

Report of the ARA Committee on Research *

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Several years ago at a meeting of the Academy of Rehabilitative Audiology, Jerger addressed himself to the needs of those persons involved in research in rehabilitative audiology. He made two significant statements, among others. One was to have a national day of mourning (or celebration) in which all previous work in rehabilitative audiology would be burned and start all over again with the process. The second statement was that researchers in rehabilitative audiology lacked the appropriate tools with which to engage in research. The latter statement is of greatest impact when we probably have to admit that the weakest area in communication disorders is rehabilitative audiology, particularly the work being done for the adult hearing impaired. For example, with different age groups: we can't even agree on the communication system which should be utilized with hearing impaired children, i.e. oral-aural, Verbo-Tonal, or total communication; and with adults, we've been using non-valid speechreading tests for years. Not only do we not know what the speechreading tests tell us, additional tests have been marketed and their validity based on the previous non-valid tests. Even more basic is the fact that, out of our own inhouse group and, I guess, within our group, we can't yet define the clinical audiologist, let alone the rehabilitative audiologist. In a recent questionnaire study, a graduate student of mine sent questionnaires to all 50 state vocational rehabilitation offices in the country. The majority of vocational rehabilitation people indicated that they didn't know who or what a rehabilitative audiologist was. Some thought there was only "an audiologist" and his only responsibility was giving hearing tests. I realize that I am doing some generalizing but in terms of this same old story being repeated year after year, we haven't made a great deal of progress. Somewhere and sometime, I believe that we are going to have to make a start—and then, maybe we can *turn on* ourselves and the students who take our aural rehabilitation classes in the universities, and finally the consumers.

Realizing the need, the Academy of Rehabilitative Audiology is at-

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tempting to do something. At its last meeting in California this past summer the ARA Research Committee met to discuss the situation and to identify several problem areas which could be implemented for study. Eight possible research areas were identified and one was selected for presentation to the ARA Executive Committee for immediate implementation. My purpose here is to present these selected areas and present all of us with a charge for doing something (hopefully, so that in five years we can utilize "another convention introduction" indicating achievements rather than the lack of research activity.)

I will attempt to summarize for you the eight areas in terms of the problem—and the need.

I. *Problem*: There appears to be some confusion about what an audiologist is and what services we render especially among the allied health professions, hearing aid dealers, Vocational Rehabilitation counselors, and the general public.

Need: Implementation of a survey to make results known to the membership of ARA, ASHA and the ASHA Committee on Aural Rehabilitation. (The Research Committee recommended this grass roots survey on the perceptions of an audiologist by the community to be implemented immediately.)

II. *Problem*: There are no comprehensive reliable measures that consider the multiple variables affecting the learning and use of communication skills.

Need: There is need for a series of measures to show progress in a comprehensive psychosocial framework such as studies which compare:

1. the child with himself
2. teacher effectiveness
3. the home and other environmental variables

(The following is from Marion Downs)

I would like to see this committee set up some new guidelines for the design of research projects on methods for teaching deaf and hard-of-hearing children. I believe we have been misled sometimes by research requirements that demand a control group and an experimental group—or "matched groupings"—or "double blind" studies. One problem is that sometimes it is impossible to obtain a valid control or "placebo" group—one that is denied medical or educational treatment. Such a group cannot be morally justified. Another problem is that if methodologies are being compared, the variables pile up monstrosly: accurate matching in a small population such as the hard-of-hearing is impossible; obtaining equal teacher motivational attributes is impossible; environmental and temporal situations cannot be controlled. To surmount these latter problems Moore's study has taken sheer numbers and attempted to make a

comparison of programs using different methodologies. Even here the variables are almost overwhelming, and could detract from any conclusions that are drawn.

There must be another way to demonstrate the relative effectiveness of methodologies. I propose that this committee design an "Expectation Index" which would allow each child to be an experimental unit which compares his progress in a specific program with *what should be expected of this particular child*. The Expectation Index would predict:

1. *How fast this child should learn*. Based on non-verbal developmental and intellectual scales, (plus psychological and environmental status), how fast should a comparable normal hearing child learn a given amount of material? For already graded school materials this should be no problem. But for infants and younger children it will require a great deal of study to develop normative data.

2. *What language level can be expected of this child at any given point in time*. Based again on non-verbal developmental and intellectual scales, plus other data, what language skills should this child have attained at this age? Normative data are available at the present time for most ages, so this should be no problem.

Now we begin to see how we can place a numerical measure on the achievement of an individual child in a specific program. I envision a formula that might read:

Where I = Intellectual and Cognitive potential on non-verbal scales.

D = Developmental potential.

P = Psychological potential vis-a-vis family milieu.

S = Socio-economic potential or limitations.

T = Time period expected to learn a given teaching unit.

T₁ = Time period actually required.

L = Language level expected for this age.

L₁ = Language level present.

$(I + D + P + S + [T \times L]) = E$ (Expectation Index)

$(I + D + P + S + [T_1 \times L_1]) = A$ (Actual Index)

These items could be manipulated to identify T₁ alone or L₁ alone, etc.

Now you would have a measure that you could use to evaluate whether this method is as effective as another in producing (1. speed of learning, 2. ultimate language skill.)

I'm sure the committee can expand on this idea, or change it to be more effective, but I believe we badly need a new approach like this to evaluate programs.

(End of Marion Downs' statement)

III. *Problem*: There is a sparcity of options for preventive remediation of the high risk child.

Need: There is need to study the effectiveness of:

1. parent education programs.
2. amplification versus other methods of remediation for the young child, i.e. otitis media problems with minimal or fluctuating hearing loss.
3. more appropriate identification and referral for remedial services, i.e. physician, public agencies and effects of community awareness programs.
4. public awareness of problems.

IV. *Problem:* Both a test of auditory comprehension and a curriculum of auditory skills for hearing impaired children age 3-12 written in behavioral terms are being devised with dissemination set for September 1976. Both aspects of the project will need to be implemented and evaluated across the country.

Need: There is opportunity for cooperation with the current project to:

1. develop and evaluate inservice package for other professionals.
2. validate usefulness and implications for additional research and development.
3. adapt to other handicaps and a broader population.

V. *Problem:* There is question about the generalizability of reported group data of HI to hearing impaired individuals who have received intensive auditory emphasis from an early age.

Need: There is a need for replication of studies with individuals whose auditory skills were developed from an earlier age, i.e.:

1. Speech perception features of hearing impaired persons.
2. Studies of normal hearing persons utilizing filtered noise compared with a hearing impaired population.

VI. *Problem:* There is a lack of available and suitable evaluation measures of central auditory impairment (processing problems) in children with peripheral auditory problems.

VII. *Problem:* Knowing that hearing loss is a common problem among older persons and that the geriatric population is increasing, there is a lack of understanding of the ramifications of communication problems in the elderly.

Need: If we are to have an impact on communication problems in the geriatric population, there is a need to study:

1. the role of the helping professions, family members and peers of the hearing impaired person.
2. the role of a series of video tapes for inservice training:
 - a) pre- and post-effects

- b) creation of community awareness
- 3. diagnostic and monitoring programs to evaluate and follow individual needs.
- 4. the nursing home environment.

VIII. *Problem*: There is a lack of counseling and referral centers for severely hearing impaired deaf adults who have been isolated from the mainstream of the community by their communication problems.

Need: There is a need to survey and study the effect of programs that identify and provide for the social service needs of severely hearing impaired adults as compared to programs which do not incorporate social services.

These are some of our needs. Who is going to proceed with this work? Our committee's charge is for all of us to get involved. Who benefits? All of us including those who cause us to exist—our hearing impaired clients.