Relationship Between Scores on the Craig Lipreading Inventory and the Diagnostic Test of Speechreading for Severe to Profoundly Hearing Impaired

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The use of vision constitutes the most effective channel of information acquisition for the person whose auditory sense is impaired. Speechreading becomes an important component of the communication process for the hard of hearing and deaf individual. Speechreading tests are an integral part of the area of speechreading. As Myklebust (1970) states, "Objective tests for evaluation of visual receptive language are a critical necessity." The hearing impaired child's ability to speechread must be assessed for the purpose of pre- and post-test data, placement and program evaluation.

Obviously, a good standardized speechreading test is greatly needed. However, "a standardized test of speechreading is not presently available. Many of the existing speechreading tests have shown to be reliable measures, but their validity is still in question" (Berger, 1972). The lack of a standardized measure for speechreading performance causes difficulties in the exchange of information from one class, school, or clinic to another. It prevents speechreading research from making measurements with precision. For any test to be of practical use it has to be reliable and valid. One possible way to establish the validity of a test is to correlate it with other similar assessment tools (Greene, 1952).

This study does not attempt to examine the kind of validity needed for the ascertainment of a standardized test. A much larger sample than the one used in this study would be necessary to establish such a validity criteria. However, this study *assists* in meeting this need.

PURPOSE OF THE STUDY

This study correlates the *Craig Lipreading Inventory* by William N. Craig and the *Diagnostic Test of Speechreading* by Helmer R. Myklebust and Arthur I. Neyhus.

HYPOTHESIS

There will be a significant correlation between the *Craig Lipreading Inventory* and the *Diagnostic Test of Speechreading.*

SUBJECTS

Twenty five students from the Scranton State School for the Deaf in Scranton, Pennsylvania, were selected for this study. All students had a severe to profound, (60dB HTL and higher; average of 500, 1000 and 2000 Hz) bilateral, sensorineural hearing loss and were between the ages of thirteen and twenty years. The intelligence range of the research population was 80-120. Visual handicaps were not present and the reading level of the sample was second grade or higher.

MEASUREMENT INSTRUMENTS

The *Craig Lipreading Inventory* and the *Diagnostic Test of Speechreading* were chosen for this correlational study due to the following considerations:

1. Both tests are filmed.
2. Both instruments consist of a word and sentence part.
3. The vocabulary level of both tests is approximately the same and the sentences are of comparable length.
4. Both instruments are multiple choice tests with four possible answers to each stimulus provided in picture forms.

The vocabulary in the *Diagnostic Test of Speechreading* is suitable for deaf children between the ages of four and nine years. The *Craig Lipreading Inventory* was designed to differentiate among speechreaders between the ages of six and fifteen.

PROCEDURE

The tests were given in a room free from distraction. The room was lighted, but not to the extend that the image of the film appeared faded. The students did not hear the speaker's voices because the volume of the monitor was turned off. All items of both tests were presented to the subjects. There was no time limit. However, each film was projected only once.

RESULTS

The tests were scored by giving one point for each word, phrase or sentence correctly identified. The possible range of scores for the *Craig*

Lipreading Inventory was 57 and for the *Diagnostic Test of Speechreading* 64. The Pearson Product-moment correlation was the statistical procedure used to analyze the data. The table below represents the tabulation of the variables.

Table

Sums of the coded raw scores used in the computations of the Pearson *r*

EX	EY	EX^2	EY^2	EXY
379	363	6593	6165	6188

The author correctly hypothesized a significant correlation between the tests. The correlation coefficient of .79 reveals a high positive relationship between the two evaluation instruments. The high correlation coefficient of .79 indicates that both tests measure the same skills. An *r* of .79 is useful as a high predictor of each variable.

CONCLUSIONS

It was concluded that both instruments measure the same skills. Therefore, an evaluator might choose the test which (1) is easier to score, (2) requires less administration time and is easier to administer, (3) offers more clarity in the stimuli, (4) is more portable or (5) less costly.

The author found that both tests are easy to score. The *Diagnostic Test of Speechreading* requires a longer administration time due to the fact that more test items are presented. However, the *Diagnostic Test of Speechreading* offers more clarity in the stimuli because the multiple choice picture choices are larger than those of the *Craig Lipreading Inventory*. Both films are equally portable. The *Diagnostic Test of Speechreading* is easier to administer for a person who is not familiar with operating a film projector. The films of the *Craig Lipreading Inventory* need to be threaded into the film projector. The cartridges of the *Diagnostic Test of Speechreading* are merely inserted into the projector. The cost of the *Craig Lipreading Inventory* is $75. The cost for the *Diagnostic Test of Speechreading* is $79.

Table 1 illustrates the performance of the sample on the *Craig Lipreading Inventory*.

Table 1

Scores earned by the sample on the Craig Lipreading Inventory

Student	Word Recognition	Sentence Recognition
A	27	16
B	23	20
C	25	15
D	27	13
E	29	22
F	19	13
G	17	18
H	31	22
I	30	19
J	23	17
K	33	24
L	26	19
M	28	21
N	30	17
O	24	21
P	23	19
Q	30	20
R	28	19
S	28	19
T	28	17
U	28	24
V	29	20
W	20	15
X	30	18
Y	28	17

The following table represents the performance of the sample on the *Diagnostic Test of Speechreading.*

Table 2

Scores earned by the sample on the Diagnostic Test of Speechreading

Student	Word Recognition	Phrase Recognition	Sentence Recognition
A	32	4	14
B	29	3	18
C	26	5	16
D	35	10	16
E	34	10	15
F	25	5	11
G	26	6	12
H	34	10	17
I	31	8	17
J	31	10	18
K	36	10	18
L	26	7	13
M	32	9	16
N	32	10	15
O	28	5	17
P	31	8	15
Q	33	9	18
R	32	7	18
S	33	5	17
T	31	8	18
U	35	8	18
V	32	9	17
W	24	6	16
X	34	9	15
Y	32	10	13

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