VARIATIONS IN VISUAL AND AUDITORY MEMORY FOUND IN A GROUP OF ILLITERATES

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Literacy is a goal which is common to most cultures and most individuals. Historically, most movements seeking to improve man's lot have included efforts to increase literacy. Certainly there is an occupational necessity for more flexibility in learning than ever before. The entry level skills for industry are not likely to decrease in a society of ever increasing technology. Consequently, an upturn in interest in attacking illiteracy is evident.

There has been a shift from some of the more traditional views about illiterates and the patterns recommended for literacy education. The traditional view of the illiterate was that he was a "deprived learner" who had been prevented by geographic isolation, physical disabilities or economic hardhardships from enjoying the advantages of public education. A statement written as recently as 1977 maintains that "there remain many adults who are unable to functionally read and write merely because they lack the opportunity." (Cook, p. 106). The illiterates who participated in an educational program were viewed as motivated and eager to learn. A pattern of voluntary programs was developed, a tradition which still operates. However, educators are becoming aware of a large group of illiterates, school dropouts, who are not "deprived learners" in the traditional sense, but are individuals who for a wide range of reasons did *not* learn with *only* normal classroom instruction. This group is becoming larger each year.

A recent issue of *Journal of Reading* (December, 1984) estimates that "each year more than two million people join the pool of functionally illiterate U.S. residents. Of these, 60% are refugees and immigrants, 40% are school dropouts.

More and more frequently literacy programs are being asked to teach individuals who were not successful learners in the past. If we grant the truth of a frequently stated axiom—namely, educational programs succeed when they meet the needs and wants of the participants, educators are faced wtih identifying the specific needs of these diverse individuals. There is, however, little evidence in the professional iterature that systematic diagnosis of undereducated adults is widespread. Therefore, the diagnostic information presented here may have some value for others.

The information reported here was obtained because the clients were assigned by a CETA counselor to a "reading academy" for a reading diagnosis. It was explained to the clients that this diagnosis was the first step toward placement in a training program; consequently, the diagnosis was viewed as a component of the placement procedure and each individual completed a reading diagnosis that required approximately two and a half hours. The diagnostician explained that the purpose of the diagnosis was to determine materials and teaching strategies that were suited to the individual's style of learning and needs. At the end of the diagnosis most of the results were shared with the clients and the diagnostician emphasized that the client's needs and interests had been considered when materials and methods of instruction were selected.

Among the measure (tests) used in the diagnosis were:

1. An Adult IRI
2. Mitzel Word Recognition Test
3. Botel Phonics Test
4. Detroit sub-tests #6 and #9 (visual, auditory memory)
5. Spelling Test (when time permitted or results suggested.)

The statistics reported here deal with 118 clients for whom complete data is available.

Sex Distribution of Clients

Males	58
Females	60

Ethnic Background of Clients

White	81
Black	33
Other	4

Age Distribution of Clients

16 yrs. — 20 yrs.	33
21 yrs. — 25 yrs.	30
26 yrs. — 30 yrs.	32
31 yrs. — 35 yrs.	9
36 yrs. — 40 yrs.	2
41 yrs. — 45 yrs.	6
46 yrs. — 50 yrs.	5
51 yrs. +	

In order to summarize the data from the Detroit tests, mental age equivalents were utilized. The higher mental age was noted (either auditory or visual) and the number of months and years difference between the two scores was computed. For example, H.S. (Male) earned the following scores:

Detroit #9 (visual): M.A. 14-0
Detroit #6 (auditory): M.A. 11-6

The difference between the two scores equals 2-6. When the scores were treated in this manner, the results are indicated in the following chart.

VARIATIONS IN VISUAL AND AUDITORY MEMORY

Clients Whose Auditory Memory Scores Exceeded Visual Memory Scores

Number of Months (degree of variation)	Number of Clients
37-48 mos.	1
25-36 mos.	1
13-24 mos.	2
1-12 mos.	6
Total Auditory > Visual	10

Clients Whose Visual Memory Scores Exceeded Auditory Memory Scores

Number of Months (degree of variation)	Number of Clients
121-131 mos.	1
109-120 mos.	2
97-108 mos.	1
85-96 mos.	5
73-84 mos.	9
61-72 mos.	15
49-60 mos.	19
37-48 mos.	16
25-36 mos.	11
13-24 mos.	20
1-12 mos.	6
Total Visual > Auditory	105

Clients With Equivalent Auditory and Visual Memory Scores

Total Visual = Auditory	3

The results indicated that 105 of the clients had higher visual scores and thirteen clients had higher auditory scores. Assuming that a difference of two years or less is not likely to be of enough importance to influence the type of strategy a teacher would use, those clients were instructed with traditional approaches. Eighty-nine of the clients had pronounced strength in visual memory as opposed to two clients who demonostrated pronounced strength in auditory memory.

This information was utilized in planning instruction for these clients. Phonics was not heavily utilized as a way of teaching decoding skills to the eighty-nine clients mentioned. Linguistic patterning was utilized with emphasis on both seeing the spelling pattern and writing it. Glass analysis materials with the emphasis on "clusters" were used with a number of

these clients; words which could be used as "key words" were presented at sight and then used as "keys" to learn other words following the same pattern. Materials that did not require minute auditory discrimination were selected. For the most part, clients responded to this approach. It should be added that clients with strength in auditory memory were instructed using Mott, and/or Steck-Vaughn materials with Systems-80 materials used for independent activities.

When the program was evaluated, it was found that, on the average, clients gained one reader level for every forty hours of instruction. Each student attended the academy for two hours a day. During the first hour, the client worked with a tutor on a one-to-one basis; the second hour was devoted to supervised but basically independent activities.

The strength in visual memory appeared so pronounced among the members of this group that the diagnostician began a search of the literature to determine if researchers had noted similar results with adults. Underwood (1969) noted that "The attributes which are established as a memory during learning may differ as a function of the developmental stage." He suggested that the dominant attributes in young children may be auditory and spatial, but that after exposure to learning experiences in a school setting, "associative verbal attributes may become more important." Johnson and Cortright (1970) attempted to determine if a deficit in cross-modality matching could be a useful diagnostic and predictive indicator for adults learning to read. They reported that "visual matching may be a separate skill which influences the rate of learning in readers at a relatively advanced stage but which at an earlier stage is of secondary importance." Haith (1971) commented that only adults "visually rehearse the encoded information."

It may be that it would be appropriate for instructors of adults to consider the degree of visual memory which each learner brings to the reading task. We have long known that students displaying speech difficulties, hearing limitations, or the inability to speak standard English fluently required a modification when working with decoding skills. Furthermore, for many undereducated adults, phonics may trigger memories of failure. Others view it as childish, "the way little kids are taught." Many of the traditional materials used with undereducated adults, such as Mott and Steck-Vaughn, are heavily phonetic, but the presentation of these materials can be modified. Instead of emphasizing the recognition of the sound of the long or glided "a" in a word such as cake, the VCE pattern can be presented. The client can visually identify the pattern, can write the word, and use this as the "key" in order to decode lake, take and other words which follow this pattern. Writing appears to be a technique helpful to word recognition and can be referred to as "spelling" which most adults will accept. This combination of emphasis on seeing the pattern of the words and writing it as well as other words which follow the same pattern proved very helpful to learners who were diagnosed as having visual memory strength. It is therefore strongly suggested that the identification of the relative strength of auditory and visual memory of each client can contribute to the effectiveness with which the individual adult can be taught to read.

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