

Friday, 9:00 **Room 1**

Delgado, Gilbert L. *(USA)*, Moderator
Krõhnert, Otto *(West Germany)*
Madebrink, Rut *(Sweden)*
Mba, Peter O. *(Nigeria)*
Sela, Israel *(Israel)*
Oosima, Isao *(Japan)*
Makri, Kyproula *(Cyprus)*
Chavarria, Soledad *(Costa Rica)*

This presentation is based on a comprehensive collection of data that required three years to gather. Summarized data on regions of the world are

presented on the following areas: general education, special education, and education of the hearing impaired. The latter topic covers history, types of programs, parent education, curriculum, communication, problems and issues. Rehabilitation, deaf adults, technology, professional preparation, research, and professional issues are included in other aspects of deafness. These data are perhaps the most comprehensive and extensive ever gathered. Regional collaborators in this project are some of the best-known experts in the field.

Provision of services for hearing-impaired children within an integrated setting

Thursday, 10:15 **Room 4**

Dennehy, Shirley *(Australia)*

Taralye, an early intervention, preschool and kindergarten centre in Australia, was designed to incorporate specialist services for families of young hearing-impaired children within a centre offering general services to the surrounding community. The premise underlying the development of the programme is that all children and their parents benefit from the opportunity of participating in a fully integrated programme. Such benefits include the development of social skills through the provision of the same learning environment for both hearing-impaired and normally hearing children. The paper outlines the structure and organization of the centre's integration programme, which is offered at four levels: (1) the occasional care provisions catering to normally hearing children, aged between 0-6 years, from the local community as well as children with impaired hearing and their siblings; (2) the playgroup for children between the ages of 18 months and 3 years and their parent(s) or caregiver(s); (3) the older age group for children who are nearly 3 years old; (4) the integrated kindergartens for children between the ages of 3 and 6 years. These programmes are fully supported by teachers of the deaf who, along with the other members of the multi-disciplinary team, also provide additional specific programmes for the children with impaired hearing and their parents.

A Norwegian/Pakistani project in the education of the deaf in Pakistan

Monday, 11:15 **Room 9**

Fossum, Siri *(Norway)*

This presentation describes a cooperative project between teachers of the deaf in Norway (funded by the Norwegian Church Fund) and a school for the deaf in Karachi, Pakistan, a school with 200 students and 30 teachers. While the school in Pakistan was typical of many schools in developing countries with low expectations for students, limited resources, and teachers needing retraining and upgrading, there was a readiness to change and effective local leadership. The project has included innovative activities in which teachers and members of the adult deaf community in Norway have worked with Pakistani educators in the area of identification of a local sign language, curriculum development, teacher inservice, and the acquisition of new equipment. Future developments will include a well-defined language and literature curriculum in Urdu, and development and training in the use of assessment procedures. It is anticipated that the school in Pakistan will become a resource and teacher training center for other schools and programs for the deaf throughout the country.

The necessity for the Individualized Educational Plan (IEP) to be tailored to each child's needs

Tuesday, 10:15 **Room 4**

Galloway, Gertrude *(USA)*

Despite the Education of the Handicapped Act's primary goal of an appropriate education for each handicapped child, many children who are deaf are not receiving special educational and related services appropriate to their unique needs. The low incidence of deafness, coupled with its unique ramification, means the needs of children who are deaf are easily and frequently neglected. Many deaf children have been placed in programs based on IEPs, designed to meet their needs (deafness only), ignoring other important factors that need to be addressed. This presentation entails a discussion to show that the effort to provide deaf children with appropriate placement options is pro-child and pro-appropriateness. The design of an IEP to assure a deaf child an appropriate placement is presented. Important factors to be considered in designing an IEP are identified and analyzed to show how important each factor is in the educational development of each deaf child. In essence, the intent of the presentation is to show that each deaf child has different needs and that an IEP should be designed to meet each deaf child's particular needs, ultimately resulting in an appropriate educational placement in which the deaf child can achieve a positive successful learning experience.

Roorkee model for developing and managing a school for the deaf

Monday, 11:15 **Room 9**

Handa, S.C. *(India)*
Handa, Kiran *(India)*

Only about five percent of the deaf children in India receive education and that is mostly in the urban areas. With the exception of a few good schools, the remaining institutions use old and traditional methods of instruction. The authors surveyed several schools in the country to develop a model that could ensure quality education of the deaf children. The survey revealed that the major shortcomings in the organization and administration of the existing schools consist of poor management, lack of modern instructional technology, and paucity of funds. Based upon the analysis of the survey, a new approach, called the "Roorkee Model," has been developed with the aim of providing a better and healthier system. This approach takes into account both quantity and quality aspects of special education of deaf children in India. For the first time in the country, a school for deaf children has been started on the campus of an engineering college called University of Roorkee, which is a Hi-Tech institute and is also the oldest engineering college of Asia. To remove the problems of the management system, the constitution of the school provides that the management will be directed by the university from among its faculty members. The management board looks after the day-to-day running of the school. In addition to the management board, the concept of a board of consultants has been introduced. It has members who are specialists in the education of the deaf and makes decisions about educational needs, curriculum, institute growth, faculty hiring, etc. The management board looks after the day-to-day running of the school. The system is run on community-based financing. All children wear hearing aids every day based upon audiometric testing done in the university laboratory. The involvement of engineering and architecture students on the campus has resulted in the development of classroom teaching aids. The school has created an awareness on campus, thereby involving both students and the faculty in research projects on deafness. The engineering college infrastructure provides an opportunity to introduce vocational education in school curriculum. This approach highlights several advantages for harnessing the residual potential of a deaf child.

Educational planning in a developing nation

Monday, 11:15 **Room 9**

Hussain, M. Ashroff *(Sri Lanka)*

An important consideration in establishing a program in developing countries is to lay out a foundation for future local and international cooperation and assistance. Today there are various organizations, including UN agencies, that provide opportunities that can be utilized for the benefit of deaf, blind, and disabled individuals. Program administrators have to gear themselves up to meet the following conditions: (1) special competencies and training are needed on the part of the teacher to be effective in working with the deaf, (2) recognition that the deaf have more problems than the blind due to their loss of voice and communication, (3) the need to make better use of technical and scientific resources to enable deaf people to fit into the community. In organizing and administering services, it is important to understand special requirements for deaf persons. This will provide the best results and greater opportunities for the deaf.

Current and desired practices for deaf children in compliance with USA Public Law 94-142 mandates (the education for all handicapped children act of 1974)

Tuesday, 10:15 **Room 4**

Jensema, Corinne K. *(USA)*

This presentation provides information on the background, significant principles of, and strategies for utilizing the special education due process procedures guaranteed under Public Law 94-142, "The Education for All Handicapped Children Act," from the perspectives of a due process hearing officer. Significant case laws, both past and current, are discussed, emphasizing their relation to case strategy and decision-making for deaf children. Particular attention is devoted to current and desired practices in developing individual educational programs (IEPs) that comprehensively represent a child's needs and that hold up under legal scrutiny.

Low-risk residential programs for high-risk students

Tuesday, 14:45 **Room 7**

Kellogg, Robert C. *(USA)*

The explosion in high-risk students in the center school for the deaf parallels the changing populations of these schools. This growing group of children with multiple handicaps or who have been the victims of abuse require a significantly different focus in the organizational and developmental schemes that residential programs provide for their care. The center school must change longstanding organizational patterns to meet the needs of these high-risk students with low-risk programs. Critically important issues included in the discussion are staffing allocations, child care training, employee screening and selection, teaching program parameters, student advocacy, crisis planning, counseling and treatment of episodes resulting from events at home or the school, and leadership. Specific examples of risk-reducing activities and procedures are shared and sample policies are presented.

Integrating preschool programs: A trend in the Federal Republic of Germany

Thursday, 13:30 **Room 11**

Kröhnert, Otto *(West Germany)*

Pre-school programs for deaf children include a goal that is not yet fully recognized. At the beginning of this century, teachers of the deaf were already educating deaf children under school age. One might mention Fritz Biff[illegible]d Adolf Freunthaller in Vienna. Later on, the same ideas were taken up by others who transformed these ideas in different ways, e.g., Ciwa Griffiths in USA., Alexander and Irene Ewing in U.K., and Antonius van Uden in the Netherlands. All these efforts have contributed to make early education of deaf children a solid cornerstone in the education of the deaf. However, the question which still has to be solved is concerned with the goals, content, and methods of pre-school programs. In this regard, a major change has taken place during recent decades. While small deaf children earlier were taught in different ways in the Federal Republic of Germany there is today a conspicuous program that mainly is based on the use of residual hearing and that gives the children the opportunity to avoid the development of profound deafness. With emphasis on the capacity for hearing, education of the deaf in the Republic of Germany has captured not only a new quality but also a new place: instead of the earlier programs in special schools for the deaf, there is today a growing mainstreamed trend in the public school system. As a consequence, content and methods in the educational process are being given different emphasis; it is the written and spoken form of the language of the non-handicapped that appears in the foreground even to the deaf. Instead of the earlier isolated education in the special schools for the deaf, today we have mainstreamed education in the ordinary school system.

Educational provisions for deaf children in mainstream schools

Thursday, 10:15 **Room 4**

Laye, Clair L. *(United Kingdom)*

In Leeds, an educational service that attempts to match provision to need has been organized for deaf children. It is compatible with the City policy of placing children with special educational needs in mainstream schools. Children whose preferred language is English are usually supported in their local schools by peripatetic teachers of the deaf. These teachers act in an advisory capacity to mainstream staff and monitor pupil progress. Children whose preferred language is some form of sign language are grouped and placed in selected schools that have been resourced in terms of specialist personnel and equipment. Support for these children involves both hearing and deaf adults as teachers, instructors, educational interpreters, and non-teaching assistants. The variety of support ensures a considerable degree of flexibility. The children have access to a wider curriculum than was possible previously, with the language of instruction matching their preferred modality of communication.

Notetaking: A key to academic success

Thursday, 10:15 **Room 4**

Lewis, J.P. *(USA)*

For deaf secondary and postsecondary students, high quality notetaking support, along with interpreting, is an essential factor in academic success. With deaf students so dependent upon notetaking support, educational institutions must be committed to carefully administered notetaking services. This presentation covers several aspects of the administration of notetaking support. The recruiting and training of well-qualified notetakers are the first considerations, once specific notetaking needs have been established. Thorough attention to this stage assures that a competent pool of notetakers will be available at the beginning of an academic term. Notetaker supervision occurs at two levels. The immediate needs of deaf students must be met in the hiring and scheduling process. Then, once the term has begun, supervision

includes monitoring note content and clarity by faculty members familiar with the course material. Sample note evaluation instruments used by deaf students and course experts are included in the presentation. The notetaker training materials developed at the National Technical Institute for the Deaf (NTID) will be distributed to participants in this session.

Placement alternatives and criteria, and support services for hearing-impaired students in a mainstream public school system

Thursday, 10:15 **Room 4**

MacNeil, Barbara *(USA)*

San Diego Unified School District's Deaf and Hard of Hearing Program in California offers a comprehensive service delivery program with a continuum of placement options for 370 hearing-impaired students, infant through 22 years. This presentation describes the placement options, criteria for placement, and the related services provided to ensure maximum success for students. Both an auditory-oral and total communication track is available. History is provided and strategies recommended for developing a comprehensive program.

A residential school for the 21st century

Friday, 9:00 **Room 6**

Murphy, Lee C. *(USA)*
Harris, Donna *(USA)*

The Indiana School for the Deaf remains one of the largest in the USA. In cooperation with local education agencies and the Office of Vocational Rehabilitation, it has developed extensive curricula offerings, examined and piloted programs in bi-lingual/bicultural education, and established employment training among its top priorities during the mid-80s. Its outreach department, functioning since 1986, has provided leadership in the areas of home intervention (hearing-impaired infants), continuing education (more than 300 deaf adults served annually), maintaining a captioned videotape distribution center, parent counseling, literacy for adults, and job training for multiply handicapped deaf children. The School has pioneered work in ASL classes for preschool and nursery children. There is a preschool/elementary thinking skills program and Instrumental Enrichment is utilized in the middle and high school departments Each year, 25 Ball State University students live and study on the campus of the Indiana School for the Deaf as they learn how to become teachers of the deaf. Leadership training for students is an essential aspect of the School's programming, as more deaf leaders take their places as supervisors in this school. Innovation, creativity, and technology are the key words for tomorrow as well as for today. This presentation will focus on how to prepare a residential school for the 21st century today, with an emphasis on continuing education efforts and grants.

Lawyers, lawyers everywhere: A comparative analysis of dispute resolution processes regarding the education of hearing-impaired students in England and the United States

Tuesday, 10:15 **Room 4**

Nash, Kenneth R. *(USA)*

British and American policymakers have adopted rather different approaches to the question of appeals and complaints for special needs children. These approaches are embedded in the distinctive cultural/legal traditions of the two nations. The intent of this presentation, therefore, is to explore the nature and scope of these differences, to examine some of the assumptions and procedures that form the foundation for each nation's approach to jurisprudence, to offer a cross-cultural view of notions such as "fairness" and "educational equity," and to consider how these factors have influenced the creation of somewhat different mechanisms for the resolution of disputes between parents and "officials" on issues affecting the education of special needs students, with emphasis on the education of hearing-impaired students.

The integration experience in Ireland

Thursday, 13:30 **Room 11**

O'Gara, Joan *(Ireland)*

In Ireland, since 1980, deaf and hard-of-hearing pupils have been integrated into the second-level co-educational system in Bishopstown Community School, Cork, Ireland. The school population is approximately 700, 660 of whom have normal hearing and 40 of whom have varying degrees of hearing loss. The system is child-oriented and in the Hearing Impaired Department there are individual educational programmes formulated to suit the specific educational needs of each hearing-impaired child. The school administration, parents, and pupils have, through the decade, sought to implement both the concept and practice of integration. Integration is now understood by all concerned to be both an educational and social process and varying levels of both are experienced

within the school structures. The most important conclusion that has been drawn to date from those involved as both professionals and recipients of the provision of the integrated process is that the focus of integration must always remain on the pupil as opposed to on the processes. In this regard we have found that in recent years the concept of integration cannot be applied to all pupils. We consequently have had to provide a "special school" service to meet individual needs. Our overall approach has been and is oral, but in recent years we have expanded our communication methods toward a Total Communications approach to meet individual needs. Several school variables and pupil variables support effective integration. The pupils, parents and professionals involved in the integration process in our educational environment are witnessing and experiencing important developments in the field of post-primary education in Ireland along with an increasing understanding of deafness, its etiology, treatment and implications, the science of audiology and hearing aid technology. The most important developments for the hearing-impaired pupils themselves are less tangible; these include changes in outlook, attitude, and concentration, where the focus is increasingly more on the ability and "wholeness" of the individual deaf and hard-of-hearing child.

Seventy years of work by a private oral school for the deaf in Japan

Wednesday, 10:15 **Room 7**

Oosima, Isao *(Japan)*

This presentation concerns several developments in the education of deaf children in Japan. The founding of the Nippon Rowa Gakko, or the Japan Oral School for the Deaf, in 1920, was a major promotion to deaf education in Japan. It promoted the Law of Compulsory School Attendance of the Blind and the Deaf, which was passed in 1948. With the help of hearing aids from American friends, major progress was made in auditory learning. Participation of school officials in numerous international congresses led to the hosting of the Tokyo Congress in 1975. The school pioneered the early education of the hearing-impaired children in Japan. The school has been working with integrated students since 1960 and has participated in their job placement. The school continues to contribute to the educational climate for deaf children as we look forward into the highly technological age.

Factors for successful early integration

Thursday, 10:15 **Room 4**

Pang, Bessie *(Hong Kong)*

A pilot project on integration of the disabled into regular schools was initiated in Hong Kong. Integration of the severely to profoundly deaf and normally hearing children has been practised for eight years by a local Speech and Hearing Centre for the Deaf and an associated kindergarten. Since 1981, a total of 48 deaf children have been integrated successfully into regular kindergartens, primary, and secondary schools, with satisfactory academic performance. After two years' intensive training at this Centre, more than 90 percent of these deaf children have gone to regular schools for further education. A survey was carried out to identify factors contributing to successful integration. Crucial elements included early diagnosis, intensive training during critical years (0-3 years), good training programs adapted to individual needs, parental support, and language competence.

Conditions for the successful integration of hearing-impaired students in India

Thursday, 13:30 **Room 11**

Patel, Chandubhai M. *(India)*
Gandhi, Kavita G. *(India)*

The Indian government has taken up the responsibility to integrate the hearing impaired with the general community to prepare them for normal growth and to enable them to face life confidently (National Policy on Education-1986). This can be attained only if the parents, staff, and students are made aware of their rights and responsibilities. For this purpose, programmes were organized by the school for the above objective. The parents and teachers both should know what is the most suitable communication method for their deaf child. This will avoid conflict at home and school. This responsibility has to be taken up by both parents and teachers. Secondly, the paper discusses the importance of hearing aids of which a majority of the parents are ignorant. The staff and medical professional should make relevant literature available regarding their working and use. Students have the right to avail themselves of audiometric assessment facilities for periodic check-up, which is very essential. A need to establish a parents guidance centre is essential, which is the right of parents and students. Moreover, parents and teachers also have the responsibility to provide proper support services to integrate their children in normal schools. This paper highlights some of the essential points that are necessary for the successful implementation of educational programmes and the reasons that hinder its progress.

The role of deaf teachers in the education of deaf children

Wednesday, 10:15 **Room 7**

Silo, Janice *(United Kingdom)*

For many years now, the number of deaf people employed as teachers in the UK has been very small. This paper reports a research study in which deaf and partially hearing teachers were interviewed about their experiences in the teaching profession, the interviewer herself being a deaf teacher of deaf children. The teachers were asked about the role of deaf people within the education system in general, as well as details of their individual experiences, background, and communication preferences. Relationships were also explored, both within the school with deaf and hearing professionals, and outside the school with members of the deaf communities. The study is put into perspective by examining the lives and experiences of the small number of deaf teachers who have worked in the UK in the past 100 years. Such history has not been documented before and accounts are drawn and cross referenced from a number of sources, including documents from the British Deaf Association and the Royal National Institute for the Deaf, and from the records of schools for the deaf.

Ensuring curriculum access for able but severely hearing-impaired students: A special school response

Friday, 9:00 **Room 6**

Tucker, Ivan *(United Kingdom)*

In the United Kingdom, only 2 percent of all hearing-impaired children are educated in special schools and, following the 1981 Education Act, the movement to mainstream is even more powerful. Able children are obviously prime candidates for mainstreaming, but at the secondary level (ages 11-19), there are contra arguments, particularly on academic grounds. Ensuring that hearing-impaired children are not only *exposed* to the broad curriculum available in the mainstream, but actually *access* that curriculum is a key problem. The author describes pupil isolation, poor academic setting, poor in-service education of mainstream staff, acoustic inhospitality, and other problems of mainstreaming and indicates how access can be ensured in a selective secondary school.

Organization of instruction and some focal problems in education and rehabilitation of hearing-impaired children in Slovenia, Yugoslavia

Wednesday, 10:15 **Room 7**

Urh, Brigita *(Yugoslavia)*
Ribnikar, Neva *(Yugoslavia)*

Despite the fact that Slovenia, Yugoslavia, is a small region (45,000 deaf out of two million inhabitants), professionals at three institutions for the education and rehabilitation of the hearing-impaired follow all up-to-date methods and new approaches to education. This paper describes the organization of instruction at various levels (infant through secondary school), including a short historical survey. Special stress is laid upon experience in early identification and rehabilitation of up to 3 years old and on placement alternatives (special schools or mainstreaming).

How to raise funds from non-government sources to support programs for deaf persons

Tuesday, 10:15 **Room 4**

Williams, William H. *(USA)*

Fund raising has become the "enabler" that each not-for-profit, educational program for deaf persons must perform competently if it is to fulfill its programmatic mission of providing services that are needed by its deaf community. It is unfortunate, but a reality, that organizations' missions and their abilities to deliver the services that are contained in those missions are often secondary to the availability of funding. In short: no money; no mission. The typical answer to "no money" is either to seek government grants or to hold a special fund-raising event. Success with the former requires a sympathetic government that has sufficient grant funds. The latter requires a strong volunteer group and sound planning. The atypical answer to "no money" is to raise funds from foundations, corporations, and individuals, in large amounts, through the use of such fund-raising methods as proposal writing, direct mail, memberships, personal solicitations, and deferred giving. At the completion of this session, the participant will comprehend the rudimentary principles of professional-level fund raising and will know the basic steps required to raise money through fewer, but larger, contributions.

Panel on Initiatives for Deaf Education in the Third World

Monday, 15:30 **Room 4**

Woodford, Doreen E. *(United Kingdom)*, Moderator
de Carpentier, Andrew L. *(Jordan)*
Victor, Prem *(India)*
Esguerra, Sergia *(Mexico)*

This panel presentation by members of the organization, INITIATIVES for Deaf Education in the Third World, discusses (1) the history of the setting up of the organization, its activities to date and its future plans, (2) cross-border activities, (3) sign language growth, (4) teacher-training, and (5) being a partner.

The middle school concept - its impact on deaf students in New York State

Wednesday, 10:15 **Room 7**

Young, Loretta *(USA)*
Young, Virginia *(USA)*

The presenters discuss the impact of the Middle School Concept in schools and classes for deaf students in New York State. The topics include: (1) Investigation of the number of programs for deaf children utilizing the Middle School philosophy. (2) Discussion of the evident pros and cons of providing this type of programming as reported by the appropriate educational and support service staff. (3) Recommended innovative techniques and strategies designed to enable the Middle School Concept to provide an optimum learning environment for adolescent deaf students. (4) Presentation of the views of the deaf students themselves as to whether or not they feel that current Middle School programs are meeting their needs and enriching their lives. (5) Documentation of suggestions from the students regarding what they think should be included in programming for deaf students at the Middle School level. (6) Road blocks to successful Middle School Programs.

A multicultural perspective in working with hearing-impaired children of low-income families in Brazil

Wednesday, 10:15 **Room 4**

Caiuby Novaes, Beatriz *(Brazil)*

Research done in early intervention programs involving low-income families of hearing-impaired children in Brazil has concluded that one of the biggest problems in improving their participation in the programs had to do with what we could call a "communication disorder" between the parents and the clinicians. Some of the problems were clearly related to cultural differences between them and the expectations were so different that there were lots of absences, lack of motivation, and a very high number of drop-outs. Since January of 1989 we incorporated in the program a perspective we have been calling "multicultural." A multicultural perspective brings to the program a recognition of the culture that the families bring with them and helps the staff to recognize their own cultures. We introduced a new approach for staff training that we believe is crucial for working with low-income families. We are learning together how to accept the differences and not to judge their values and customs. Even though we are just beginning to sense the differences in both sides, clinicians and parents, there are some preliminary results that are highly motivating. We believe the idea could serve many different countries and improve early intervention programs for hearing-impaired children and their families.

A multicultural approach to education of children who are deaf

Wednesday, 10:15 **Room 4**

Christensen, Kathee M. *(USA)*

Little formal research has addressed the communication processes of American Sign Language (ASL) and English bilinguals. Even less information is available regarding the communication processes of American deaf individuals who come from families where English is not the primary language used in the home. However, there is an increasing number of children in public school programs in the United States who are exposed to at least three languages (English, ASL, and a different home language) and at least two communication modes (speech and signs). The ways in which these languages and modes are combined differ greatly across programs. In addition, there is an apparent trend that encourages parents to acquire basic knowledge of ASL as soon as deafness is diagnosed in their child. Parallel to the new ASL trend is the more traditional approach, in which parents are encouraged to learn a signed English system. There appears to be no consistency in the manner in which linguistic and cultural information is transmitted to parents of deaf children, deaf children themselves, and professionals who work with deaf individuals. This paper addresses the need for teacher preparation programs, public school programs, and parent counseling programs to consider the multicultural and multilingual situation of deaf individuals in the United States. Particular attention is paid to the deaf population in southern California. Suggestions are made for increasing the cultural sensitivity of professionals who work with Hispanic, African American, and/or Asian deaf persons.

The multidisciplinary assessment of additionally handicapped hearing-impaired children

Thursday, 15:30 **Room 6**

Eldridge, Richard *(United Kingdom)*

The writer is the audiologist member of an assessment team regulating the admission and reviewing the ongoing progress of hearing-impaired children and young people who suffer from a wide range of additional disabilities attending a large residential special institution. The social, emotional, intellectual, and linguistic evaluation of the students is described, with particular emphasis on audiological assessment and hearing-aid provision. Practical strategies that the author has found useful with this special population will be described.

Panel on students from culturally and ethnically diverse backgrounds

Tuesday, 14:45 **Room 4**

Fischgrund, Joseph *(USA)*, Moderator
Cohen, Oscar *(USA)*
Delgado, Gilbert L. *(USA)*

This panel includes brief presentations about black deaf children in the United States, Hispanic deaf children in North and South America, immigrant and language minority children in Europe, and "Minority deaf children: Implication for programs and policy."

Computer terminal interface for deaf-blind individuals

Thursday, 15:30 **Mezz. Holiday Inn**

Franckowski, Carl D. *(USA)*

The loss of vision and hearing is one of the most isolating and handicapping of all disabilities. Modern technology has resulted in many benefits for deaf-blind people. Some deaf-blind individuals can access the computer through voice synthesizers or large print terminals; however, many cannot do so. Science Applications International Corp. (SAIC), developers of the Braille TeleCaption System, has proposed to develop appropriate software to make possible a direct computer terminal interface between a braille output communication device and personal computers. SAIC has been awarded a grant from the USA Department of Education to develop and test the prototype device, which will be field-tested at the Helen Keller National Center (HKNC). Software to be developed will include braille books, braille word processor, braille game machine, braille dictionary, braille calculator, braille message machine, and Morse Code learning system.

Hispanic deaf children in the United States: The new majority

Wednesday, 10:15 **Room 4**

Gerner de García, Barbara *(USA)*

Hispanics are the fastest growing group in the USA. This is reflected in the population of deaf and hard-of-hearing students in our schools. There is an ever-increasing need to meet the particular needs of minority children from non-English speaking homes. The Horace Mann School for the Deaf has a Hispanic population of 40 percent. In 1988, the Hispanic Deaf Program was established in an attempt to meet the needs of Spanish dominant hearing-impaired children. As many of these children were placed in bilingual regular and special education classes throughout the system, it was difficult to meet their needs. The Hispanic Deaf Program offers: (1) support for Spanish-speaking students placed in the school for the deaf, (2) consultation and support to bilingual teachers with hearing-impaired students, and (3) an ESL program to address the needs of students trilingual in English, Spanish and Sign, as well as literacy instruction in Spanish. Options for this population must be varied. Students must be considered on a case-by-case basis. Currently, lack of professionals who speak Spanish and are trained in ESL and bilingual methodologies makes it difficult to appropriately service Hispanic deaf children. Deaf education and teacher training programs must meet the challenge of meeting the needs of minority deaf children as we enter the 1990s.

Audiological evaluation of lower functioning deaf-blind children

Thursday, 10:15 **Room 10**

Gilmore, Robert A. *(USA)*

This presentation discusses multi-sensory audiological evaluation techniques and equipment for use with lower functioning deaf-blind children. This evaluation model is designed around the Perkins School for the Blind aural habilitation/rehabilitation program. Discussion includes a review of "conventional" audiological evaluating techniques used with lower functioning deaf-blind children. Examples of alternative audiological evaluation methods are presented. The advantages and disadvantages of conventional and alternative evaluation techniques are discussed.

Education of preschool age children with impaired hearing and other defects

Thursday, 15:30 **Room 6**

Golovchits, L.A. *(USSR)*

The level of general and speech development in a group of preschool age children is not uniform when the degree of reduced hearing is held constant. This or that combination of primary and secondary disturbances results in quite a number of development types of children with impaired hearing. Quite specific is the development of children who, besides impaired hearing, have other defects: reduced intellect, signs of infantile cerebral palsy, disturbed eyesight. It is necessary to take an individual approach to every child with many defects: various methods, materials, and curricula developed with due regard for the structure of the disorders. Due to low psychological development, slow and irregular speech development, and low capacity for education, the utmost pedagogical attention should be given to enriching the general development of these children: development of exercises, play, imitative and constructive activities, as well as habits of self help. Speech development of preschool age children with impaired hearing and multiple defects requires special methods to teach them to speak. In developing speech of the children in this category, an activities approach is suggested, which is motivational. Specific reference is made to dialogue and the use of various speech forms, also to spoken, written, and fingerspelled language.

Multihandicapped deaf children in a holistic language program

Thursday, 15:30 **Room 6**

Harvey, Nedra *(USA)*

Research in the school-aged hearing-impaired population of the USA indicates that approximately one-third are multihandicapped and that more effective methods for identifying, educating, and evaluating this population are needed. The emergence of a "holistic" or Whole Language philosophy of teaching in school systems serving the mainstream hearing population (Goodman 1986; Cambourne & Turbill, 1987) and in settings for remedial students (Rhodes & Dudley-Marling, 1988) offers new possibilities for the promotion of literacy. This paper takes the position that such a meaning-based, process approach is applicable to the education of deaf children, including those with additional disabilities, who are limited in their English proficiency. The presentation will give an overview of the process and discusses five interrelated Whole Language techniques that have been and are being used successfully to develop emergent/early reading and writing processes in primary-aged deaf children with additional disabilities in a resi tial school, where Whole Language is the guiding philosophy. Enhancements of these strategies to suit the specific needs of deaf children are addressed, including the use of sign language, classroom dramatization, photography, video, drawing /art projects and most importantly, the inclusion of deaf adults in the classroom program. Samples of student work illustrate the techniques and show growth over time. Teacher observations are shared and a bibliography is distributed.

Coping with a hearing loss--a hearing education course

Monday, 11:15 **Room 10**

Herron, Kathleen *(Australia)*

Students who are hard of hearing experience communication problems in certain situations, especially those involving noise or competing messages. During adolescence, these students are usually experiencing a number of changing situations, especially socially in moving out into the community and in relationships with peer groups. It is at this time that these young people often discover the handicapping effect of their hearing loss. The effective management of a hearing loss requires many changes in attitude and behavior, especially in social communication settings but also in educational settings and the work situation. Group hearing education programmes are seen as a most effective means by which such changes can be encouraged in people with a hearing loss. H.E.A.R. Service, Victorian Deaf Society, Melbourne, Australia, has developed a short course, (6 x 2 hour sessions) called "Coping with a Hearing Loss." The format of the course allows participants to discover solutions and problem solving techniques that relate to the difficulties they are experiencing with their hearing loss in daily life. The course currently consists of three main areas. These are: (1) information on hearing, hearing aids and devices, (2) communication exercises (conversational strategies, assertiveness techniques, use of visual and auditory cues, and environmental and hearing tactics), and (3) relaxation techniques. The aims of the course are to build up confidence in dealing with everyday situations, develop appropriate tactics for dealing with difficult hearing situations, develop listening techniques, develop skills in using environmental tactics and situational clues to supplement remaining hearing, develop the habit of audiovisual listening, develop the habit of consciously relaxing at any time to control fatigue, and develop understanding and use of linguistic/conversational cues and strategies.

Panel on multiply handicapped deaf students

Thursday, 13:30 **Room 1**

Jensema, Corinne K. *(USA)*, Moderator
Fischgrund, Joseph *(USA)*
Colasuonno, Thomas *(USA)*
Kahrstrom, Per Gunnar *(Sweden)*
Hicks, Wanda *(USA)*

This panel discusses severely handicapped deaf children, deaf-aphasic children, physically handicapped deaf children, and other multiply handicapped deaf children.

The importance of dark adaptation history and visual field tests in the initial identification of persons with Retinitis Pigmentosa (RP)

Thursday, 10:15 **Room 10**

Johnson, Donald D. *(USA)*

Retinitis Pigmentosa (RP) is an inherited progressive degenerative disease of the retina of the eye. It is autosomal recessive in nature, and when accompanied by an inherited sensorineural hearing loss, is referred to as Usher's syndrome. According to Vernon (1974), it effects 3 to 6 percent of all persons with congenital hereditary deafness. Vernon also states that medical doctors, professional persons working with the deaf, and deaf persons themselves are often not knowledgeable about this disease and must be made

more aware so that diagnosis and confirmation may take place as early as possible for the purpose of genetic counseling, for family planning, and for better program planning for the child. According to Pagon (1988), the initial symptom of RP ."..is usually defective dark adaptation or 'nightblindness'." Four deaf college students who entered NTID during 1987, 1988, and 1989 were completely unaware they had this eye disease. All four had been seen by medical specialists on more than one occasion for complaints of blurry vision and/or difficulty seeing in dim illumination or darkness. During visual screening upon entrance to NTID, their central visual acuity and color vision were within normal limits with or without corrective lenses. However, their professed history of dark adaptation problems lead to performance of stringent Goldmann visual field tests using different light object sizes. Although two of the students had normal visual fields when the largest light object size was utilized, both had aberrant fields for the smallest of the light objects. Confirmation of RP was subsequently made through electroretinography (ERG).

Continuum of services for emotionally disturbed hearing-impaired students: The residential therapeutic school

Thursday, 15:30 **Room 6**

Jones, Charles E. *(USA)*

This presentation addresses a component of the continuum of services necessary to effectively program for behaviorally disordered and emotionally disturbed hearing-impaired children and adolescents. This paper focuses on the parameters involved in the operation of a self-contained residential therapeutic school based in the community. It includes a description of the children by age, sex, hearing loss, and type of disorder. The presentation emphasizes programmatic concerns in a therapeutic school setting. It discusses curriculum, staffing, psychiatric and psychological treatment, community resources, behavior management, and the development of vocational and social skills. Also included is a report of the outcomes of treatment for approximately 75 students over a seven year period of time who have been enrolled in a residential therapeutic school program run exclusively for hearing-impaired children.

How to support immigrant families with deaf children

Wednesday, 10:15 **Room 4**

Madebrink, Rut *(Sweden)*

In the world of today, rapid changes strike societies on many levels. Sweden has for at least 1,000 years been a country with one language, one religion, and a rather homogeneous culture. However, because of a mixed and intensive immigration during the latest 20-30 years, it has changed into a multicultural and multilingual society. The official policy toward immigrants is positive, which is shown for example in the school system. Since 1975, the Bilingual Act ensures immigrant children, the handicapped included, bilingual education. An immigrant family with one or more disabled children, however, confronts greater problems than one who is thought of as "normal." Although hearing-impaired immigrant children in Sweden are given greatest attention, it is evident that the welfare system has failed in its effort to give them equal educational opportunities as stated in curricula and guidelines. This paper discusses a two-year project carried out in the Stockholm Region with the aim of collecting knowledge and experience and suggesting changes in the educational and social support system concerned with immigrant families with hearing-impaired children. Instead of focusing on the disability, the situation of the whole family, its cultural background and traditions, was given primary attention. Negative attitudes and a greater lack of knowledge than would be expected were shown on both sides. Difficulties in the implementation of a revised approach are also discussed.

The development of self-help parent groups of deaf children from an Asian background

Wednesday, 10:15 **Room 4**

Morlan, Margaret *(United Kingdom)*

One of the major practical problems of the British situation is in designing educational assessment processes and their bureaucratic expression (special needs system) so as to enable bilingual parents of children with a hearing impairment to take part effectively. This study arose from the concern of the author, who recognized; (1) the almost complete lack of understanding by such parents of their city's education administration system for the assessment of their child's special needs and (2) the need for professionals to closely examine their practice so as to enable families to have easy access to information and resources. An interview study was conducted with all the Asian parents in the city whose children had a hearing impairment. An interpreter was used in all cases. The focus was to discover the extent of the families' non-comprehension and to examine ways of setting up better administrative processes and appropriate educational structures to help the parents participate in the process of meeting their child's special needs. From the interviews it was felt the main problems for the parents were:

(1) Understanding the roles of the different professionals who visited the families and contributed to the assessment. (2) The absence of bilingual workers and mother-tongue teaching in their child's school. (3) The lack of special educational provision within the local communities. Following the research, various supportive schemes were launched by the City, aiming to increase parent's formal and informal support systems and to encourage self-help parents groups of the type often encountered when considering parents from the white indigenous social groups. These are discussed in some detail in the paper.

Deaf-blind communication: A visual dimension

Thursday, 10:15 **Room 10**

Owens, Janet *(Australia)*
Jolly, Helen *(Australia)*
Lamond, Barbara *(Australia)*
Stevenson, Catherine *(Australia)*

An innovative pictograph system is being used successfully in conjunction with sign and speech to facilitate the development of communication skills in deaf/blind students in Melbourne, Australia. Carronbank is a Victorian government-funded school for deaf/blind students between the ages of 3½ and 21. In addition to their sensory deficits, some have additional impairments, including physical, emotional, and behavioral disabilities. Although sign language is the traditional communication mode used with these students, some students were not showing improvement in communication development. An augmentative pictograph system (COMPIC, 1986) was introduced in February 1988 to improve receptive and expressive communication. The COMPIC (Computer Pictographs for Communication) project evolved from the Victorian Symbol Standardization Committee and the aim was to develop a means of standardizing a set of pictographs to be used with adults and children with severe communication impairments. Students at Carronbank who had mastered single signs but could not understand or sign longer messages have quickly learned to "read" COMPIC sentences of three or four words. Since the introduction of COMPIC, gains in a number of measurable communication areas have occurred both receptively and expressively, including increase in the use of communication intentions, initiation skills, topic maintenance, vocabulary growth, and syntactic development.

Deaf or hard of hearing? Findings of empirical studies featuring two groups of hearing-impaired people

Monday, 11:15 **Room 10**

Schulte, Klaus *(West Germany)*

This presentation focuses on the findings of several empirical studies of representative samples of hearing-impaired adolescents and adults in the Federal Republic of Germany in relation to degree of hearing loss versus self assessment as 'deaf' or 'hard of hearing', wearing a hearing aid, language competence, vocational education, and continuing vocational education. From the findings, conclusions are derived referring to elementary and secondary education, special needs in the curriculum and in the methods of instruction, sign language education or oral/aural education, deaf culture or mainstreaming, vocational skills, individual socialization, and higher education.

Ways to improve speech abilities of hard-of-hearing children in learning activities

Monday, 11:15 **Room 10**

Tudzhanova, K.I. *(USSR)*

Because level of speech development is one of the indices of man's standard of culture, thinking, and intelligence, the task of a special school for hard-of-hearing children is the correction and development of different speech forms. To ensure success in speech development, the lessons on speech development in special boarding schools for this category of children should promote unity of activity between the teacher and educator. Speech advancement in hard-of-hearing children depends on how reasonable it seems for the students. In connection with this, the task of a teacher of the deaf is to make children feel interested in their native language as a school subject and to create a natural motivation for this in extracurricular activities, thereby giving the children an opportunity to acquire speech habits not only during learning activity, but also in the process of communication. Motivation must be connected with students' wish to learn new things and to be integrated into the social environment of hearing people. For successful speech development, the following conditions must be observed: full knowledge of the subject, acquisition of definite speech habits during learning activity, understanding the situation, and presence of a stimulus for speaking. Didactic means that promote interest in speaking should be used, reinforced by active speech environments, technology, hearing aids, and group forms of work. Speech development of hard-of-hearing students must be directed at creating

favorable situations supported by different stimuli that induce students to independent speaking.

The multiply handicapped, hearing-impaired pupil with serious learning problems: Education and assistance

Thursday, 15:30 **Room 6**

van Niekerk, J.J.F. *(South Africa)*

In every group of hearing-disabled pupils we find those who have learning problems in addition to hearing loss. Although these pupils are of average intelligence, they are further impaired by a learning problem called "dyspraxia," and during thorough diagnostic tests, these pupils all display motor problems such as poor rhythmic functioning, poor memory for ordered data, and weak audio-recall. This gives rise to malfunctioning articulation, and they struggle to remember the positioning of vocals; thus, their ability to lipread is usually determined by the quality of their speech. Therefore, to comply with these pupils' educational needs, alternative teaching aids must be used, especially in communication where sign language can visually strengthen vocabulary. Rhythmic musical programs, as well as kinesthetic therapy using sequential movement, will improve co-ordination. With their immense language back-log and limited vocabulary, their own self-discovery and experience serves as a spring-board for language acquisition. By creating an ordered atmosphere, the child experiences a feeling of self-worth and security, which is the ideal climate for education. Continual evaluation is thus imperative in determining the effectiveness and success of the teaching methods. Teaching of the multiply disabled, hearing-impaired pupil demands endless patience, originality, and the ability to cope with frustrations. Results are slow and often disappointing, but the rewards lie in the knowledge that a contribution to the creation of a "living space" for the child has been made.

Project Interact: A social skills intervention program

Thursday, 15:30 **Room 9**

Antia, Shirin D. *(USA)*
Kreimeyer, Kathryn *(USA)*

Project Interact is a three-year study to examine the effects of a social skills intervention program on the social integration of hearing-impaired children with their hearing peers. The social skills intervention program consists of a set of routines that help teachers plan classroom activities to create numerous opportunities for positive peer interaction. Six social interaction skills are taught to the children; greeting, sharing, cooperation, assisting, complimenting, and inviting. During the implementation of the routines, the teachers model the targeted social skills, then prompt children to use the skills in interaction with one another. The routines are designed to reflect curricular content being taught in the classroom. Data have been collected on the language, speech, adaptive behavior, and peer social interaction of all the children participating in the first year of the study. Data analyses will determine whether the social skills program increases positive peer interaction between hearing and hearing-impaired children during free play and whether increases in peer interaction are maintained after the intervention is withdrawn. In addition, the data analysis determines the specific factors that affect the social interaction of hearing-impaired children with their hearing peers.

Assessment of social and emotional adjustment in a population of hearing-impaired children

Wednesday, 10:15 **Room 12**

Aplin, D. Yvonne *(United Kingdom)*

Previous studies using teacher questionnaires have usually found a higher prevalence of maladjustment among hearing impaired compared with normally hearing children. In view of the increased integration of children with special needs into mainstream schools, more research into the social and emotional adjustment of hearing-impaired children attending both mainstream and special schools is needed. This paper reports the results of a study that assessed teachers' ratings of social and emotional adjustment in a Manchester population of 103 schoolchildren aged 7 to 16 years attending mainstream (n=42) and special (n=61) schools. Mean better-ear hearing losses ranged from 23 to 120 dB. Their teachers completed the Bristol Social Adjustment Guide and the Rutter Children's Behavior Questionnaire. Measures of intelligence, reading, and language were obtained during individual assessment. Prevalence rate of maladjustment and differences between the two groups are discussed and a comparison is made with prevalence rates from studies of children with normal hearing and those with other handicaps. The most frequently marked items for mainstream and special school hearing-impaired children are also compared. Findings are then discussed in relation to teachers' perceptions of hearing-impaired children, to the use of questionnaires in studies such as these, and to the issue of mainstream education for these children.

Social skills of deaf youngsters

Wednesday, 10:15 **Room 12**

Bar-Lev, Hagit *(Israel)*
Weisel, Amatzia *(Israel)*

Several models have been suggested to explain the relations between specific social skills, cognitive abilities and verbal competence, and social adjustment (e.g., Argyle, 1979; Selman, 1976). However, these models were not sufficiently validated with deaf subjects. The purpose of the present study was to examine such a model by studying the interrelations among the model's components and to evaluate the contribution of each of these components to the social adjustment of deaf adolescents. Seventy (70) 14 to 20 year old, severely and profoundly deaf students in three different educational and rehabilitation settings, were administered the following tests: (1) Accuracy of Perception of Non Verbal emotional expressions (PNV), (2) Selman's test of Role Taking Ability (RTA), (3) The Hebrew version of the Peabody Picture Vocabulary Test (PPVT), (4) Emotional Vocabulary (EV), which evaluated knowledge of emotional terms, and (5) Meadow/Kendall Inventory for Social Emotional Adjustment. Some of the preliminary results indicated that PNV was associated with EV but not with PPVT or with RTA; RTA was associated with both EV and PPVT; and RTA was a better predictor of social adjustment than PNV. Based on these results, the role of general language competence and of linguistic competence in specific social domains will be evaluated and the educational and rehabilitation implications will be discussed.

Use of role games to develop social and everyday orientation of deaf children with impaired vision

Friday, 9:00 **Room 9**

Basilova, T.A. *(USSR)*

An experiment, based on lessons in social and everyday orientation, showed very vividly the positive

role of the game in the educational process of deaf schoolchildren with impaired vision. Different game situations made it possible to detect the ideas of the children about various fields of life of people. Though simulation, a game stimulates children to get acquainted with situations, and activates considerably their cognition processes. The game clarifies rules of behavior in various situations, and develops emotional evaluation of social and everyday situations as well as the behavior of their participants. It can also generalize and improve the communication means of a child. Of specific significance is the fact that just through the game it is possible to acquaint the deaf child with impaired vision with new situations and with new social relations not known from direct experiences. Thus, the game method has a future as an important methodological approach, whose value becomes even greater under conditions of purposefully teaching a topic using role games.

Caught between the deaf and the hearing world

Thursday, 15:30 **Room 9**

Birch-Rasmussen, Signe *(Denmark)*

Since the first school for the deaf was established in 1807, there has been a strong tradition of having deaf children attend schools for the deaf in Denmark. However, this tradition was partly broken in the late 1960s, when parents wanted their children to be taught in their local schools, which meant that the children were mainstreamed. As the parents realized that their children needed sign language skills in order to be able to use an interpreter in further education, they asked the Center of Total Communication to arrange special courses for the children with the purpose of making them acquainted with the deaf culture and sign language. Based on experiences from these courses as well as from interacting with young deaf volunteers at the Center, the presenter discusses two kinds of problems that mainstreamed deaf adolescents encounter. Some young deaf people who have been mainstreamed are unable to manage the problems of everyday life because they lack fundamental knowledge about society. Others, who seemingly function well, feel torn apart in trying to identify with both hearing and deaf people.

Starting school - A video information package for deaf children

Thursday, 13:30 **Mezz. Holiday Inn**

Bishop, Juliet *(United Kingdom)*

Starting school can present particular difficulties for all children, but for deaf children who may lack the maturity and communication skills of hearing peers, the experience can be especially stressful. Our recent research has shown that parents and teachers make extensive use of visual aids as a means of preparing deaf children for going into school - books, drawings, scrapbooks etc., all help them to talk about the experience before it happens. Unfortunately, commercial materials currently available about starting school reflect the hearing child's experiences and as such are of little use to parents of deaf children. Our Video-Information package was developed specifically for deaf children and builds upon those techniques that parents already find valuable. The package comprises: a *Video* for deaf children illustrating the stages of preparing for and going into school for the first time, a complementary *Activity Book* for children to complete with their parents and teachers, and a *Handbook* describing ways of using and supplementing the package. This session comprises a display of the Video-Information package and a slide and video presentation on its development and potential uses.

Identity development through classroom activities

Wednesday, 10:15 **Room 3**

Björneheim, Harriet *(Sweden)*

Identity can be defined as a feeling of personal independence and historical continuity. At the Manillaschool in Stockholm, a team of four teachers are teaching 22 students in one group (14-15 years old). This situation gives the student a possibility to identify with many different people. Knowledge has to be attained by active work and has to emanate from the needs of the student, which requires an environment where sign language is used. Students and teachers together have to develop a working-model that is suitable for the group. Project-work in the sense of formulating a problem, doing the research, and giving a report is one way to work. A constant evaluation of the work is important. We learn from experiences and conflicts and so widen our consciousness. Knowledge and understanding of history is important, the history of the world as well as the history of the own country. The school is also responsible for giving the student an opportunity to identify with the history of the deaf. The personal development of a student is closely bound up with the student's work to gather and develop knowledge.

Using the Erica method of play diagnosis with deaf children

Thursday, 15:30 **Mezz. Holiday Inn**

Brancazio, Ronnie *(USA)*
Cantor, Elizabeth *(USA)*

The purpose of this poster session is to introduce to professionals the Erica Method of Play Diagnosis, which is a nonverbal technique for evaluating a child's psychological development and emotional adjustment through play. The method is based on Lowenfeld's World Technique, and consists of a sandbox and 360 miniature toys which the child uses to "build something in the sand." The resulting play production is recorded, scored and interpreted according to formal criteria and content analysis. While this method has been developed for hearing children, it is uniquely suited to the needs of deaf children and it has been successfully employed at St. Joseph's School for the Deaf for almost four years. In additional to providing rich diagnostic information, the materials are proving most valuable in play therapy, since they enable the language-limited child to vividly portray his/her world of perceptions, experiences, and fantasies through play. We also present findings from a preliminary research study conducted at St. Joseph's School for the Deaf in which normative data were collected on our population of 3-6 year olds.

Personal development in the post primary curriculum

Wednesday, 10:15 **Room 3**

Broadbent, Kath *(United Kingdom)*

Personal development does not get the attention it merits in educational planning and provision for deaf children. Early social interactions for the deaf child are hampered as a direct result of his hearing loss. His personal development is therefore delayed and liable to distortion from the outset. The evidence in the literature on the interdependence of personal, social, and cognitive development gives a clear indication that the educator needs to be concerned with all of these aspects of development. It is of major importance to recognize that a communication disability has a bearing on the development of self-image, and that a healthy self-concept is essential to educational progress. Many aspects of personal development - notably the need for communication and social skills, and the search for identity - are of prime importance for both the deaf child and the deaf adolescent. Personal development for the deaf adolescent is therefore particularly crucial. Serious educational planning at this stage must offer curricular opportunities for personal development. Recent research by the writer into the experiences of thirty deaf school-leavers in a UK midlands city indicated a lack of such curricular specification or provision. Educational progress of deaf children at post-primary stages is dependent on their development as people. Since deaf children experience delay in the development of language and social skills, they have poorer tools with which to forge their identity. At adolescence, their self-image is especially vulnerable. Educators must therefore make curricular provision for personal development. This paper examines some ways of promoting and developing personal development for deaf adolescents within a mainstream school/college curriculum. It draws on the research mentioned above, and the writer brings to it the perceptions and experiences of both a parent and a professional.

The prediction of social-emotional problems in profoundly deaf children

Wednesday, 10:15 **Room 12**

Broesterhuizen, M. *(Netherlands)*

Peer status is a consistent predictor of future psycho-social maladjustment. Low acceptance by peers predicts dropping out, and aggressiveness predicts criminality. Periods of shyness and withdrawal are often found in life histories of disordered people. In spite of the opinion that verbal methods of assessment are not suited for the deaf, for 109 pre-adolescent students at Sint-Michielsgestel in Holland, the typology of peer appraisal was very similar to that found for normally hearing children. The antecedents of peer status could be studied with the help of data gathered by means of checklists. In general, rejected status was found to be predicted by interpersonal conflicts and vulnerability, neglected status by a low degree of interpersonal conflict in combination with vulnerability. Self confidence and sociability were predictive of future popular status. These findings support the Sint-Michielsgestel observation checklist for the social-emotional development of young deaf children as a valid diagnostic instrument for the detection of children emotionally at risk.

The educational component of a residential treatment facility program

Tuesday, 14:45 **Room 10**

Dagel, Diane E. *(USA)*

The Residential Treatment Facility Program (RTF) was developed in 1984 to serve the special education and mental health needs of emotionally disturbed, hearing-impaired adolescents. These adolescents are served by both Rochester School for the Deaf and Hillside Children's Center. Rochester School for the Deaf

provides the educational programing needs of the students, while Hillside Children's Center provides the therapeutic milieu, specialized therapies, and residential care. The educational program consists of two classrooms, each staffed with one teacher and two teacher assistants. A level system is implemented to provide both reinforcement and feedback to the children as they progress in the program. In addition, the level system provides a systematic method for evaluation of the children's management needs. There are five levels in the program. Children in the first two levels attend classes in the self-contained classroom. The children in the third level attend a less structured, transitional class in which they are able to attain more independent activities and responsibilities. On level four, the children continue in the second classroom, but begin to attend mainstreamed classes within the regular RSD program. Children who have achieved the fifth level of the educational program qualify for full-time mainstreamed classes at RSD. An historical overview of this unique educational program is presented, including background information, educational goals and objectives, the level system, and points system.

Contextualized locus of control component scales for postsecondary deaf students

Wednesday, 10:15 **Room 12**

Dowaliby, Fred J. *(USA)*
Brown, Paula *(USA)*
Dagel, Del *(USA)*

Previous studies have demonstrated the relevance of the locus of control construct to hearing-impaired persons. Dowaliby, Burke, & McKee (1983) employed the Locus of Control Inventory for the Deaf (LCID; Dowaliby, McKee, & Maher, 1983) and showed that hearing-impaired postsecondary students were markedly more external in their locus of control orientation than normally hearing undergraduates. A limitation is that the LCID yields global, uncontextualized measures of internality and externality. Critical subcomponents of externality (luck and powerful others) and internality (effort and ability) are not provided by the LCID. Weiner (1979) and others have amply pointed up the necessity of such separate submeasures. The specific purpose of the present work was to develop questionnaire measures for postsecondary deaf students that would reflect attributions of luck, powerful others, ability, and effort for each of the academic and personal/social domains. A 36-item questionnaire was developed by a project team consisting of a researcher, a counselor, and a teacher at NTID. Four to 6 items were developed for each of the domain (academic, social/personal) by subconstruct (luck, powerful others, ability, and effort) combinations. The questionnaire and research findings from a field test with NTID students will be presented and discussed.

Services for hearing-impaired people affected by substance abuse: Project S.A.V.E.S.

Thursday, 15:30 **Mezz. Holiday Inn**

Ehrenberger, Marlaine *(USA)*

Four videotapes are shown, each captioned with sign language, and voice-over. A brief description follows. *Signs of a New Beginning* (33 minutes) An alcoholic's story and how he found strength to enter a treatment program and counseling with the help of his employer. *Breaking sound barriers* (26 minutes) A support group of hearing, hard-of-hearing, and deaf abusers and their struggles with various roadblocks of substance abuse. *Enabling: Helping or Hurting?* (28 minutes) An illustration of how family members, friends, and co-workers are affected by substance abuse. Goal: to educate deaf and hard-of-hearing persons affected by substance abuse, either as users or those whose lives are impacted by drug use. Target groups: treatment personnel, deaf, and deaf service agencies. Resource materials: tapes are accompanied by 25 pieces of resource items such as instructional use of tapes, vocabulary to explain concepts used, communication techniques, use of interpreters, laws, fact sheets, etc. Project S.A.V.E.S. is an effort of approximately 25 statewide agencies who are members of the Michigan Coalition of Agencies/Organizations Serving Deaf Persons.

Panel on cross-cultural and educational issues in implementing a school-based mental health curriculum

Monday, 11:15 **Room 5**

Greenberg, Mark T. *(USA)*, Moderator
Bruning-de Bruyn, Rita B. *(Netherlands)*
Pattipeiluhu, Sam *(Netherlands)*
Palmer, Ken *(Canada)*
Leavitt, Mike *(USA)*

This international panel (Netherlands, Canada, USA) focuses on cross-cultural issues in implementing a mental health program for deaf and hard-of-hearing children. The PATHS (Providing Alternative Thinking Strategies) Curriculum is designed to increase the social and emotional development of deaf children by improving self-control, affective awareness, affective language, and social problem-solving skills. Presentations include summarizations of the PATHS Curriculum, the role of parents, and parent organizations, preventive programs in the schools,

implementation of the Curriculum internationally with particular reference to the need for cultural and local modifications, and issues related to teacher training, supervision, and the application of the Curriculum in a residential school setting.

Substance abuse among hearing-impaired young adults

Thursday, 10:15 **Room 11**

Guthmann, Debra S. *(USA)*

Experts say that one out of 10 individuals in the United States is chemically dependent and that the figures are even higher in the hearing-impaired population. Professionals within the field of deafness have seemed reluctant to refer individuals for treatment because no appropriate programs have been in existence. Until now, many questions have remained unanswered, such as: Is the referring school or agency responsible for payment? Does Medicaid in my state cover the cost of treatment? What are the signs and symptoms of a person who may be chemically dependent? What if I refer the person to treatment, and it is determined there is not chemical dependency? Who is responsible for payment in that situation? Will my student get way behind in school work? The Minnesota Chemical Dependency Program for Hearing-Impaired Youth is the first in-patient evaluation and treatment program in the United States serving individuals from age 16-25 and has been investigating the answers to many of these kinds of questions. This presentation includes general information about chemical dependency, signs and symptoms to look for if drug/alcohol abuse is suspected, and components in a hearing-impaired in-patient treatment program including evaluation, treatment, and the transition back into the community. Also shared is a risk chart and assessment tool that can be used to help determine if a hearing-impaired person may have a chemical dependency problem. Alcohol/drug educational curriculum currently being used within the school systems with hearing-impaired children is presented. In addition, materials currently being modified and a videotape made by a deaf recovering staff member are shared.

Incarcerated hearing-impaired persons in the United States

Thursday, 10:15 **Room 11**

Jensema, Corinne K. *(USA)*

The problems of hearing-impaired persons living in local jails, state prisons, and institutions for juvenile delinquents have been inadequately identified and explored. This session reviews reports of hearing-impaired prisoners in correctional institutions. Constitutional rights and the legal implications for deaf people are reviewed. Programs or facilities across the United States dedicated to services for the deaf prisoner are described. This session also reviews the findings of a research study conducted by the presenter at the Prince Georges County Jail in Upper Marlboro, Maryland, in 1988, that looked at incidence of hearing loss and factors that may be related to hearing loss. Of those who participated in the study, almost 35 percent failed the hearing screening. A questionnaire administered to the subjects revealed that those who failed the hearing screening tended to be older, to have experienced more general medical problems and problems related to their hearing, to have had more exposure to loud noises, and to have more communication difficulties. Recommendations for future research and intervention with the incarcerated population are provided.

Attention deficits in students at a residential school for the deaf

Tuesday, 14:45 **Room 10**

Kelly, Desmond *(USA)*

Attention Deficit Disorder is a common cognitive - behavioral dysfunction among USA school children. There has, however, been little research into the prevalence and impact of this disorder on deaf students. An attention deficit could place a child who is already contending with some sensory impairment at double jeopardy for academic failure. We used established rating scales to study patterns of attention, hyperactivity and behavior in 240 students (mean age 14.8 years, mean IQ 103) at a state residential school for the deaf. Classroom teachers and dormitory supervisors completed questionnaires and these ratings were correlated with variables, including age, sex, cause and degree of hearing loss, and use of hearing aids. The prevalence of attention deficits by questionnaire rating was only slightly higher among deaf students overall than the general population. However, there were significant correlations between attention ratings and cause of deafness. 63 students had evidence of inherited deafness and 75 a known physical cause such as congenital infection or postnatal neurologic insult ("neurologically at risk" - NAR). The NAR students were rated as having significantly more attention problems than those with inherited deafness on the ACTeRS Attention Scale ($p=.035$), ANSER Attention Factor (Dormitory) ($p=.002$) and the Conners Hyperactivity Index ($p=.02$). In contrast, measures of behavior patterns, social functioning, and physical overactivity did not differ significantly between the groups. This study adds to the evidence that the non-inherited causes of deafness are likely to have other effects on central nervous system functioning, which could impact on academic achievement.

Further study is warranted to improve techniques for early diagnosis and intervention to diminish the negative impact of attention deficits on deaf students.

Analysis of learning disabilities among emotionally disturbed hearing-impaired students

Tuesday, 14:45 **Room 10**

Ratner, Vivienne *(USA)*

The purpose of this paper is to focus on the complex relationships present between learning disabilities, language development and social/emotional development. An increasing number of children enrolled in schools and classes for hearing-impaired children are being identified as having serious emotional, social, and behavioral problems. This paper concerns itself with a group of these children who could not remain in their local, state, or residential school due to the seriousness of their disorder and were therefore placed in a private residential therapeutic school exclusively for hearing-impaired children. This paper focuses on the learning problems/disabilities found within this group as determined by the Test of Visual Perceptual Abilities. Discussions include rate of incidence, type of disorder, the impact on learning and behavior, and recommendations for remediation. Further discussion is presented on the relationship between the learning disorders identified and the development of language in these deaf children.

A special social framework for hearing-impaired students in regular classes

Friday, 9:00 **Room 9**

Reichstein, Jerry *(Israel)*
Gorni, Zvulun *(Israel)*

Fifteen years ago the background, rationale, and program of the Shema Clubs for students of the integrated classes for the hearing impaired in the Tel Aviv school system were presented at the Tokyo International Congress on Education of the Deaf. Two years ago the same concern for the psychosocial development and adjustment of hearing-impaired students studying full-time in regular classrooms led to the establishment of special clubs for them within the same framework. Although this paper will focus on the new, somewhat unique, addition to the Shema Clubs program, it will also discuss some of the newly developed basic principles and practices that seem to have made the clubs so attractive and popular with their members, whether coming from integrated or regular classes. In order to study the motivations and feelings of the newer members from regular classes, students from Grades 6 to 9 and their parents have been asked to respond to questionnaires seeking basic demographic data and information relating to their participation in the clubs. It is hoped that the findings of this study will give us additional insight into the special needs of hearing-impaired students in regular classes.

Structured learning skills training with deaf adolescents

Friday, 9:00 **Room 9**

Rosen, Eric Lewis *(USA)*

The purpose of this study was to investigate the effectiveness of using Goldstein's (1981) Structured Learning Skills Training Technique (S.L.T.) with profoundly and severely deaf, adolescent students for improving prosocial behaviors. Twenty-one (21) profoundly deaf and severely deaf students between the ages of 16 and 18 were recruited from the senior high school at St. Mary's School for the Deaf in Buffalo, New York. The students were randomly assigned to one of three experimental groups; a treatment group that received eight sessions of S. L. T. instruction on the skill of "helping others," a comparison group that viewed movies with relevance to social themes and participated in coordinated group discussion; and a control group that received eight sessions of viewing the same movies shown to the comparison group, but no coordinated group discussion. Subjects were tested at pre-testing, and at an eight week follow-up period using three dependent measures. Findings suggested that overall, Structured Learning was shown to be potentially beneficial for teaching social skills to deaf adolescents. However, all groups evidenced difficulty in adequately responding to questions that were designed to assess their awareness of non-helping situations. Post-hoc analyses suggested that all deaf subjects appeared to evidence difficulties with reading social cues, decision-making, sequential thinking, and use of cognitive self-talk. Implications of these findings suggest that deaf adolescents may exhibit weaknesses in the component subskills associated with the skill steps of the Structured Learning program. A new model of Social Competence for deaf persons is introduced that provides a conceptual framework for understanding deaf person' social skill acquisition and performance with future research directions noted.

Continuum of services for emotionally disturbed hearing-impaired students: Focus on in-patient treatment

Tuesday, 14:45 **Room 10**

Scherer, Patricia *(USA)*

The purpose of this presentation is to share information concerning a continuum of services necessary to assist individuals with emotional and behavioral disorders to live and function effectively within the community. This continuum includes programs that are community based and delivered on an out-patient basis, and programs delivered within a self-contained closed hospital environment. This paper focuses on one component of the continuum and presents a review of the results of 12 years of psychiatric inpatient treatment programming for hearing-impaired children, adolescents, and adults with emotional and behavioral disorders. Included in the study are the types and frequency of the presenting disorder treatment approaches, use of medication, staffing patterns, types of follow-up care, and outcomes after one year of treatment. Factors that correlate with success and failure are closely examined in an attempt to assist programs interested in developing services for this population to better understand the component of effective treatment.

A model for systematic description and analysis of peer interactions in the classroom setting

Friday, 9:00 **Room 9**

Selmi, Ann *(USA)*

During the past decade, a need to analyze classroom cultures of the hearing impaired has become increasingly recognized. However, most of the studies during this period have focused on teacher-child interactions. To date, few studies have examined peer interactions occurring in the classroom. One reason for the limited number of peer interaction studies is concern over methodological problems in pursuing naturalistic observations - e.g., adult intrusion, observer's power, and difficulties in validating observations. This presentation sets forth both a research model for obtaining naturalistic descriptions of communication strategies of hearing-impaired preschoolers and validation procedures for resulting data. This research design is completed in three phases: (1) the Passive Participation Phase; (2) the Participation Observation Phase; and (3) the Active Participation Phase. The intent is that preschoolers perceive the observer as a non-authoritarian person. The results of a study are presented, in which the model was used to examine collaborative play interactions of hearing-impaired preschoolers in a classroom setting. Results have implications for both theory and practice. Results provide insights into the preschool peer culture, while the model offers evaluation techniques.

Self concept in profoundly deaf adolescent students

Wednesday, 10:15 **Room 3**

Silvestre, Nuria *(Spain)*
Martinez, Maite *(Spain)*

This study is based on the concept of "social handicap," which is defined as the obstacles that the society adds to the difficulties directly derived from the hearing impairment, leading to the affected subject incorporating these as a part of his self concept. Some studies have demonstrated the positive influences of particular educative conditions to reduce the handicap and to make the socialization of these subjects in the hearing world easier (Guterman, 1986). The aim of the present research is to identify factors that influence the deaf person's self-concept and his self-esteem from the point of view of the educational conditions and from psychological characteristics of the developing individual. This research is described.

Use of a course on psychosocial aspects of deafness as a counseling tool for hearing-impaired students

Thursday, 10:15 **Room 11**

Skyer, Solange C. *(USA)*

The course, Psycho-Social Aspects of Deafness, has frequently been offered to hearing students in programs focusing on education, counseling, or social work with the deaf. At NTID, it is offered to hearing-impaired students at the undergraduate level. The focus and goals of the course for hearing-impaired students are to enhance their understanding of the impact of deafness on their educational, psychological, emotional, and social development. The course is not only directed to the cognitive domain, but to the affective domain in terms of the expression and understanding of feelings, attitudes, and values associated with the impact of deafness on the lives of deaf students and significant others within their social milieu.

Self-perceptions of social relationships among hearing-impaired adolescents in the United Kingdom and the United States

Thursday, 15:30 **Room 9**

Stinson, Michael S. *(USA)*
Whitmire Chase, Kathleen *(USA)*

Educators of hearing-impaired students have expressed concern regarding the possible inadequate social development of hearing-impaired students in the mainstream setting, yet there have been few studies of this question. This presentation describes a study of the social development of mainstreamed hearing-impaired students in the United States and the United Kingdom that is concerned with four issues: (1) identification of self-perceptions of social relationships among hearing-impaired adolescents; (2) comparison of the self-perceptions of adolescents in the United Kingdom and the United States; (3) identification of programming factors, situations, and student characteristics associated with these self-perceptions; (4) comparison of factors associated with these self-perceptions in the United Kingdom and the United States. Questions regarding extent of participation in social activities, satisfaction with social relationships, and self-confidence were compiled into a Social Activity Scale and administered to 80 hearing-impaired students in the United Kingdom and 250 in the United States who had mainstreaming experience in secondary school. Additional information was collected on background characteristics of the students and on characteristics of their educational environments. Results may provide information regarding guidelines for placement of students in mainstream settings and for appropriate types of educational programming. In addition, the comparison of the United Kingdom and United States data will provide an indication of the extent findings are generalizable from one country to another.

Experiential learning

Thursday, 15:30 **Mezz. Holiday Inn**

Strack-Grose, Conrad *(USA)*
Fletcher-Ritter, Sandy *(USA)*

Given a proper curriculum and trained teachers, any school for the deaf or mainstream school can give a deaf student an academic challenge. For teachers and schools the challenge becomes greater to provide a setting that encourages development of skills that, while harder to measure, are of equal importance; skills such as confidence, positive self-image, leadership, trust, and group problem solving ability. This session focuses on experiential learning programs that emphasize the philosophy of group cooperation and individual challenge. At the end of this session educators will be able to take back with them a number of ideas, as well as devise their own strategies to create initiative situations that focus on group interaction. Because this program can be used in any setting (nature is best), it offers much flexibility. The ideas can be easily used in any educational system or setting, in the middle of Manhattan or in rural Australia, to achieve its goals. Due to its experiential nature the students do not sit passively in one place as in the traditional classroom. The coordinator has no rules or constraints to follow other than safety. Groups of students with different handicaps can be placed together, creating different challenges for the group. For this same reason, this program is excellent for any student, from the potential dropout to the college bound.

The social and emotional development of a population of hearing-impaired children educated in their local, mainstream schools in Leicestershire, United Kingdom

Thursday, 15:30 **Room 9**

Stuart, Arabella *(United Kingdom)*
Harrison, David R. *(United Kingdom)*
Simpson, Paul A. *(United Kingdom)*

This paper reports on the social integration of a population of hearing-impaired children with hearing losses ranging from 50-120+dB who are individually integrated into mainstream local schools. They attend the schools of their parents' choice and are supported by specialist teachers of hearing-impaired children. The survey reports on the friendship patterns formed by the children both at home and at school, as perceived by their parents, class teachers, and the children themselves. The reported behavior patterns of the hearing-impaired children at school and at home is described, and the attitudes of class teachers, hearing-impaired children, and their parents toward this provision are reported.

Counseling issues as indicators of potential barriers to deaf student success in the mainstream classroom

Thursday, 15:30 **Room 9**

VanGinkel, Anne *(USA)*
Quinsland, Larry K. *(USA)*

Deaf students enrolled in "mainstream" educational settings are required to make significant adaptations to be able to achieve their educational goals. The

career/personal counselor is in the unique position of being able to observe the issues and concerns of deaf students as they attend classes with "hearing" peers. Student success or failure is often dependent on how well students deal with these issues. This session is designed for the purpose of describing issues that are perceived by deaf students as barriers to their success in a mainstream college setting. These factors are discussed in the context of a Student Success Model. Although the focus of attention has been with deaf students at the college level, it is felt that many of the issues are observable at the high school level as well.

Psychotherapy and sociotherapy for hearing-impaired adults in the Federal Republic of Germany

Tuesday, 14:45 **Room 10**

Verch, Klaus *(West Germany)*

Since 1983 there are two Centres of Rehabilitation for hearing- impaired persons in the Federal Republic of Germany, which are unique in the European area. This paper presents their aims, possibilities, and experiences. The psychosocial situations of hard-of-hearing, adventitiously deaf, and congenitally deaf persons in the Federal Republic of Germany after leaving school and after training for an occupation are discussed. Particular attention is given to the problems of hard-of-hearing persons in the social, psychological, and professional areas. Some of the work of the Rehabilitation Center of Rendsburg is described, including efforts to improve the psychosocial situation of hearing-impaired persons by encouraging them to adopt a greater sense of self worth, acceptance of their handicap, and active self-help.

Education and work in Peru

Thursday, 10:15 **Room 3**

Bedoya, Mario Hernán Delgado *(Peru)*

As a first goal, it is absolutely necessary to design and project a list of possible professions from which deaf people can find themselves a place in society. Deaf people need adequate preparation for either manual or intellectual work, according to their choice and/or talents in order to function successfully in the selected area of employment. Poor nations lack employment. Much depends on the government and on the type of work that exists. Sources of employment need to be created for young people and adults. There is also a need for legislation that promotes better salaries and benefits for the deaf worker and his family. With regard to education and employment, the deaf person in Peru is disadvantaged. The majority of deaf people have only a primary education. Some have partial secondary school experience, others have completed secondary school, while only 5 percent have attained sufficient education to allow them employment among the professions. In Peru, special education is drastically limited. There are schools for deaf youngsters only in the coastal regions, and these only on the primary level. Those who desire and have the aptitude to continue their education must do so in private schools with hearing students. Many cannot afford the tuition.

Into the "real" world

Thursday, 15:30 **Room 2**

Billingsley, Weyland D. *(USA)*

A theoretical construct encouraging an independent lifestyle as the ultimate goal for young deaf adults is needed for an efficient transition from school/dependency to work/independence. The transition from school to work is an important "rite of passage" that marks the start of adulthood and independence. This step has become more difficult in our society for several reasons. Society delays responsibility for young adults by keeping them in school, requiring more skills, knowledge, and abilities for entry level jobs, and making it difficult to live independently on entry level wages. For the young deaf adult there are several complicating factors that are emergent from the handicapping condition. Parents and school systems are often overprotective. Exposure to the world of work is usually very limited, with many children even unsure of what their parents do to earn a living. Besides a critical lack of knowledge about work and employer expectations, the young deaf person must often pass through several "gatekeepers" who may or may not let him/her pass into employment. Gatekeepers may include Vocational Rehabilitation counselors, job placement persons, personnel managers, and parents. To alleviate some of these problems, both the student and his parents need to be given realistic information concerning employment opportunities for deaf adults. Schools need to provide knowledge about jobs through curriculum, field trips, and internships. Greater cooperation is needed between rehabilitation agencies, schools, and parents. Summer work experience is perhaps the most valuable part of the transition program. For the final transition into work, "gatekeepers" need to mediate their positions to become "enablers." Often the deaf person who was unsuccessful in school and workshop will be successful on the job because it is perceived as "real." Expansion of opportunity must be our goal if we are to enable young deaf adults to make the transition from school to work and into an independent lifestyle.

Explore Your Future: A transition education program for deaf high school students

Thursday, 15:30 **Mezz. Holiday Inn**

Bondi-Wolcott, Jean *(USA)*

The "Explore your Future" program at NTID focuses on career awareness and uses exploration activities in five technical disciplines to develop an understanding of how all technologies are related to each other and how they relate to the individual. The program is complemented by an array of experiential educational programming and activities designed to promote independence and self-awareness. The process we went through to develop the goals for the program, the large variety of instructional materials, the sequencing of materials and the evaluation of the resulting week of instruction are discussed for educators and institutions contemplating the development of similar transition programs.

Career choice: Variables associated with the use of the self-directed search - Form E - with a deaf high school population

Friday, 9:00 **Room 8**

Darnell, William T. *(USA)*

The literature in career development and attainment and deafness has focused largely upon the effects of postsecondary training and variables associated with rehabilitation. Theoretical research on career development of the deaf involving interest inventories has not been investigated, with the exception of nonverbal inventories. This paper presents the results

of research using Holland's Self-Directed Search -Form E with a high school population of deaf adolescents. Holland's theory is that individual personalities and work environments can be classified into one of six categories that correspond with each other. Form E is a simplified version of the SDS which contains a fourth grade reading vocabulary (Holland, 1985). Subjects were categorized according to family SES and occupation, onset of deafness, hearing/deaf status of parents, and achievement levels. Current occupational aspirations were compared to two letter summary codes to determine the degree of agreement. Dispersion of SDS Occupational Scores among the six work environments were compared with normative data obtained by Helms and Williams (1973) and others. The degree to which the SDS -Form E may be a valid measure of occupational choice for use with the deaf is discussed. Suggestions for further research involving this instrument, including college students and the adult deaf, are suggested.

Pre-vocational and vocational education in Nigeria

Tuesday, 10:15 **Room 12**

Ekeleme, Rose *(Nigeria)*

Education for the deaf in Nigeria, which was started by the missionaries in the 1950s, has emphasized training for white collar jobs. However, realizing the enormous competition between deaf and hearing persons for job placement, and the fact that deaf persons are often the losers, the Government is now rethinking educational programmes for the deaf. This paper examines these programmes and the justification for present emphasis on pre-vocational and vocational education. It briefly compares vocational programmes for the deaf in developed countries, where programmes are planned to meet individual needs, and education of the deaf in Nigeria, as typical of most developing nations, where the implementation of pre-vocational and vocational programmes is at the rudimentary stages. In a country that is encountering harsh economic problems and is struggling to surmount these problems to ensure the survival of its people, the handicapped generally, and specifically the deaf, become the victims. The reasons for this neglect are adduced in the paper. An analysis is made of the various vocational programmes available in the country through government and voluntary agencies. Finally, suggestions for improvement in vocational programmes for the deaf in developing nations are presented.

Employment and socio-economic characteristics of hearing-impaired adults in the United States: A five-year followup

Monday, 11:15 **Room 11**

El-Khiami, Afaf *(USA)*

Employment after graduation is considered one of the most important indicators of the benefits of postsecondary training of deaf students. While most postsecondary programs for deaf students seek to document the effectiveness of their services, very few have been able to engage in long-term follow-up studies on the employment and socio-economic status of their graduates. Long-term follow-up studies are perhaps the best descriptors of the labor force participation of postsecondary graduates and their vocational achievements. This presentation, based on research conducted at the University of Arkansas Research and Training Center on Deafness, reports on data from a longitudinal large-scale survey that explores the jobs obtained by a national sample of years 1983, 1984, and 1985 alumni of 62 postsecondary programs for the hearing impaired during the five years following their graduation. It focuses on their labor force behavior, the number of jobs they have had, the type of occupations they obtained and the economic sector in which they were employed, their earnings, and their satisfaction with their jobs. Unemployment episodes lasting more than one month as well as their job seeking activities and their perceptions as to the characteristics of the ideal job are documented and discussed.

Communication and interaction between deaf and hearing people in the work place

Friday, 9:00 **Room 8**

Foster, Susan *(USA)*

Studies of the employment experiences of deaf people have historically tended to focus on broad demographics, such as work force participation, occupations, and income. There is less information about the quality of day to day interactions between deaf and hearing people in the work place. Material for this presentation is drawn from interviews with 25 deaf adults about their interactions and communication with hearing people at work. In particular, distinctions between "functional" and "personal/social" communication and interaction are made. Functional communication refers to interactions that have to do with the day-to-day operations of the job. Personal/social communication involves informal interactions and communication networks such as

coffee break and the office grapevine. The deaf people interviewed generally described their functional communication as adequate, although meetings were a persistent problem. Personal/social communication was far less satisfactory, with many respondents describing themselves as lonely and isolated at work. Implications for job satisfaction and vertical mobility are discussed.

Employment characteristics of deaf school leavers in India

Monday, 11:15 **Room 11**

George, V.K. *(India)*
Patrick, Bro. *(India)*

In India, the transition from school to work and the field of employment of the deaf have not yet received adequate investigation. At present in India there is a gradual awakening and circumstances are becoming more favorable for deaf people to prove their mettle in the area of employment. More and more employers are coming to understand that, with proper training and orientation, deaf workers are an asset to their establishments. In this study we have selected 183 of the past students of our Institute. They are mostly drawn from the southern states of India. The results of the study show that most of the deaf in the study group are still confined to the 'traditional jobs' taken by the hearing impaired, i.e., printing, tailoring, carpentry, etc. It was found that 47 members of the study group (26 percent) were found to be employed in banks, but they too are doing the menial type of jobs (i.e., sweepers, cleaners, messenger boys, and in the catering services) without much hope of promotion or better pay. Most of the deaf in the study group were found to have a low level of aspiration compared to their hearing counterparts in society. It was also found that after their school studies they were not making use of the opportunities for part-time or full-time further education, which would enhance their chances for promotion, better pay or a better job. There is an urgent need for a guidance programme in the different institutions for the deaf in India, that bridges the period from school to post school life. During the last years of schooling and the first year after school the deaf should be exposed to a wide range of experiences in the different types of jobs available to them so that each can choose a job suitable to his or her aptitude and interest. There should be coordination between the vocational training and employment agencies of the different states in India, both private and governmental. It is hoped that the results of this study will serve as a guideline for those working with the deaf school leavers and those who are in the field of the training and rehabilitation of the deaf in India.

Professional and labour adaptation of the deaf

Friday, 9:00 **Room 8**

Gozova, A.P. *(USSR)*

Labor adaptation of the deaf depends first of all on their professional, technical and general educational level. The professional skills level depends to a great extent on the effectiveness of education. In enterprises where individual training still exists, i.e., a system of apprentices and tutors, the number of those who reach an advanced level is two times less than that of those who studied at professional educational establishments. Graduates of these establishments possess some advantages. Joint activities of production and educational establishments can contribute to improving the qualification level of the students. The time to train the deaf is reduced in these cases by some 2-3 times. A proper individual vocational choice considerably effects labor adaptation. The limited scope of training for the deaf results in the fact that many of them (from 50 to 70 percent) change their trade. The stability of personnel depends as well on proper job satisfaction. Highly appreciated are the trades, requiring high qualifications and including elements of creative work. Moral and material incentives, a favorable psychological climate in the collective, improved hygienic and sanitary conditions, and lightened labor are among the factors providing for increased labor adaptation of the deaf. A study has shown a sufficiently high level of compensatory and adaptive opportunities for people with impaired hearing. At the same time the adaptation process is slower with them than in those with normal hearing who work under the same conditions. Studies of factors effecting the adaptation of deaf workers should permit us to improve their trade training and labor activities.

A new model for the technical education and vocational training of the deaf in India

Tuesday, 10:15 **Room 12**

Handa, S.C. *(India)*

This paper explains a new model for imparting technical education and vocational training to the deaf in India. It serves as a supplement to the existing system and also as an alternative for providing quality education under a scientific and modern environment. The model is analyzed to be very cost effective. The suggested approach indicated the utilization of the existing infrastructure of more than 1,000 technical institutes in the country that exist in a three-tier system of degree, diploma, and certificate awarding programs. The model has a provision of both formal

and non-formal programs. The non-formal training is necessary because 95 percent of the adult deaf population in the country is uneducated. It therefore contains a crash program component for concept development through a multi-media package approach. Moreover, a need-based program of career development linked with the social needs of the Asian Countries, is explained. The paper contains the details of an All India Board for the Training and Technical Education of the Deaf, a National Training and Technical Education Center for the Deaf, the regional centers, the zonal centers, and the local centers. The training possibilities at the door-step are also included. The interactive linkages among these various units as well as with other governmental and non-governmental organizations are shown. The activity chart explains the responsibilities of each of the wings of the total set-up. A comparison of this approach with the traditional methods so far adopted in India indicates the cost effectiveness of this new methodology. The formulation of the new approach encompasses the socio-economic scenario of India and thus can be applicable in many other Asian and developing countries having problems with their resources and funding for the purpose.

Panel on parents' perspectives on education and work

Wednesday, 10:15 **Room 1**

Hawkins, Larry *(USA)*, Moderator
Bruning-de Bruyn, Rita B. *(Netherlands)*
Hawkins, Sharon Baker *(USA)*
Cohen, Jeff *(USA)*

Families play a vital role in the education of deaf children and the subsequent ability of a child to enter work. Young deaf children need family support in order to develop work attitudes and ethics that will impact on their future employment. Family support first of all involves early meaningful communication so that the deaf child will have access to the environment in which he or she lives. Early meaningful communication, therefore, becomes the foundation upon which other skills are built. As deaf children become older, the role of the family changes. At that time, families should focus on providing significant experiences to stimulate the acquisition of job readiness skills. In addition, early successful work experiences that promote an attitude of independence and confidence should be encouraged. Career education, another important facet in developing independent deaf children, can be enhanced by family involvement and collaboration with educational agencies. It is important to plan appropriate career exploration, which might include vocational/technical training, so that young adults will have career aspirations and goals. In order for transition into the world of work to be successful, parents and educational agencies must work cooperatively to ensure the skills necessary for surviving independently are acquired. It is critical that parents help their children achieve self-sufficiency, and with their children, become aware of appropriate careers and the training necessary to practice these careers. This involves not only good communication between parents and children, but also the learning and teaching of skills from early childhood through adulthood.

Skills development and the job placement program of the schools for the deaf in Metro Manila, Philippines

Thursday, 15:30 **Room 2**

Herreros, Belen M. *(Philippines)*

In every school for the deaf, job placement is the necessary consequence of a successful skills development and training program. However, if the deaf graduates produced are unskilled, they will have difficulty in finding employment even if the school has a well-organized job placement program. Skill development and training and job placement complement and support each other in assisting deaf graduates to be successfully employed and economically independent. Since the education of the deaf in the Philippines aims to maximize their potential for productivity in order to improve their quality of life, and ensure their integration in the mainstream of society, institutions for the deaf offer not only the academic but also vocational courses. It should be mentioned that vocational offerings of schools are slanted toward the demands of the industries. Ways in which the job placement program works with the school and outside employers are discussed.

Preparing and placing deaf students and former students in jobs

Thursday, 15:30 **Room 2**

Maciel, Maria Regina C. *(Brazil)*

The vocational education programme of the Helen Keller Hearing Handicapped People Municipal School of Sao Paulo, Brazil is developed concurrently with the kindergarten and elementary school programmes. It is divided into three phases: conduct of a vocational survey and forwarding the results to vocational educators, follow-up and assistance to students who are taking vocational courses, and placement of already trained students in the labor market. This work is planned and performed by teachers who are skilled in educating people with hearing and speech

disabilities, as well as by pedagogical coordinators and a social assistant. It counts on the full family's and student's participation and it is integrated with the unit's other educational activities. In 1987 and 1988, the Helen Keller School held vocational courses in the areas of general clerical services, computing, and typing that were attended by deaf students and deaf people from other schools, in addition to non-disabled people from the community, in mixed classes. The special school started its vocational courses for all the interested parties and organized a collaboration with companies that give jobs to deaf people, having also provided a service of follow-up and registration of these former students who are already employees. Results of these programme activities are discussed.

Employment and management of deaf and hearing-impaired persons

Friday, 9:00 **Room 8**

Matsushima, Hiroshi *(Japan)*

Starting from about 1981, the United Nations "International Year of Disabled Persons," there has been a considerable increase in the number of companies taking positive measures to hire handicapped people, Japanese firms being no exception. Bussan Service Co., Ltd. was founded in December 1981 as a wholly-owned "special subsidiary" of Mistsui & Co., Ltd. (Hereinafter called "Mitsui"). Between 1976, 10 years after laws were passed setting minimum levels for hiring of the handicapped, and 1981, when its subsidiary BSK was founded, handicapped people represented only 0.44 percent to 0.57 percent of its work force. It had to submit affirmative action hiring plans to the government every year, and because it was not meeting its requirements, it had to pay money (for unemployment compensation) to the government according to the shortfall in the numbers of handicapped people it employed. However, the lack of any real progress seemed to be the result of poor planning. Mitsui qualified for special treatment under the law if it set up a subsidiary whose main purpose was to employ handicapped people. Mitsui concurred that this would be the most effective way of solving the problem. This presentation describes what Mitsui did, through its subsidiary, Bussan Service Co., to address the problem.

Parent transition workshop: A component of "Explore Your Future"

Thursday, 13:30 **Mezz. Holiday Inn**

O'Brien, Elizabeth H. *(USA)*

Research supports the importance of the continuum of career development from early childhood through the postsecondary experience. Historically, programs for parents of hearing-impaired children have focused primarily on infant through early childhood needs and issues. The literature has shown sporadic parent involvement in the career development process of deaf children. NTID identified the need for a program that would prepare parents to assist their deaf adolescent with transition issues. The "Explore Your Future" parents transition workshop can be adapted to meet parents' needs in their efforts to facilitate the career development and transition of their deaf child from adolescent to adulthood. Strategies described in this presentation will focus on the joint role of parent and adolescent during the transition phase.

Cooperative education as part of deaf education

Thursday, 15:30 **Room 2**

Page, Doug *(Canada)*

The Atlantic Technological Vocational Centre (ATVC), a division of the Atlantic Provinces Special Education Authority Resource Centre for the Hearing Impaired, Amherst, Nova Scotia, Canada, was granted a Co-operative Education program through the Canada Employment and Immigration Job Entry Program. ATVC serves the hearing-impaired population of the four Atlantic Provinces from 16 years of age and up. The program provides co-op experiences for students from the three educational areas within the APSEA-RCHI, academic day classes, academic residential classes, and postsecondary vocational classes. This presentation examines the development of co-op programs within the educational system and the business/industrial community. The strengths, weaknesses, and pitfalls encountered are discussed, along with the effects on the participants, school classes, and various communities. The presentation should be valuable to small educational systems interested in co-op programs where the school population is small, diverse, and spread over a rural area.

A career peer advisor program

Thursday, 13:30 **Mezz. Holiday Inn**

Pressman, Sue E. *(USA)*
McCaskill-Emerson, Carolyn *(USA)*
McGregor, Daphne *(USA)*

The Career Peer Advisor program at Gallaudet University is a model designed to give upper classmen paraprofessional work experience. Students assist their peers with their career/life planning and decision-making skills as they themselves increase their knowledge of the career development process. The program was established in 1987 as a pilot to try to establish the feasibility of deaf college students learning in a relatively short amount of time the amount of information needed to adequately serve their peers in the field of career development. The pilot year proved to be successful. Through intensive training, weekly supervision by professional counselors, and weekly in-service training, the Career Peer Advisors continually increased their skills and abilities in the field. The second year saw an expansion of the program to include an international component, which included a grant award from the National Association of Foreign Student Affairs and inclusion of deaf international Career Peer Advisors. Now in its third year, the program is clearly established. A career peer advising training manual has been written to guide both students and trainers. Assessment through written and verbal evaluations has allowed program participants to improve the program over the last few years and iron out any shortcomings that initially occur with new programs. These experiences are shared by the presenter.

AMU, a Swedish model for vocational education

Tuesday, 10:15 **Room 12**

Raadahl, Stig *(Sweden)*

After placement service, training is the most important instrument of the active labor market policy in Sweden. Unemployed deaf persons or deaf persons likely to become unemployed can receive basic or supplementary training free of charge through the Employment Service Offices. They also receive a training grant. The training subsidized in this way is offered by the AMU Group at the AMU centers. The deaf are trained within many vocational fields, eg., automatic control and regulating technology, electricity/telecommunication, water heating and sanitation, computer and terminal service and clerical training. We can also give tailor-made training for deaf people, i.e,. we can design a special curriculum together with the student and his/her supervisor from the rehabilitation centre. AMU can also offer continuation courses for the deaf who already have a job. Due to the very fast development of society, the deaf can otherwise very easily run the risk of becoming unemployed. Sweden has at present a low rate of unemployment. This implies that it is very easy for the deaf to get a job on the open market. Employers have a positive attitude toward deaf persons. This has resulted in the fact that deaf people who are attending AMU training programs have jobs waiting for them even before the training has ended.

A dual-system work/study approach to vocational education

Tuesday, 10:15 **Room 12**

Schulte, Ernst *(West Germany)*

In 1978, a new era for vocational training in West Germany began for the deaf and hard of hearing. The "Rheinisch-Westfalische Schule for Horgeschadite Essen" took up its work and has since become one of the biggest institutions in this field worldwide. The North-Rhine-Westfalian-Institute Essen has students from all parts of Germany. More than 1,000 students and about 170 teachers are together on a campus working with the so-called "dual-system." "Dual-system" means that the students in more than 130 trades have two places of work during their job-training, which may extend three to five years, their place of employment, and the vocational training-school in Essen. Essen teaches all special school trades up to University level and since 1984, there has been a further education program for deaf and hard-of-hearing employees who have finished their initial training. The German "dual-system" may be the key factor for equal chances for the deaf among normally hearing employees.

The deaf community in Israel--employment characteristics

Monday, 11:15 **Room 11**

Sela, Israel *(Israel)*
Weisel, Amatzia *(Israel)*

The first demographic and assessment study of the hearing-impaired (HI) population in Israel was conducted in 1989. The purpose of the present paper is to present the main findings of the study with special focus on the vocational and professional status of people with hearing impairment. A list was made of all the severely and profoundly hearing-impaired (HI) adults (age 18 and up) in the country. The list of names was then arranged according to "households" and a random sample of 300 households was selected. All the HI people in these 300 households, a total of

437 individuals, were interviewed. The interviewers were fluent in both Hebrew and Israeli Sign Language. This presentation offers information about the general demographic characteristics of the population. Second, the general vocational and professional status of the HI population is described. Third, the relations between several background variables (e.g., hearing ability, age at onset, additional handicapping conditions, mode of communication used, number of years in schools, type of educational training) and vocational and professional status are indicated. The relative importance of the background variables in determining the vocational and professional status of HI people is evaluated. The implications of the results for educational and rehabilitation programs are discussed.

The transition from school to work: The views of deaf young people and their parents

Thursday, 10:15 **Room 3**

Sheldon, Lesley *(United Kingdom)*
Gregory, Susan *(United Kingdom)*
Bishop, Juliet *(United Kingdom)*

The findings reported in this paper are taken from those of a large research project involving interviews with 80 young deaf people and separate interviews with their parents. This study was a follow-up to one carried out in the early 1970s where the same families were interviewed when the deaf children were 5 years or under. This paper looks at that aspect of the study concerned with the transition from school to work. The various approaches of the different schools in preparing students for work are examined and evaluated both from the point of view of the young people and of their parents. The paper also looks at the current job situation of the young people and their feelings about their work and future prospects. This is compared with their parents' views on their employment. A central theme of the paper is a consideration of who makes the choices, and how decisions come about with respect to work.

Careers in science and engineering for hearing-impaired persons

Friday, 9:00 **Room 8**

Stern, Virginia W. *(USA)*

What makes a scientist or engineer? What is the relevance of the factor of hearing loss in considering and pursuing education in the sciences? This presentation reports on a current (1988-89) study to identify the internal qualities and external influences on persons with disabilities entering and persisting in science careers. Included in the study were 51 working scientists, mathematicians, and engineers and college students of science, all with profound or severe hearing impairments. The hearing-impaired subjects were interviewed in person and by TDD on the critical incidents, including events, barriers, and interactions, that had significant impact when they attempted to pursue science-related studies, employment, and career development. The analysis of the critical incidents uncovered a comprehensive list of factors that hearing-impaired persons consider to be important as they prepare for and enter careers in science, math and engineering, and has important implications for teachers and counselors as well as hearing-impaired youth and their families. The study was conducted by American Institutes for Research (AIR) and the American Association for the Advancement of Science (AAAS) with funding from the National Science Foundation (NSF). Two career-planning booklets for high school and college students with disabilities will be published as a result of the study.

Education and employment of the deaf in Japan

Thursday, 10:15 **Room 3**

Tsuzuki, Shigeyuki *(Japan)*

This paper describes changes in employment and the significance of guidance at a school for the deaf. In 1976, the Physically Handicapped Persons' Employment Promotion Law in Japan was revised and opportunities expanded for the students of the school for the deaf to find employment in large companies. These companies, for their part, desired that rather than giving the students skills training, the focus should be on giving them a more general education so that they would become a wider person and would have the basic elements needed as a person in society. This required the school for the deaf to emphasize not only skills training and job placement but also provide guidance and assistance on how to lead a desirable life and to give the students a more general education. Statistically, handicapped persons from the schools for the deaf employed at large companies with more than 1,000 employees made up 4.6 percent of the total students of schools for the deaf who found employment in 1978. In 1983 this increased sharply to 6.3 percent. This is a big change when considering the fact that the ratio of persons with no handicap working at large companies decreased to 8.1 percent from 9.5 percent. The presenter gives his opinions concerning the role of schools for the deaf in the future and proposes that in the future they transform

themselves and become educational organizations with comprehensive and multi-purpose functions.

Deaf people in Brazil and the transition from school to work

Thursday, 10:15 **Room 3**

Vilhena de Azevedo, Elizabeth *(Brazil)*

This presentation describes work done with people in the Brazilian deaf community through the National Institute for the Education of the Deaf (INES) in Rio de Janerio. It shows the stages a deaf person has to go through during his preparation to get into the work market, from the vocational courses available to him or her until after the end of these courses when he or she looks for a job. It also discusses the cultural barriers he or she has to face not only in society but in the family as well. Included are some deaf peoples' reports showing some who are presently at work and some others who are waiting for a chance in the work market. They and their families look forward to that moment with anticipation.

Earnings of deaf college graduates in the United States

Monday, 11:15 **Room 11**

Welsh, William A. *(USA)*
Walter, Gerard G. *(USA)*

Earnings of alumni of five postsecondary programs for the deaf were examined in this study. In addition to earnings of alumni generally, wages and salaries of specific groups were examined: those with different degrees, genders, and majors were analyzed, and comparisons with hearing peers were made. Results were as follows: (1) Deaf college graduates earn more than deaf adults who do not earn degrees; additionally, earnings of deaf college graduates increase at every degree level. (2) Although hearing people are paid more than deaf people at all levels of education, this earnings gap is smaller at each succeeding degree level. (3) Deaf female college graduates earn significantly less than deaf male graduates. (4) Graduate earnings are tied to the occupational level for which they are prepared. Alumni prepared for entry into technical, professional, and managerial careers have earnings substantially higher than those prepared for other occupations (e.g., craft, operative, and service). Employment in white collar careers reduces discrepancies between the earnings of deaf and hearing workers.

Questions about communication and culture among postsecondary deaf students

Thursday, 10:15 **Room 5**

Andersen, Catherine *(USA)*
Bergan, Judith *(USA)*
Lewis, Nancy *(USA)*

This presentation addresses the issue of communication and culture in the education of hearing-impaired postsecondary students. Techniques for presentation of the concepts are addressed. Postsecondary hearing-impaired students come from a variety of educational experiences. In addition, students have differing communication abilities and methods. However, when students are grouped together at the postsecondary level, it is often wrongly assumed that they are a homogeneous group. The purpose of this session is to discuss the various backgrounds and communication needs of students in a postsecondary group and to describe the variation of backgrounds and needs as part of a cross-cultural experience. For example, students who were mainstreamed in public schools, who do not sign, and who have hearing parents really identify themselves with a hearing culture. On the other hand, deaf students of deaf parents who use ASL and attended a residential school most certainly identify with the deaf culture. Activities are described that are aimed at identifying where deaf students believe they fit on the culture continuum and discuss the associated risks and benefits of communicating with others who identify themselves as being elsewhere on the culture continuum.

Continuing education for deaf adults in Guatemala

Friday, 9:00 **Room 3**

Barrundia, María Gabriela Velásquez de *(Guatemala)*

By way of introduction, I'd like to say that I am an art teacher by profession. At this time I am teaching in an adult education school and also helping in the educational process with sign language interpretation. I am deaf, and also married to a deaf person. I worked for one year in a school for deaf children. I learned sign language only two years ago. When I was a child, I was taught in the oral system. Now I can communicate in both languages. This year, the National Committee for the Deaf and Blind of Guatemala started a program for deaf adults, consisting of a small school that offers accelerated studies in elementary education (four different stages), basic studies (one year) and bachelors diploma in sciences and literature (one year). All this teaching is conducted in a non-traditional way. In Guatemala, until now, deaf education has been based on oral methods. This is an attempt to use Total Communication giving the Guatemalan Sign Language a chance! (Our sign language has an underdeveloped structure, and now there are beginning efforts to develop it more). We teachers feel the need to learn and to share with other teachers. In my case, I have doubts regarding how to be more efficient in teaching sign language to deaf people, and how to help the deaf in their communication with hearing people. And, also how to teach the sciences, for example the choosing of an objective and the different steps to reach it. We have lots to share in our attempt, fights, failures, success and limitations. We also have—deaf teachers—a nice experience cooperating with hearing teachers. Our project now is small for it is in its first year, but we can contemplate the future and consider its multiplying effect!

Expanding horizons for hearing impaired students within the City University of New York

Monday, 15:30 **Room 9**

Copeland, Deborah S. *(USA)*
Florsheim, Martin M. *(USA)*

Expanding horizons for deaf and hearing-impaired students will revolutionize the quality of education and support services within The City University of New York (CUNY) system. CUNY is a 20-college university with branches located throughout the five boroughs of the city. The University's governing body is The Board of Trustees of The City University of New York. The Board formulates bylaws and policies, providing direction for the operation of the University, in general, and for its constituent colleges. This presentation covers the CUNY system and discusses the success of the four existing programs for deaf and hearing-impaired students at three senior colleges and one community college: New York City Technical College (an urban technical college), Lehman College (a four-year liberal arts college), The College of Staten Island (a four-year comprehensive college), and LaGuardia Community College, (a community college). There are currently four pre-lingually and profoundly deaf directors of programs in these colleges. There are more than 500 hearing-impaired students attending these four CUNY branches, and an ever-increasing number of these students are members of minority populations from disadvantaged socio-economic backgrounds. This presentation also explores the possibilities in the implementation of the unique concept of Regional Centers, which would provide the target population with a pluralistic system to extend equal access and opportunities to all 20 CUNY campuses, enabling students to achieve their academic and career goals.

Computer-taught vocabulary for deaf adults

Thursday, 13:30 **Mezz Holiday Inn**

Crozer, Norman *(USA)*

Computer-Taught Vocabulary for the Deaf is a series of Apple computer programs that teach and test vocabulary to deaf students without the need for an instructor or classroom. Students learn the vocabulary, practice using these words in sentences and paragraphs, and take their weekly tests, all on the computer. This computer series consists of 60 sections, each containing 15 words (900 total). The first 30 sections involve words with one-word definitions (e.g., *RECEIVE* means *GET*). The second 30 sections involve words with two-word definitions (e.g., *PURIFY* means *MAKE CLEAN*). The words contained in this series were chosen to improve the students' word recognition skills, thereby raising their reading level. These words are ones that many deaf students should know, but do not. Since the spring semester of 1987, deaf students at Los Angeles Pierce College have been enrolled in specially created courses to give them credit for working on this series. In each semester, these students have been given pre- and post-tests to measure the increase in their vocabulary knowledge. Pre-test scores of deaf students enrolled in these courses has averaged 24 percent correct; post-test scores using the identical test have averaged 97 percent correct. Other colleges using the series have reported similar results.

Higher education: Equal access for deaf students

Tuesday, 14:45 **Room 2**

Daniels, Susan *(United Kingdom)*

The question of equal access to the whole range of higher education opportunities for students who are deaf has been a prime concern of the Royal National Institute for the Deaf (RNID) and other organizations for deaf people over the past decade. This paper examines the results of a survey undertaken by the Education Department of the RNID concerning the provision for students who are deaf at higher education establishments throughout the UK. The survey researched the numbers of deaf students entering higher education and the recording of these statistics, the range and implementation of policies for students who are deaf and students with other disabilities, the type of support available to hearing-impaired students and the ways in which support was funded. The paper also indicates how recent British legislative proposals in relation to higher education would place deaf people at a considerable disadvantage and highlights the need for a Parliamentary Campaign drawing on the experience of deaf students and the policies and practices of higher education institutions in order to ensure effective policy change at the appropriate government and institutional level.

Early assessment and reporting of academic and social integration difficulties of postsecondary deaf students

Thursday, 13:30 **Room 5**

Dowaliby, Fred J. *(USA)*

Involuntary attrition at the postsecondary level has become a major concern for many institutions. The Student Integration Survey (SIS) was developed incorporating Tinto's (1970) model with other findings that indicate the relationship between social and academic integration and student persistence. The SIS has been administered to the past four School of Business classes and other incoming freshmen at NTID. The goal was to provide an early prediction to counselors as to which of their freshman students were apt to be in academic difficulty at the end of the first academic quarter. Research from the first two administrations demonstrated a 60 percent correct prediction of involuntary academic probation and suspension solely on the basis of students' third week responses to the SIS. This year the SIS was administered to incoming freshmen in the Schools of Business, Visual Communication and Engineering Science at NTID with quick feedback provided to students' counselors. This is to date the largest single administration of the questionnaire. Analyses performed on the data from each of the early administrations will be repeated with this larger sample for confirmational purposes. The presentation includes an overview of the development of the SIS, the items and subscales, the counselor feedback procedure employed, and a brief summary of findings to date.

A holistic approach to teaching deaf refugee adults

Friday, 9:00 **Room 3**

Harris Stephan, Joan *(USA)*

Since 1985, the Deaf Refugee Education Program (DREP) of St. Paul Schools has served primarily Southeast Asian adults who are hearing impaired. Thirty-three (33) adults currently receive direct services; approximately 50 others who are younger than 21 or live in other areas of the state of Minnesota are given outreach assistance. The holistic approach

to instruction incorporates the individual's native language, such as his existing mime-gestural system, American Sign Language (ASL), and English literacy. Independent Living Skills (ILS), workplace literacy, job skills training, and any additional areas of study that a student chooses, enable the student to empower him/herself as a new American. Among seven areas, training is offered in citizenship or parent-child education. It is hoped that as a result or this presentation, participants in this session will comprehend and empathize with the unique problems faced by deaf refugees arriving in the USA and know several successful solutions. Participants will also be able to network with others concerning this growing service need.

The guidance of hearing-impaired university students in Taiwan, R.O.C.

Tuesday, 14:45 **Room 2**

Hsu, Che-Ming *(Taiwan, China)*

The Taiwan Ministry of Education recently published regulations on the guidance of handicapped students in university and college in September 1989. They are intended to assist hearing-impaired students to accomplish a higher education, and to assist students to have good emotional adjustment, effective learning, social skills, and a vocation. They are also intended to assist students in the self-realization of their potential abilities, to cultivate a sound personality, and to promote the ability for social service. Financing is to be supported by the Ministry of Education.

An overview of the National Technical Institute for the Deaf (NTID) English program

Thursday, 10:15 **Room 5**

Ishman, Sybil R. *(USA)*

The purpose of this presentation is to provide an overview of the NTID English program. The description entails the following: (1) initial assessment of English skills during the Summer Vestibule Program, (2) English status and procedures, (3) overview of the NTID English Department curriculum framework, (4) portfolio process, (5) English Learning Center, and (6) language support innovations. The NTID English program is designed to allow for the continuous assessment of students' language abilities. Initially, students are assigned to an entry course based upon assessment of overall proficiency in English and reading comprehension. Additionally, composition abilities are assessed. The remainder of the English program for NTID students is individually designed, based upon departmental assessment of the above mentioned skills, as well as English faculty assessments of grammar and vocabulary abilities. Course of study is determined by students' career goals, interests, and current language abilities.

A program approach to teaching language skills to postsecondary students at Gallaudet University

Thursday, 10:15 **Room 5**

Kensicki, Nancy *(USA)*

This presentation is a detailed description of the Gallaudet University English Department's approach to English instruction, starting with the English Language Program and ending with college-level English requirements. Initially, students are grouped for six hours per week of English instruction by their English Placement Test Scores, which will be demonstrated via overhead projector through a succeeding order based on quality of student writing samples. The English Language Program's instruction is more or less on a one-to-one basis, focusing on reading and paragraph writing. This instruction, as well as our approach in freshman classes, with particular attention to Electronic Networks for Interaction (ENFI), is discussed and demonstrated via selected examples from teacher materials. The conclusion of the presentation includes pertinent information such as the journal, *Teaching English to Deaf and Second-Language Students*, plans for the summer English Institute, and the English Department tutoring service.

Mainstreaming of deaf students in further education in Belgium: Method and evaluation after five years of activity

Thursday, 13:30 **Room 5**

Marco, Claude *(Belgium)*

The first deaf student graduated this year from our University, and five other students are now enrolled. A team of four teachers having masters degrees in mathematics, physics, or chemistry have acted as notetakers and tutors for the deaf students. The program will be evaluated on various aspects: the social one, the reaction of deaf students to the tutor and to the professor, the interaction of the tutor with the hearing students, and what mainstreaming means for the deaf and for the hearing community. We have noticed some improvements in teaching with benefits for the hearing students. Parents must not be neglected in this further education process. Their

help is needed for success. During this first experimental period, the students are all oral, so there has been no need for sign-interpreters. Things will change in the future. The success we encounter this time will be helpful for developing in Europe a particular policy for hearing-impaired students. We are working in that direction with the help of the European Community.

The special mission of Tsukuba College of Technology for hearing-impaired students and the present situation

Monday, 15:30 **Room 9**

Miura, Isao *(Japan)*

Tsukuba College of Technology, Japan's first national three-year college for the deaf and blind, was established by law on October 1, 1987, and was opened on April 1, 1990, after more than 10 years of planning. The mission of this college is to promote the socioeconomic independence of the deaf and the blind and to enhance their education through innovative educational methods, capitalizing on electronics and other advanced technology. Course titles and student enrollment for the three years: Design 30, Mechanical Engineering 30, Architectural Engineering 30, Information Sciences and Electronics 60, for a total enrollment of 150. There are 10 students in each class, and in each class an adequate communication system and educational equipment are provided to meet the special needs of the individual student. To guarantee that these special needs are continually met, we have established a Center for Developing Educational Methods. At present, we have 50 students on campus and are endeavoring to achieve the goals that we have set. New hardware and systems that we have developed for teaching deaf students are as follows: a video-library featuring captioned videos, for the auditorium, a real-time display system for captioning, a campus network CATV system, a loop system, a written data transmission system for the classroom, and a CAI system.

University studies for deaf students in Argentina

Tuesday, 14:45 **Room 2**

Nervi, Adriana Inés *(Argentina)*

This presentation gives an overview of postsecondary studies at the third (college) level generally attended by deaf Argentineans. Ideas pertinent to the improvement of postsecondary education in Latin America are also discussed. Argentina has a commitment to motivate deaf students to choose their career path according to previous educational experiences in elementary and high school. Two different groups of Argentinean deaf students are compared. One group includes deaf people trained in traditional oral communication; they have attended or completed secondary studies (high school) and have then gone on to college, studying in such fields as humanities, technology, and biology. After great effort they graduate, but their labor possibilities are limited due to heavy competition in the job market. The second group is comprised of deaf people who have not had access to this type of formal education; they may have attended elementary and sometime middle school, but drop out quite early, sometimes after taking some "practical courses." They have very poor chances of integrating into the work force and the possibility to maximize their abilities is dramatically reduced. There is a great need to increase our awareness about this worrisome situation that affects these two groups; this is not unique to Argentina, but rather common today in many other countries. Deaf people have the right to an education that will allow them a better future and everyone must be made aware of this. This presentation includes the following issues: (1) comparative statistics of oral and non-oral deaf people who have attended elementary school in Argentina, (2) colleges that accept oral deaf students in Argentina, and (3) ideas and recommendations to solve the stated problems.

A study of support services for deaf students learning with hearing students in colleges and universities in Japan

Thursday, 13:30 **Room 5**

Obata, Shuichi *(Japan)*
Ishihara, Yasushi *(Japan)*

The purpose of this study is to clarify suitable support services for deaf students in colleges and universities in Japan. We mailed a questionnaire to 136 deaf students in college and universities (including graduates of the past 10 years) and received 109 responses. Contents of the questionnaire are as follows, (1) profiles of each deaf student, (2) difficulties in learning, (3) troubles of campus life, (4) actual status of support services, (5) special needs to be met in accepting deaf students, (6) need for special services in learning and campus life, (7) need for special training, (8) need for special counseling, and (9) need for special vocational guidance. Results of the questionnaire show that systematic support services for deaf students are not being provided. Within many colleges and universities, most support services depend on the private services of friends and teachers. More suitable and professional support services, therefore, are our immediate concern. In

addition, these support service programs for deaf students need to meet the individual needs of the students, such as needs based on hearing loss and other student-based variables.

Infusing language skills throughout the postsecondary curriculum and instruction

Thursday, 10:15 **Room 5**

Ortolani, Vincent *(USA)*

This presentation discusses how language skills can be promoted throughout a technical curriculum. Three strategies are presented: (1) Infusion of language skills in technical program testing system. (2) Incorporating language skills through electronic mail assignments in technical courses. (3) Construction of a language skill inventory list to evaluate students' language skills in technical courses. Examples of each are shown. Further ways of infusing language skills in technical programs are explored.

Teaching, interpreting and learning: Implications for mainstreaming hearing-impaired students

Thursday, 10:15 **Room 5**

Quinsland, Larry K. *(USA)*
Long, Gary L. *(USA)*

A vague definition of "mainstreaming" has been accepted for more than 20 years, with few attempts to determine the communication characteristics of a classroom environment that impact on the learning of hearing-impaired students. To some, mainstreaming means placing deaf students in the same room as hearing students and making no alterations in instruction. To others, mainstreaming means the implementation of an extensive "support service" system of interpreters, tutors, and notetakers. Few studies have addressed the relative differences between variables that affect student learning in these "mainstreaming" environments. In this study, college students with similar English reading levels, hearing losses, and receptive communication abilities were organized into "classes" and taught new information using a structured script by the same teacher under eight conditions that simulated actual situations. Variables included communication strategies and degree of student involvement. Subjects were given a test for content recall three days after each classroom session. The presenters describe these studies in detail, discuss the implications of the resulting data, and provide specific suggestions for the management of classroom instruction with deaf students in a "mainstream" setting.

Postsecondary education and deafness in Canada

Tuesday, 14:45 **Room 2**

Rodda, Michael *(Canada)*
Hiron, Colleen *(Canada)*

One hundred and forty-seven (147) degree granting, technical, and vocational Canadian institutions in all provinces, the Yukon, and Northwest Territories were surveyed using postal survey techniques. This study investigated special services for deaf/hearing-impaired students attending postsecondary institutions in Canada. These included: oral and sign language interpreters, notetakers, tutors, counselors, full and part-time deaf/hearing-impaired students attending, admission and English language requirements, special programs, special classes, and those conducted in sign language. Information was also obtained regarding financial assistance, extracurricular activities, apprenticeships and worksite placement, as well as the availability of audiological, hearing aid and technical equipment. The type of postsecondary institution was a factor in the availability of interpreting services and special programs for deaf/hearing-impaired students. The study concluded that few deaf/hearing-impaired students attend postsecondary institutions in proportion to their hearing peers. While many issues may be involved, the lack of necessary services, facilities, and resources to provide educational assistance severely limit opportunities for these students.

Support services as resources for mainstreamed deaf students

Thursday, 13:30 **Room 5**

Saur, Rosemary E. *(USA)*

A system of support services for deaf students in mainstreamed educational settings has been developed at the National Technical Institute for the Deaf (NTID) at Rochester Institute of Technology (RIT). At NTID, much as been learned about the needs such students have for resources that enable them to compete with their hearing peers. This knowledge can and should be passed on to others who are in the position of providing support services. However, student numbers, available resources, and the specific educational setting will necessarily dictate the extent to which the NTID model can be adopted or adapted. Therefore, this paper is focused on what are believed to be the essential aspects of providing resources rather than on the mechanics of doing so. This

approach to support services is essentially a developmental one, with the goal of encouraging the growth of the student as an independent, self-advocating individual who is aware of his/her own needs. However, the developmental approach also recognizes the entry level of the student. A brief outline of resources needed by students is provided including standards, delivery, and the need for quality control. Both in-classroom and outside-of-classroom aspects of support are discussed.

Administrators in the United States view their postsecondary programs: Implications for future practices and policies

Monday, 15:30 **Room 9**

Schroedel, John G. *(USA)*

In 1984, the University of Arkansas invited 61 of the larger programs among the 102 listed in the 1983 *College and Career Programs for Deaf Students* to participate in a national study of postsecondary education for deaf students. Among these programs, 51 (81 percent) agreed to cooperate and among these, 46 (90 percent) completed a mailed questionnaire sent to the program administrator. These 46 programs included three rehabilitation facilities, seven technical institutes, 24 community colleges, and 12 four-year colleges. Significant survey findings to be presented include the geographic distribution and salient characteristics of the programs, their staffing patterns, support services provided, extent of academic mainstreaming of deaf students, and rates of withdrawal by these students. Implications from these research results for future practices and policies in postsecondary training are discussed.

IMPACT-ASL: Working with English-illiterate deaf adults

Friday, 9:00 **Room 3**

Taylor, Norma-Jean *(Canada)*

The most invisible group within the deaf community is those who have under-developed language skills and are English-illiterate deaf adults (16 and up). These deaf persons are on the fringe of society isolated without communication. Due to their severely restricted communication abilities, they are prevented from acquiring the skills necessary to live independently and to obtain employment. Furthermore, this handicap can lead to chronic financial dependence on social services and has created a waste of human potential. Language deprivation limits the ability for adults to participate in an educational, social, and vocational environment in a meaningful way. At the Canadian Hearing Society in Toronto, the IMPACI-ASL was established in 1986 to prepare learners with English-illiteracy and under-developed language proficiency in American Sign Language for meaningful participation in deaf and hearing communities. Learners participate in three phases. Following an initial screening they enter a 12-week functional assessment component focusing on language skills, literacy remediation, numeracy, and interpersonal and social skills to promote independence in the deaf community. The final phase/option is a 12/24 weeks part-time evening ASL proficiency and English literacy program. All learners are videotaped during a pre, interim, and exit test. Progress reports are submitted to referral agencies through case conferences to re-evaluate each student's progress. Student performance is monitored daily through classroom and individual observation, utilizing an objectives checklist developed by the program staff and students.

Bystanders in the deaf community: Educational barriers and solutions

Friday, 9:00 **Room 3**

Verlinde, Ruth A. *(USA)*
Bateman, Gerald C. *(USA)*

This presentation is based on two qualitative research studies that examined selected deaf adults' insights, perceptions, and experiences within social and political networks in Rochester, New York's, deaf community. Rochester has attracted a higher number of hearing-impaired persons per capita than any city in the United States and has sometimes been described as a "mecca" for deaf individuals. Although the Rochester community has provided many services for deaf people, several important things are missing. Opportunities for deaf individuals to actively participate in adult education offerings have been lacking. Existing programs are not geared to the wants and unique learning needs of deaf adults. Another factor is the political non-involvement of many deaf adults who do not vote, contact their legislators, or become involved in political events. They leave the political work to their leaders. Finally, there is a misconception that the deaf community is a homogenous group—in fact, there is much diversity. Although networks within the deaf community have addressed some of these barriers, many deaf people continue to be bystanders rather than participants. Continuing education programs that are appropriate to their learning needs should be established, with deaf adults involved in program planning.

Panel on special educational needs and services for hard-of-hearing young adults in various countries

Tuesday, 10:15 **Room 6**

von der Lieth, Lars *(Denmark)*, Moderator
Castle, William E. *(USA)*
Juras, Zvonko *(Yugoslavia)*
Reichstein, Jerry *(Israel)*

The Educational Committee of the International Federation of the Hard of Hearing (IFHOH) has planned a survey to analyse the educational situation of young adult hearing-impaired persons in the countries connected to IFHOH. The results are presented in this session. The aim of the session is to focus on this important topic in the hope that international research can be conducted in 1991, the results of which can be presented in Israel in 1992, after which a final report on the topic will be formulated by the committee containing a series of proposals for all countries in the world where special educational programs for young adult hearing-impaired persons have not yet been established.

The postsecondary deaf student in Israel

Tuesday, 14:45 **Room 2**

Weisel, Amatzia *(Israel)*
Reichstein, Jerry *(Israel)*

The present study addressed three main questions: (1) What are the chances for hearing-impaired (HI) students in Israel to study at the postsecondary education level? (2) What are the main factors determining the odds? (3) What are the principal difficulties such students face in pursuing their educational and professional careers at the postsecondary level? Data for the present analysis were derived from (1) a national demographic and assessment study that examined the academic achievement and social-emotional adjustment of all the elementary school age HI students in special schools for deaf children, special classes, and individual integration (mainstreaming), (2) a series of interviews conducted with HI college and university students, and (3) a research project that compared the life satisfaction and acceptance of the hearing impairment by two groups of young adults: Members of the club for the deaf and members of the club for the hard of hearing. Analysis of the data revealed the following. (1) Students who were placed at the elementary level in individual integration had much better chances to continue later in postsecondary education. (2) Graduates of the individual integration programs were ambivalent in their attitudes toward their own hearing impairment and toward other hearing-impaired people. (3) Deaf students with deaf parents had relatively low chances to continue in postsecondary academic studies in spite of their adequate academic achievement. The importance of these findings for educational and rehabilitation policy making are discussed.

Higher education and the hearing-impaired student

Monday, 15:30 **Room 9**

Wildig, Sarah L. *(United Kingdom)*

In England today there are a variety of opportunities open to the hearing-impaired student following programmes of study in mainstream education. On a qualitative basis, this paper considers some of the experiences of hearing-impaired students, mainstream lecturers, and hearing students, highlighting the solutions found to various situations encountered.

Architectural planning of Tsukuba College of Technology with consideration for hearing-impaired students

Monday, 15:30 **Room 9**

Yoshida, Clara Ako *(Japan)*

The architectural planning of TCT has been completed. Here, I will present several architectural devices for hearing-impaired students as follows: (1) the large atrium with gallery allows students to rest their eyes after the intense concentrated study in their classrooms, - because "to see is everything" is true for the deaf. (2) special selections of materials on floors and walls were considered for use by hearing-impaired students as concerns acoustics, durability, and ease of maintenance, (3) special devices were installed to absorb vibrations caused by the heavy equipment in mechanical space used for plumbing, heating, ventilation and air conditioning (because noise and vibration can disturb the usable hearing of deaf students), (4) special communication and emergency devices in dormitory and lecture rooms of college buildings were installed, using flashing and color lighting. This planning of TCT was assisted greatly by my visit to NTID as a commission member of the Japanese Ministry of Education in 1982.

Effects of early FM use on children's speech perception

Thursday, 15:30 **Room 8**

Brackett, Diane *(USA)*
Madell, Jane *(USA)*

One of the basic principles of aural habilitation is that, if the child is to make use of auditory information, speech must be made audible to the child through a sensory aid. By using FM units as primary amplification for hearing-impaired infants and preschoolers, it is possible to provide these children with the raw material for language learning - audible speech input. The use of an FM transmitter/ microphone not only increases the intensity of the speech signal at the child's ear, but also improves the signal-to-noise ratio under the negative listening conditions of noise and distance. The purpose of this study was to document the auditory abilities of 10 profoundly hearing-impaired children (2 1/2 to 6 years) who have worn FM units as their primary amplification for two to four years. They were administered the AB Lists (Boothroyd, 1984) and their performance was compared with the performance of a large group of hearing-impaired students with comparable losses who wore conventional amplification (Boothroyd, 1984). These profoundly hearing-impaired young children performed like the older children with severe hearing losses, thus demonstrating the improved use of residual hearing after a shorter period of time with optimal amplification.

Incidence and causes of childhood deafness in Central America

Thursday, 13:30 **Room 8**

Cancel, Cruz A. *(USA)*

This paper deals with the incidence and known major causes of childhood deafness. Part of the discussion is based on the writer's observations in Central American and Caribbean countries, and include the most common causes of deafness. Some environmental, educational, political, and cultural aspects that typically affect the development of education programs for the deaf population in these countries are also pointed out. Since formal studies on the incidence of the deaf population in the third world countries, especially in Central America, are limited and not easily available, most of the information gathered for this study comes from interviews with leaders of adult deaf groups and some professionals who have spent years doing volunteer, part-time work with adult deaf groups. The conclusion includes some sections of videotapes that show signs that deviate from the standard American Sign Language that these Hispanic deaf individuals have created.

Influence of aetiological factors on the linguistic progress of hearing-impaired children

Thursday, 13:30 **Room 8**

Das, V. K. *(United Kingdom)*

A study was carried out in Manchester involving 106 children with bilateral sensori-neural hearing loss, ages 7 to 16 years. The aetiology or causes of hearing loss, for the total sample of 106 children was determined retrospectively during the period of the study following the use of a questionnaire, personal interviews with one or both of the parents, and from information obtained from medical notes and past hospital records. The children were then placed under six aetiological groups as follows; Genetic, Congenital Rubella infection, Congenital Cytomegalovirus infection, Adverse Perinatal factors, Meningitis, and Undetermined or Unknown group. The largest numbers of children with a hearing loss belonged to the Unknown group of causes. A brief comparison is made with a current prospective aetiological study from the same geographical area. The possible implications of various aetiological factors on the assessment and progress of children is also discussed. The additional disabilities as found in the children belonging to different aetiological groups is also reviewed in an attempt to incorporate the influence of aetiological factors on their progress.

Amplification for infants in the short and the long run

Monday, 11:15 **Room 12**

Evans, Chris H. *(USA)*
Reid, Sheryl G. *(USA)*

Too often our babies are underamplified. Studies with infants strongly suggest that auditory perceptual processes begin to undergo significant modification in the latter half of the first year of life. This suggests that diluted amplification until age 1 is too little, too late. Infant babble is a precursor to speech perception. We know that infant babble will subside if the child does not have adequate auditory feedback. Babies come into our program with poorly fitting earmolds, which do not allow the hearing aids to reach an appropriate volume. Low frequencies are reduced with tone controls. This, coupled with excessive compression, provides a distorted speech signal and an earmold plug that may further reduce

low frequency residual hearing. Initial amplification in the low and mid-speech frequencies should be considered, as it allows the infant to: (1) hear him/herself, (2) explore the environment auditorily, (3) attend to rising intonation speech patterns from caregivers, (4) become aware that pauses in the speech have meaning, and (5) integrate facial expression with speech patterns. This very often can be best accomplished with a body hearing aid or FM system. Amplification that accepts an auxiliary microphone can help the infant identify the source of sound that precedes auditory association. As the child accepts and enjoys amplification, low frequencies can be replaced with mid and high speech frequencies. By the time the child is able to walk, repeated test measures may support specific post-auricular amplification. It is critical that the infant respond to speech at a minimum of 50dBHL. An earmold providing a good acoustic seal will determine the appropriate timing for BTE amplification. Hearing aids on children should have good telecoils and direct audio input with maximum performance flexibility.

Infant stimulation

Thursday, 13:30 **Mezz. Holiday Inn**

Evans, Chris H. *(USA)*
Reid, Sheryl G. *(USA)*
Wilson, Barbara *(USA)*

This poster pictorially demonstrates infants and toddlers in action with parents and with each other. We know that the frequency with which caregivers give infants opportunities to take turns in communication affects the rate at which they become conversational participants. We believe the hearing-impaired infant can learn the rules of turn-taking communication through audition, sign, facial expression, and body language. Auditory training goals should help the child and parent become aware that segmenting of the breath stream sends meaning to the listener. Silence can be equal in meaning to a rising or falling intonation pattern. We also believe abundant vocal play can improve didokokanetic rate and auditory feedback of self that will have increasing importance as speech and language develops. A variety of amplification arrangements are pictured, with surveys supporting the positives and negatives of each system. Cost and upkeep of each option is identified.

The use of personal FM systems with hearing-impaired preschoolers

Thursday, 15:30 **Room 8**

Franklin, Barbara *(USA)*

Classrooms provide a poor acoustical environment since, with conventional hearing aids, it is often difficult for hearing-impaired children to discriminate between the voice of the teacher and background noise. In addition, speech discrimination decreases as the distance between the teacher and child increases. This paper presents the results of a study to compare communication skills of young hearing-impaired children under the following two conditions: (1) when wearing appropriately fitted and functioning hearing aids, and (2) when wearing a personal FM system coupled to their hearing aid(s). Six children, ranging in age from 2 1/2 to 7, were selected to participate from the Hearing-Impaired Program in Marin County, California. They all had bilateral sensorineural hearing losses ranging from moderate to profound. A single-subject ABA withdrawal experimental research design was used. All 6 children accepted the personal FM systems. There was a significant increase in performance for two of the subjects and an increase for three others. It is anticipated that some of the children will continue to wear the FM systems when they are mainstreamed into the regular kindergarten class. This research, was supported by the Research and Development Assigned Time Program, San Francisco State University.

Panel on new developments in hearing research

Monday, 15:30 **Room 5**

Frisina, D. Robert *(USA)*, Moderator
[illegible]na, Robert D. *(USA)*
[illegible]eill, William E. *(USA)*
Walton, Joseph P. *(USA)*

Technological developments in scientific measurement tools and procedures have led to discoveries pertaining to the ways in which the hearing system works. These in turn have led to experimental and clinical approaches to diagnosis, treatment, and remediation of hearing disabilities. The current interest in cochlear implants is but one of the outcomes of new discoveries and new technology. This presentation consists of a panel of experts associated with the International Center for Hearing and Speech Research who will describe recent developments in our understanding of the major peripheral and central auditory nervous system sites, the findings of which have implications for remediation procedures both medical and educational. The primary objective of this session is to provide

educators with current knowledge of the hearing system and to allow for discussion that should generate hypotheses for improvement in communication and educational practices with hearing-impaired infants, children and adults.

The impact of CMV as an etiology of deafness

Thursday, 13:30 **Room 8**

Howell, Ruth F. *(USA)*

Cytomegalovirus (CMV) has been documented in the medical literature during the past decade as one of the TORCH infections that causes damage to the developing fetus, particularly during the last trimester of the pregnancy. The research shows that hearing loss is often associated with a diagnosis of CMV. Children who have a significant hearing loss as a result of CMV often exhibit other medical and /or educational conditions that should be considered. These include physical difficulties, such as enlargement of the liver and spleen, vision problems, damage to multiple organ systems, jaundice, lower birth rate, heart problems, microcephaly, possible mental retardation, and delayed gross motor and fine motor development. Any combination of these difficulties will obviously affect educators who are designing education programs for these youngsters. First, the child may excrete CMV for the first three to five years of life, thus precautions must be taken to avoid spreading the virus. This has implications for the service providers and for the administrators of early intervention programs as to how to deal with the CMV child in a home and/or school setting. Second, children with CMV may have significant learning problems that will require specialized programming. Many of these children may show deficits in sequencing, short-term memory, temporal/spatial relationships as well as visual/motor/perceptual deficits. Some of these children may have progressive hearing loss, thus consistent monitoring and follow-up will be vital. Suggestions regarding program design for children diagnosed with CMV are offered. Administration concerns are also addressed.

Etiological distribution and characteristics of deaf children in Greece

Thursday, 13:30 **Room 8**

Lampropoulou, Venetta *(Greece)*

The purpose of this study was to examine the major distribution of etiology of childhood deafness in Greece. Data were collected from 408 Greek hearing-impaired children of varying ages. These children were examined at the Medical-Pedagogical Center of the National Institute for the Deaf in Athens, during the past seven years. Some characteristics such as additional handicaps, availability of programs, appropriate placement, early intervention, and rehabilitation services are also examined and discussed in this paper. The major findings suggest that there is little difference regarding the etiology of deafness in Greece compared to other countries, but there are major problems in the area of appropriate placement and rehabilitation services for children identified as having a hearing loss. One of the most problematic areas seems to be the area of appropriate placement for hearing-impaired children with multi-handicapping conditions.

New induction-based auditory training technology

Thursday, 13:30 **Mezz. Holiday Inn**

Lederman, Norman *(USA)*

Hearing aids are not "smart," i.e., they amplify room noise as well as the desired sound. The generally accepted solution is to bridge the distance between the desired sound and the listener. This is usually achieved with hardwire, FM, infrared, or induction loop systems. All of these systems, except for loops, require the use of special receivers that can be bulky, obtrusive, and troublesome. The problems that have been inherent in loop systems (e.g., spillover and poor field uniformity) were studied. With support from the USA Department of Education, a new induction-based system has been developed that eliminates or minimizes these problems while enabling users to access the system with personal hearing aids. In this poster session, the author, an audio systems engineer with more than 12 years experience in designing and using technology for hearing-impaired people, presents photographs, graphics and other materials describing the system and current test sites.

The contribution of the cultural institutes of the Federal Republic of Germany to the development of paedo-audiology in South Asia

Thursday, 10:15 **Room 2**

Löwe, Armin *(West Germany)*

On behalf of the German Cultural Institutes in India, Pakistan, and Bangladesh, and in close cooperation with professional people from these countries, during the past eight years, the presenter has conducted a considerable number of workshops and seminars for parents and teachers of hearing-impaired children, as well as for pediatricians and otologists. Most of these activities were done together with the head of the

ENT department of one of the leading hospitals at Delhi. The proceedings of these workshops were published and distributed free of charge. In addition, these activities resulted in the opening of some child audiology units in India. In Pakistan, a large speech and hearing center will be included in the Pediatric Hospital under construction at Lahore. In Bangladesh, a national child audiology center will be erected by a German welfare organization on a plot of land given by the government to the Bangladesh Society for Assistance to Hearing-Impaired Children. All these and other activities and their effects on the education of hearing-impaired children in South Asia are described in this presentation.

The use of individual hearing aids by hearing-impaired children: A long term survey, 1977-1987

Thursday, 15:30 **Room 8**

Markides, Andreas *(United Kingdom)*

This paper reports on the use of individual hearing aids by hearing-impaired children over a period of 10 years, from 1977 to 1987. During this period, the hearing aids of 1,853 children attending schools for the deaf, units for the partially hearing (PHUs), and ordinary schools were examined. The examination covered those parts of a hearing aid which a teacher of the deaf, without the use of sophisticated equipment, could reasonably be expected to check and make sure are functioning properly. Thirty-nine (39) percent of these children were using bodyworn aids, and the rest (61 percent) were using ear-level aids. There was a marked deterioration of both bodyworn and ear-level hearing aid use with increasing age of the children, and this was true for both boys and girls in schools for the deaf, PHUs, and ordinary schools. The girls were making better use of their aids than the boys. Only very little difference in good hearing aid use was found between the children in schools for the deaf and those in PHUs. (Good use - bodyworn aids in schools for the deaf 43 percent, PHUs 44 percent; ear-level aids, schools for the deaf 56 percent, PHUs 58 percent). The poorest use of aids was associated with the hearing-impaired children attending ordinary schools (Good use - bodyworn aids 36 percent, ear-level aids 49 percent). Overall, only 43 percent of the children wearing bodyworn aids were making good use of them. The corresponding figure for ear-level aids was 54 percent. These findings are discussed and suggestions for improvements put forward.

Conversational development in a child with a cochlear implant

Monday, 11:15 **Room 12**

McGinnis, Mary *(USA)*

The study presented is part of a three-year project designed to document the effects of cochlear implantation on conversational skills; specifically, topic negotiation, maintenance, and repair. Data collected over two years on one of the implanted subjects (at ages 5-7 years) is compared to data from one of the hearing subjects (at ages 5-6 years). Data demonstrate the implanted child's conversation strategies as a hearing child, as well as after meningitis and following implantation. Analysis reveals differences in conversational strategies between the hearing and hearing-impaired subjects in early data, with differences decreasing after two years post-implant. Differences occur primarily in the use of particular topic negotiation types, function of eye gaze, and repair types. The hearing-impaired child's growth in conversational skills may have an important effect on the kind of input he receives. As the child's skills increase, his conversational partners use fewer features of speech registers reserved for incompetent speakers (e.g., Baby Talk), thus providing him with more appropriate linguistic models.

Development of an intelligent hearing aid fitting system

Tuesday, 14:45 **Room 3**

Nakagawa, Tatsuo *(Japan)*
Suto, Masahiko *(Japan)*
Imai, Hideo *(Japan)*
Onuma, Naoki *(Japan)*

A computerized hearing aid fitting system has been developed. This system consists of the following three parts; the hearing aid data base, the hearing aid selection, and the hearing aid evaluation. In the hearing aid data base, we have stored the catalog and acoustical measurement data of almost all behind the ear and box type hearing aids available in Japan. Persons can examine the distribution of acoustical characteristics of hearing aids from the data base. In the hearing aid selection, when users input audiological data such as hearing levels of the child for example, a computer automatically calculates the most comfortable level (MCL) and the uncomfortable level (UCL) of the person. The most suitable hearing aid is retrieved from the data base, as the hearing aid amplifies speech to the MCL and the same time does not exceed the UCL. In the hearing aid evaluation, users test the audibility of the child with the selected hearing aid in a field. A revised articulation index is calculated for the amplified hearing threshold data.

On the basis of the tested data, the hearing aid is evaluated.

Meeting the amplification needs of hearing-impaired children in developing countries: The earmold factor

Thursday, 10:15 **Room 2**

Okpojo, Allison O. *(United Kingdom)*

There is an increasing awareness of the potential benefits of amplification use in services for hearing-impaired children (HIC) in developing countries. Sophisticated electronic hearing aids are being introduced in these countries with little thought given to the question of earmold supply. There is considerable evidence to support the view that earmold provision is the main factor resulting in totally ineffective amplification use in those countries now introducing electronic hearing aids. The major problem areas associated with efficient earmold provision in the developing countries has been investigated by a questionnaire survey in 44 Third World nations. In this presentation, a possible earmold technology/programme for developing countries is discussed, based on the findings of the questionnaire survey. In addition, current efforts to elicit novel earmold materials suitable for instant earmold fabrication for application in developing countries are examined.

Audiological services and amplification for deaf children in Nigeria

Monday, 11:15 **Room 12**

Olukoju, C. M. *(Nigeria)*

The role of the speech pathologist and the audiologist in a hospital setting is to diagnose and carry out treatment and rehabilitation for all cases of speech and hearing impairment. To cope with millions of hearing-handicapped people, most hospitals, schools, and institutions in Nigeria have a speech and hearing department. However, this paper highlights the steps taken by the Federal government, otologists, and audiologists to provide necessary facilities, in-service programmes, counselling, and orientation of parents/clients toward the use of amplification. Various methods of preventing hearing loss against further reoccurrences are established. Also, the use of traditional (concoction) spiritual and medical treatments to cure hearing loss that can cause backwardness in the deaf people's education is outlined. Finally, various listening devices being used by the audiologists and otologists to resuscitate people's hearing is briefly discussed.

Aural amplification among hearing-impaired students

Monday, 11:15 **Room 12**

Ravishankar, Kudanahalli Chandrappa *(India)*
Rosica, Sebastian J. *(USA)*

This study is aimed at the evaluation of aural amplification in a group of hearing-impaired subjects with various degrees of hearing loss. All the subjects have been using hearing aids and have been attending the St. Mary's School for the Deaf. A set of measures inclusive of the functional gain, real ear gain, and the coupler gain was obtained from all the subjects with their hearing aids and other devices. These measures were compared with their speech discrimination abilities and the findings on all measures were evaluated against their amplification requirements. The results will be compared with a group of subjects in India and the data will be used to design a model program of aural amplification for implementation in India.

Speech perception results in children using the 22-electrode cochlear implant

Friday, 9:00 **Room 5**

Rickards, F. W. *(Australia)*

Nineteen (19) profoundly hearing-impaired children ranging in age from 3 to 20 years have been implanted with the 22-electrode cochlear implant (Cochlear Pty Ltd) at the University of Melbourne Cochlear Implant Clinic. Five children (aged 6.0 to 14.8 years) have achieved substantial scores on open set speech tests using hearing without lipreading. Phoneme scores for monosyllabic words ranged from 30 percent to 72 percent. Word scores in sentences ranged from 26 percent to 74 percent. Four of these five children were implanted during preadolescence and the fifth who had a progressive loss, was implanted during adolescence. Using closed set speech perception tests or vowel imitation tasks, six children (aged 3.0 to 6.7 years), who have either been implanted recently or are too young for detailed assessments, have shown that they are beginning to use the auditory input provided by the implant. The remaining children (aged 13.11 to 20.1 years) have not demonstrated open set recognition but are all full time users of the device. This group was implanted during adolescence after a long duration of profound deafness. The results are discussed with reference to a number of variables that may contribute to successful implant use, such as age at onset of deafness, duration of deafness, age at

implantation, educational program, and type of training.

Visual, auditory, and electroacoustical hearing aid monitoring in Mexico

Tuesday, 14:45 **Room 3**

Salomon-Friedmann, Regina *(Mexico)*
Amigo, Teresa *(Mexico)*
Lara, Esther *(Mexico)*

The high incidence of hearing aids that do not work properly that has been reported elsewhere prompted an interest in determining the situation in Mexico. The investigators evaluated 309 hearing aids (126 body aids, 183 BTE) belonging to the students in eight public day schools for the deaf in the metropolitan Mexico City area. The hearing aid checkup involved visual, auditory, and electroacoustical categories of evaluation. In the electroacoustic evaluation, 78 percent failed in at least one category. In the auditory evaluation, 22 percent failed. In the visual evaluation, 56 percent had at least one problem. Specific problems in each of these three areas of evaluation are discussed and recommendations are presented.

Matching people and assistive technology devices

Thursday, 13:30 **Mezz. Holiday Inn**

Scherer. Marcia J. *(USA)*

As assistive technology devices (ATDs) for persons with physical disabilities and assistive listening devices (ALDs) for hearing-impaired persons continue to proliferate worldwide, increasing attention needs to be directed toward their appropriate selection. We know that a variety of factors can influence a person's decision to use or forego a technological device. Many of these influences have been identified through comparative case studies of (1) adults with cerebral palsy or spinal cord injuries in the case of ATD use/non-use and (2) hard-of-hearing adults in the case of ALD use/non-use. ATD users and non-users completed three instruments: The Taylor-Johnson Temperament Analysis, The Personal Capacities Questionnaire, and the Inventory of Socially Supportive Behaviors. Both ATD and ALD users/non-users were interviewed about the use of their devices and how easily, comfortably, and effectively they operated them and under what conditions and circumstance they experienced difficulties. The results indicate the people's device use is dependent upon the characteristics of four major influences as follows: (1) The particular device (design, service delivery), (2) the person's abilities and personality (aptitudes, judgment, outlook, expectations), (3) the nature of the person's disability (type, severity, age at onset), and (4) the person's psychosocial environment (support from family and friends, life experiences, training and education). The Assistive Technology Device Predisposition Assessment (ATD PA) is discussed as a means of obtaining a comprehensive profile of individuals in the above mentioned areas so that the most appropriate and effective ATDs or ALDs can be recommended and desirable modifications to devices can be made. The ATD PA can be a valuable tool in the earliest stages of equipping persons with any kind of assistive device.

Prevention of deafness in Nepal

Thursday, 13:30 **Room 8**

Shrivastav, Rakesh Prasad *(Nepal)*

Nepal, one of the least developed countries in the world, has a population of 18 million. There are only 18 otolaryngologists and one audiologist in the country. A sample survey on disability conducted in 1981 (International Year of the Disabled Persons) showed that hearing impairment is the number one disability in Nepal - 33 percent of all disabilities. Statistics suggest that otitis media and other infections in children are the major causes of deafness. Only recently have prevention measures for deafness been initiated. In 1985, a Prevention and Control Program for Deafness was started by the Government in collaboration with the World Health Organziation. Two national workshops have been held and recommendations made. An orientation program on hearing impairment in children for doctors and paramedical personnel from various parts of the country was held this year. Tribhuvan University Teaching Hospital started a residency program in otolaryngology in 1987 in order to meet the shortage of otolaryngologists in the country. Since 1988, ear services are available for the first time outside Kathmandu. The Society for the Welfare of the Hearing Impaired, an NGO, now holds mobile ear surgery camps regularly in various parts of the country. Public health regarding deafness in children and other programmes have been launched.

Installation and use of small area loop systems

Thursday, 15:30 **Mezz. Holiday Inn**

Snell, Karen B. *(USA)*
Silver, George D. *(USA)*
Estes, Kenneth W. *(USA)*

Small area loop systems can be useful to deaf adults who want the capability of listening to amplified sound and signaling devices without bothering others

in the same (or adjacent) room who may not wish to listen. In addition, the small area loop system eliminates the need for direct input boots and cords, FM wires and transmitters, and other hardwire components which physically tie the individual to one listening location and device. Theoretically, all sound sources in a room can be connected to a small area loop. The output of signaling devices, stereos, and VCR's can be connected to a single induction loop for a variety of purposes. In practice, to design a loop system that will accommodate multiple sound sources and uses can be tricky. Unfortunately, commercially installed loop systems are expensive to have maintained and lack flexibility in meeting the changing personal needs of the individual. In this presentation, the authors describe and demonstrate the installation and potential uses of three loop systems for the deaf adult who wishes to "do-it-himself." The designs vary from inexpensive and simple to expensive and complex, but each can be accomplished by the motivated individual who wishes to increase the listening/signaling options in her home. Consumer, educator, and engineering perspectives are provided by the three authors.

Comparing auditory abilities in children with cochlear implants and hearing aids

Friday, 9:00 **Room 5**

Somers, Margery N. *(USA)*

Auditory abilities of prelingually deaf children with cochlear implants and hearing aids receiving different training are compared. Speech perception performance is compared in each of four groups of children: hearing aids and total communication (sign language), hearing aids and auditory-oral communication, implants and total communication, and implants and oral communication. A fifth group of hearing aid children is considered an implant control group. They also have no useful aidable hearing (unaided, better-ear, pure-tone averages greater than 110 dB). Five speech perception subtests measuring pattern perception, spondee and monosyllable identification, and sentence comprehension, both open-and closed-set, were administered. All material was presented through recorded voice at 76 dB SPL. Children with cochlear implants perform equal to children with hearing aids, given the same training. The hearing aid children have aidable residual hearing. The cochlear implant children have no aidable hearing. Thus, it appears that the cochlear implant provides the totally deaf child with the auditory capacity of a child of (at least) the 100-110 dB range. The cochlear implant control group performed only slightly above chance levels, exhibiting low performance on all measures. Children with the Nucleus 22 cochlear implant performed better on all measures compared to children with the 3M/House cochlear implant. Low performance on closed- and open-set sentence material indicates that prelingually deaf children, regardless of hearing device or type of cochlear implant, cannot use hearing alone to process connected language.

Measurement of hearing threshold in multi-handicapped children

Thursday, 10:15 **Room 2**

Sugawara, Hiroichi *(Japan)*

It is known that the hearing threshold of multi-handicapped children is difficult to determine by tests that require the children's cooperation. The purpose of this study was to find out how to measure hearing threshold of multi-handicapped children. The subjects were 41 children aged from 2 years and 4 months to 11 years and 10 months. All were mentally retarded, accompanied by one or more of the following handicaps: visual, auditory, emotional, and physical handicaps. Their mental levels were not determined by standard intelligence tests. Conditioned orientation reflex audiometry was administered by a competent audiologist who made audiometric assessments over a period of five years at intervals of four to six months. The results showed that: (1) COR audiometry was an effective test for measuring hearing thresholds of multi-handicapped children; (2) thresholds found at the first test tended to be higher than those at later tests, and that the lower thresholds at the second tests were mostly maintained in the third and following tests; and (3) the criterion to determine hearing fluctuation was derived for frequencies 250, 500, 1000, 2000, and 4000Hz.

Hearing aids database for computer fitting

Tuesday, 14:45 **Room 3**

Tachiiri, Hajime *(Japan)*
Takahashi, Nobuo *(Japan)*

Nowadays, many children are better able to use their residual hearing due to the progress made in hearing aid technology. Many hearing-impaired children derive much educational benefit from hearing aids adapted to the students' particular hearing level and/or the setting of the hearing aid trimmer (for example, volume, tone, maximum output control, etc.). Hearing aid data can be recorded on a floppy disk. The result of computer simulation for the frequency response curve in a given setting is displayed on the CRT. This enables us to get the knowledge and select the best hearing aid without hearing aid test equipment. This system is very flexible and powerful for selecting and fitting the hearing aid.

Electrophysiological approach to the hearing electroacoustical correction and cochlear implantation

Friday, 9:00 **Room 5**

Tavartkiladze, George A. *(USSR)*

The efficiency of a rehabilitation system for hard-of-hearing patients depends on precise diagnosis of the hearing impairment, as well as to the development of individual hearing aid characteristics selection methods. Further refinement of the rehabilitation system demands the thorough study of the primary auditory reception mechanisms under pathological conditions. For quantitative estimation of cochlear fibers' filtering characteristics and comparison with psychophysically determined critical bands in normally hearing persons and patients with sensorineural hearing loss, we investigated both fiber effective bandwidth by the power integration of fiber tuning curve area, which was considered as linear filter, and AP-tuning curves under simultaneous masking conditions. The deterioration in frequency selectivity determined in our investigations is not the only factor involved: the temporal coding of speech is also affected in a way not at all understood in physiological terms. Speech sounds may be represented as a number of concentrations of energy at formant frequencies. In the normal cochlea (at least at low to moderate sound levels), these concentrations of sound energy could be expected to be presented in peaks of activity along the cochlear nerve fiber array from the apex to the base of the cochlea. In pathology, however, where the tuning of the individual cochlear nerve fibers has become blunt, this would be expected to "smear out" the peaks of activity. Under these conditions, no further processing by the upper levels of the auditory system can easily compensate for the lost information. All this is significant for electroacoustical correction of hearing, as well as for the cochlear implantation theoretical basis development. The deterioration in frequency selectivity means that formants may not be adequately analyzed because of the increased resolving bandwidth and because of abnormal spread of masking from higher level lower frequency components. Apart from simple frequency weighing of the signal against the lower frequencies, it would appear that some means is required to artificially increase the separation of the frequency components for them to be analyzed adequately. One way of accomplishing this could be to refilter the speech signal in such a way as to extract alternate formants and to present these dichotically in order to increase the frequency separation between adjacent frequency components presented to each ear, relying on central fusion to recombine the dichotic information. This, in fact, should enable the auditory system to make the individual frequency components relatively free from imperfect resolution, and consequent masking by one another.

The use of radio frequency (FM) hearing aids by hearing-impaired students in integrated settings

Thursday, 15:30 **Room 8**

Toe, Dianne *(Australia)*

Radio Frequency hearing aids are fitted widely to hearing-impaired students in Australia, yet there have been few research studies to evaluate their effectiveness in enhancing the reception of spoken language in the classroom. Considerable anecdotal evidence and some formal and informal investigations suggest that young adolescent hearing-impaired students in integrated settings often reject the use of Radio Frequency hearing aids. Preliminary interviews and a pilot study suggested a number of reasons for R.F. aid rejection. A study was undertaken to compare two groups of students fitted with R.F. aids. Students were aged 10-16 years and educated in integrated settings. Group one were students judged by teachers to be regular R.F. aid users with a positive attitude toward the aids and Group two were judged by teachers to be irregular or non R.F. aid users with a negative attitude toward their systems. The groups were compared on a large number of factors including the evaluation of R.F. aid benefits for speech perception, comparative personal hearing aid and R.F. aid clarity in the classroom, attitudinal factors, R.F. aid calibration, and electroacoustic performance and classroom dynamics. Preliminary results are discussed for their implications for increasing the successful use of Radio Frequency hearing aids by integrated hearing-impaired adolescents.

A hearing aid monitoring and maintenance program in the public schools on Guam

Tuesday, 14:45 **Room 3**

Triolo, Dennis *(Guam)*

A hearing aid monitoring and maintenance program was established in public schools on Guam, the westernmost possession of the United States in the Pacific. The program involves 60 Total Communication students and features daily listening checks, electroacoustical analysis, major repairs, new earmolds, new batteries, and new hearing aids. Implementation of the program significantly increased hearing aid usage. Further, the electroacoustical condition of the hearing aid was substantially improved with 85 percent of the hearing aids being in optimal electroacoustical condition during random testing. However, the average user gain, the volume control level setting of the hearing aids, was less than one-fourth the amount of the hearing impairment. Previous studies including Brooks (1973) and

McCandless (1976) have indicated that sensori-neural loss usually have use gain level settings at one-half the amount of hearing impairment. It was hypothesized that the low use gain was the result of a school curriculum lacking in aural-oral activities, due to teachers not using oral speech in the classrooms, and due to the lack of auditory training activities. It was postulated that simply providing optimal condition hearing aid will not establish a true Total Communication Program.

Non-individualized low cost hearing aids--an alternative solution

Thursday, 10:15 **Room 2**

von der Lieth, Lars *(Denmark)*

During the last 50 years, intensive work has been done to help each hearing-impaired person make an optimum adjustment to hearing aids. As our diagnoses become more and more precise, the selection of the proper equipment is based on a genuine coordination of test data from the person and the specification of the hearing aid in question. The fitting of hearing aids and molds is becoming more and more precise and their care becomes a natural part of the hearing aid adjustment. But even in the most advanced countries only a part of the hearing-impaired population is actually helped with individual hearing aids. For different reasons many persons never do have hearing aids. In many countries very few hearing-impaired children (and adults) have the opportunities of getting a hearing aid because of the cost and lack of technical/medical facilities in their region. The author discusses the possibilities of developing alternative hearing aids as non-individualized low cost equipment, which can help a great number of hearing-impaired persons to live a better daily life although they will not have the same help as they could get--under other conditions--from an individual hearing aid. The World Health Organizations (WHO) has shown interest in the development and testing of such equipment and a research plan for such a procedure is presented.

Fitting of hearing aids in a classroom for hearing-impaired children in Japan

Thursday, 15:30 **Room 8**

Yamanouchi, Hirotaka *(Japan)*

In Japan, there are both schools for the deaf and classrooms for hearing-impaired children as educational alternatives for hearing-handicapped children. The former covers the children with serious handicaps, and the latter covers children with comparatively slight handicaps and who want integration within an ordinary school. To assist them in adapting, auditory compensation for hearing loss is one of the most important tasks. Therefore, a teacher in charge of a program such as a class for hearing-impaired, is required to have special audiological knowledge. For example, fitting of hearing aids is carried out as follows: (1) Confirmation and diagnosis of the hearing impairment. (2) Comprehensive assessment of hearing. (3) Mapping out a course for fitting a hearing aid. (4) Guidance and training before fitting the hearing aid, and confirmation that it will not be harmful. (5) Making an ear mold. (5) Determination of the type of hearing aid. (7) Fitting. These steps are discussed further in this presentation.

Mainstreaming children with multichannel cochlear implants: Identifying and serving needs of school personnel

Friday, 9:00 **Room 5**

Zara, Carol V. *(USA)*
Ying, Elizabeth *(USA)*
Brackett, Diane *(USA)*

The use of the multichannel cochlear implant in children has added a new dimension to the services that are needed by hearing-impaired children in the mainstream setting. The addition of children with coclear implants to the existing population of mainstreamed hearing-impaired children poses new and unique challenges to the professionals providing direct service. Since the cochlear implant is new, many professionals working with hearing-impaired children have had limited exposure to information regarding selection criteria, pre- and post-implant training needs, and general information about the equipment and function of the cochlear implant. The regular classroom teacher, in particular, may have many questions as to expectations for these unique children within their classroom. As cochlear implants in children become more frequent, the actuality of their integration into mainstreamed classrooms becomes more of a reality. In an attempt to identify the needs of professionals servicing children with implants, a questionnaire was developed to assess the knowledge and expectations of these professionals. Following the initial distribution of questionnaires, a workshop was held to provide information and hands-on experience to persons interested in working with children with cochlear implants. The questionnaire was readministered following the workshop. Preliminary results indicate that more accurate perceptions and expectations resulted from increased exposure to information regarding cochlear implants in children. Follow-up inservice sessions from the cochlear implant center are necessary to support the

regular educators as they implement programs for these children.

The participation of the Chilean deaf people in society

Tuesday, 10:15 **Room 3**

Atala Aguad, Jacqueline P. *(Chili)*

The Chilean community of adult deaf people is small in relation to the great majority of hearing people, yet they are organized in associations and clubs that help them share with their equals. The right lines for integration in Chile are still under discussion. Goals considered to be fundamental are social, labor, political, and educational participation: The first of these is the only one that really exists, although with difficulty due to the fact that the prevailing thought in the country is that deaf people have to speak and behave like the normally hearing. Social integration is seen as an essential element in every human being's life. Years ago, deaf people were completely unknown in their communities, and even the schools in charge of their education did not help them much outside of their classrooms. As time passes, this situation has been changing. However, every time society organizes an activity in which deaf people cannot participate, deaf people create similar ones for themselves. This is the theme of this presentation which will show the values, models, and characteristics of deaf people in Chile.

Factors that have helped deaf people to become politically active

Friday, 9:00 **Room 2**

Bateman, Gerald C. *(USA)*

The major focus of this study was to determine the factors that have helped or hindered deaf and hearing-impaired adults in the Rochester, NY, area to become politically active, and to obtain their perceptions of the forces that have shaped the sense of political activism of other deaf people. The issues that were investigated were: (1) the deaf adults' understanding of what political activism is, (2) self-perceived barriers to political activism, (3) the impact of families on the development of political activism, (4) the impact of schools on the development of political activism, (5) communication concerns in political activities, (6) their experiences in political activism, (7) their attitude toward working with other deaf people, as well as hearing people, to achieve political goals, (8) self-perceived political and social issues, concerns and accomplishments in the deaf community, (9) the impact of captioned news on deaf people's sense of political awareness and activism, and (10) the roles of organizations for the deaf and hearing impaired in political activities. The leaders identified several factors and experiences that have helped them to become politically active as well as barriers they had to overcome.

Panel on "Deaf Way" revisited

Thursday, 10:15 **Room 1**

Bravin, Philip *(USA)*, Moderator
Lindquist, Jean *(USA)*
Thumann-Prezioso, Carlene *(USA)*
Garretson, Mervin *(USA)*
Tsuchiya, Michiko *(Japan)*
Karchmer, Michael *(USA)*

This session provides participants with an overview of **The Deaf Way: An International Conference and Festival on the Language, Culture, History, and Art of Deaf People.** The Deaf Way, held July 9-14, 1989, was a benchmark in deaf history. The celebration brought together more than 5,000 participants to attend conference sessions and festival activities. Panelists will share programmatic information and discuss the impact of the Deaf Way.

Is "hearing" only for the rich? Constraints on the provision of services in developing countries

Friday, 9:00 **Room 2**

de Carpentier, Andrew L. *(Jordan)*

This paper uses some statistical information on the availability of services for the deaf in developing countries as a frame of reference for the identification of some of the obstacles to more and better provisions while, at the same time, recognizing the extent of presently available services. The structure of services and the role of professionals is discussed, with reference to, and suggestions for the improvement of the role of medical practitioners. The need for hearing-equipment is discussed and problems of cost are analyzed. Focus is on socio-economic aspects and some suggestions for possible solutions are given.

The National Information Center on Deafness

Thursday, 15:30 **Room 3**

DiPietro, Loraine *(USA)*

This presentation discusses the concept of an information center in general and identifies various currently available information resources with information about deafness or related topics. Specific

discussion of the National Information Center on Deafness (NICD) at Gallaudet University covers: (1) the scope of its work and its varied audiences, (2) the information housed at NICD, including its databases, (3) network access to NICD's staff, and (4) how NICD works with educators and professionals in the field to benefit deaf and hard-of-hearing people across the nation. The National Information Center on Deafness, established in 1980 at Gallaudet University, is a centralized source of accurate, up-to-date information on topics dealing with hearing loss and deafness. Through its own efforts and through continued collaboration with agencies and organizations serving hearing impaired people, NICD collects, develops, and disseminates information on all aspects of hearing loss and on programs and services offered to deaf and hard-of-hearing persons across the nation.

Deaf people's rights to education and respect

Friday, 9:00 **Room 2**

Ferrari de Zamorano, María Alícia *(Argentina)*

Taking as reference Article #26 of the Universal Declaration of Human Rights and its interpretation by the great scientist Jean Piaget, this paper intends to reinsert the debate within the methods of education of the deaf, with a more integrated vision of the deaf person in society. Not only the lack of information of those who are not aware of the problems of deafness, but also the lack of consciousness and sensibility of those who know this area, make Piaget's proposal of reciprocity as "respect of autonomy in others" very difficult. As a consequence of their deafness, the deaf need outside stimulation for their academic and work preparation and this fact demands that educators (family and school) guide the deaf systematically and gradually, taking into account their mental independence. This paper proposes that an effort be made to find out if all possibilities have really been exhausted with respect to the "total development of human personality" (in the deaf), based on the referenced paragraph of the Universal Declaration and also that the deaf "be capable of intellectual autonomy," based on the concept expressed by Piaget. The idea is to be able to extend to a greater number of deaf people the positive gains achieved by a minority of them.

Liberation of the Brazilian deaf community

Friday, 9:00 **Room 2**

Ferreira, Geralda Eustáguia *(Brazil)*

This paper has as its objective describing the Brazilian deaf community struggle against the prejudice facing the sign language and their culture. From 1881 to 1981, the Brazilian deaf lived like slaves, a period in which their basic need to understand and to be understood was neglected in the name of obedience to the oral methods. During that century, the deaf community was dominated by the hearing community, thus being apart from social and cultural ties as deaf people. Being apart has caused a delay in their social and professional life, which is still a subtle reality. Sign language's restrictions and cultural discrimination of the deaf community brought about segregation, which turned special schools into "ghettos." Although the deaf have not given up their rights, oralism has hidden this liberation movement. In 1981 the deaf community positioned themselves against this situation asking for freedom of communication, cultural maintenance, and respect for their language. The increasing number of questions raised by professionals concerned with the enlargement of educational opportunities has diminished this oral constraint, which was only possible with the beginning of a working project under the Brazilian model of "Total Communication." In addition to that, the number of interpreters and sign language teachers has increased, thus partially meeting the needs of this community. The International Year of Communication is an important occasion for becoming aware of the situation faced by the Brazilian deaf within Brazilian society.

Intercultural exchange: Promoting self-awareness and cultural understanding among deaf people

Thursday, 15:30 **Mezz. Holiday Inn**

Harrelson, Janne M. *(USA)*
Verbits, Will *(USA)*

Equipping students with an understanding of world affairs and a respect for cultural differences is an important challenge for educators. Deaf students tend to have limited exposure to the amazing diversity of cultures around the world. Intercultural exchange provides a dynamic way of teaching students an appreciation for lifestyles and customs that differ from their own. This poster session informs participants about opportunities for international exchanges and encourages increased involvement of deaf people. The presenters describe AFS Intercultural Programs. AFS is an organization that has successfully integrated deaf participants into its exchange programs for the past 11

years. The Model Secondary School for the Deaf (MSSD) at Gallaudet University established an AFS chapter in 1978, the first deaf program to do so. Since that time, MSSD has hosted international students and sent American students abroad almost every year. AFS continues to increase the number of deaf participants and host families worldwide. However, many deaf people still do not know this program is available to them. The time is ripe to increase international exchange opportunities for deaf people. The presenters outline the AFS program in detail, provide resource materials, address specific questions, and discuss strategies for promoting intercultural exchange among the deaf community.

The role of hearing-impaired intellectuals in nineteenth century Japan

Tuesday, 10:15 **Room 3**

Iritani, Sensuke *(Japan)*

The nineteenth century in Japan was a period of large-scale and radical change. It witnessed both the collapse of the 700 year-long feudalistic military regime, and the emergence of a modern political system. It saw also the appearance of a hitherto unrecognized group of hearing-impaired intellectuals and their extremely valuable contribution to the world of scholarship. With their disability, those outstanding people had to trust entirely to the one thing they had in common with other intellectuals, and this was their excellent command of classical Chinese–or Japanese Kanbun–the language of the intellectual world at the time. Through Kanbaun, which was a written, rather than a spoken, language, they were able to create a rich source of scholastic and literary works. In many cases, they even managed to play a greater role intellectually than others with a normal hearing ability. As no form of sign language was then in existence, their sole means of communication was through their pen, and in this they excelled. The highly acclaimed artist, Tessai Tomioka, himself hearing impaired, represents just one such noteworthy example. And there are many further examples of great classical scholars and poets. With their disadvantaged circumstances and the inevitable social problems they faced, without the assistance of any of our present-day audiovisual equipment, and in particular the hearing aid, with no sign language, and no special educational facilities, their accomplishment in the field of scholarship and art in Japan is truly remarkable. They were greatly respected and admired in their time as intellectuals in their own right, with no consideration whatsoever given to their disability. Their great contribution to scholarship marks a brilliant page in the history of the hearing impaired in Japan.

Living with a hearing impairment in Poland

Tuesday, 10:15 **Room 3**

Kopera, Adam *(Poland)*

I have about an 80dB hearing loss in both ears. I attended a primary school for hard-of-hearing children in Warsaw, then I was integrated in a secondary school being the only hard-of-hearing pupil in a normal hearing class. I graduated from University as a biologist. I use lipreading and oral communication with my behind-the-ear oticon hearing aid. I work as a volunteer for a deaf Catholic Club, for Deaf Solidarity and for the Hard-of-Hearing Club in Warsaw. This paper is a personal account of the different phases of my education in Poland, my integration as a professional person, and in my social life. How do I cope with hearing loss in Warsaw? I will present my personal reflections with today's situation of hearing-impaired people in a changing Poland concerning the field of education and of the services available to the deaf community in Warsaw. I will give my personal experience in the context of my voluntary work for the deaf community in Warsaw.

Marriage and family life patterns in hearing-impaired people in Hong Kong

Monday, 15:30 **Room 11**

Law, Siu Lung *(Hong Kong)*

This paper focuses on a number of aspects concerning marriage and family life in families in Hong Kong in which one or both marriage partners are hearing impaired. Personal interviews and a questionnaire were used to gather data for this study. Unlike other parts of the world, very little research has been conducted to study the local deaf population. Consequently, there is a paucity of accurate information about the local deaf community available to professionals in the welfare sector and voluntary agencies who are working with hearing-impaired clients. One objective of the study was to collect data and provide information about deaf people in Hong Kong, which would ultimately help to improve the quality of life for this segment of the population. Based on the premise that special problems can be identified and anticipated within families that include deaf spouses, the introduction of appropriate intervention should result in the avoidance of considerable stress, which is unnecessary and detrimental to the welfare of the family. The presenter sought to study the structure and daily lives of such families in an effort to identify those aspects of marriage and family life that are most directly and significantly affected by deafness and the resulting

problems that are not likely to occur in the family without hearing-impaired members.

Deaf parents parenting hearing children

Monday, 15:30 **Room 11**

Leigh, Irene W. *(USA)*

Historically, the capacity of deaf adults to parent hearing children has been questioned. Current research is shifting toward outlining strengths. However, complexities remain. Deaf adults tend to come from hearing families. A large majority socialize with and marry deaf peers, becoming part of their local deaf culture. Their ability to parent hearing children is not contingent upon their deafness per se, but is multi-determined, largely relying upon experiential factors, inner feelings about their own deafness, and communication skills. I have led groups of deaf mothers/parents who are competent, enriched types of individuals, yet who find themselves struggling to develop parameters in rearing hearing children. There are few formalized processes for learning how to parent. It is noteworthy that a constantly emerging factor in those groups is their need to return to feelings about their hearing families of origin where in-depth communication often was limited, and feelings of family integration were less firm. Once those feelings are addressed, they are more capable of recognizing and dealing with their concerns as deaf parents of hearing children and develop greater confidence in asserting themselves as parents. Discussion will focus on ways to facilitate this process of enhancing parental confidence on a psychological dimension.

The lives of deaf people in Nepal

Tuesday, 10:15 **Room 3**

Maskey, S. R. *(Nepal)*
Matsufuji, M. *(Japan)*

The authors present a picture of deaf people in underdeveloped countries and the feelings of hatred they get from their society. The birth of a deaf child in the family is considered to be a kind of divine curse by the guardians as well as society as a whole. It is quite clear that the parents of such deaf people never imagine to get monetary benefits by educating their deaf children. Thus such parents give first priority to investing in their hearing children. There is a vast difference between the education, culture, social approval, and economic conditions, as well as welfare organizations for the deaf of underdeveloped and developed countries. Marriage is beyond the imagination of the deaf people in the conservative society of the underdeveloped countries. Wealth plays a vital role in the marriage between hearing and non-hearing youths. If a deaf person is rich he may be successful in getting a life partner. It is just the reverse if he is not wealthy. Getting a job is equally impossible for deaf people in underdeveloped countries. Hence international deaf organizations should observe the actual living conditions of deaf people in underdeveloped countries and understand the hardships they face.

Library collection development in deaf studies

Thursday, 15:30 **Room 3**

Norton, Melanie *(USA)*
Kovalik, Gail *(USA)*

Collection development is the systematic gathering of library materials to support the needs of a specific user group, in this case the deaf community and those who work with the deaf. The presenter will discuss collection development of materials in the area of "Deaf Studies"--the culture, history, language, employment, communication, education, sociology, and mental and physical health of the deaf. If time allows, also included will be the acquisition of captioned media. A selected bibliography is available to participants.

Deaf adults and families in Zimbabwe

Monday, 15:30 **Room 11**

Pfunde, Trynos *(Zimbabwe)*

In Zimbabwe, as a young country in the Third World, not much has been done as far as education for the deaf is concerned. And because of that, there is not much public awareness on how to live with the deaf. Due to that, integration of the deaf at any level is still a problem. Some of the societies have not yet seen a deaf person in their lives and they don't know how to talk or live with them. With those societies or families who have such people, they still neglect them due to ignorance or not knowing how they could assist them. Now because of such problems still being faced by the families and societies where deaf people are found, deaf adults have problems when they come to marriage because nobody has ever enlightened them on marriage and caring for a family. They do not even know the procedures to be taken. And so the only thing they resort to is to go back to their previous schools and ask for advice or just marry each other. Many deaf adults here marry each other and give their children to their parents to care for. It is quite rare to witness a deaf adult who is married to a hearing person. Most deaf adults don't even know what's taking place in their families nor do they know

their culture. This is simply because their parents are not concerned about them or because of poor communication.

Problems of deaf men and women in acquiring marriage partners in Bangladesh

Monday, 15:30 **Room 11**

Rashid, Sokrana *(Bangladesh)*

To get married has been identified as one of the major problems of the deaf, at least in Bangladesh. It is considered preferable that a deaf person should marry a normally hearing person so that one can help the other in their day-to-day affairs and for moving in society. But it is not easy for a deaf person to get a normally hearing person as a partner in marriage. A few suggestions are given for solution of this problem. Guardians of a deaf girl may advertise in the newspaper or in marriage bureaus mentioning that they have a bride who is either virtuous or healthy or beautiful or educated or efficient in household affairs but deaf or hearing impaired. Some guardian may mention, if it is necessary, that since the bride is hearing impaired they will agree to marry their girl to a widower, separated person or as the second wife of somebody who likes to have a second wife or to a person with similar other shortcomings. As regards marriage of deaf male persons it is to be mentioned that there are many young normal women who cannot get married due to color of their skin, for being divorced, or for being separated, etc. Deaf bridegrooms may agree to marry such brides with some defects if they fail to get perfect or good brides of normal society. Hearing-impaired people should not take offence at such suggestions. The suggestions are given for their good, because it is better to get married with a person of good heart than remain unmarried throughout life, or not getting a suitable partner.

Activities of the Association for the Education and Welfare of Hearing-Impaired People in Japan

Thursday, 15:30 **Room 3**

Tanaka, Sukeji *(Japan)*

The Association for the Education and Welfare of the Hearing Impaired in Japan was established in 1931, for the purpose of spreading the oral method and promoting education of the deaf. In 1948, when the education system changed and the compulsory education law was enforced, the association handed over its work to the government, and began to do work the government couldn't cover, which are as follows: a hearing clinic for hearing-impaired children and their mothers, a nursery school for hearing-impaired children and their mothers, publication of books, distribution of teaching materials and tools, including videotapes, adult education including a speech clinic, evening courses such as "knowledge in daily life" and "marriage and childcare," supporting students who are willing to study at college, and marriage counseling. Its program to help other countries includes sending out teachers, accepting trainees, offering educational equipment, and publishing and distributing "News Letters" twice a year to all the Asian countries. Funds to carry on the above activities come from donations from people in general as well as subsidies from various organizations. We believe our activities play a significant role in the education and welfare of deaf people in Japan and throughout Asia.

The deaf community in Israel - Social aspects

Tuesday, 10:15 **Room 3**

Weisel, Amatzia *(Israel)*
Sela, Israel *(Israel)*

The first demographic and assessment study of the hearing- impaired (HI) population in Israel was conducted in 1989. The purpose of the present paper is to indicate the main findings of the study with special focus on the social adjustment of people with hearing impairment. A list of all the severely and profoundly hearing-impaired (HI) adults (age 18 and up) in the country was made. The list of names was then arranged according to "households" and a random sample of 300 households, a total of 437 individuals, were interviewed. The interviewers were fluent in both Hebrew and Israeli Sign Language. This presentation includes information about the general demographic characteristics of the population, a description of the general social adjustment of the HI population and the relations between several background variables and social adjustment. The implications of the results for educational and rehabilitation programs are discussed.

Adoption in the deaf community

Monday, 15:30 **Room 11**

White, Barbara J. *(USA)*

A review of the literature reveals virtually no information on adoption in the deaf community, specifically on deaf couples who adopt. The adoption process itself can often be tedious and frustrating. It requires interaction with other professionals and

systems that a deaf couple may be unfamiliar with. And the adoption system as a whole, is unexperienced with deafness. As a result, communication and attitudinal barriers often undermine the special opportunities that exist in utilizing deaf couples as adoptive parents. In particular, they miss out on the unique and crucial opportunity to place deaf children in homes that are culturally affirmative and where sign language can be acquired in a natural context. In many countries, deaf people are not allowed to be legal guardians because of their status of being deaf. Although there is no law preventing deaf couples from adopting in the USA, there are often subtle and not so subtle barriers deaf couples face when seeking to begin or extend their families through adoption. Yet, there *are* deaf couples in the USA who have successfully adopted. This paper will look at the experiences of a small sample of deaf couples who have adopted in the USA and the barriers they faced in the adoption process. It will also attempt to identify the demographic variables of this group of adoptive parents and what variables might have led to their successful adoption, such as age, marital length and history, financial and family resources, geographical location, extent of hearing loss and communication skills, and willingness to adopt foreign or "special needs" children.

The power of advocacy and the deaf community

Friday, 9:00 **Room 2**

White, Judith L. *(USA)*

Hearing-impaired people in America number 20 million-plus, and, by working together, they could be a forceful advocacy group. As advocates, deaf people should join forces to support or recommend changes in policy or to take action to promote a particular cause or direction of a specific issue. As advocates, deaf people could address issues that are unique to deaf people and their culture. Based on the findings from the presenter's doctoral dissertation, this presentation suggests strategies that can be used to guide deaf people in becoming more effective advocates. It is important for the advocate to be aware of possible barriers to successful advocating. Barriers for the deaf advocate may include communication and reputation of the advocating individuals. If a deaf person wants to be a successful advocate, he/she needs to have knowledge of effective advocacy strategies and possible barriers and also be aware of how deaf culture influences their success or failure.

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A word about Proceedings II

Proceedings II will include the major addresses presented at the 17th International Congress on Education of the Deaf. It is expected to become available late in 1990. Registered participants will be notified when it becomes available. Others who are interested in obtaining copies of Proceedings I and/or Proceedings II (for $10 each) should write to

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