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ABSTRACT

A study determined whether the gap that separates bilingual reading disabled high school students from English speaking high school students could be bridged in a more efficient manner than the methodology presently being used in many schools throughout the New York City Public School System. Subjects were 33 bilingual students diagnosed as "reading well below average" by the "Degree of Reading Power" standardized reading test administered to all public schools. The reading materials used with the bilingual students were texts at grade- and age-appropriate levels. The contents of these texts were presented, initially, through the students' listening and speaking communication channel while they were developing a simplified decoding system through the "Easy Steps to Reading Independence" (ESTRI) reading support program for decoding words the students did not recognize at first sight in the reading passages. Results indicated that students were able to develop efficiency in using the simplified decoding system for decoding words in content area subjects at age- and grade-appropriate levels. The ESTRI program was validated for use in the schools by the New York State Education Department Sharing Success Program on April 24, 1994. (Contains 45 references.) (Author/RS)

DEVELOPING FUNCTIONAL LITERACY, A CHALLENGE IN DIVERSIFYING THE CURRICULUM

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Abstract

The purpose of this study was to determine whether the gap that separates bilingual reading disabled high school students from English speaking high school students could be bridged in a more efficient manner than the methodology presently being used in many schools throughout the New York City Public School System. The subjects were thirty-three bilingual students diagnosed as "reading well below average" by the Degree of Reading Power standardized reading test (Touchdown Applied Sciences Associates,1983) administered to all public schools in March of each school year. The reading materials used with the bilingual students were texts at grade and age-appropriate levels. The contents of these texts were presented, initially, through the students' listening and speaking communication channel while they were developing a simplified decoding system through the Easy Steps to Reading Independence (ESTRI) (Biggins & Sainz, 1990) reading support program for decoding words the students did not recognize at first sight in the reading passages. Results indicated that students were able to develop efficiency in using the simplified decoding system for decoding words in content area subjects at age and grade appropriate levels. The ESTRI program was validated for use in the schools by the New York State Education Department Sharing Success Program on April 24, 1994.

A major task of schools is teaching students to read. Yet, results of the National Center on Education and the Economy (1990) indicate that Hispanic students still lag far behind English-

speaking students in reading achievement. Furthermore, the gap widens at higher grade levels (Celis, 1993). Poor skills handicap older students in all school subjects. The research literature investigating the method of teaching students at various grade levels differs widely. The basal method, or whole-word approach to reading, introduces vocabulary control based on the frequency of usage of words rather than on regularities of sound-symbol relationships. Vocabulary words are introduced slowly and repeated often. Word analysis skills are introduced carefully and usually only after some "sight" words have been taught. "Sight" words are words that the student memorize as an entity so that they can be recognized by the student immediately upon sight in different types of reading materials (Beck & McKeown, 1991; Chamot & O'Malley, 1994).

The strategy for word identification introduced by Smith (1965) and still practiced in some schools is a method of reading which emphasizes the teaching of individual letters and alphabet that are matched with the specific sounds of English pronunciation. This skill is followed by synthesizing or blending of sounds into whole words. Students need to be told the visual strategies for word division for decoding which will help them locate elements that can be decoded separately and combined and pronounced together as a word. One way that this is done is by drawing lines between word parts for the purpose of decoding words (Cholakis, 1986; Coles, 1987; Cooper & Worden, 1983).

The analytic method requires students to first learn whole words and, through various analytic techniques such as using the context, they eventually recognize letters and sounds they

represent. The word or spelling pattern is presented in either manuscript or cursive in a sentence; it is outlined, framed, or colored, then it is transmitted to a small card. The word is pronounced for the student. The student pronounces the word after the teacher. Another word exemplifying the same spelling pattern (e.g. man - ran) is presented and pronounced. The second word is aligned under the first word on the small card. The second word should be a contrastive word that is only minimally different (e.g. different in the beginning) from the first word. The student pronounces the word. The word is presented in a sentence. The word is presented again in isolation (Albes, 1982; Christina, 1992; Groff, 1975; Squire, 1987)

Critics of the phonics methods of teaching word recognition for reading claim that focus has been on decoding activities, done to an inordinate degree, too much and for too long a time (Carbo, 1987,1988; Cattell, 1886; Dean & Gross, 1992). Other experts argue that the development of phonics instruction skills must be in the context of meaning where they have the most value, that students learn best this way because skills taught in the context do not result in increased generalizations which then have to be overcome (Abrams, 1988; Goodman, 1980; Riddlemoser, 1987).

Penfield (1964) in his experiment comparing skilled and unskilled readers, demonstrated that unskilled readers are less able to rehearse and, thereby, maintain decoding in their memory, which might manifest itself in existing demonstrations of performance differences between good and poor readers. The slow readers would fall behind in the cycle of comprehending efforts as a result of less efficient patterning through various

comprehension components and finally fail to comprehend some of the material. The slow decoders must either stop the assembly line as in sentence-by-sentence passage reading or fail to finish and completely enter comprehension processes into the memory. LaBerge and Lowry (1981) demonstrated that fluent readers had practiced perceptual or sub-skills until they were automatic and did not require focused attention for purposes of identification, so that they could focus on the ultimate goal of reading, that of meaning.

A substantial part of the word recognition research so as to identify words in reading context have broken into two opposing camps, that favoring phonics approaches in word recognition (Albes, 1982; Bellorado, Johnson, Phillips, et al., 1986; Boultbee & Anderson, 1989) and those which favor the Whole Language approach to learning to read (Beck & Carpenter, 1986; Bussis, 1985; Carbo, 1980; Goodman, 1980).

Studies comparing the teaching of basic reading skills through whole word approach and that of emphasizing the teaching of individual letter sounds of the alphabet that are matched with the specific sounds of English pronunciation have shown no significant best way between whole-word and letter-by-letter in grade school students (Baker, 1993) and older students (Cochran, 1989). In about 90% of classrooms, the basal reader approach teaches the student to read by whole-word, sight configuration method. The student is supposed to take advantage of the word's general configuration as an important clue to the identification of the word. For a few students, the configuration method may be the only useful method; they

cannot analyze the word into parts, or they have such poor auditory discrimination ability that they cannot deal with phonics (Anderson, 1983). Some have found that simply to recognize the word is not sufficient to identify it uniquely. The combination-information of features of the word is the second state of perceptual order of perceptual learning. It represents learning after the acquisition of a new code, or word. Implicit in the use of the term 'combination' is the ordered relations of the items which arise as a merging of a set of features which identifies the concept of the word (Hawkey, 1982). The reader extracts meaning from what is read not only on the basis of visual information, the surface structure of the language, but also on the basis of the deep language structure, knowledge and experience recorded within the brain. Language and sounds cannot be comprehended unless the reader makes this critical, active contribution (Artley, 1984; Wong-Fillmore, 1991). In one study of speed of word recognition, Durkin (1983) concluded that the disabled reader is probably a disabled reader because the sight words are introduced at an ever-increasing rate and so the fine discriminations to identify words becomes harder and harder to make, that problems of visual discrimination do, in fact, increase proportionately as the rate of the introduction of new words increases. The basic deficiency is one of the ability to relate symbols, to associate the proper phoneme with proper grapheme, or the ability to match a visual sequence, the word, with its auditory sequence.

The effect of teaching word recognition on reading comprehension has been investigated with two kinds of text

materials, easy reading materials and content reading materials. The results reported by the National Assessment of Education Progress (cited in NASSP National Task Force, 1988) indicates that Hispanic students lag far behind English-speaking students in reading achievement, whether it is easy reading or more in-depth reading. Furthermore, the gap widens at higher grades. Poor reading skills handicap older students in all school subjects (Abrams, 1993; Baruth & Manning, 1992; Cuevas, 1981).

Boggs (1991) found that many poor readers fail to understand what they read not because the concepts are too difficult, or because they lack the ability to master basic reading skills, but simply because of the complexity of the language in which these concepts are presented. Goodman (1980) suggested that a lack of language skills might not only be caused by a limited vocabulary, but also may be a lack of experiences. Students significantly lacking in basic reading skills show, according to Daneman and Carpenter (1980) and Durnova and McCrohart (1987) no evidence of major physical, psychological, or neurological interferences. Reading disabled high school students interviewed about classroom interaction with their teachers said they viewed the teachers as disgruntled, unhappy, bored and boring (Olsen & Moore, 1982), thus developing a negative attitude towards learning because their teachers had a negative attitude..

Beck, Perfetti and McKeown (1982) indicated that fluent readers had practiced processing perceptual or sub-skills until they were automatic and did not require focused attention for purposes of identification so that they could focus on the ultimate

goal of reading, that of meaning.

Piaget (1976) proposed the developmental stages of language learning which can be made applicable to the learning of reading. Schemata data functions, in his terminology, represent concepts stored in memory. They exist as generalized concepts underlying objects, situati' ns, events, sequences of events, and sequences of action. There are at least four essential characteristics of schemata which combine to make the powerful representations in knowledge and memory. Schemata are variable, can impend one on the other, represent generic concepts, and, taken all together, vary in their levels of abstraction. They represent knowledge rather than definitions. From schemata theory, comprehension is understood as an active and constructive process in which the reader is constantly reviewing what is known, aligning new knowledge to prior knowledge, forming and deepening the hypotheses about the meaning of what is read or the problem to be solved, assessing appropriate study strategies, and revising concepts and ideas as new information is acquired.

A study by Gaskins (1982) showed that, in comprehension, reading disabled students often drop out before grade placement level. A few very confused readers or individuals with receptive language disorders, may read much better after fluency training, but may not understand any better, and may suffer language confusion and limited thinking ability.

Subjects. The subjects were 33 bilingual high school students who were placed in this class because they scored at or below the the 21st percentile in the Language Assessment Battery (LAB)

test. They were reading "well below average" as diagnosed by the Degrees of Reading Power (DRP) (Touchdown Applied Sciences Association,1983), a standardized reading test published by The College Board and administered to every public school student of the New York City Public Schools System, grades 2 through 12. in March of each school year .

The reading support system being used by the students was the Easy Steps to Reading Independence (ESTRI), Secondary-Developmental Level (Biggins & Sainz, 1990). The English teacher instructed the students in the use of ESTRI. What the students learned through the ESTRI method they were expected to apply in decoding unknown words in other curriculum subject areas. The researcher met with the English teacher several times in the school year during the teacher's prep periods. The researcher visited the classroom twice.

On being introduced to the ESTRI program, the students were reminded of the fact that there are more than 70,000 word entries in the average dictionary, and that all words consist of one or more letters of the alphabet. The person learning to read can either memorize all the words by sight or learn how the letters in the word are joined together to make the word they make. Most students knew the letters in the words they did not recognize by sight. What they needed to learn was how the letters combined to form the words they formed. Upon obtaining the approval of the students that they would rather learn the decoding skill to decode a word not in their sight vocabulary, rather than to attempt to memorize by sight all the words not presently committed to their memory, and ascertaining their

knowledge of phoneme (letter sound)-grapheme (printed/ written letter form) through the Criterion Referenced Test, an integral part of the ESTRI program, students were taught a systematic method for decoding unknown words while applying this method to the reading situation in their curriculum subject areas.

Procedure. The one systematic method for word decoding taught through the ESTRI program was taught for a period of about fifteen minutes to half an hour each day, depending on the instruction for the day and the interest of the students, and applied to the reading situations of the day.

The systematic method for decoding the unfamiliar word was based on syllabication. The common element present in every word is syllables, shorter words containing fewer syllables than longer words, but all words containing at last one syllable. The study of syllables was presented to the students orally at first through the use of the cue word 'know,' to which other syllables were added: 'know,' 'knowing,' 'knowingly,' 'unknowingly.' Students orally compared word lengths, from the content area subjects they were studying, to the cue word 'know' and its derivatives.

Next, students were taught to recognize syllables in words in print, even though the word itself might be unfamiliar to them at the time. They were taught to find syllables in words by counting the vowels, following certain rules. Every syllable contains a vowel: (1) the vowels are long and short 'a,' 'e,' 'i,' 'o,' 'u;' 'r vowels' consist of these vowels with 'r' immediately after the vowel ('ar,' 'er,' 'ir,' 'or' 'ur'); vowel combinations "Specials"

'oi,' 'oy,' 'ou,' 'ow,' 'ei,' 'ey,' 'au,' 'aw;' 'w' and 'y' are vowels when they are not the first letter in the word. Students were taught that there is the same number of syllables in the word as there are vowels. Vowels are counted according to specific rules: (1) when there is only one vowel in the word there is only one syllable(as in cup); (2) when two vowels come together in a word, count the combination as one vowel sound (as in boat); (3) when 'e' comes at the end of a word, do not count it as contributing to making a syllable (as in home) [although students were also told to count 'e' if 'e' is the only vowel in the word (as in he); (4) when 'r' comes right after a vowel, count it as part of the vowel (as in car); (5) 'w' is a vowel when it is not the first letter in the word and not part of the consonant blends 'dw,' 'sw,' tw,' (as in snow). (6) 'y' is a vowel when it is not the first letter in the word (as in type). Students were given exercises to blend consonants with the vowel stem. These exercises were recorded on a cassette tape for very vowel. Students were taught a principle for decoding words that were "exceptions to the rule," not decodable through following the suggested process for decoding. Whole words were not taught at first, relying on the principle that words decoded several times tend to become sight words, words recognized immediately by the student in reading, since the student had worked through the pronunciation of the word and could easily see why a certain combination of letters made up a certain word.

Instead, the students were taught the individual consonant (e.g. 'b') in its sound-symbol relationship in whatever place it occupied in any word where it was present and sounded. Students found more words in reading materials of their own

choosing, or textbooks, containing this sound-symbol relationship in different places in words (e.g. 'ball,' 'quarterback,' 'tub')
Initial instruction took the form of telling the students the sounds of the various letters. Students were taught to recognize these sounds when they occurred in words and to blend these sounds into syllables and then into words when they were decoding an unknown word.

By day 9, having been introduced to 3 consonants a day, all single consonants and consonants digraphs were introduced. This time frame was necessarily flexible and all students were not able to progress at the same rate. Students were expected to be able to recognize the number of syllables in the words in which they found consonants and consonant digraphs, even when the words were unfamiliar, and to recognize in the words the sound of the individual consonants and digraphs they had been taught.

From day 10 to day 21, according to plan, vowel sounds were introduced, students practiced blending consonants with the vowel sound and thus, built ability to decode words. Students who had a score of sight words within memory with which to compare unknown words caught on more quickly to the process than did the students with no sight word store. Proceeding from simple words where individual consonants were blended with the vowel, students grew in ability to cope with words where a consonant blend was blended with the vowel, from one syllable words to two-syllable words to polysyllabic words.

Higher order thinking skills, such as literal interpretation, creative comprehension and inference were taught concomitantly with the introduction of the sound-symbol relationships in the

words and examples found by the students in their reading materials shaping and influencing the line of questioning and interaction that took place. Literal comprehension, involving the recognition of that which the author specifically stated in the paragraph, comprehension, description, definition, clarification, relationship, exposition and validity of argument, were some examples students practiced in their reading classes. A tape recorder was placed in the classroom, with the knowledge and acceptance of the students and teacher, to catch impromptu learning and reactions of the students as they interacted with each other during the classes when the ESTRI program was being used.

RESULTS

One such caption registered a student's attempt to decode the word 'frequently.'

Student 1: Break it down, like say, 3 vowels, 3 syllables, e and e and y. The two e's are by themselves, so they say the short sound /e/. y is in a long word, so it says /e/. /fre//quen//tly/, frequently.

Student 2: Right, frequently.

Teacher: What does frequently mean?

Student 1: Frequently means like happening very often.

Student 2: Right. Do something a lot of times, right?

Student 1: Yeah.

Student 2: Like when you are coming to school learning more and more and more, learning more and more and more. That's frenquently.

Teacher: frequently.

Student 2. [hesitatingly] frenquently

Student 1: frequently

Student 2: [hesitatingly] frenquently

Teacher: Say the syllables one at a time [with Student 2 saying the syllables after her] /fre//quent//ly.

Teacher: frequently.

Student 2. fre quent ly. frequently. frequently. frequently. Like you are doing something every day when you come to school.

Student 1. Like you kiss your girlfriend every day, right? Frequently. Not every time, but mostly every time. Frequently.

The teacher steered the discussion back to the topic the students were discussing, the migration of birds, who frequently notice a change in weather before they migrate to a warmer climate. Although the students could not at this time independently read the text, they could discuss the contents of the reading material and gain knowledge through their listening and speaking skills. Since students used the same cognition skills in listening and speaking as they would in reading and writing, meaning could be channeled through listening and speaking, in preparation for, and concomitantly with, their development of reading and writing skills. Students were guided to notice location, names, phrases, events, sequencing details of events and actions, identity of relationships, recognition of emotions, reaction to text and selection of appropriate text. Interpretive comprehension, involving the recognition of the many alternatives which the author might have meant although not

stated specifically, was developed. These exercises drew upon background information and experiences, value systems, and organization abilities of the students to demonstrate relatedness to text which was specifically stated or implied in the selection. justifying evaluation and judgments, and formulating appreciations and values.

In the example given of the student decoding the word 'frequently', the students' thoughts, at first, strayed from the passage they were discussion about the migration of birds, but students demonstrated that they knew the meaning of the word and could apply it in their own circumstances.

DISCUSSION/CONCLUSION

Results of the study indicate that words can be decoded by a student at grade and appropriate levels, instead of requiring students to begin learning to read, or remediating reading difficulties, with simple one syllable words. Students are able to study material at their appropriate grade and age level while they are learning a simplified method for decoding unknown words. This fact could have implications for enabling reading disabled students, in a comparatively short period of time, to close the knowledge gap between what they know and what they need to know to operate successfully at grade and age appropriate level.

Although the students cited in this study were unable at first, to read many words in the text, they were able to read information presented pictorially and in graphs and diagrams. Lessons followed the same general methodology; the presentation of the sound-symbol relations, listening to the letter sound in

various places in cue words, finding other words containing this sound-symbol relation, with review of sound-symbol relations that had been taught previously, where these sound-symbol relations were contained in the sample words found by the students. As knowledge of vocabulary grew, students were enabled to decode unknown words, whose meaning they ascertained by looking the word up in the dictionary, or by seeing it used in meaningful context.

The study has two major limitations. The first is the lack of quantitative analysis presented. The purpose of this article, however, is to present an ethnographic picture of how the students reacted to the harmonious and non-threatening process of decoding words while concomitantly being taught grade content through their listening and speaking communication channel, in preparation to developing higher order reading and writing skills. Another limitation is the small sample size. However, the small sample size need not limit the generalizeability of the findings.

The result of this study suggests that future research should continue to examine the potential of using students' listening and speaking strengths to develop higher level thinking and communication skills while developing a simplified method for decoding unknown words at grade and age appropriate levels. In considering the difficulty reading disabled and non-reader students have demonstrated in the past of mastering the many words in the English language, and adding to this the many words introduced in the technological age in which we are living with its explosion of knowledge and the many words that have been and

are being coined to name the new concepts being introduced almost on a daily basis, the task to develop functional literacy in the English language could seem overwhelming to the reader thus handicapped. If the learning process which demonstrates how one or a combination of the twenty-six letters of the alphabet form syllables which are blended together in many different ways to form the word they form, students could learn this simple process for decoding unknown words while, at the same time, mastering content of subject areas through their listening and speaking communication channels. The tide of failure being experienced by many students could be turned. This process could have application on all levels, from primary level, secondary level, and adult level.

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