

ANALYSIS OF THE RESULTS OF THE CALIFORNIA PHONICS  
SURVEY ADMINISTERED AT THE NINTH GRADE LEVEL IN  
THREE OTTAWA COUNTY HIGH SCHOOLS

by

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requirements for the degree

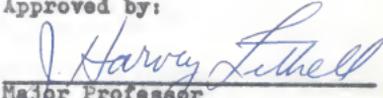
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## INTRODUCTION

A much discussed topic in the American schools today concerns the method that is most useful in teaching our young people to read. This is not only a current issue but dates back to the 1780's when Noah Webster introduced the idea of phonics. The phonic method was the prevalent method during certain periods of time from the 1780's until recently. This method declined in its use occasionally because of the introduction of new and different methods of reading. At no time, however, did the phonic method ever become completely obsolete from Noah Webster's time until presently. Today, phonics is used in conjunction with other methods in the teaching of reading.

## STATEMENT OF THE PROBLEM

The purposes of this study were to use the California Phonics Survey test to determine (a) the degree of phonic adequacy or phonic disability, designated as some, serious, or gross disability, existing at the ninth grade level in Bennington, Minneapolis, and Tescott high schools; and (b) to discover the number of items most frequently or least frequently missed in each of the diagnostic areas by the ninth grade students of these three high schools.

## DEFINITION OF TERMS

Terms which have been used in this study are defined as follows:

- Phonics - a method of sounding letters or groups of letter so as to get clues to the meaning of printed words that the student cannot recognize at first sight. (15)
- Phonetics - involves the identification of the sounds of each language or dialect, the formation of these sounds by the speech organs, the auditory characteristics of the sounds, and their relation to other aspects of language. (13)
- Configuration - visual perception of a word on the basis of its general appearance as opposed to the perception of accurate printed letter combinations. (4)
- Rigidity - the inability to dissociate auditory from visual associations in the perception of words. (4)
- Digraph - a combination of two vowels or consonants to represent a single sound, as bread or traffic. (3)
- Diphthong - a combination of two vowels each of which retains a sound. (3)
- Blend - two consonant letters used together to spell a single sound, as blue. (13) These are also considered to be consonant digraphs by some authorities.

## REVIEW OF THE LITERATURE

History of Phonics

There is probably no form of instruction in the elementary schools of America with a more remarkable history than the teaching of phonics. As early as the 1780's Noah Webster introduced the idea of teaching the "powers" as well as the names of the letters of the alphabet in beginning reading. (5) In using the alphabet method, the prevailing approach to reading, the students spelled out words in reading. With the coming of "phonetic" instruction in the schools, students were learning to sound out as well as to spell the words. Webster's method was a forerunner of the phonetic approach to reading, which competed with the alphabet method over a period of nearly fifty years as a "more sensible" approach to reading instruction in the schools.

America was still in its infancy when the nation was making unprecedented demands on its schools. While these demands did not interfere with the usual instruction in the ABC's, they pointed up the need for a systematic teaching of the letters in the English language. "Phonetic" instruction was specifically prompted by (a) the desire to unify the English language by getting rid of its numerous dialects and (b) the prevailing emphasis on elocution.

The first primer based on the word method of teaching

reading was published in 1840. The word method exemplified an entirely new philosophy of beginning reading which was the exact opposite of the ABC or alphabet-phonetic approach. The word method of teaching reading with instruction in phonics was well received by educators throughout the country. In spite of the apparent acceptance of this word method and the mounting criticism of the ABC method and phonic approach to reading, the majority of the instructors clung to the older method; the tradition was too strong to overcome easily. It was not until 1880 that the alphabet-phonetic method was generally condemned and the word method was taking its place in the public schools.

It was in the middle of the 1880's when the alphabet-phonetic approach was being overtaken by the word method of teaching reading, that the famous McGuffey Readers were published--the readers that were recommended for adoption in the public schools of Twin Lakes, Wisconsin, in 1960 "chiefly because of their phonetic approach to reading". (5)

The 1880's marked the beginning of two new education practices. One was the sentence and story method of teaching reading. The other practice involved elaborately organized systems of phonics. Although the systems varied somewhat in methodology, carefully organized programs of phonics were an inseparable part of each succeeding basic reading system for the next forty years.

The demand for instruction in phonics resulted from the growing dissatisfactions with the word method of teaching reading. Even before the introduction of the sentence and story methods, the word method was under severe attack by those against it. It was pointed out that children were not learning to read as well as they should. The falling off in reading ability was particularly conspicuous in the upper elementary grades, where the inability to call the words readily interfered with efficiency in reading.

The following quotation from an educational journal published over sixty years ago has overtones of the criticism directed against the so-called look-say method of teaching reading today. This is what the critics at the close of the nineteenth century had to say about the whole-word method of reading instruction in the schools:

There is quite a general complaint that the pupils in the upper grades are not able to read with ease and expression. They have so little mastery over the words that an exercise in reading becomes a laborious effort in word calling. Pupils usually read very well through the first three readers, according to our present standard of reading in these grades. But the trouble begins in the fourth reader, and by the time the class is in the fifth, the reading recitation is torture to the teacher and a hateful task to the pupil.

There can be no good reading without the ability to call words readily, and it may be well to consider whether the methods of teaching primary reading are not at fault in preparing the pupil for the advanced reading.

While he (the pupil) should be learning independence in making out his words, he learns dependence, and his

dependence increases with the increase in difficulties.  
(5)

Since the word method of teaching reading was generally believed to be responsible for the poor reading in the schools, the pendulum began to swing away from the whole word to the sounds that compose the word. Instead of teaching word wholes, the trend was now toward the synthetic approach to reading.

The children's inability to call words readily captured the imagination of Rebecca S. Pollard, who, in her manual on the synthetic method of teaching reading published in 1889, posed this question: "Instead of teaching the word as a whole, and afterward subjecting it to phonic analysis, is it not infinitely better to take the letters from the starting point, and with these sounds lay a foundation firm and broad upon which we can build whole families of words for instant recognition?" (5)

From the time of the Pollard synthetic method of reading until 1928 all the various systems of phonics had three characteristics in common: (a) they were based on the synthetic approach to phonics which began with the smallest units, namely the individual sounds, which were then blended into larger units and finally into the word-whole; (b) the sounds of the letters, vowels, and consonants were taught apart from the words in which the sounds occurred; and (c) their objective in teaching phonics was

to enable the children to sound out the unfamiliar words in their reading.

The word method of teaching phonics taught by Anna D. Cordts provided the analytic approach, as opposed to the synthetic methods of teaching phonics. Starting with whole word the pupil proceeded to the parts or components of which the word or syllable is composed. "Phonetic" units, vowel and consonant sounds, were learned not apart from but always in the words in which they occurred.

It had now been nearly a century and a half since Noah Webster advanced the idea of teaching the "powers" of the letters as well as their names, and forty years since the publication of the first elaborate system of phonics for promoting efficiency in reading.

Before the end of the 1930's phonics had fallen into ill repute, and the former indisputable aid to reading was under attack by supervisors of elementary education and by reading instructors in the nations teachers colleges. Among their reasons for objecting to phonics were the over-emphasis on the mechanics of reading and the practice of instructing children to sound out the new words they encountered in reading.

While the progressive movement in education was making itself felt, several other developments were taking place, all of which were having an unfavorable effect on

the traditional methods of "phonetic" instruction.

Experimental research played a big role in this. When it was found that pupils who rated highest in their ability to sound out the unfamiliar words in reading, consistently made the lowest scores in speed and comprehension, phonics was declared to be a handicap in reading.

The greater emphasis on silent reading rather than on oral reading decreased the emphasis on the teaching of phonics. With reading speed and comprehension receiving top rating and with the theory that the habit of "sounding out" words slowed the readers' rate and interfered with his thinking while reading, phonics was believed to be incompatible with the new objectives in reading.

The application of psychology to reading instruction and the influence of newly established principles of child development had a damaging effect on phonics. With each additional study in educational psychology and the nature and character of the reading process, the ultimate fate of phonics became increasingly clear. Arthur I. Gates summed up the situation in one sentence when he said, "Carry-over of phonetic knowledge in reading is a clumsy and wasteful process with no certainty of results". (5)

By 1930 the mounting evidence against phonics could no longer be ignored. Many school administrators, basing their judgment on the philosophy of Dewey and the investi-

gations of Thorndike, Judd, Buswell, Gates and Gray, stated phonics would have to hold only a minor role in the teaching of reading or be completely expelled from the system. The teachers were not so willing to abandon this means of teaching and many continued without the knowledge of their supervisors.

By the beginning of the 1940's, after more than a decade of teaching reading with little or no systematic instruction in phonics, the parents and teachers were both distressed over the children's failure in the various subjects that depended upon their ability to read.

Parents were urging the schools to return to systematic instruction in phonics as the cure for the children's reading ills, and the teachers were lending their wholehearted support to the parents' demands.

Primary teachers contended that it was much easier to teach children to read with the aid of phonics than without it. Teachers in the intermediate grades and in high school complained that their pupils had not the slightest idea how to attack and identify an unfamiliar word in reading.

Slowly at first, as if unwilling to yield to public pressure, the school administrators and instructors of college reading relaxed their opposition to phonics and by the middle 1940's phonics was rapidly regaining its former

prestige.

Once the lack of phonics started to show-up, it was decided then that it should not be used as a method of teaching reading, but a method of analyzing words. When used in this manner the teaching of phonics gets desired results, and is quite likely here to stay. (16)

If phonics is taught as a system of sounds there is grave danger of focusing the reader's attention on the sounding out of words rather than on the meaning of the passage. But many children, taught exclusively by the phonic method, do not learn to read for meaning. They learn reading as a word-calling game. Reading clinics and upper elementary and high school classes are filled with youngsters who have not learned to read for meaning.

#### Present Day Theories Concerning the Teaching of Phonics

Phonics today is one of the important methods used in teaching our children to read. Educators today advocate the use of many methods; there is no one right method to use. This can be supported by Daniels and Diack who state, concerning the sight-word method and phonics, "Both are necessary and they should not be separated, for they complement one another admirably, and together form a unified and pleasing whole." (7)

Staiger would support this theory with his belief

that the sight-word method must be used, but phonics must be retained. To substantiate his belief in phonics, Staiger says, "Without phonics, most children cannot become self-reliant, discriminating, efficient readers." (14)

Bloomer states,

Teaching phonics to English reading children is not teaching reading. It is part of the reading-teaching process, and is the most effective way of teaching material which can be handled phonetically." (1)

Another example of the support for some phonics in today's schools comes from Cowan; he states, "The need for some phonics training to develop the auditory visual perception of words in the early grades has been recognized." (6)

Gans would support the theory of an all-phonics approach in teaching beginning readers to be very dangerous. She states, "Teachers using one of the all-phonetic systems are full of examples of the errors in pronunciation which develop and which must be eliminated later on." (8)

Information and Recommendations Made by the Authors of the California Phonics Survey

The authors of the California Phonics Survey Test presented the following information about phonic inadequacy. This information they provide stems from the research they have conducted in phonics.

There are two principle types of "hidden disability" that tend to impair reading proficiency. Some individuals

have acquired all the phonic facts necessary for accurate reading, but are unable to make adequate use of this knowledge in their reading. Others actually lack essential phonic knowledge, but have effectively disguised this handicap with an extensive sight vocabulary. Individuals in either of these groups will tend to guess, substitute, or overlook any word in print that they cannot immediately recognize, often completely unaware they are doing so. Such students typically feel they can read much better silently than they can aloud. This, of course, is not the case. Their disability is revealed indirectly in such forms as slow or overcautious word-by-word reading, confusion in dealing with unfamiliar material, or a vocabulary level noticeably lower than might be expected from their measured intelligence or academic achievement.

Analysis of several studies and of a variety of test relationships shows high correlations between reading and phonics, as well as between spelling and phonics scores. These relationships appear to be particularly evident for students in the top and bottom scoring groups on the California Phonics Survey. Bright children seem to be helped more by phonics than slow-learning children. Where phonic ability is adequate, the student will achieve beyond expectation in reading and spelling. If phonic ability is severely limited, he will under-achieve in these two

subjects, particularly in spelling.

In survey uses of the test, the grouping of scores to represent (a) adequacy, (b) some degree of disability, (c) serious difficulty in phonics, and (d) gross phonic disability, gives a general idea of the type of training or retraining that may be called for. Students in both the first and second groups can profit by most developmental reading courses. Those in the second group, particularly, may show marked improvement in spelling once their specific phonic misconceptions are cleared up. For students in the two lowest groups, however, intensive and systematic retraining in phonics will be necessary before any significant improvement can be expected in reading, spelling, composition, or mechanics of English. Speed-reading courses seem to be actually harmful for such students. Gains made by the end of the speed-reading course often proved short-lived; within a few weeks, the student regresses, because he is burdened with further frustration and confusion.

The following summary of some of the conclusions reached by the authors of the test with regard to interpretation of individual profiles will prove useful to teachers and others who wish to use the findings of the test for individual analysis.

If Long-short Vowel errors are the only type of error made, it is sometimes more indicative of a spelling

rather than a reading problem. A student may be a relatively accurate reader, but may have become so accustomed to his own misspellings that such vowel misspellings have become the equivalent of "sight" words to him.

If all or most of the errors are in Consonant-vowel Reversal, this may be a residue from earlier learning experience. Consonant-vowel Reversals may often indicate inexperience in reading and a limited vocabulary, rather than a basic phonic disability.

The teacher will often discover that a single category has to be interpreted in relation to the other categories. For example, if there are no Configuration or consonant errors, a high error score on Rigidity may represent a possible intellectual rigidity or set, rather than a phonic disability. In this way, wrooph or phurst may be read correctly by the student, but not recognized as having any connection with the real word with the same sound. If, however, these Rigidity errors accompany a high error score in Configuration and/or Consonant errors, they should probably be regarded as indicating (a) ignorance of consonant digraphs, and/or (b) a tendency to rely on configurational clues in word attack. In such cases, they should be considered as extensions of one of these two categories.

Interpretation of certain categories in relation to the total profile will often reveal the fact that the

student knows his phonics, but is not using them. An examinee may have an error-free score in those exercises measuring simply knowledge of phonic principles (vowels and consonants) but at the same time make a high error score in the categories, Configuration and Endings. If so, it is extremely likely that for some reason his knowledge of phonics is separated from his reading, and that he is making gross substitutions in his reading speed. Such a student may even do well on tests of silent reading comprehension at the earlier grade levels, especially if they offer no great intellectual challenge. The more intelligent the student, the longer it may be before his inadequate reading pattern is uncovered. However, his competence in reading will tend steadily to diminish as he progresses in school, and as the material he is required to read becomes increasingly demanding. (4)

In the review of the literature no material concerning phonics instruction at the secondary level could be found.

#### DESCRIPTION OF THE TEST

The items in the California Phonics Survey included all of the common speech sounds of the English language in their more usual spellings. Care was taken by the authors to avoid the possibility of errors being caused from

regional speech differences, uncommon spellings, ambiguous combinations of letters, and finer points of pronunciation. The five exercises do not measure different kinds of phonic skill; each item contributes to the overall pattern of errors a student may make. The test is divided into five units largely to provide variety in the method of presentation and to avoid the effects of fatigue. The lively and unusual content of each exercise helps to maintain a high level of interest for students at all levels.

Another important part of the test consists of six diagnostic categories. The purpose of these is to give the reading instructor a more specific idea of where phonic difficulty exists.

The first diagnostic category consists of Long-short Vowel Confusion. Errors in this category indicate confusion with regard to the rules for the pronunciation of long and short vowels. An example: lick was an alternative to be chosen representing the spoken word like.

Another area of vowel difficulty is labeled as Other Vowel Confusion. Errors in this category indicate confusion with regard to any of the other vowel sounds, and the correct pronunciation of the vowel digraphs. An example: the choice of wodpick might be chosen as representing the spoken sound would peck.

The second diagnostic category pertains to Confusion

With Blends and Digraphs. Errors in this category indicate ignorance of the correct pronunciation of consonant digraphs or of consonant blends, and confusion between single consonants and consonant blends. Example: clear might be chosen to represent the spoken sound cheer.

A second part of consonant difficulty is labeled Consonant-vowel Reversals. Errors in this category show a tendency to transpose vowels and consonants and, therefore, to pronounce the word incorrectly by reversing the letter sounds. Example: slag is an alternative that might be chosen as representing the spoken sound salg.

The third diagnostic category deals with Configuration. Included in this classification are errors that occur because the student, instead of perceiving the printed letter combination accurately, guesses the answer on the basis of general appearance, known as configuration. Example: physic might be chosen for the spoken word psychic.

The fourth diagnostic category deals with Endings (suffixes). Errors in this category all dealt with misreading of suffixes, that is, grammatically significant ends of words. Example: easy-slimmer might be chosen for the spoken easy-slimming.

Negatives and Opposites; Sight Words made up the fifth diagnostic category. Two error groups are combined in this classification because of the small number of items

in each, and because in both categories an apparently minor error in word perception could produce a major error in the perception of meaning. An example of negatives and opposites: determined might be chosen for undetermined. An example from the sight word group: though might be chosen as a match from spoken through.

Since the test conditions allowed sufficient opportunity for sounding out and for repetition of the spoken clue, even a single error in either group could likely be significant.

The sixth diagnostic category pertains to Rigidity. Errors in this category seem to occur when the student is in some way too tied to the visual appearance of words. He can not dissociate auditory from visual associations in the perception of words, even with specific instructions to do so. Example: The letter combination wrooph may be correctly identified as having the verbal sound of roof.

Completing the diagnostic categories is an area known as unclassified errors. These errors consists of an examinee marking two answers or no answers on an item. Also tabulated in this area are errors representing the difference between the examinee's total diagnostic errors and the total possible score of seventy-five. (4)

## PROCEDURES

Following are the procedures used in administering the California Phonics Survey to the ninth grade classes in three Ottawa County high schools: Bennington, Tescott, and Minneapolis.

(a) The test was administered by the writer using a tape recorder. The writer administered the tests rather than involving school personnel to insure that the test was administered the same way in all schools. In Bennington and Tescott the test was administered to all of the students as a group in the English classes; in Minneapolis there were two ninth grade English classes. The test was administered to each class.

Each student had a test booklet and an answer sheet. All of the exercises were multiple choice items. The students listened to the tape recording and studied the choices in the test booklet before marking his choice on the answer sheet.

(b) The answer sheets were checked by the writer manually in order to discover if adequate phonics, some phonic disability, serious phonic disability, or gross phonic disability existed.

(c) Groups of items pertaining to nine diagnostic categories were scored in order to determine the number of

items missed in each category by each student.

(d) The scored answer sheets, including the total raw scores and the diagnostic profiles, were sent to the respective schools in order that the answer sheets could be analyzed by school personnel.

Table I presents information about the date the test was given and the number of pupils tested.

TABLE I  
THE DATE AND NUMBER OF NINTH GRADE STUDENTS TESTED  
IN THREE OTTAWA COUNTY HIGH SCHOOLS

School	Date tested	Number of pupils tested
Bennington	December 9, 1965	18 students
Tescott	December 15, 1965	16 students
Minneapolis	December 17, 1965	31 students
Minneapolis	December 22, 1965	27 students
Total		92 students

In analyzing the results it is necessary to know the classification system for the total raw scores obtained.

The test authors provided four categories as follows:

Adequate phonics	70 - 75 points
Some phonic disability	58 - 69 points
Serious phonic disability	46 - 57 points
Gross phonic disability	45 points and below (4)

Table II shows the number of students from the three schools whose scores on the California Phonics Survey placed them in each of the four categories of phonic adequacy and disability given by the authors.

TABLE II  
NUMBER OF STUDENTS AND THE PER CENT OF STUDENTS  
IN EACH DISABILITY CATEGORY

Phonic adequacy or disability category	Number of students	Per cent of students
Adequate phonics	11	12.0
Some phonic disability	39	42.4
Serious phonic disability	21	22.8
Gross phonic disability	21	22.8
Totals	92	100

From this table it can be seen that approximately two-fifths of the students in the three schools used in the study had some phonic disability. Approximately 45 per cent of the students had either serious or gross phonic disability. The per cent of those who possess gross phonic disability is almost twice the per cent of those having adequate phonics.

Table III gives the median total score for each school and states the range of scores for each school. The schools are placed in the order from the school with the

highest median score to the school with the lowest median score. However, no attempt was made to determine whether or not the difference obtained was statistically significant.

TABLE III  
MEDIAN TOTAL SCORE AND RANGE OF SCORES FOR  
EACH OF THE THREE SCHOOLS TESTED

School	Median total score	Range of scores
Tescott	62	37 - 72
Minneapolis (both sections)	59	18 - 75
Bennington	53	20 - 70

From observing the above table, one can readily see the large range of scores within each school. The lowest and highest score on the test were both recorded in Minneapolis High School. The school acquiring the highest median total score (Tescott) also had the smallest range of scores.

Table IV shows the mean of errors from sixteen Tescott ninth graders on each of the diagnostic error categories.

The three diagnostic categories with the highest per cents of error made by the Tescott ninth grade students, were Long-short Vowel Confusion, Configurations, and Consonant-vowel Reversals. Rigidity was another category

showing a high incidence of error. The category of Negatives and Opposites - Sight Words showed the least per cent of error. No attempt was made to determine whether there were statistically significant differences between these per cents.

TABLE IV

ITEMS POSSIBLE, THE MEAN OF THE ERRORS, AND THE PER CENT OF ERRORS MADE FOR EACH DIAGNOSTIC CATEGORY FROM SIXTEEN TESCOTT NINTH GRADERS

Diagnostic category	Items possible	Mean number of errors for each category	Per cent of errors made
Long-short Vowel Confusion (vowels)	20	2.81	14.1
Configurations	30	4.06	13.5
Consonant-vowel Reversals (consonants)	15	1.94	12.9
Rigidity	15	1.63	10.9
Other Vowel Confusion (vowels)	20	1.44	7.2
Confusion With Blends and Digraphs (consonants)	25	1.31	5.2
Endings (suffixes)	20	.56	2.8
Negatives and Opposites - Sight Words	20	.06	0.3
Unclassified	--	2.13	--

Table V shows the results from fifty-eight Minneapolis ninth graders on each of the diagnostic error categories.

TABLE V  
ITEMS POSSIBLE, THE MEAN OF THE ERRORS, AND THE  
PER CENT OF ERRORS MADE FOR EACH DIAGNOSTIC  
CATEGORY FROM FIFTY-EIGHT MINNEAPOLIS  
NINTH GRADERS

Diagnostic category	Items possible	Mean number of errors for each category	Per cent of errors made
Consonant-vowel Reversals (consonants)	15	2.39	15.9
Long-short Vowel Confusion (vowels)	20	3.17	15.9
Configurations	30	4.72	15.7
Rigidity	15	2.01	13.4
Other Vowel Confusion (vowels)	20	1.70	8.5
Confusions With Blends and Digraphs (consonants)	25	1.80	7.2
Endings (suffixes)	20	1.01	5.1
Negatives and Opposites - Sight Words	20	.40	2.0
Unclassified	--	2.49	--

It can be seen from the above table concerning the ninth grade students of Minneapolis High School that errors

on the items consisting of Consonant-vowel Reversals and Long-short Vowel Confusion had the highest per cent of error in comparison with the other diagnostic categories. The per cents of error made Configurations second high followed by Rigidity. Negatives and Opposites - Sight Words showed the lowest per cent of error.

Table VI illustrates the mean number and the per cent of the diagnostic errors from eighteen Bennington ninth graders.

The highest per cent of error occurred on Consonant-vowel Reversals by the ninth grade students at Bennington. Configuration, Long-short Vowel Confusion, and Rigidity ranked second, third, and fourth respectively in the incidence of errors on a per cent basis. The category of Negatives and Opposites - Sight Words had the least incidence of errors.

Additional results concerning the diagnostic error categories are the figures in Table VII, illustrating the mean and the per cent of the errors of each diagnostic category for all the pupils who took the test.

Since this table represents all the students, it can be expected the category most frequently missed by the individual schools would show the highest incidence of error on this table. Consonant-vowel Reversals, with the highest per cent of error on this table, was the category with the

highest per cent of error in two of the three schools tested. As in all of the individual schools, the lowest per cent of error was committed on Negatives and Opposites - Sight Words. No attempt was made to determine whether there was a statistically significant difference between any of the per cents presented in the table.

TABLE VI

ITEMS POSSIBLE, THE MEAN OF THE ERRORS, AND THE PER CENT OF ERRORS MADE FOR EACH DIAGNOSTIC CATEGORY FROM EIGHTEEN BENNINGTON NINTH GRADERS

Diagnostic category	Items possible	Mean number of errors for each category	Per cent of errors made
Consonant-vowel Reversals (consonants)	15	3.11	20.7
Configurations	30	5.72	19.1
Long-short Vowel Confusion (vowels)	20	3.72	18.6
Rigidity	15	2.33	15.9
Other Vowel Confusion (vowels)	20	2.17	10.9
Confusions With Blends and Digraphs (consonants)	25	2.33	9.3
Endings (suffixes)	20	1.00	5.0
Negatives and Opposites - Sight Words	20	.56	2.8
Unclassified	--	3.83	--

TABLE VII

A MEAN OF THE ERRORS AND THE PER CENT OF ERRORS FOR EACH DIAGNOSTIC CATEGORY FROM NINETY-TWO NINTH GRADE STUDENTS

Diagnostic category	Mean number of errors for each diagnostic category	Per cent of errors made
Consonant-vowel Reversals (consonant)	2.48	16.5
Long-short Vowel Confusion (vowels)	3.23	16.2
Configurations	4.83	16.1
Rigidity	1.99	13.3
Other Vowel Confusion (vowels)	1.77	8.9
Confusion With Blends and Digraphs (consonants)	1.81	7.2
Endings (suffixes)	.86	4.3
Negatives and Opposites - Sight Words	.34	1.7
Unclassified	2.82	--

#### CONCLUSIONS DERIVED FROM THE TEST ANALYSIS

The conclusions which follow are based on an analysis of the test results of ninety-two ninth grade students in three Kansas high schools who were administered the California Phonics Survey.

1. It appears that a large per cent of the ninth grade students in the three schools had a high degree of

phonic disability. The test revealed that 88 per cent of the students were handicapped by their inability to hear or identify sounds accurately. These were distributed as follows:

Some phonic disability	42.4 per cent
Serious phonic disability	22.8 per cent
Gross phonic disability	22.8 per cent.

The authors of the California Phonics Survey warned that a normal distribution of scores could not be expected, and certainly the ninety-two test scores obtained in this study did not follow the normal curve of distribution.

2. Only 12 per cent of the students were classified as having adequate phonic ability. In other words the per cent of students having gross phonic disability was about twice the per cent having adequate ability in phonics.

3. There was a large range of test scores within each school. Two students involved in the study received perfect scores of seventy-five; one student had a very low score of eighteen.

4. By observing the diagnostic categories on Table VII, page 27, one can readily see there were four categories where there was a marked higher incidence of errors and four categories with lower incidence of errors, comparatively speaking.

The four categories in which the greater number of

errors were made were (a) Consonant-vowel Reversals, (b) Long-short Vowel Confusion, (c) Configuration, and (d) Rigidity. The four categories showing a lower incidence of errors were (a) Other Vowel Confusion, (b) Confusion With Blends and Digraphs, (c) Endings (suffixes), and (d) Negatives and Opposites - Sight Words.

No attempt was made to determine whether there were statistically significant differences between the per cent of errors made in the various categories.

#### RECOMMENDATIONS

On the basis of the results obtained in this study the following recommendations have been made concerning students who have phonic disability and other students.

1. The test answer sheets, each of which includes a diagnostic profile, were sent to the respective schools. The school personnel should make a study of the profiles for the students who possess phonic disability. This should be done to determine what phonic weaknesses exist so steps to alleviate the problem can be taken.

2. An attempt should be made to determine the causes of phonic disability. (a) School personnel could check the audiometer test to find out if the phonic disability of individual students is caused by poor audio perception. (b) The cumulative records could be checked for information

that would serve as a reason for the existence of the phonic disability. (e) School personnel at the secondary level could perhaps obtain helpful information concerning students who possess phonic disability by holding discussions with teachers at various grade levels to see to what extent phonics have been taught previously, and if phonic disability has been noted by teachers at various levels.

3. Schools should experiment to determine whether additional reading material of interest to students would help students overcome Consonant-vowel Reversals.

4. Students troubled by Long-short Vowels should be tested further to discover if the Long-short Vowel trouble is more of a spelling problem than a reading problem, and, if so, emphasis should be put on the students' spelling to overcome the Long-short Vowel problem.

5. Students who have low scores in the diagnostic category of Configuration and further tested to substantiate the fact, should be made aware of the fact that their problem might be their lack of knowledge of consonant digraphs and/or a tendency to rely on configurational clues in word attack. Measures to overcome these handicaps should be made available to the students.

6. Students having a high error score in Rigidity should be trained to recognize and associate the sound of a group of letters with a real word. With the use of this

training students could make better use of their phonic ability in identifying words.

7. This writer recommends that the training necessary to care for phonic inadequacies would be part of a developmental reading program at the ninth grade level.

It is the belief of this writer that if the above recommendations were implemented in a secondary school program at the ninth grade level, we would have better readers in our secondary schools in Ottawa County.

**BIBLIOGRAPHY**

## BIBLIOGRAPHY

1. Bloomer, R. H. "Methods of Teaching Phonics," Education, 82:525-528, May, 1962.
2. Bond, Guy L., and Miles A. Tinker. Reading Difficulties Their Diagnosis and Correction. New York: Appleton-Century-Crofts, Inc., 1957.
3. Bremer - Prouse. Skills in Spelling, Book 7. Wichita, Kansas: McCormick-Mathers Pub. Co. Inc., 1964.
4. Brown, Grace M., and Alice B. Cottrell. California Phonics Survey Manual. Monterey, California: California Test Bureau, 1963.
5. Cordts, Anna D. Phonics for the Reading Teacher. New York: Holt, Rinehart and Winston, Inc., 1965.
6. Cowan, N. "Make Room for Phonics," Texas Outline, 47:28-29, February, 1963.
7. Daniels, J. C., and H. Diack. "Phonic Word Method," Education Digest, 25:45-47, January, 1960.
8. Gans, R. "How Shall We Teach Phonics," Grade Teacher, 80:29 November, 1962.
9. Gurren, Louise, and Ann Hughes. "Intensive Phonics vs. Gradual Phonics In Beginning Reading: A Review," The Journal of Educational Research, 58:8, April, 1965.
10. Heilman, Arthur W. Phonics in Proper Perspective. Columbus, Ohio: Charles E. Merrill Books, Inc., 1964.
11. Science Research Associates, Inc. Linguistics and Reading. Chicago.
12. Sister Mary Edith. "Is Phonics the Answer to Johnny's Difficulty?" Catholic School Journal, 59:21-22, June, 1959.
13. Spache, George D. Toward Better Reading. Champaign, Illinois: Garrard Publishing Company, 1963.
14. Staiger, R. D. "Agreements About Phonics," Elementary English, 41:204-206, March, 1964.

15. Strang, Ruth, and Dorothy Kendall Bracken. Making Better Readers. Boston: D. C. Heath and Co., 1957.
16. Wheeler, Arville. Teacher's Question-and-Answer Book on Reading. New London, Connecticut: Arthur C. Croft Publications, 1955.

APPENDIX

NOTE: Author's appendix contained the following copyrighted material which has not been digitized:

Brown, G. M., & Cottrell, A. B. (1963). *Manual, California phonics survey: A group diagnostic test of the relationships between written and spoken words*. Monterey, CA: California Test Bureau.

To view the copyrighted material, please request the archival copy from Kansas State University Libraries.

ANALYSIS OF THE RESULTS OF THE CALIFORNIA PHONICS  
SURVEY ADMINISTERED AT THE NINTH GRADE LEVEL IN  
THREE OTTAWA COUNTY HIGH SCHOOLS

by

RICHARD L. PIESCHL

B. S., Kansas State University, 1961

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1966

There is probably no form of instruction in the elementary schools of America with a more remarkable history than the teaching of phonics. Instruction in phonics goes as far back as the 1780's when Noah Webster introduced the idea of teaching the "powers" as well as the names of the letters of the alphabet in beginning reading. The use of phonics in teaching children to read has fluctuated in the degree of its use as other methods in reading were introduced. The most recent down-grading of phonics came during the 1930's but during the 1940's phonics regained in its degree of use. Today phonics is used in our schools in conjunction with other methods of teaching our young people to read.

The California Phonics Survey was administered in order to discover (1) the degree of phonic adequacy or phonic disability, designated as some, serious, or gross disability, existing at the ninth grade level at Bennington, Minneapolis, and Tescott high schools; and (2) to discover the number of items most frequently or least frequently missed in each of the diagnostic areas by the ninth grade students of these three high schools. This problem was undertaken with the idea that phonic problems are interfering with the accomplishments of our elementary and secondary students. Phonics, which is a very integral part of reading, depends greatly on auditory and visual perception and

discrimination. If students do not have the ability to distinguish the sounds as they hear and see them it is felt the problem could greatly hamper their academic careers.

This phonics test, written and compiled by two reading specialists, Grace M. Brown and Alice B. Cottrell, was administered to ninety-two students at the ninth grade level at three Ottawa County Schools. The test was administered by the use of a tape recorder. The students had before them test booklets which contained sounds, syllables, and words. As the student listened to the recording he looked at the test booklet, which was arranged in multiple choice fashion, in an attempt to identify the sound, syllable, or word said on the recorder.

The test is comprised of seventy-five items, divided into five test exercises, which use listening and reading to reveal the most common reading errors. In addition there are eight diagnostic categories which basically deal with Vowels, Consonants, Configuration, Endings, Negatives and Opposites along with Sight Words, and Rigidity. By studying the diagnostic areas one can obtain a more specific idea of what phonic disability exists.

In summarizing the test results, the schools scored as follows: Tescott, Minneapolis, and Bennington, with respective median (raw) scores of sixty-two, fifty-nine, and fifty-three out of a possible of seventy-five points.

The test authors classified the scores into four areas: adequate phonics, some phonic disability, serious phonic disability, and gross phonic disability. Nearly 25 per cent of the students tested had gross phonic disability whereas only about 12 per cent had adequate phonics. The largest per cent of students were classified as having some phonic disability; more than 42 per cent were in this category.

There was a large range in the scores on the test. The lowest score was eighteen and the highest score seventy-five.

Another part of the test was the diagnostic error categories. The area of Consonant-vowel Reversals had the highest per cent of error, followed by Long-short Vowel Confusion, Configuration and Rigidity. The category of Endings had the least incidence of errors.

This writer recommends that the school personnel should make an attempt to determine causes of phonic disability by checking audiometer tests, cumulative records, and by holding discussions with teachers at various levels to see what extent phonics has been taught previously.

School personnel should make an attempt to help students overcome their inability to understand Consonant-vowel Reversals, Long-short Vowels, Configuration, and Rigidity, which were diagnostic categories showing the

highest incidence of errors.

This writer recommends that a developmental reading program be implemented at the secondary level in these three high schools in order to better train all the students at the ninth grade level in reading. By using a developmental reading program at the ninth grade level all students would be given an opportunity to improve their reading ability.