

ASSESSMENT OF READING AND WRITING SKILLS IN AN ADULT DEAF POPULATION

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The purpose of the assessment of reading and writing skills is: 1) to determine the need for a remedial program in reading and writing; 2) to provide a systematic program of remediation as may be necessary for the deaf student at NTID; and 3) to evaluate instruction.

The Comparative Guidance & Placement Program (CGPP) Reading and Sentence subtests were initially used with the NTID student population in 1969. The CGPP is a measure which is standardized for hearing students entering a two-year college program. The data which has been collected indicates that the average NTID student scores between the 3rd and 15th percentile as compared to hearing students entering a two-year college program. These results indicate that with respect to reading and written language skills as measured by the CGPP, the average NTID student is not equipped to compete favorably with hearing college students and that the average NTID student is in need of remediation in these areas as indicated in Table 1.

TABLE 1: Dimension of Communication Profile based on Reading and Sentence Subtests of CGPP.

Profile Rating	Percentage Ranges For Hearing Students	Descriptors
V	46-99	Equal to that of the average hearing college student given the test nationally (Score of 50 and above)
IV	16-45	Superior within the NTID student population (Score: 41-49)
III	3-15	Average within the NTID population (Score:31-40)
II	1-2	Below average within the NTID population (Score: 25-30)
I	0-1	Extremely poor performance (Score: below 25)

In 1973 an investigation was undertaken to determine which measures of reading and written language were adequate predictors of successful performance in either the NTID English program or the RIT General Studies program. This study indicated that more definitive measures of reading and written language performance were needed.

Reading and writing results which were available on all incoming students (N = 136) in the summer of 1973 included five subtests of the Essentials of English Test, three subtests of the CGPP, and three types of writing samples—a narrative response to a film, a description of procedure and a response to a want ad. Additionally, an error count and type-token ratio were derived from the first 50 words of the narrative response.

The various writing tasks were closely inter-related ($r = .70$), thus indicating that one writing task was sufficient to measure writing performance. A very high correlation ($r = -.80$) existed between the rating of the narrative and the error count. This finding suggests that error rate has a great influence on the rater's judgment of intelligibility. The correlation between the rating of the narrative and type-token ratio ($r = .14$) was not significant. Significant correlations between the rating of the narrative and the total score for the Essentials of English Test ($r = .44$) and between the rating of the narrative and the sentence subtest of CGPP ($r = .61$) were observed; however, these correlations were not judged sufficient to indicate that either test could be used to predict written language performance. It was decided that for purposes of the student's Communication Profile (the resulting summary of a battery of tests of receptive and expressive communication skills administered on all entering NTID students) the best and most valid method of determining the written language profile was to elicit a sample of writing and then rate that sample according to descriptors. Since the response to the film was judged to be the most adequate sample, this stimulus was chosen to be administered to all incoming NTID students. This sample is rated individually by three staff members and then results are recorded as the profile rating for Expressive Language. Analysis of Written Language samples following a cartoon film stimulus (*Mr. Koumal*) were collected for students entering NTID in the summer of 1973. Results presented in Table 2 indicate that it is essential to provide 87% of students entering NTID with an individually designed program of instruction in written language.

Following a study at NTID to select a reading test appropriate for NTID students, the California Reading Test (Junior High Level) was administered in Winter, 1974, to NTID students in "two-year" technical programs. The results indicated a total Grade Point (G.P.) ranging from 5.6 to 12.0+, Mean = 8.1. A 7th to 8th G.P. level was observed to fall within the first and second percentile ranks for CGPP. This junior high level of reading competence does not put the deaf student in a competitive position to achieve at a junior college or technical school for hearing students. On the basis of these results, it is

TABLE 2: Profile ratings, percentages, and functional descriptors for assessments of written ability of NTID students entering Summer, 1973 (=136).

Profile Rating	Percentage of Students	Functional Descriptor
V	13	Student expresses the complete message in acceptable written English.
IV	25	Student expresses most of the content of the message in written English with noticeable errors.
III	52	Student expresses about half of the content of the message in written English with difficulty and many errors.
II	10	Student expresses little of the content of the message in written English, but does use a few isolated words or phrases appropriately.
I	0	Student cannot express the content of the message in written English.

essential that NTID establish individually designed programs of instruction in reading.

Since January, 1974, a study in the NTID Communication Center has been conducted to determine the best way in which to measure written language performance, a method which would provide diagnostic information on each student for the following purposes: 1) to identify specific written language deficiencies for each individual student; 2) to define curriculum; 3) to place the student at the proper instructional level; and 4) to measure improvement.

Currently, the written language sample collected after the student views a short film is analyzed to identify the phrase structure for each sentence. The frequency of occurrence for errors is computed as a percentage of the total opportunities for making the error under various conditions. The first 50 phrases of the essay are analyzed in this manner.

The purpose of this presentation is not to instruct the audience in the use of this procedure, but to point out diagnostic information which can be derived through its use. The procedure is currently being computerized so as to facilitate analysis of the data. Table 3 presents the descriptors which are utilized for sentences, clauses and phrases. Table 4 indicates the error classification. Data was compiled utilizing this procedure for 161 students' spontaneous written language samples. The preliminary results indicate that the most frequent errors involve the use of verbs, articles, and prepositions.

To illustrate how this procedure can be utilized for individualized prescriptive instruction, an example of student writing is provided with corresponding analysis in Tables 5 and 6.

TABLE 3: Written Language descriptors for sentences, clauses and phrases.

Descriptor Categories	Number of Possible Classifications Within a Category	Description Classifications
Sentence Types	6	Declarative, interrogative, imperative, expletive, inverted order, exclamatory
Clause Level	5	Sentence modifier, main, subordinate, coordinate, connective.
Clause Element	9	Pre-modifier, subject, subject modifier, predicate, predicate adjective, predicate nominative, direct/indirect object, predicate modifier, connective.
Phrase Structure	9	Noun phrase, pronoun phrase, verb phrase, preposition, infinitive phrase gerund/participle phrase, adverbial phrase, connective.
Phrase Element	9	Pre-modifier, subject, subject modifier, predicate, predicate adjective, predicate nominative, direct/indirect object, predicate modifier, connective.

TABLE 4: Written Language error descriptor analysis.

Error Categories	Number of Possible Error Types Within a Category	Description of Errors
Articles	3	Needed, not needed, wrong choice
Modifiers	7	Needed, not needed, adv./adj. form confused, wrong form, wrong choice, misplaced modifier, reaction modifier needed/wrong.
Nouns	5	Needed, not needed, wrong form, wrong number, wrong noun meaning
Pronouns	5	Needed, not needed, wrong number, wrong meaning, indefinite reference.
Verbs	13	Main verb needed, main verb not needed, auxiliary verb needed, auxiliary verb not needed, wrong tense, wrong voice, wrong form of verb, agreement, wrong choice of verb, infinitive error, gerund/participle error, transitive/intransitive verb confused, idiomatic double verb
Prepositions	3	Needed, not needed, wrong choice
Conjunctions	3	Needed, not needed, wrong choice
General	11	Punctuation needed, punctuation not needed, wrong, punctuation, capital needed, capital not needed, wrong spelling, incomplete thought, run-on sentences, slang used, idiom problem, expletive problem.

TABLE 5: Written language sample of an individual student response to a cartoon film (Mr. Koumal)

there is a pollution in all over around city and like factories or house, Mr. Koumal thought he liked a flower, He had a flower put in outside window. Later a flower would be die. Mr. Koumal carries his flower put some place in outside in garden or house.

So when cars are coming almost like pollutions from air. So the flower became dead and Mr. Koumal sad that flower dead.

TABLE 6: Analysis of error types for example presented in Table 5.

Error Categories	Error Anyalyses
Articles	The student created 21 noun phrases and thus created 21 opportunities to decide upon the use of articles. In those 21 opportunities, the student omitted seven needed articles, used one article when an article was not called for, and used an article incorrectly. The student made nine article errors in the 21 opportunities, or an error rate of 43%.
Modifiers	The student included only one modifier error.
Nouns	The student made only one noun error in 21 opportunities.
Pronouns	The student made only one pronoun error in 5 opportunities. The error was a missing pronoun.
Verbs	The student created 12 verb phrases using 17 words. Six (50%) of the verb phrases contained nine errors. One error was a missing main verb, four were in tense, and four were in form.
Prepositions	The student created five prepositional phrases and made four preposition errors (80%). Of the four errors, three involved the use of extra prepositions, e.g., in sentence 1 the student wrote, "...in all over around..."
Conjunctions	The student created six opportunities to use conjunctions and made two errors (33%). One of the errors was a missing conjunction and the other a wrong conjunction.
General Errors	The student made three punctuation errors. The student failed to capitalize the first word of his first sentence. In two instances, the student failed to place a comma between a sentence-modifying adverb and the sentence it modified.

The analysis also indicated that this student has basic sentence structure ability as demonstrated by his repeated use of subject + verb and subject + verb + object (clauses, 10 uses). The student also shows understanding of compound and complex structures, but not so definitely as the basic structure. The student shows an understanding of prepositional phrase structure, but with the weakness that the student does not limit prepositions to an appropriate number for each phrase. The student shows an understanding of the use of adverbs to modify sentences (3 out of 7 sentences had modifying adverbs).

On the basis of these results, this student requires instruction in the appropriate use of prepositions, the use of articles, and the selection of verb tense and form.

Through the use and development of the procedures such as those described in this paper, the English Service Section of the NTID Communication Center intends not only to measure reading and writing skills of students, but also to provide instruction based on individual needs, to assess the students' progress, and to evaluate the efficacy of instructional materials and techniques.