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ABSTRACT

This paper discusses adult reading levels, the differences between adult and child learners, and diagnostic techniques that can be used to develop reading competence in an adult learner. In the example provided of an adult learner, a profile analysis of the adult revealed his motivation for developing reading competence and his perceived reading strengths and needs. After his reading level was determined, the subject orally read a passage at that level and answered factual, vocabulary, inferential, and critical questions pertaining to the passage. From a miscue analysis of the oral reading, the instructor found that the adult learner made errors of substitution and of omission. Therefore, instruction concentrated on identification skills, practice in using context clues, and practice in using factual information. The teaching strategies included making generalizations for pronouncing words, underlining context clues of words in passages, and using cloze procedures on factual literature. The paper concludes that the diagnostic process used in this example can be modified and applied to other adult learners at varying reading levels. (RL)

Using Psycholinguistic Data to Develop Reading Competence in Adult Learners

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Introduction

Smith & Culyer (1975) stated that:

> No one knows exactly how many functional illiterates there are in the United States. While some figures are available from the United States Census Bureau, all that they can tell us is how many people have spent less than five, six or seven years in school. The figures don't really tell whether the people learned to read or not.

This statement seems to suggests the existence of an enormous problem. Even if many people completed six years of schooling and left school with a sixth grade education, reading at a "sixth grade level," they will probably be unable to function as competent adult readers in this society. The reading demands on adults require a literal level understanding of what is read, an extensive vocabulary, a careful drawing of inferences, and a critical evaluation of the worth of the endless flow of written information necessary for successful day-to-day living. For example, completing income tax forms require careful literal interpretation, reading contracts require careful knowledge of the specialized vocabulary used and reading propaganda (both deceptive and otherwise) require highly developed evaluative reading skills.

Another factor that should be kept in mind is that reading

levels among adults and children are not comparable. Since we traditionally measure difficulty of reading levels by readability formulas, faulty assumptions about the adult level reader are often made. Otto and Ford (1967) in Teaching Adults to Read have suggested that level of difficulty as designated by grade is inappropriate, because the formulas have been developed on the basis of what is difficult for children to read due to word length and frequency of appearance in children's reading materials. Also, Peck and King (1977), after reviewing recent adult literacy literature concluded that the "grade level" concept has little utility for those assisting adult readers.

Competence in reading for an adult, as defined here, is reading well enough to function at a level satisfactory to the adult learner. This, then implies that competence for one learner, depending on the goals or needs of the particular learner, may not be the same as for another. An adult wishing to develop speed and flexibility so that he can read the textbooks required to complete high school evening courses is likely to feel himself to be a competent reader when he is able to read and study with relative ease and success, while another adult struggling to associate sound with symbols may feel successful when he is able to read a simple newspaper article. Hence, competence in reading for adults may be a relative idea rather than being a fixed or static traditional grade level notion.

In pointing out some similarities between adults and children as they traverse the continium of reading proficiency,

O'Donnell (1973) stated that:

> At the initial stage of reading, problems involving the integration of the auditory-visual clues for decoding are frequently noted. While the adult has lived longer and has a highly developed perceptual system, the application of sensory skills to reading can often be a formidable problem ..... [Although] like children, adults need perceptual discrimination exercises which initially provide strong examples of dissimilar configuration.

To further support the belief that differences in learning behavior between adults and children are evident, the Commission of Professors of Adult Education (1975) indicated that adults "enter an educational activity with a greater amount of experience from which they can relate new experiences, and they enter with more specific and immediate plans for applying newly acquired knowledge" than children. Therefore, it would seem appropriate for those interested in instructing adult learners to become acquainted with as many adult learning characteristics as possible before assessing and instructing adults in reading. Smith & Smith (1962) pointed out that adults can be expected to learn at a faster rate than children identified as having a similar "reading level" or mental age due to added experiences gained through living a longer time. Also, they noted that "a conservative estimate of expected progress for the normal adult is one year's progress in terms of grade level for each 40 to 60 hours of systematic instruction." The implication of

this statement is that adults require roughly one-third as much instruction time as children. Further, O'Donnell (1973) noted that adults come to the learning process with a wider range of experiences than the younger learner, and is often more highly motivated due to their ability to relate their learning to some immediate need, i.e., reading a driver's manual, reading cookbooks, reading appliance warranties, reading various kinds of legal documents.

In addition to the characteristics noted by Smith and Smith, and O'Donnell, it may be noted that an adult's experiences permit him to analyze learning activities and situations more rapidly than a child, because of pressures from some immediate felt need that he feels reading can satisfy. Finally, an adult is likely to aggressively seek assistance for improving his reading competence, whereas, a child may not seek such an alternative, due to lack of experience.

Adult Reading Levels

Before describing the diagnostic and instruction component of this process, it seems appropriate to organize adult readers into reading levels or catagories. The levels, as identified by Biggs* are: the beginning level reader, the middle level reader and the advanced level reader. The beginning level reader

*Shirley A. Biggs, "Diagnosing the Reading Skills of the Adult Learner," Workshop: 29th Language Communications Conference. University of Pittsburgh, October 2, 1976.

may function as a non-reader or one who can read materials similar to those read by children in the primary years. Though his experiences have allowed him to develop many complex concepts, the number of words that he is able to identify is likely to be quite limited. The beginning adult level reader may be older. He will also have a very specific reason for wanting to learn to read. Often participation in personal, religious or social activities may precipitate a desire to develop his reading skills.

The middle level adult reader is likely to function, in reading, as does the typical fourth to seventh grade child enrolled in day schools. However, the adult will differ from the child in such characteristics as interests, experiences, and in his academic profile of strengths and weaknesses. For example, the adult will be more able to use certain context clues to gain meaning from material read than children because of his extensive experiences. Also his store of recognizable words will be somewhat sophisticated but not large enough to function satisfactorily in this increasingly complex society. This reader is likely to read most materials at the same rate and become frustrated with anything but light recreational reading. He may be a school drop-out or someone who graduated from high school, but had minimal success in reading. Yet he could read well enough to pass a written examination for a drivers license or read simple instructions.

The third level is designated as advanced. The adult reading at this level can read most material written for the general adult population. He may be able to use such tools as

the dictionary, almanac and the encyclopedia. He is likely to use reading occasionally for recreation or for vocational purposes, i.e., on-the-job training programs that require the reading of some technical material. In addition, the advanced adult level reader can be found in classes in community or junior college, university developmental reading and study skills centers and some costly commercial speed reading courses. This reader may seem to be unaware of the need for developing flexibility in reading, and so, he is likely to focus on speed.

Within the adult population who seeks reading assistance, then, these generally described adult level readers may be found. The boundaries of these levels may be blurred but the descriptions may provide instructors with a useful frame of reference.

Efficient Instruction

Appropriate Instruction (Scales and Biggs, 1976) is as critical a part of the learning process for adults as it is for children. In order to adequately facilitate the learning process in reading for adults, data about adult learner characteristics and data from observation and assessment measures must be properly analyzed and used. It is important for the instructor of adults to recognize that young children reading at an identified reading level tend to read short sentences easily, while adults who are purported to read at the same reading level can handle longer sentences with greater ease (Otto and Ford, 1967). The handling of longer sentences

may, in an indirect way, be attributed to the accumulated experiences of adults. The variety of their experiences have prepared them to cope with a number of situations. Hence, adults have more meanings for words, which may not be readily decodeable by them, than children have. The adult learner is apparently more able than the younger learner to obtain and retain the author's meaning that is represented by graphemic symbols. This, then suggests that the adult learner is more able to utilize the technique of predicting or guessing at unknown words in order to obtain meaning than children.

Further, the experiences of adults have permitted them the opportunity of using their verbal skills in a manner that helps them understand more complex concepts. For example, an adult reading: "Income should at least equal outlay if a good credit rating is to be established," can more easily understand this sentence than a child. Even though a child, like an adult, may be able to pronounce each word in the sentence, he may not be able to comprehend the concepts represented by the words "income" and "outlay." An adult's experiences with day-to-day earnings and expenditures will have prepared him to comprehend such concepts.

Characteristically, the adult appears to be more adept than children at using his experiences and interests to read efficiently. He seems to learn more rapidly, though at times with some difficulty. This may be due, in part, to the fact that his experiences, in an indirect way, have probably allowed him to develop more complex problem-solving abilities, which

may in turn help him process more complex (longer) sentences easily, while shorter thought units, more easily read and comprehended by a child tend to frustrate him. Finally, the press of practical problems requiring solutions in the life of the adult are likely to create a self-motivation for learning, sometimes absent in the child learner, that moves him to master an immediately applicable skill. Instruction in reading, then, should shift quickly from textbook to real-life situations so that reading becomes a means of helping the adult assume his legal and social obligations.

For some specific instructional strategies, let us assume that an adult learner has presented the following diagnostic profile. From a diagnostic conference, it was learned that this learner's reasons for seeking reading instruction were: a) to learn to read better and b) to be able to help his youngsters with their homework. This learner's perceived strengths were: a) that he wants to read better, b) that he can read some words already and c) that, sometimes he knows what words should be, because of the other words in the sentences. His perceived reading needs were: a) to be able to read his youngsters textbooks without embarrassment, b) to be able to read magazines and newspapers easily and c) to be able to complete high school graduation requirements. This adult learner read a beginning level reading passage and suitably answered two of five of the factual questions, two of five of the vocabulary questions, four of five of the inference questions and one of five of the critical questions. Fifteen oral reading miscues were coded

from this learners' oral reading. Four of these miscues were omissions and eleven were substitutions. The four omissions included two fully omitted multi-syllabic words, one of which was irregularly spelled, and two partially omitted multi-syllabic words. Of the eleven substitutions eight looked similar and seven had similar sounds, ten substitutions had the same language structure and five of these had retained the author's meaning. This learner also, pointed to words occasionally and moved his lips constantly while reading.

So that suitable instructional strategies for this learner could be developed, it was necessary for the instructor to analyze his profile. The analysis yielded many areas of strength. More specifically, the profile indicated that this adult was motivated (as was expressed through his wants and needs); his experiences had obviously permitted him to predict, guess and risk (as was demonstrated by the moderate number of meaningful substitutions made during his oral reading); and the fact that he could read many words indicated that he was able to discriminate among words, and does have some--perhaps unknown to him, usable word identification skills.

Further analysis of his profile yielded the following: It was determined from the two omitted multi-syllabic words and two partially omitted multi-syllabic words that the learner appeared to need some assistance in syllabication. This work may help the learner use his phonic analysis skills with words that are unfamiliar to him in script but recognizable in oral context. Perhaps, an introduction or review of the VC/CV, V/CV,

V/Cle and VC/V generalizations with words such as culled, obstacle, correlation and other words not recognized during oral reading would facilitate his understanding of syllabication.

From eight of the substitutions which looked similar, it was concluded that the learner was paying attention to word configuration as well as using his knowledge of sound-symbol relationships. For example, the learner read "conform" for "confront", "undercuts" for "undercurrents" and so forth.

Seven substitutions with similar sounds were recorded. From those seven substitutions, it was determined that the learner does have some knowledge of sound-symbol relationship as he tried to "make the words sound right". The occurance of such miscues as "deport" for "depart" and the example cited above did suggest that the learner attends to the beginning and ending parts of the words.

Of the ten language structure substitutions, five retained the author's meaning. This would appear to indicate that this learner does have a command of the language structure. For example, as he read "What makes one poison better able to cope..." in lieu of "What makes one person better able to cope..." it can be seen that a noun was substituted for a noun. If he had read "What makes one polite or pointless better able to cope...." one might conclude that the learner does not use or understand the context surrounding the word or the language structure because an adjective was substituted for a noun. The five substitutions that retained both the author's structure and meaning indicated that the words substituted had essentially the same meaning as

the stimulus word. For example, while reading "It is better to make the wrong decision than to avoid..." the learner read "It is better to make the wrong determination than to avoid...." Meaning in this sentence is essentially the same. Also, this appears to vertify the notion that; not only was the author's meaning unchanged, but that the language structure for this learner was unchanged. Additional miscues from the learner's profile was analyzed in a manner similar to the above presented data.

Some hypotheses that might be drawn from an analysis of this learners' profile then, are based on the omissions and substitutions. Because there were only two fully omitted words; it appears as if the instructor would want to focus on the data gathered from the substitutions for instructional purposes. According to Page and Barr (1975) "Insights can be gained by analyzing miscues that are substitutions or mispronunciations." If it is determined from the diagnosis that the miscues do distort the author's intended meaning, then, instruction in reading is necessary.

This learner's profile did present distortions of the material read, therefore, the need for instruction is apparent. In addition to the substitutions, other observations revealed that this learner was obviously not afraid to risk (a noted strength) using the context in order to obtain meaning from the printed page. Hence the consideration of the learner's profile showing his strengths as well as weaknesses may lead the instructor to the development of appropriate teaching-learning strategies.

Teaching-Learning Strategies

After the profile has been thoroughly analyzed, the instructor may then give consideration to organizing the teaching-learning process for this adult. It is suggested that the process be learner oriented, that is, the learner will be encouraged to take the initiative in planning and directing much of his learning. Using the analyzed data as a basis for discussion, the instructor and learner may identify some immediate and long range goals. The goals might include identifying some primary instructional objectives, some adult reading materials and some suggested procedures for studying.

Even though the goals identified during the conference were broad and far reaching, the instructor and learner decided that this adult would be provided an opportunity to read the material that he wanted to read; that he would be given systematic instruction in word identification techniques; that he would tell his family about his desire and need to learn to read better and further that he would solicit their help, patience and understanding in this process.

The instructional objectives were identified and limited to: practice in using word identification skills, practice in using context clues and practice in using factual type information. Of course, skills are likely to change as the learner's reading needs change.

The first teaching strategy deals with the generalizations for dividing the miscued words into pronounceable units. They

may be introduced and/or reviewed. For example, the word "obstacles" was omitted in the reading. A simple visual clue to pronouncing this word is its "le" ending. The "le" combined with the preceding consonant will constitute the last pronounceable unit of the word, /kəl/. Other words ending with the same sound unit may be generated and briefly discussed. The remainder of the word may be examined for evidence of other recognizable pronounceable units. The learner may notice the "ob" as a unit seen in words like "obsolete" and "obligate". Or the instructor may suggest that he study the VC pattern, noting first any consonant clusters that may act as one sound; in this instance the "st." Then note the VCCV pattern where division between the two consonant units take place, thus "ob" and "sta" became the pronounceable units and the reader can then apply his knowledge of sound/symbol correspondence to produce a word that resembles one in his listening vocabulary. This exchange between the instructor and reader may precede independent practice using similar words that the reader is likely to encounter in his reading materials. Other patterns may be studied using the miscued words as the basis for VC pattern study.

In order to reinforce and make more efficient this learner's skill in using the context for gaining meaning from written materials, the following types of learning strategies may be designed.

First, the instructor may identify some exemplar passages containing context clues, for discussion. Underline words that are defined or otherwise explained in the context. Ask the

learner to scan the context and with a line, connect the underlined word with the context clue. See example below.

- She is always punctual. She has not been late since she started to work here.
- Ekistics, the study of the integration of man and his environment, has gained increasing attention of the public.

A second strategy for context clues may be to have the adult learner try to define a word in the total passage context by using certain clues. For example, direct the student to systematically examine a) word order for syntactic clues, b) word endings for inflectional clues and c) the total context for at least a general sense of the author's meaning. This systematic search for clues offers the adult learner an easy-to-follow model of behavior for understanding the message in written materials. Note below, the passage and the suggested teacher-student interaction.

- Determined to reach his optimum fighting weight, the boxer had little food for lunch and less for dinner. He ate abstemiously.

The student can first be led to note the position of the underlined word in the sentence. The word's position may signal its function, in this case, that it refers to or is about "He," the subject of the sentence. The ending or inflection -ly should indicate that the word describes the manner in which the "eating" was accomplished. Thus, knowledge of word position and inflectional endings as a means of moving toward understanding written material can be established and/or reinforced. But the adult learner is likely

to want to move closer to the author's intended meaning. He can then be directed to search the broader context of the sentence, that is, examine sentences surrounding that sentence containing the underlined or unknown word for meaning or semantic clues. In the above sample passage, he may note that "had little food for lunch and less for dinner" as a reasonable clue to the meaning of the word "abstemious" in this reading passage. So the use of the search for three clues, i.e., position, inflection and broader context, may offer the adult learner a systematic productive approach to using context clues.

Another instructional strategy may be designed using the cloze technique. Cloze as an instructional strategy has been suggested by several authors. Jongsma (1971) presented a summary of several studies conducted between 1962 and 1970. Even though a number of the studies reported, indicated no significant differences in reading improvement among the subjects; two authors did report significant differences. Bloomer (1962) reported a significant difference in his study using college students who were voluntary participants. This study was designed, like many of the studies that reported no difference in reading improvement, i.e., students merely filled in missing words in passages over the duration of a number of sessions. Martin (1968) also reported significant differences. Her study design differed in that it dealt with completing not only the closures but also with discussing the reasons for selecting the missing words. The writers are in agreement with Martin's approach as one type of an instructional strategy to be used with adult learners.

Since this learner does not appear to be afraid of using his language or using contextual clues, material from such factual literature as The World Almanac and The World Book Encyclopedia could probably be used productively with him. The instructor could design a short heavily clued cloze passage for the learner. A heavily clued passage is one that gives the learner obvious clues to determine the missing words easily. For example, if the deleted word occurs between other words separated by commas, the learner will know that it is probably a word describing the key element(s) being illuminated: groups of words appearing together in various places throughout the passage may be another way of helping the learner to discern clues; words appearing before and after a blank space will alert the learner to, perhaps, the type of word that is needed, i.e., adjective, verb, article, preposition, noun. Another example may be when a blank space precedes a noun; the learner may be cued to insert an article or an adjective.

Upon completion of the designed cloze passage, the instructor may ask the learner to read and respond to the cloze passage by writing his answers in the spaces for the missing words. The learner may then take the original passage, compare his responses to the stimulus responses, and then discuss his responses with the instructor. During this discussion the learner and instructor may note the observed responses as having phonic elements similar to the stimulus responses. Also, it may be noted that some of the substituted word, i.e., article for article substitution, and noun for noun substitution. Finally, recognition that some

substituted words have meaning similar to those meanings intended by the stimulus words may be acknowledged. Meaning, then, becomes the reason for reading and these strategies may help this learner to explore meaning as he reads.

Conclusion

Recognizing that adult learners do present themselves at different reading levels with different reading strengths and needs, and that they require varied approaches to instruction, the writers have suggested some strategies for developing reading competence in adult learners. Even though one section focused heavily on an identified adult learner, the diagnostic process may be the same or similar for learners at other levels, and the instruction as well as learning strategies may be adapted to fit developing reading skills among learners at other levels. The instructional strategies may be thought of as model strategies for instructors designing the teaching-learning process for the adult learner.

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