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ABSTRACT

Presented are issues, background information, and a definition pertaining to manual communication, and explored are aspects of language development in aurally handicapped children. Proposed is a functional definition of American Sign Language, with High (H) (a system that accommodates itself to English, such as manual English) and Low (L) (a system possessing its own rules, such as Native Sign Language) variants. Discussed in relation to communications systems for the deaf are Bernstein's concepts of sociolinguistic codes and classes. Contrasted with language development in deaf children of deaf parents is language development in deaf children of hearing parents, and suggested for children of deaf parents is the learning of a dialect of American Sign Language as a first language, and, later, the learning of a more formal American dialect as a second language. Examined are problems of teachers and parents in developing sign language proficiency, and recommended are such alternatives as a home training program for deaf infants and parents, managed by an education specialist and taught by deaf adults, teacher training by deaf adults, or classroom instruction involving team teacheing with a deaf teacher, a hearing teacher, and a speech therapist. Briefly discussed are benefits and practical limitations of research as an agent of change. (MC)

OCCASIONAL PAPER #10

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COMMUNICATION - SOME UNANSWERED QUESTIONS AND SOME UNQUESTIONED ANSWERS

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1. R. Riegel, A. Taylor, & F. Danner. The effects of training in the use of a grouping strategy on the learning and memory capabilities of young EMR children. Research Report #48. April 1973.

2. J. Turnure & M. Thurlow. The latency of forward and backward association responses in an elaboration task. Research Report #47. March 1973.

3. R. Riegel & A. Taylor. Strategies in the classroom: A summer remedial program for young handicapped children. Occasional Paper #14. March 1973.

4. D. Moores. Early childhood special education for the hearing handicapped. Occasional Paper #13. February 1973.

5. R. Riegel & A. Taylor. A comparison of conceptual strategies for grouping and remembering employed by educable mentally retarded and non-retarded children. Research Report #46. February 1973.

6. J. Rynders. Two basic considerations in utilizing mothers as tutors of their very young retarded or potentially retarded children. Occasional Paper #12. January 1973.

7. R. Bruininks, J. Rynders, & J. Gross. Social acceptance of mildly retarded pupils in resource rooms and regular classes. Research Report #45. January 1973.

8. J. Turnure & M. Thurlow. The effects of interrogative elaborations on the learning of normal and EMR children. Research Report #44. January 1973.

9. J. Turnure & S. Samuels. Attention and reading achievement in first grade boys and girls. Research Report #43. November 1972.

10. R. Riegel, A. Taylor, S. Clarren, & F. Danner. Training educationally handicapped children to use associative grouping strategies for the organization and recall of categorizable material. Research Report #42. November 1972.

11. R. Riegel, F. Danner, A. Taylor. Steps in sequence: Training educationally handicapped children to use strategies for learning. Development Report #2. November 1972.

12. A. Taylor, M. Thurlow, & J. Turnure. The teacher's introduction to the Math Vocabulary Program. Development Report #1. March 1973.

13. J. Turnure & M. Thurlow. The effects of structural variations in elaboration on learning by normal and EMR children. Research Report #41. September 1972.

14. A. Taylor & N. Bender. Variations of strategy training and the recognition memory of EMR children. Research Report #40. September 1972. (American Educational Research Journal, in press).

15. D. Moores, C. McIntyre, & K. Weiss. Evaluation of programs for hearing impaired children: Report of 1971-1972. Research Report #39. September 1972.

16. R. Rubin. Follow-up of applicants for admission to graduate programs in special education. Occasional Paper #11. July 1972.

17. D. Moores. Communication - Some unanswered questions and some unquestioned answers. Occasional Paper #10. July 1972.

18. A. Taylor & S. Whitely. Overt verbalization and the continued production of effective elaborations by EMR children. Research Report #38. June 1972. (American Journal of Mental Deficiency, in press).

19. R. Riegel. Measuring educationally handicapped children's organizational strategies by sampling overt groupings. Research Report #37. May 1972.

20. E. Gallistel, M. Boyle, L. Curran, & M. Hawthorne. The relation of visual and auditory aptitudes to first grade low readers' achievement under sight-word and systematic phonic instruction. Research Report #36. May 1972.

21. E. Gallistel & P. Fischer. Decoding skills acquired by low readers taught in regular classrooms using clinical techniques. Research Report #35. May 1972.

22. J. Turnure & M. Thurlow. Verbal elaboration in children: Variations in procedures and design. Research Report #34. March 1972.

23. D. Krus & W. Bart. An ordering-theoretic method of multidimensional scaling of items. Research Report #33. March 1972.

24. J. Turnure & S. Larsen. Effects of various instruction and reinforcement conditions on the learning of a three-position oddity problem by nursery school children. Research Report #32. March 1972.

25. J. Turnure & S. Larsen. Outerdirectedness in mentally retarded children as a function of sex of experimenter and sex of subject. Research Report #31. March 1972.

26. J. Rynders & J. Horrobin. A mobile unit for delivering educational services to Down's Syndrome (Mongoloid) infants. Research Report #30. January 1972. (Presented at Council for Exceptional Children, Special National Conference, Memphis, December, 1971).

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Department of Health, Education, and Welfare

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Bureau of Education for the Handicapped

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The University of Minnesota Research, Development and Demonstration Center in Education of Handicapped Children has been established to concentrate on intervention strategies and materials which develop and improve language and communication skills in young handicapped children.

The long term objective of the Center is to improve the language and communication abilities of handicapped children by means of identification of linguistically and potentially linguistically handicapped children, development and evaluation of intervention strategies with young handicapped children and dissemination of findings and products of benefit to young handicapped children.

Abstract

Issues were raised concerning the nature of manual communication and its relation to spoken language. A functional definition of American Sign Language, with High (H) and Low (L) variants was proposed. Implications of Bernstein's concepts of sociolinguistic codes and class were discussed as they relate to communication systems for the deaf. The development of language in deaf children of deaf parents was contrasted to that of deaf children of hearing parents. It was suggested that children of deaf parents learn a dialect of American Sign Language as a first language and a later, more formal, American dialect as a second language. Problems of developing sign language proficiency in teachers and parents were examined and some recommendations made. Some benefits and practical limitations of research as an agent of change were discussed in a summary statement.

Communication - Some Unanswered Questions and Some Unquestioned Answers

I have yet to see any problem however complicated, which when looked at in the right way did not become still more complicated.

POUL ANDERSON

The purpose of the present paper is to raise a number of issues concerning manual communication. The first task is to provide some background information on the subject and then to present a working definition, admittedly arbitrary, of manual communication and its subcomponents. Following this, a number of areas will be explored touching on sociolinguistics, dialects and the possible existence of a non-standard deaf English, the teaching of English as a second language, and processes of language development. It is hoped that some of the issues touched on will be solved in the presentations of the specialists to follow and/or by group discussions. It should be recognized, however, that the purpose of the presentation is to stimulate thought and discussion about a number of points. There will be more questions raised than answers provided at this time.

If someone were asked to give a comprehensive definition of the English language, he would probably start out quite confidently but rapidly slip into a morass of contradictions and qualifications. For example, he would have to come to terms with the fact that the English dialects spoken in England, the United States, South Africa, and Australia vary widely. He would have to

make some decision concerning the point at which two dialects of a language differ so much that they become two separate languages. Pushing further he would find differences in English usage not only between countries but also between regions of the same country. Individuals from different parts of Great Britain, for example a Cornishman and a Liverpudlian, might have difficulty understanding each other. To complicate matters even more there are observable class differences in the use of English that cut across regional and national lines. The final compounding factor is the fact that individuals themselves easily move from one dialect to another depending on the circumstances. The style and vocabulary a professor uses in teaching a class or preparing a paper does not approximate in any way the manner in which he expresses himself when his role changes to that of a spectator at a hockey match or a father on a canoe trip with his son.

Historically, the problem of definition might have been solved by reference to a standard dialect. For example, for a number of reasons, mostly political, the English spoken around London assumed a dominant status. Questions of correctness of usage were decided by the prescriptions of the King's English. Most of the early English speaking settlers of the American colonies, however, came from the midlands and the north of England and spoke different, therefore "inferior," dialects. The lament of Professor Henry Higgins, "Why can't the English learn to speak" is really just a complaint that most of them did not speak his English.

At present there is more of a tendency to treat dialects as equals. There is no reason to perceive London English as more correct than any other dialect. Its ascendency reflects political-economic, not linguistic, supremacy in much the same way as the French around Paris and Castilian Spanish became standards.

By making dialects respectable the problem of definition becomes much more difficult and ambiguous. The English language must be redefined to encompass enormous diversity, an almost impossible task. I would suspect most people would eventually be satisfied to conclude that although they cannot define and describe English they do have the ability to recognize it when encountered and to understand and use it when the circumstances require.

In my opinion, the difficulties inherent in dealing with the term Sign Language, or even American Sign Language, are still more complex. There are deaf children and adults across the United States and Canada using a variety of visual-motor communication systems. At the lowest level a system might consist of home-made gestures invented and understood perhaps by only one class of six or seven students in a classroom excluding parents, teachers and even other deaf students in the same program. At the other end of the continuum would be an arbitrary, abstract, somewhat standardized system capable of expressing all of the levels and nuances of spoken English. The complicating factor, to be dealt with in detail later, is the fact that signs are not usually passed down from parent to child; rather they are repressed by most of the adults the child comes into contact with. Young deaf children usually are not allowed

more than minimal contact with deaf adults through fear of contamination. Typically they develop a sign system surreptitiously against the wishes of the adults in their environment. At a recent conference on communication, Falberg[1] suggested that sign language, in its broadest sense, is the only language extant which has been passed down from child to child.

When I first started to learn signs as a graduate student at Gallaudet College, the complexities of dialectal deviation were not so apparent as they are now. It was believed that there was a standard of correctness and that standard was the relatively formal system taught to graduate students at Gallaudet. Gallaudet Sign was, and is, to the Sign Language as London English was, and is, to the English Language. However, when normally hearing students sat down at the dining table with deaf students and tried to practice their skills, it quickly became apparent that there were differences between how some concepts "should" be signed and how they actually were. The example that sticks most clearly in mind is the formal sign for animal which illustrates a beating heart and movement on four feet. Although the deaf students recognized the sign, they seldom, if ever, used it. Other examples might be the formal and informal signs for father and mother.

Reliance on an overly simplistic approach to manual communication was originally challenged by the seminal work of Stokoe[2] who brought the tools of linguistic analysis to bear on the communication system of deaf adults and who demonstrated that Sign Language can be a language in its own right possessing all of the elements

necessary for language, including syntax. Since that time Sign Language has attracted investigators from a number of disciplines. As representatives of areas such as linguistics, anthropology, developmental psycholinguistics, and psychology have brought their specialized skills, and esoteric dialects, to bear on the phenomenon of manual communication, they have generated, along with some fascinating results, a plethora of terms which are confusing to the layman. A quick survey of recent literature will turn up such examples as Sign, Sign Language, Manual English, Signed English, High Sign, Low Sign, Ameslan and Native Sign Language.

Definition of Terms

The first thing to bear in mind is that the roots of the American Sign Language do not lie in the English language but can be traced back to a variant of the French Sign Language developed by de l' Epee to reflect French syntax. The French Sign Language was brought to the United States by Laurent Clerc who became the first teacher at the American School for the Deaf in 1817. Although a competent user of English can sign and spell in grammatical English patterns, many of the basic signs remain cognates with the original French ones.

It should be emphasized strongly that, popular folklore to the contrary, there is no universal natural sign language. A sign language, as any other language, is arbitrary and must be learned. For example Stokoe[3] reported that after six years he had acquired enough competence to find no difficulty conversing with deaf

signers in Paris, though he had no command of spoken French and most of them had no knowledge of English. In England however, because of the relative lack of mutual intelligibility in signs between regions, he reported that signs learned in Canterbury were of little use in communicating with deaf persons in other parts of Britain. However in Dublin communication was easier because the manual alphabet was similar and because Irish Sign Language, which also stems from French Sign Language, has many cognates with American signs.

As previously noted, manual communication encompasses gestural systems from primitive small group, even idiosyncratic, subsystems limited to the here and now up to highly complex forms which in every way may be considered legitimate language systems. For purposes of convenience, we shall refer to the American Sign Language (ASL) as including those systems in use throughout the United States and Canada which have a high degree of mutual intelligibility, although regional variations may exist. Within A.S.L., as with other languages, there exist different types of linguistic codes which we shall consider either High (H) or Low (L)* variants. Although the terms low and high do carry negative and positive connotations respectively, one is cautioned not to place unduly heavy value judgments on them. In this context Low Sign may be thought of as a linguistic system possessing its own rules which do not necessarily follow the same constraints as the formal

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* The treatment here is roughly similar, but not identical, to that of Stokoe. However, partly to encompass the work of Bernstein and Tervoort within the same framework, modifications were made. For a full treatment of the subject see Stokoe[2,3].

English system. Terms such as Native Sign Language and Ameslan would be considered L. The more a system accomodates itself to English, by this definition, the more it moves toward being in the H category. Manual English and Signed English are obvious candidates for consideration. At the extreme might be reliance on the manual alphabet to provide a one to one correspondence to the printed word.

Note that this is merely one of many possible ways of classifying manual communication systems. It could be argued, for example, that what are called H and L here are, in reality, two languages and that a deaf child of deaf parents might first learn L and later, in school, learn H, or English, as a second language. In reality it is unlikely that many, if any, deaf adults use a sign language which is not influenced to some extent by English. We shall beg the question for the present.

Sociolinguistic Considerations

The work of Bernstein[4,5*] in England at the intersection of sociology, psychology and linguistics has provided new insights into the relationships between social class membership and the function of linguistic codes. From his research Bernstein posited the existence of two different types of language codes, which he labelled Restricted (or Public) and Elaborate (or Formal) codes.

A restricted code is typified by repeated, redundant utterances with a limited variety of modifiers. It is "now" coded and tends to be concrete, rigid and possess a simple structure. Analysis of

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* The reader is referred to the original source for a comprehensive presentation of the subject.

communication by means of such a code would unearth characteristics such as (1) short, simple, unfinished sentences, (2) "poor" syntax in relation to a standard, (3) limited use of adjectives and adverbs, (4) infrequent use of subordinate clauses and (5) minimal reliance on impersonal pronouns. An elaborate code would possess more complex structure and syntax and would be less redundant or predictable. Such a code facilitates abstraction and consideration of hypotheses. The social network and social requirements of advanced civilizations necessitate the development of large classes of people using elaborate codes.

In Bernstein's scheme, which was concerned with class differences, the middle class individual learns both an elaborate code and one or more restricted codes. He can move back and forth between codes at will. The lower class child is limited to a restricted code, with serious implications for school achievement and later success. Other forms of language might not be directly comprehended but may have to be mediated through the child's own system. In the classroom the child must translate the code of his teacher through his own structures to make it personally meaningful.

One must be cautious in applying Bernstein's conclusions from work in England to systems of language usage in the United States. There has been justifiable criticism of attempts, for example, to treat Non-Standard Negro English (NSNE) as a restricted, and therefore inferior, dialect which must be eliminated. Recent evidence suggests it is a legitmate complex variant of the English language providing its user with tools of communication as well as any other

dialect.[6,7,8,9] It has been noted that a user of NSNE can make some distinctions that can't be made easily in standard English.[10] For example, the distinction between He workin' and He be workin' is a difficult one to make in the standard dialect.

In discussing the role of standard and non-standard dialects, Baratz[6] concludes: (p. 145)

> He must be able to maintain his non-standard language because it is necessary for him for the majority of his experiences which occur outside the middle class culture. To devalue his language, or to presume standard English is a "better system" is to devalue the child and his culture and to reveal a shocking naivete towards language. Our job then is to teach the child a second language system (dialect if you wish) without denying the legitimacy of his own system.

The goal, then is not to stamp out NSNE, the Language of Signs, or Spanish dialects of the Southwest; it is rather to give the child the skills by which he can move from one system to another, from an L to an H, when the situation requires it, not because the H system, the relatively formal, prestigious middle class American English, is inherently better but because it is the system shared by a majority of Americans and therefore provides a meeting ground of commonality for communication and participation in the broader culture.

The analogy between the deaf child and the black or Spanish speaking child should not be pushed too far. True, all may be subject to the scorn of their teachers who may denigrate their methods of communication but at least on the outside the black or Spanish speaking child has access to an already developed

language system used by parents and peers alike. Deaf children, except for the relatively few with deaf parents, usually do not even have a shared linguistic system with their parents and are subject to repression at home as well as in school. The deaf child is even denied the support and identification that another linguistically different child finds at home and in the neighborhood.

The Learning of Normal Communication Systems

When a child with normal hearing sets out to learn the language of the adult community the basic process is a rapid one and is usually completed without observable difficulty prior to his entrance into the educational stream.[11,12,13] The beginning of the deaf child's education on the other hand involves an attempt to teach a language system to an essentially alinguistic child.[14] Spurred by a need to communicate and lacking mastery over the auditory-based system the child will develop small group gesture systems to help him communicate in some basic way.[15] The existence of these gesture systems is a fact of life and may be observed even in programs which adhere to the so called "pure" oral method.[16,17]

It is worthy of note that these systems are usually constructed by the child. This is in no way analogous to the situation of a child who is constantly exposed to spoken English (or Signed English) and moves steadily through a succession of stages to acquire adult linguistic proficiency. We are talking about children with almost no linguistic input or feedback who are developing methods of communication on their own in the face of a

frequently hostile world. These children are in a sense rediscovering, or reconstructing, the wheel.

A primary concern must be the effect that such a system has on the later learning of American English, whether in a spoken, written, or signed form. Tervoort[18,19] studied intensively the development of communication structure patterns in deaf children over a period of years in the United States, the Netherlands, and Belgium in order to assess the relationships between the in-group systems, which he termed esoteric, and the outgroup, exoteric systems of adult Dutch and American-English. Although the term exoteric may be equated with our previous use of the term High, the esoteric systems would not be considered Low variants because of the lack of mutual intelligibility between groups.

In his study Tervoort reported that children of all ages tended to use signs as the preferred means of communication in their private conversations. There was a consistent grouth of grammatically correct usage as a function of age until age 14. After this age American students continued to improve (show closer approximation to adult English patterns) while the European students leveled off. Tervoort attributed the superiority of the American students, in part, to the positive influence of the adult deaf with whom they came in contact. Tervoort stated: (p. 148)

> . . . the sign language of the American adult deaf is a source from above, strongly influencing the interchange of the deaf teenager, on campus too, and on the contrary the fact that no such source from above is availablr for their mates across the ocean with whom they are matched. Once the esotericity of at least part of the subjects'

> private communication is established as a fact (whether this is a fact that should have been prevented, should be corrected, or even denied, is not the issue here), it is evident that normal need for communication finds a better outlet in an adult arbitrary system, than in uncontrolled and half-grown symbolic behavior not fed from above in educational terms: -- it seems clear that the choice has to be: either well controlled, monitored signing tending towards an adult level, semantically and syntactically, or no signing whatsoever; but no signing that is uncontrolled and left to find its own ways.

The impact of the continued restriction of students to an esoteric system is dramatically illustrated by the fact that only 2% of the utterances of the American children consisted of completely esoteric imitative gestures as compared to 10% of the European total. Some educators of the deaf believe that the English usage of deaf people is poor because of the influence of sign language, which is "ungrammatical." Tervoort's results suggest that such a postion is naive and a causative role cannot be attributed to gestures or signs. It is more logical to conclude that many deaf individuals have difficulty expressing themselves in spoken, written, or signed English because of the imposition of an early linguistically deprived environment. In other words if such a thing as non-standard deaf English does exist, its existence may be attributed not to signs but to the influence of inadequate instruction in standard English. In many cases the restrictive factors are provided by the gesture systems unconsciously employed by "oral-only" teachers. An example of this may be provided by the experiences of a deaf graduate student at the University of Minnesota who began instructing deaf junior high students in the use of signed English in a program that previously had been "pure" oral.

She found that the students had developed habitual signs which were difficult to modify. The most ingrained one happened to be one gesture which covered the use of all interrogative forms. It consisted of holding both upper arms tightly against the body with hands face up, and away from the body, chest level about 18 inches apart. Tracing back her own school experienes she realized, of course, that this was the common body stance of teachers of the deaf when asking questions of their students. She was struck by the irony of teachers who have slapped the hands of students for gesturing providing a model of limiting restrictive gestures. As a result, rather than having at their disposal the means of expressing how, who, what, why, etc., they are forced to lump them all together into one undifferentiated mass.

Development of Proficiency in Manual Communication

Within the past ten years a number of investigations have been conducted on the effectiveness of early manual communication. Usually deaf children of deaf parents were compared to deaf children of hearing parents. The results of such studies, as summarized by Moores,[20] have been shocking to those educators of the deaf who have assumed that manual communication was inimicable to the development of communication and academic skills. The findings consistently show that those children with early manual communication are superior in reading, written expression, all aspects of academic achievement and social-emotional adjustment, with no differences in speech intelligibility.[21,22,23,24] It appears, then,that early manual

communication has no effects, either positive or negative, on speech while it enhances the development of grammar, vocabulary and academic skills. There is evidence to suggest that the superiority of deaf children with deaf parents lies in their exposure to a language system at an early age and that the learning of English for these children is similar to the process of learning English as a second language or dialect.[25,26] For children who learn some form of A.S.L. in early childhood the task is to develop proficiency in English on the basis of a well mastered linguistic system, a much easier undertaking than that faced by a child with hearing parents.

The question of whether children who first learn language in a visual-motor (sign) mode go through the same processes to arrive at linguistic proficiency is one that should be studied in depth. It is quite possible that the switch from the auditory-vocal channel causes changes in the system. For example, can the use of such "universals" in spoken language development as pivot grammars[27,28] be observed in very young signing deaf children? Is the role of child imitation and parental expansion[11] the same as for hearing children exposed to spoken language? At present there is little evidence available upon which to base a decision and judgment must be suspended, although a pilot study by Pitzer[26] suggests that the processes of language development are similar in the auditory-vocal and the visual-motor systems. Bellugi[29] and Moores[30] are presently conducting long term investigations of the development of language in deaf children of deaf parents.

Translation of findings of studies of deaf children of deaf parents to deaf children of hearing parents raises a number of problems. Probably the most serious one is development of A.S.L. proficiency in teachers and hearing parents. Given the literature that suggests that children usually learn a first language before the age of five,[11,12,13,27,28] it has yet to be demonstrated that Sign Language can be effectively used in an educational program with preschool deaf children. Cicourel and Boese[25] make the point that hearing people, with the exception of those with deaf parents, who learn A.S.L. learn it as a second language and seldom acquire native proficiency. The learning of Sign Language, as opposed to the use of a few basic signs, requires time and practice. There is a dearth of qualified individuals who could stimulate young deaf children in such a way because of two factors; underlying hostility toward the use of manual communication by the educational establishment, and systematic discrimination against the use of deaf teachers with young children, The first factor stems from an ignorance of the nature of sign language and the situation appears to be changing for the better. Although there are still educators of the deaf who react to manual communication much as the male stickleback does to a flash of red (i.e., with an irrational, vengeful attack), their numbers are decreasing. The situation of deaf teachers is a more severe one, in my opinion. The discrimination is not restricted to the public schools. Relatively few deaf teachers are exposed to preschool or elementary school age students even in residential schools, unless it is to work with multiply-handicapped children.

Even these teacher training programs which accepted deaf students hesitated to train them to work with younger children either because they thought the deaf to be inappropriate for such positions or because they knew the job market would not absorb them.

An effective program using signs with young deaf children would have to function in roughly the following ways. As soon as the time of diagnosis of deafness, for convenience sake call it 12 months, an educational specialist would visit the home to begin counselling. In coordination with efforts to help the parents adjust, training would be instigated on basic principles of learning, speech, manual communication, child development and use of residual hearing. In the first phase the educational specialist would invest large amounts of time in home training and would be the model for simultaneous stimulation of the child, withdrawing as the parents developed their communication abilities. Total language immersion programs for the entire family could be conducted by deaf adults. When the child entered clinical and educational programs the speech therapists, educational audiologists and teachers would have to communicate by simultaneous oral/manual expression.

It is difficult to imagine such a program today in many parts of the United States. Large numbers of teachers of the deaf, perhaps a majority, do not know how to sign well. Until recently only a few teacher preparation programs had any courses in manual communication. Classroom observation suggests that many teachers who are starting to use Total Communication or the Rochester Method are woefully inept, although committed to the concept. These

people must be trained and trained quickly. Hiring of deaf adults to instruct the teachers, again perhaps in total immersion retreats, might serve the twofold purpose of developing signs and reducing remnants of paternalism at the same time. Team teaching involving a deaf teacher, a hearing teacher and a speech therapist might provide an optimal education arrangement. It would probably be feasible for parents and teachers to learn a relatively formal, or H, variant of A.S.L. closely approximating English. The alternative, developing competency in an L dialect and then moving to an H, would be too time consuming. It is assumed that deaf children taught in this way could move between H and L effortlessly.

On the Limitations of Research

Anyone who is doing research on manual communication must do so with his eyes wide open. He must be realistic enough to realize that he cannot afford some of the luxuries which accrue to most investigators. Perhaps two examples will illustrate the point.

A student at the University of Minnesota was preparing a paper on the oral-only method and was referred to a local educator who was a strong oral-only advocate. When the student asked what research existed to support the oral-only approach the answer came back that there was none so the only thing to do is to attack the manualists' research!

The second episode involves an encounter I had while explaining to a deaf man about a research project at the University of Minnesota concerned with the evaluation of seven preschool programs across the

United States. He became quite excited and exclaimed that now we would finally prove the superiority of Sign Language. "But what," I countered, "if my results showed no such thing?" After a brief pause, he answered, "Then your study would be wrong."

Research can be very important as an agent of change, but it has never proved anything definitely and it never will. It develops useful functional paradigms which are discarded once their utility is outlived.[31] The results of research may suggest trends and alternatives but they never will sway the opinion of fanatics. At best, what happens is that as results pile up, consensus is reached on a topic and opinions shift. But they are never final results. Seekers after final "truth" will not find it in science.

There are still a number of unanswered questions concerning manual communication, especially in relation to young deaf children. However, if nothing else, it has made educators of the deaf aware of the importance of research. As we all know, there have been any number of trends in education of the deaf. Some programs emphasize desegregation, others acoupedics. Hearing aids are placed on six week old babies. Preschools centered around the making of popcorn and jello evolve and flourish. The programs go along blithely and are subject to little or no evaluation. Let manual communication be mentioned however and the cry goes up that it can't be done because there is no research to support it. Of course there is research -- some -- to support it. If the same standards were applied to other methods the rigid oral-only approach would never have made it to the twentieth century.

Let us then, look very critically at the use of signs with young deaf children. For example, can it develop standard English usage as well as fingerspelling? Will some teachers and parents use it at the expense of good speech? These are serious questions and they must be considered. While we are doing so, it would be to our advantage to subject many of the blind assumptions which have guided the thinking of educators of the deaf for generations to an equally searing analysis.

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