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A TECHNIQUE OF VERBAL ABILITY ASSESSMENT OF DEAF ADULTS

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Should psychologists obtain estimates of verbal intelligence levels of their deaf clients? Such a question posed to a group of professional workers with the deaf will surely bring forth stimulating conversation.

Certainly there is a danger in evaluating the verbal abilities of deaf clients. The danger stems from the psychologist who is unfamiliar with the typical low verbal scores of deaf clients and as a result may give an erroneous diagnosis of mental retardation. However, it seems logical that a psychologist may give erroneous diagnosis in other handicapped groups if he is unfamiliar with their specific problems.

One must consider, then, the values of such information before justification could be warranted to either measure or not to measure verbal intellectual levels. Stewart (1966) and Jones (1966) have recommended testing the verbal as well as the performance abilities of the deaf in order to establish a better understanding of the deaf clients' vocational potential.

Levine believes the Wechsler Adult Intelligence Scale (WAIS) to be the most valuable single instrument available for the mental evaluation of most deaf adults. Myklebust, Neyhus, and Mulholland (1962) also recommended the WAIS in the following comments:

> Appraising the mental ability of the deaf is a complex process but indications of the level of intelli-

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> gence are necessary since they provide a pivotal point for much of the counseling and guidance. The worker having a background and training in psychology would use tests such as the Wechsler, the Hiskey, and the Leiter, whereas the counselor not having such specialized training would be dependent on screening tests. Whatever the type of test used, a measure of both verbal and non-verbal ability should be secured. (p. 415)

Many authorities in the area of deafness do, in fact, recommend obtaining measures of verbal intellectual functioning. Why? Of course, each authority, in his writing explains the rationale for verbal measure, but little objective evidence was accumulated for defending the utilization of verbal intellectual assessment. This study was designed to explore at best one utility for verbal I. Q. data.

The problem that exists, then, is what is the difference displayed between measured verbal and performance abilities, and how can this difference be utilized for diagnostic purposes.

METHOD AND PROCEDURES

Setting

Two state residential schools for the deaf were utilized in order to obtain an adequate number of deaf subjects between the ages of sixteen and twenty-one. The two schools selected were the Arizona State School for the Deaf and Blind in Tucson and the Colorado State School for the Deaf and Blind in Colorado Springs.

The students at both schools had used the manual language as their primary method of communication with one another.

Selection of Subjects

The following criteria were utilized for selecting deaf subjects:

1.) One who has a hearing loss of at least seventy decibels in the better ear based on the 1964 ISO Standard. Levine (1960) has stated that children with such losses do not learn speech and language through their ears even with benefit of amplified sound (p. 313). Such losses were

present at birth or occurred before the age of three in the subjects used in this study. David (1960) has stated that children who are deaf before the age of three are not likely to retain normal patterns of speech and language (p. 415).

The hearing loss and age of onset were determined by examination of school records.

2) One who used the manual language as a primary means of communication.

Procedures

a) *Simultaneous Methods:* The three examiners who administered the test with the Simultaneous Method made up a manual language guide for all of the instructions and questions in this test. This guide indicated what word was to be signed, and for words which do not have clear signs, the guide indicated that the word should be finger-spelled. During the signing and/or finger-spelling, the examiner was to orally speak the instructions.

The client was allowed to use manual language, speech, or a combination of manual language and speech, in communicating his responses. The test was administered in the usual manner except for the addition of the manual language.

3.) The scoring of tests was done by a panel of three judges not involved in the testing. This procedure controlled examiner scoring difference. All of the judges had considerable prior experience scoring the test.

Table I shows the results of this study.

TABLE I
DIFFERENCE BETWEEN DEAF SUBJECTS' MEAN WAIS VERBAL IQ AND MEAN WAIS PERFORMANCE IQ

	Verbal IQ	Performance IQ
Number	48	48
Mean	71.8058	105.6250
Variance	234.7230	265.1198
Standard Deviation	15.3209	16.2825
Standard Error of the Mean	2.2114	2.3502

This research indicated that there is an average difference of about thirty-four I.Q. points (105.6250-71.8958) between deaf subjects' Performance and Verbal I.Q.'s. The standard deviation of this distribution of differences was twelve.

It is the belief of this researcher that both the Verbal and Performance sections of the WAIS could well be utilized in an effective task when testing deaf adults. The obtained Performance I.Q. gives an estimate of the intellectual level of the deaf client. It is also this investigator's belief that the best approximation of the deaf subject's Verbal I.Q. potential would also be that score obtained as the Performance I.Q. The obtained Verbal I.Q. gives an indication of how successful the deaf client has been in developing his verbal abilities.

If an examiner wanted to know how well a deaf subject was progressing in the development of verbal skills in relation to his hypothesized potential, he could employ the following statistical technique this researcher has formulated. It is basically a z score approach and has been labeled "Deaf Verbal Achievement Score (DVAS)."

$$DVAS = 34 - \frac{(\text{Performance I.Q.} - \text{Verbal I.Q.})}{12}$$

As an example, let us examine actual scores of two deaf subjects. Both subjects were born deaf. One had a measured Performance I.Q. of 114 and a Verbal I.Q. of 101. By following the above formula, it is found that this subject was a DVAS of 1.75. By looking in the normal curve table in almost any statistics book, it can be found that this deaf subject is doing better than ninety-six out of one hundred deaf subjects in the development of verbal potential.

The second deaf subject has a Performance I.Q. of 135 and a Verbal I. Q. of 70. Applying the same formula, it is found that this subject has a DVAS of -2.48. By looking at the normal curve table, it is found that this subject is doing better than less than one in a hundred in the development of verbal potential. This kind of information, it would seem, is very valuable for workers with the deaf—including the teachers, counselors, etc. It is recommended that research be con-

ducted to see if the DVAS approach does, in fact, identify the subjects' success, or lack of it, in developing their verbal abilities to a point commensurate with their hypothesized potential. The examples presented indicate this DVAS approach may have this potentiality.

One of the students mentioned above passed the Gallaudet College Admission Test and one did not. From the results of the Performance I.Q., it would be assumed that the student with the I.Q. of 135 passed. However, the student with the Performance I.Q. of 114 passed the test, and this student had the Verbal I.Q. of 101. This example, in addition to other such examples that could have been included, is offered as evidence that the DVAS score may be a better predictor of selected outcomes than the Performance I.Q. alone, especially when these selected outcomes are of an academic nature such as unsuccessful?" Research is needed to answer this question. is needed to test this hypothesis.

A probing question comes to mind when analyzing the WAIS and DVAS scores of these two students cited in this research. This is, "What factors in the lives of these two young people caused the one to be quite successful in the development of verbal potential and the other student to be so successful?" Research is needed to answer this question.

The results of this research seem to indicate at least three different ways in which one could utilize verbal I.Q. estimates. They are: 1) the DVR's approach as giving indications for remedial action; 2) the verbal score alone as a better indicator of certain types of success; and 3) the DVAS approach for research into reasons why some deaf people do develop their verbal skills to a point commensurate with their potential, while others do not. These three possibilities are discussed below.

Diagnostic Values for Remedial Action

The school administration makes every effort to maximize the verbal achievements of their deaf students. However, extra concentrated effort could be made with those individuals that seem to have more potential for verbal growth. Students with wide differences in their performance and verbal I.Q. scores (DVAS score) would make excellent can-

didates for extra concentrated instructional effort, as it is hypothesized that they are not achieving at a rate commensurate with their potential (performance I.Q.). It is also hypothesized that those students with a small difference between their verbal and performance I.Q.'s are doing well in their verbal development when compared with potential. Therefore, educators may be wise not to change the instructional plan for the students who are making good achievement. Effort should be expended trying to understand why these students are successful and the former group is not.

Predicatability of Verbal I.Q.

This research did not address itself specifically with the topic of predicting outcomes on the basis of the Verbal I.Q. score. However, as a by-product, it was observed that students who scored a Verbal I.Q. in the average range or above did well on the Gallaudet admission testing and were accepted in that college. Such a trend was not observed when looking at performance I.Q. scores. Some students with performance I.Q.'s of 135, 120, etc., did not do well on the Gallaudet exams and were not accepted, while others made it. The key here seemed to be their verbal achievement as reflected in the verbal scores.

Research is needed before one can ascertain the value of verbal I.Q. scores in relation to certain outcomes. The observation noted here seems to indicate that such research effort may be worthwhile.

DVAS

The DVAS score could be utilized in selecting students who are doing well or poorly in development of verbal skills to a point commensurate with their hypothesized potential. By utilization of this information, a school administrator could determine what students might best benefit from extra remedial programs as outlined above. However, there is another possibly even more important utility of this DVAS score that will be discussed here.

Why are some deaf youngsters fairly successful in developing their verbal ability so closely in line with their hypothesized potential, while others are not. The fact that "some do" and "some don't" was certainly apparent in this

research. From this evidence it seems warranted that a detailed investigation should be conducted in order to determine the factors that differentiate those who have been successful from those who have not experienced the same degree of success.

The DVAS scores could be utilized to select one group of deaf students who have been quite successful in verbal development and another group who have had little success in this area. After this selection, detailed research should be conducted to explore every possible aspect (educational, social, medical) in the background of these students in order to see if there are some factors that are associated with these relative achievements. If factors are found, it would certainly be valuable information for parents, educators, and other workers with the deaf. Such factors would need to be validated through long-term research, but these positive results (if there were any) would certainly be valuable when attacking the verbal development of the deaf.

From this writer's perspective, it must be concluded verbal assessment information has some very valuable implications in the hands of professionals who are familiar with the ramifications of verbal testing with the deaf.

SUMMARY

In summary, it should again be emphasized that the WAIS Verbal I.Q. score of the deaf is *not* to be interpreted as an estimate of intellectual potential. The WAIS Performance I.Q. gives a better indication of intellectual potential and the obtained WAIS Verbal I.Q. gives an indication of how successful the deaf subject has been in developing his verbal abilities in comparison with his hypothesized potential (Perpormance I.Q.). Therefore, the value within this technique lies in the ability to determine verbal ability development in terms of potential. This should provide insight for remedial programs, as well as research possibilities.

The WAIS Full Scale I.Q. score gives a value which usually lies about halfway between the Verbal and Performance I.Q.'s and has little meaning in and of itself. The deaf subject may have had a Performance I.Q. of 138 and Verbal

I.Q. of 71 (not too unusual), or a Performance I.Q. of 110 and a Verbal I.Q. of 93. Both of these subjects would have a Full Scale I.Q. of 100 (20-24 age group). Therefore, when testing deaf clients, the WAIS Full Scale I.Q. score appears to have little, if any, diagnostic value. This is especially true when utilizing the Wechsler scales in the manner outlined above. On the other hand, when the Verbal I.Q. and Performance I.Q. are combined to give a DVAS this gives a much clearer understanding of the client's intellectual developmental level as well as possible implications for remedial action.

This study was rather exploratory in nature and did not produce any conclusive results. However, it must be concluded that assessment of verbal abilities of the deaf may have some diagnostic value. This possible value lies in the fact that Verbal I.Q. scores may be better predictions of some outcomes than Performance I.Q.'s, especially when those outcomes are academic in nature. Another possibility is the development and utilization of the DVAS approach as outlined above. The DVAS scores could be utilized to determine who might profit most from remedial instruction and a research tool that may aid in the identification of factors that are related to successful or unsuccessful verbal skill development. Further research is needed to substantiate these value claims.

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