

## PROGRAMMED SELF INSTRUCTION IN SPEECHREADING

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The major objective of the NTID Communication Center is to help each student to develop or strengthen communication skills necessary for successful job placement and community involvement. NTID students, as future deaf employees, not only need to have the knowledge and skills of their profession, but also have to receive and express language related to their work. Speechreading skill is an important part of the deaf person's ability to communicate in a hearing environment. Speechreading skill may add to the deaf employee's enjoyment at work. Feelings of being isolated on the job may be alleviated if the deaf worker can experience some degree of social interaction with his fellow workers.

A training program to improve the speechreading skills of NTID students was started because of the large percentage of all entering students (66% in the Summer of 1973), were found to be below the level where they could understand most of the content of a message (at least a 50% correct score on the CID Everyday Sentence test for speechreading).

NTID data in teaching speechreading has shown that the group training sessions need to be supplemented with individualized instruction as the poorer speechreaders with low motivation and negative attitudes do not experience enough success to build confidence in their speechreading ability. It also became evident that some of the poorer speechreaders need to receive instruction in an anxiety reducing situation, with the pressure lessened between themselves and the speaker. In the group situation where there may be a wide range of speechreading abilities,\* as well as diverse speech intelligibility and language skills, the poorer speechreaders tend to slow down the speechreading practice for other students with better skills. Since there are a limited number of speechreading instructors and the need for individualized training is great, self-instruction materials have been developed to allow students to work at their own pace.

DEVELOPMENT OF SELF-INSTRUCTION MATERIALS USING FAMILIAR EXPRESSIONS. During the spring quarter of 1973, two videotapes of familiar expressions were made to roughly define

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\*For example, Profile 3's with speechreading scores ranging from 33% to 54%. For a fuller discussion of the NTID profile rating system, see Dr. Johnson's paper within these proceedings.

the potential and methodology associated with programmed individual self-instruction. Students enrolled in the speechreading classes during the spring quarter evaluated the tapes. One tape was in black and white and the other was in color. All students were enthusiastic in their acceptance of the videotapes as a form of self-instruction and unanimous in their choice of color versus black and white video presentations. For example, students commented that the speaker's face looked more natural, red lipstick made the lip movements easier to see, and the facial expressions were more obvious.

As a result of this preliminary evaluation, 425 familiar expressions were videotaped at the Rochester Institute of Technology TV Center during the Summer of 1973. The videotapes were recorded on 20 minute cassettes for ease of student use. There are twenty-five expressions on each videotape which employ a variety of male and female speakers. The speaker says each sentence twice using as much natural expression associated with the language as possible. The student then writes what he thinks the speaker said. The time allowed for writing depends upon the sentence length and was determined during the taping. During the third presentation of the sentence a caption of the sentence is shown on the screen. The written caption is used by the student to immediately correct his response by circling any errors. Students are requested not to erase errors as erased responses make it difficult for the Instructor to evaluate progress. The instructor repeats the expression a third time while the written caption is being shown. The student can then study the speech movements again and obtain immediate reinforcement of the written, kinesthetic and visual sensory impressions. The twenty-five expressions are often unrelated in content, so the poorer speechreaders are helped to make the right associations by using written cues. Cues are either related to the topic, the situation or can be a clue word contained in an expression.

These videotapes made during the Summer of 1973, have been used during the speechreading courses in the Fall, Spring and Winter Quarters, 1973/1974. They were found to be an excellent reinforcement of the classroom instruction and curriculum content. Students who need more time to practice individually are directed to television carrels set up in the classrooms.

At the completion of the course presentation to 5 students who used only videotape materials, the average gain for correct response to the CID Everyday Sentence test was 28% as compared to all other students average gain of 15% (N=50). These, preliminary results indicate that this teaching methodology is quite important in achieving maximum benefit from speechreading training.

DEVELOPMENT OF JOB-RELATED MATERIALS FOR SELF-INSTRUCTION. Motivation to improve communication skills has been found to be highest for NTID students when content material is related to the students' academic major and future career choices.

During the Spring Quarter of 1974, job-related sentence drill materials were evaluated using a live voice situation with individual students enrolled in the advanced speechreading course. Students selected for the "trial-run" were those students whose motivation and attitudes appeared poor in the classroom situation. Also advanced speechreaders were selected because most of the language associated with job-related materials is very technical and often difficult to speechread. Students in the Intermediate course were given on-the-job social sentences with clues to help them to make the right associations regarding the exchange in their attitude using exercises with job-related materials. All students, irrespective of speechreading ability, became much more aware of the need for improving their speechreading skills to levels necessary to be able to receive language associated with their academic work and future job careers.

Consequently during Summer 1974, job-related, sentence-length, self-instruction drill materials were also videotaped and will be utilized for the first time during the Fall 1974. A series of 100 sentences for each of 17 subjects (13 academic majors, four topics) were produced. Speakers included both males and females, varying in degrees of speechreading difficulty. For example, the tapes included mobile to immobile lips, clean-shaven and bearded speakers. Many of the speakers were Instructors in the majors listed below. One hundred sentences in each of the following 13 majors were videotaped: 1) Accounting; 2) Applied Arts; 3) Architectural Technology; 4) Data Processing; 5) Electromechanical Technology; 6) Industrial Drafting; 7) Machine Tool Operation; 8) Medical Records; 9) Medical Technology; 10) Office Practice; 11) Photography; 12) Printing; and 13) Social Work.

One hundred sentences in each of the following subjects were also videotaped: 1) Questions most often asked in a job interview; 2) On-the-job social expressions; 3) Sentences related to daily living experiences around the community; and 4) Campus life social expressions. Seventeen tests related to the sentences in the 13 majors and 4 subjects were videotaped for pre- and post- course evaluation of speechreading ability.

The format used in the production of the tapes was the same as described previously for the familiar expressions taped in 1973. The speaker was seated with upper torso visible (waist up), enabling a student seated at the television carrel to have a horizontal viewing angle of 0°.

In this series of video taped drill materials, pre and post tests are to be given to evaluate the student's ability to speechread the job-related sentences. In addition to these tests, a pre-test of the student's understanding of the key words used in the sentences on the video tapes is to be given before the student begins the self-instruction exercises. The student reads the key words, definitions and sentences on a randomized list before working with a video tape as the student

must be familiar with the language before any work begins with each videotape.

For the exercises, students may use one of four worksheets as required by their ability: 1) Multiple choice response; 2) Completion of sentence response; 3) Key words to give associational cues; 4) Write the complete sentence.

SUMMARY AND CONCLUSIONS. Color, video cassette recordings of drill materials have been developed for self-instruction in speechreading as supplement to group instruction for NTID students. These drill materials cover "familiar" expressions, and job-related sentences. Preliminary findings indicate promise for improved post test results utilizing this method of instruction. Handouts of materials used to develop the self-instruction materials are available from NTID and include the T.V. Director's Guide, pre-tests and students' worksheets.