This survey attempts to: (1) identify specific reading skills which serve to impede pupil progress in reading, (2) provide teacher input as to which reading skills they feel are most often responsible for poor reading performance, (3) provide a localized sequence of reading skills upon which they feel corrective activities may be based, and (4) provide local data from which actual development and implementation of computer managed prescriptive activities for the Memphis City Schools may be developed.

Implementation of the survey included the participation of 1,772 elementary classroom teachers equally representing each of four administrative areas of the Memphis City Schools. Two forms of an opinionnaire were administered to determine the reading skills most frequently observed as those which children have difficulty learning. A descriptive analysis of the data included those skills observed by the greatest percentage of respondents. The five major reading skill areas considered by primary teachers were word recognition, word analysis, comprehension, oral reading, and study skills. The five major reading skill areas considered by teachers in grades four through six were word recognition, word analysis, comprehension, oral reading, and study skills. (WR)
ABBREVIATED FINAL REPORT FOR
A SURVEY TO DETERMINE THE PRIORITY OF READING SKILLS AS PERCEIVED BY
TEACHERS FOR USE IN A COMPUTER BASED PROGRAM OF PRESCRIPTIVE READING ACTIVITIES*

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INTRODUCTION

Every teacher who seeks to maximize teaching strategies is faced with a time problem. Well prepared teachers operating in adequately equipped settings still face pedagogical obstacles created by insufficient time to prepare specific activities for those students who need them. A review of published literature reveals an overwhelming quantity of research involving the teaching of reading. Specifically, the pedagogical problems created by the current flood of "individualized" strategies are numerous. Highlighting a universal search for efficiency and effectiveness are the contributions that evolve through computer based instructional systems. Beginning in the early sixties, U.S.O.E. funds enabled Stanford University to pilot initial efforts involving computer assisted instruction (CAI) in mathematics and reading, (KEENE, 1966). Since this time further refinement has continued and programs have focused on CAI, computer simulation, and computer diagnosis and prescription (KINDER, 1970). Automated investigations in reading range from the acquisition of pre-reading skills of five year olds (GOTKIN, 1967) to the highly acclaimed language experience approach to teaching reading (SEWER, 1970, WILLIS, 1971 and WAY, 1970). Data available from longitudinal studies indicate both the positive effectiveness and economical feasibility of computer managed programs in reading (ATKINSON and FLETCHER, 1972).

A major emphasis of recent programs has been the development of drill practice situations which are used by a limited number of students in selected schools. A problem of immediate concern involves the use of computer-services which may be more widely employed by many or all teachers.
within a school district. Baker, (1971) suggested attention be shifted toward providing prescriptive techniques to entire schools on a teacher request basis. Immediate implementation of suggested teaching strategies could be made through the use of computer facilities to provide an instructional sequence that maximized reading progress. A teacher involved with pupils who are deficient in specific reading competencies could be provided with a list of sequential activities based on each student's level of performance. Teacher effectiveness may be enhanced through a readily available prescriptive service which she may implement in her own classroom.

PURPOSE OF THE STUDY

It was the purpose of the proposed survey to:

(1) identify specific reading skills which serve to impeded pupil progress in reading.

(2) provide teacher input as to which reading skills they feel are most often responsible for poor reading performance.

(3) provide a localized sequence of reading skills upon which they feel corrective activities may be based.

(4) provide local data from which actual development and implementation of computer managed prescriptive activities for the Memphis City Schools may be developed.

PROCEDURES

Implementation of the survey included the participation of 1,772 elementary classroom teachers equally representing each of four administrative areas of the Memphis City Schools. The extent of initial involvement included the completion of a reading skills inventory. Two forms of the opinionnaire were employed. Form A was used to ascertain the teacher's perception of reading deficiencies for 936 teachers in grades one through three, while form B
was administered to 836 teachers in grades four through six. Content selected for inclusion on the opinionnaire was obtained from selected professional sources in the area of reading. The opinionnaire titled Reading Skills Inventory appears in Appendix A.

The purpose of the teacher opinionnaire was to determine the reading skills most frequently observed as those which children have difficulty learning. This was not to be confused with problems teachers encounter in representing these skills, or with the degree to which students have or have not developed these skills.

Teachers were asked to indicate their observations by marking the following letter indications: (A) Frequently Observed, (B) Occassionally Observed, (C) Seldom Observed, (D) Rarely Observed, and (E) Not Applicable. The opinionnaires were forwarded to the cooperating teachers with a 10 day interval before initiating a followup request for return of the completed instrument. Upon receipt of the completed opinionnaires, a descriptive analysis of the data included those skills observed by the greatest percentage of respondents. Attention was also given to variations when comparisons were made by years of teaching experience.

Analysis of Results

Skills Frequently Observed - Primary level

The five major reading skill areas considered by primary teachers (grades one through three) include: (1) Word Recognition, (2) Word Analysis, (3) Comprehension, (4) Oral Reading, and (5) Study Skills. Of these five major skill areas comprehension skills and oral reading skills were cited by teachers as causing the most difficulty. Three specific comprehension skills were indicated as problem areas for primary
students and ranked as follows, beginning with the most frequently observed:

A. Unable to follow printed directions
B. Lacks proficiency in association printed material with pictures
C. Unable to draw conclusions from given facts

The specific oral reading skills that were reported as most frequently noticed were inability to read with proper phrasing and inability to enunciate properly.

Skills Frequently Observed - Intermediate level

The five major reading skill areas considered by teachers in grades four through six include: (1) Word Recognition, (2) Word Analysis, (3) Comprehension, (4) Oral Reading, and (5) Study Skills. Of these five major skill areas comprehension skills and oral reading skills were cited by teachers as posing the most difficulty for their students. The specific comprehension skills reported to trouble the intermediate students most were ranked as follows, beginning with the most frequently observed:

1. Inability to identify main ideas in reading selections.
2. Unable to identify the author's purpose
3. Inadequate ability choosing appropriate titles for material read
4. Lacking proficiency in interpreting story ideas (generalizing)

The specific oral reading skills that seem to trouble the intermediate students most are ranked as follows, beginning with the most frequently observed:

1. Lacks proficiency when reading poetry
2. Unable to read with proper phrasing
3. Unable to enunciate properly
Responses by Teaching Experience

In comparing responses influenced by years of teaching experience, teachers were grouped into the following five categories: those with 0 to 1 year of experience; 2 to 5 years; 6 to 10 years; 11 to 15 years; and more than 15 years of experience. In grades 1-3, on 8 of 32 items, observations of children lacking in skills increased steadily with years of experience. On four out of 32 items, observations of children lacking in skills increased steadily with years of experience. On four out of 32 items observations declined as experience increased. On the 20 remaining items, experience had no marked effect on type of response made. See Appendix B for a discussion of subskills which represent some degree of difficulty as indicated by observations of primary level teachers.

In grades 4-6, 6 skill items out of 41 declined in observance as experience increased. One item showed a steady increase with increased experience. On two items teachers with 0 to 1 year experience showed a much higher observance percentage than did teachers with more years of experience. On the remaining 32 items, years of experience failed to affect the response. See Appendix C for discussion of subskills observed by intermediate teachers as those subskills which were identified as difficulties under each major skill area.
Summary

Results indicated that specific subskills within the domains of comprehension and oral reading serve as areas of major concern to those teachers surveyed. It seems appropriate to conclude that

1. Serious concern exists regarding specific skill components of the reading continuum.

2. No identifiable pattern was determined regarding the influence of years teaching experience and the selection of particularly troublesome reading skills.

3. Sufficient need exists for the availability of prescriptive activities and training for teachers developed around clearly identified reading skills.

The current study was intended as a basis from which a computer based system may be seriously considered. Results from the study will be used and current funding priorities will be considered in meetings with the City Board of Education to determine the feasibility of further development.
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Appendix A

Reading Skills Inventory

GRADES 1-3

PURPOSE: This inventory is designed to identify the frequency of your observation of particular reading skills youngsters have difficulty learning. Observation of these skills should not be confused with problems teachers encounter in presenting these skills.

DIRECTIONS: For each choice selected, circle the appropriate letter that is indicative of your answer choice beginning in card column 3. Mark front and back of card. Columns 1 and 2 are used to indicate your teaching grade level and teaching experience respectively, as indicated in the example below. Inventory items begin with number 3. The following interpretation is used for answer choices.

A - Frequently Observed
B - Occasionally Observed
C - Seldom Observed
D - Rarely Observed
E - Not Applicable

The following example indicates a 4th grade teacher with 7 years experience. She indicates that she frequently observes student difficulty in recognizing capital letters at the beginning of the word (choice A in column #3), occasionally observes inadequate sight vocabulary (choice B in column #4), frequently observes inability to understand the concept of contractions (choice A in column #5), and seldom observes inability to recognize root words (choice C in column #6), etc.

Your cooperation in completing this inventory is appreciated.

Example:

Teaching Grade Level
Teaching Experience
Being Actual Inventory Items
INTERMEDIATE GRADE LEVEL

GRADE LEVEL AND TEACHER EXPERIENCE

1. Please indicate by marking a, b, c, d, e, f, or g in card column number 1 the exact reading grade level that you teach. (Indicate only ONE (1) grade level!)
   - A = Grade K
   - B = Grade 1
   - C = Grade 2
   - D = Grade 3
   - E = Grade 4
   - F = Grade 5
   - G = Grade 6

2. Please indicate your teaching experience by marking a, b, c, d, or e in card column number 2.
   - A = 0-- year teaching experience
   - B = 2-5 years teaching experience
   - C = 6-10 years teaching experience
   - D = 11-15 years teaching experience
   - E = over 15 years teaching experience

WORD RECOGNITION

3. Unable to adequately interpret punctuation (italics, quotation marks)
4. Inadequate sight vocabulary
5. Unable to understand the concept of contractions
6. Does not comprehend multiple meanings of words
7. Unable to associate appropriate words and feelings
8. Can not understand and utilize prefixes and suffixes
9. Inability to identify root words
10. Lacks proficiency in recognizing synonyms, homonyms, and antonyms

WORD ANALYSIS

11. Lacks proficiency in recognizing and sounding initial consonants (ball, cat, take)
12. Inability to recognize and sound final consonants (truck, got)
13. Can not identify and sound consonants in the medial position (little, seven)
14. Can not identify and sound long vowels (ate, wine, toe)
15. Inability to understand the concept of word families (tall, ball, fall)
16. Inability to form plurals of words
17. Inability to divide words into syllables
18. Inadequate proficiency in utilizing context clues to gain understanding
19. Can not employ configuration clues in recognizing words

COMPREHENSION
20. Inability to follow printed directions
21. Unable to draw conclusions from given facts
22. Can not place events in proper sequence
23. Lacks proficiency in associating printed material with pictures
24. Unable to identify main ideas in reading selections
25. Unable to dramatize reading selections

ORAL READING
26. Unable to read with proper phrasing (word by word reading - lack of fluency)
27. Inability to enunciate properly

STUDY SKILLS
28. Unable to alphabetize by the first letter of a word
29. Inability to alphabetize by the first two letters of a word
30. Inability to use proper sources to locate information - (encyclopedia, atlas, dictionary)
31. Inability to use book parts efficiently - (table of contents, glossary, index)
32. Lacks proficiency in utilizing graphic materials - (charts, graphs, diagrams, maps)
Reading Skills Inventory

GRADES 4-6

PURPOSE: This inventory is designed to identify the frequency of your observations of particular reading skills youngsters have difficulty learning. Observation of these skills should not be confused with problems teachers encounter in presenting these skills.

DIRECTIONS: For each choice selected, circle the appropriate letter that is indicative of your answer choice beginning in card column 3. Mark front and back of card. Columns 1 and 2 are used to indicate your teaching grade level and teaching experience respectively, as indicated in the example below. Inventory items begin with number 3. The following interpretation is used for answer choices.

A - Frequently Observed
B - Occasionally Observed
C - Seldom Observed
D - Rarely Observed
E - Not Applicable

The following example indicates a 4th grade teacher with 7 years experience. She indicates that she frequently observes student difficulty in recognizing capital letters at the beginning of the word (choice A in column #3), occasionally observes inadequate sight vocabulary (choice B in column #4), frequently observes inability to understand the concept of contractions (choice A in column #5), and seldom observes inability to recognize root words (choice C in column #6), etc.

Your cooperation in completing this inventory is appreciated.

Example:

Teaching Grade Level
Teaching Experience
Being Actual Inventory Items
INTERMEDIATE GRADE LEVEL

GRADE LEVEL AND TEACHER EXPERIENCE

1. Please indicate by marking a, b, c, d, e, f, or g in card column number 1 the exact reading grade level that you teach. (Indicate only ONE (1) grade level!)
   
   A = Grade K
   B = Grade 1
   C = Grade 2
   D = Grade 3
   E = Grade 4
   F = Grade 5
   G = Grade 6

2. Please indicate your teaching experience by marking a, b, c, d, or e in card column number 2.
   
   A = 0-1 year teaching experience
   B = 2-5 years teaching experience
   C = 6-10 years teaching experience
   D = 11-15 years teaching experience
   E = over 15 years teaching experience

WORD RECOGNITION  (Remember to mark a, b, c, d, or e on the card)

3. Unable to adequately interpret punctuation (italics, quotation marks)
4. Inadequate sight vocabulary
5. Unable to understand the concept of contractions
6. Does not comprehend multiple meanings of words
7. Unable to associate appropriate words and feelings
8. Can not understand and utilize prefixes and suffixes
9. Inability to identify root words
10. Lacks proficiency in recognizing synonyms, homonyms, and antonyms

WORD ANALYSIS

11. Lacks proficiency in recognizing and sounding initial consonants (ball, cat, take)
12. Inability to recognize and sound final consonants (truck, got)
13. Can not identify and sound consonants in the medial position (little, seven)
14. Lacks proficiency in identifying and sounding initial consonant blends (shirt, what, trust)

15. Cannot identify and sound short vowels (top, tap, arm)

16. Cannot identify and sound long vowels (ate, wine, toe)

17. Inability to understand the concept of word families (tall, hall, fall)

18. Inability to form plurals of words

19. Inability to divide words into syllables

20. Inadequate proficiency in utilizing context clues to gain understanding

21. Cannot employ configuration clues in determining words

**COMPREHENSION**

22. Unable to identify main ideas in reading selections

23. Inadequate ability choosing appropriate titles for material read

24. Lacks proficiency in identifying key words in topic sentences

25. Unable to interpret descriptive words and phrases

26. Inability to supply facts to support main ideas

27. Lacks proficiency in interpreting story ideas (generalizing)

28. Unable to identify character traits from material read

29. Inability to identify author's purpose

**ORAL READING**

30. Unable to read with proper phrasing (word by word reading, lack of fluency)

31. Inability to enunciate properly

32. Inaccurately interpreting marks of punctuation

33. Does not read with a well modulated voice

34. Inadequate phrasing during loud reading activities

35. Lacks proficiency when reading poetry
37. Does not use proper sources to locate information (encyclopedia, atlas, dictionary)

38. Inability to use book parts efficiently (table of contents, glossary, index)

39. Lacks proficiency in utilizing graphic materials (maps, graphs, charts, and diagrams)


41. Inefficiency in reading to organize outlines
Appendix B

WORD RECOGNITION

1. An inadequate sight vocabulary was considered by all teachers as one major difficulty. Those with 2-5 years experience place the greater emphasis upon this subskill, whereas of the 4 teaching experience categories those teachers having none to one year's experience placed the least emphasis upon an inadequate sight vocabulary.

2. Teachers having 2 years experience to those of more than 15 years experience more often reported the inabilities to (a) divide words into syllables; (b) use context clues in recognizing words than those teachers of less than 2 years teaching experience.

WORD ANALYSIS

3. The inability to understand and utilize prefixes and suffixes was given more emphasis by those teachers having two years experience through those having over 15 years experience. Those of 0-1 year experience did not observe this difficulty as often.

4. Subskills dealing with initial, final, and medial consonant sounds were more frequently observed by those teachers having 0-1 year experience.

5. The identification and sounding of short vowels were indicated frequently by all teachers.

6. The identification and sounding of long vowels was more frequently observed by those teachers having more than one year experience.
COMPREHENSION

7. The inability to follow printed directions was considered one of the most difficult subskills by all teachers, except those whose teaching experience extended beyond fifteen years. Those having taught for more than fifteen years considered an inadequate sight vocabulary, the inability to identify and sound short vowel sounds, the inability to divide words into syllables, the inadequate proficiency in utilizing context clues to gain understanding, and the inability to enunciate properly as equally difficult.

8. The ability to understand the concept of word families was more frequently observed by those having 11 to over 15 years experience than by those teachers having none to five years experience.

9. All teachers observed the inability of students to draw conclusions from given facts.

10. Teachers having more than one year experience indicated high incidence of students having difficulty in identifying main ideas in reading selections.

ORAL READING

11. The inability to read with proper phrasing was cited by all teachers. However, those teachers with more than one year experience reported the observed weakness more frequently.

12. The inability to enunciate properly was more frequently reported by those teachers having 2-5 years experience.

STUDY SKILLS

13. The inability to use proper sources to locate information was frequently observed by those teachers of less experience.
inability was observed by those teachers of less experience as (a) not reading with proper phrasing, (b) not drawing conclusions from given facts, and (c) not placing events in the proper sequence. Teachers of more experience did not report the inability to locate information as frequently as the above mentioned subskills.
Appendix C

WORD RECOGNITION

1. The inability to interpret punctuation was not frequently observed by teachers whose experience was over 15 years and was least frequently observed by those of 2-5 years experience.

2. An inadequate sight vocabulary was cited by all as a difficulty. However, the less experienced teachers placed more emphasis upon the inability.

3. The inability to comprehend multiple meanings of words was observed more frequently by those having 11 years and over than by those having 1-5 years experience. Teachers of greater experience indicated that this lack of awareness of the multiplicity of meaning was likely to affect the understanding of reading material.

4. Lacking proficiency in recognizing synonyms, homonyms, and antonyms are related to the comprehension of the multiple meanings of words. Again, this inability was more frequently observed by teachers having more than 1 year teaching experience.

WORD ANALYSIS

5. An inability in recognizing and sounding initial, final, and medial consonants was more frequently noticed by teachers having more experience than 1 year. However, none of the teachers considered the area as one of major difficulty.

6. The inability to identify and sound short vowels was observed much
more frequently by teachers having 1 year experience. Those teachers whose experience extended beyond 15 years, rarely observed the inability.

7. The inability to divide words into syllables was frequently observed by all teachers, except those of 2-5 years.

8. For all teachers the inability to use context clues to gain understanding was one of the most frequently observed difficulties.

9. The inability to use configuration clues was most frequently observed by teachers with least experience (0-1 years) and by the teachers with the most experience (over 15 years).

COMPREHENSION

10. Although all four groups of teachers frequently observed students having difficulty identifying the main idea, teachers with little experience did not report having observed it as frequently.

11. Teachers with more experience than one year have more frequently observed students lacking proficiency in interpreting the story ideas (generalizing).

12. In relation to the inability to find the main idea, teachers of varying years experience reported that students were not able to identify the author's purpose.

ORAL READING

Of the six subskills in the area of oral reading the teachers of 0-1 years experience observed all 6 of the skills more frequently than any of the skills in the previous three major areas. However, other teachers observed all of them frequently (to a lesser extent) except the skill of interpreting of punctuation marks.
The subskill, which involves the lack of proficiency when reading poetry, was considered by those teachers having 11 years and over, as the most frequently observed difficulty in oral reading.

**STUDY SKILLS**

13. Teachers of varying experience frequently observe the lack of proficiency when using graphic material.

14. The lack of proficiency in library skills was most frequently cited by teachers with the least amount of experience and most infrequently noted by teachers with the most experience.

15. Although teachers with the least amount of teaching experience have seen the inefficiency in reading to form outlines much more often than other teachers, all teachers identify this as the most difficult reading task at this level.