# Spelling Progress Bulletin Winter 1974

Dedicated to finding the causes of difficulties in learning reading and spelling.

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**Table of Contents**



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## 1. Report on Educational Records Bureau Conference, by Helen Bonnema

At the 39th annual conference of the ERB held at the New York Hilton, Oct. 31-Nov. 1, 1974, an initial learning medium called World English Spelling was introduced.

A paper prepared by Dr. Godfrey Dewey, noted linguistic scholar and honorary president of the Phonemic Spelling Council, explained the characteristics of WES. These are enumerated in the recently revised leaflet "WES for better reading and writing," copies of which were handed to the audience.

Dewey's presentation emphasizes the purpose of WES i.l.m. which is to remove the difficulties pupils have when learning to read. For centuries the complex irregularities of traditional orthography (T.O. for short) have both been a chief factor in retarding the education of the English-speaking child as compared with children in countries such as Italy or modern Russia, which enjoy a simple and regular phonemic spelling. In his paper Dewey describes six initial learning experiments of a century ago, starting in 1851, which had superior results, and he explains why these projects did not take root and survive.

In 1946 it was Dr. Dewey who convinced his friend Sir James Pitman that it was a waste of effort to seek to change the reading and spelling habits of the present adult generation, and instead to promote an initial teaching alphabet for children. Dewey also tried to persuade Sir James to use a no-new-letter notation such as the British *New Spelling* or the American WES. However, Sir James launched the augmented alphabet, which Dewey admits was effective for its purpose at that time. Dewey also states that the highest possible tribute should be paid to Sir James whose Initial Teaching Alphabet was introduced in this country, thru the educational statesmanship of Dr. Ben Wood, by just such a meeting as this of the Educational Records Bureau in 1962.

Dr. Dewey is convinced, nevertheless, that a no-new-letter notation is superior. Before enumerating the advantages of WES, he first notes features in which it agrees with i.t.a.: The foundation of each is the 40 sounds classed as 24 consonants, 12 vowels and 4 diphthongs. Both use only lower-case style print; maintain distinctions which a large number of cultivated speakers do make, even tho another large group of cultivated speakers do not make them, e.g. writing /r/ in *far* and *near* which "r-droppers" omit: /fah/, /neeah/; both ease the transition from phonemic writing to T.O. by incorporating from T.O. a number of departures from strictly phonemic writing. In these respects WES might be considered a paraphrase of i.t.a. except that it uses only the available Roman alphabet. It obviates the pupil's learning 20 new characters which will shortly be abandoned. For the teacher it facilitates preparing on any typewriter supplement any material to meet a particular situation. For the school administration it mitigates the problems created by pupil mobility because it uses only symbols familiar in every school.

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*[Spelling Progress Bulletin Winter 1974 pp2–15 in the printed version]*

# 2. The Effects of T.O. and i.t.a. on Reading and Spelling Skills of Elementary School Children, by Betty Allen Iles, Ed.D. Thesis.*

*McNeese State Univ., Lake Charles, La. Aug. 1974.
**Silsbec, Tex..

## Introduction

Ever since the written language was first developed, there has been a growing debate about the best ways to teach children to record the symbolic language on paper. When the alphabet was first used, there was a close relationship between the symbol and the sound for which it stood. As the language grew and words were invented, borrowed and altered, the 26 letter alphabet did not suffice for the more than 40 sounds needed for English speech. Consequently, some letters began to be used for two or more sounds. While there were only five vowel symbols (a, e, i, o, u) and two semi-vowels (w, y), they were combined and rearranged to represent 15 or more sounds. Spelling gradually began to be a major item on the school "bill of fare," and the ability to spell well was a valued accomplishment.

As reading methods changed, some educators and some critics of education began to be concerned about the possible correlation between how the child was taught to read and his ability to spell. Tho the "sight" method was hailed as the solution of all reading problems in its day, [1] its general acceptance soon gave rise to outcries from those who blamed this method for the child's lack of knowledge of the inner structure of the word. [2] More recently, the introduction of Pitman's Initial Teaching Alphabet, with its augmentations and regularized spelling, has caused a debate between those who forsee disaster, and those who look upon this innovation as a panacea for all the ills of poor spelling. George Riemer commented on this argument:

> Some educationists have warned that i.t.a. will hurt high school and college spelling. i.t.a. hasn't been used long enough anywhere to prove them either wrong or right. The bad spelling already noted in high schools, colleges, and graduate schools suggests, however, that there may not be much to hurt. . .[3]

When the large i.t.a. experiments were new, there was little evidence that the proponents of the new alphabet, or its critics, could point to in order to substantiate their claims, but as more and more children used the medium and graduated to the regular alphabet, it seemed that the time had come when valuable information might be gained by examining those alumni of the artificial orthography to see what effects, if any, remained with the students. Lumberton Elementary School, a school at the outskirts of Beaumont, Texas, was one school that had begun to use the alphabet shortly after it had been introduced in the United States in 1963. This seemed a particularly appropriate place to study those long-range effects.

At the time the study was begun, this school district had one elementary school with approximately 750 students, a junior high school, and a high school with approximately 300 students apiece. In grades two through seven were children at all ability levels who had been taught to read using i.t.a. Since the community was experiencing a period of accelerated growth, there were many children in the school district who had begun first grade in other school districts. Those children had learned to read by conventional methods. Altho the reading series used were varied, all had employed the regular alphabet as the medium of instruction. The scores of this group as well as those of the i.t.a. group could be compared to the National norms on standardized tests in order to see how each group performed.

## Chapter 1: The problem

*Statement of the Problem*

This study was attempted in order to gain information as to the achievement of children who had learned to read using Pitman's Initial Teaching Alphabet. The sample studied contained children at all ability levels in grades two through seven who had learned to read with i.t.a. The study was designed in order to find if any significant differences in reading and spelling abilities existed between those children who were taught to read with i.t.a. & those who had been taught with the traditional approach.

*Hypotheses*

*Hypothesis I.* 'When students have been paired according to school grade, chronological age, and I.Q. score, there will be no significant difference in the reading scores of children who were taught to read with Pitman's I.T.A. and those who were taught using the conventional orthography when both groups are tested by means of the reading subtest of the S.R.A. Achievement Test."

*Hypothesis II.* There will be no significant difference between the spelling scores of the two groups of children when the students are tested by means of the spelling subtest of the S.R.A. Achievement Test, or by means of the Morris on-McCall Spelling Scale. [5]

*Hypothesis III.* There will be no significant difference between spelling scores of children who were taught to read using Pitman's Alphabet and the National norms for any grade level from second through seventh.

*Hypothesis IV.* There will be no significant difference between the spelling scores of children at Lumberton School who were taught to read using the conventional alphabet and the National norms for any grade level.

*Hypothesis V.* There will be no significant difference in the number of errors of each type made by the two groups of children at Lumberton School.

*Significance of the Problem*

With the spelling difficulties inherent in our highly irregular system of transcribing speech into print, educators have constantly sought more effective ways to teach both reading and spelling. Several "artificial" orthographies have been developed in order to regularize spelling and simplify the learning task for beginning readers. Altho the regularity of spelling of the sounds involved in reading with an artificial orthography makes word attack simpler and presumably less frustrating, fears have been expressed as to the long-term effects on spelling after the student has made the transition to conventional reading matter. The i.t.a. students who were involved in this study had been taught to read with an artificial orthography, had completed the transition to the regular alphabet, and had been reading conventional reading materials for periods ranging from 3 months to 6 years. It seems that considerable information could be gained that would indicate whether or not any lasting effects on spelling ability, either beneficial or adverse, could be observed.

*Limitations of the Study*

The population studied included students at Lumberton Elementary School and Lumberton Junior High School in grades two through seven. It did not include children in two special education classes on the elementary campus.

Also excluded from the study were those children who missed one or more of the tests and were not able to snake them up in the allotted time. The final number included in the study was 452. This included 36 in grade 2, 48 in grade 3, 112 in grade 4, 80 in grade 5, 98 in grade 6, and 78 students in grade 7. These students were matched according to chronological age, school grade, and I.Q.

scores obtained from the Otis-Lennon Mental Ability Test. [6] Since the students were matched to within two I.Q. points or less, most of the extremely high or extremely low scores were eliminated.

[1] Nila B. Smith, *Reading Instruction for Today's Children.* (Englewood Cliffe, N. J.: Prentice Hall, 1963), pp. 192-3.
[2] Clarence A. Forbes, "Why Roman Johnny Could Read," *New Perspectives in Reading Instruction* (New York: Pitman Publishing Corp., 1964), p. 26.
[3] George Riemer. *How They Murdered the Second R,* (New York: W. W. Norton & Co., 1969), p. 73.
[4] S.R.A. Achievement Series *Multilevel Edition Form C,* (Chicago: Science Research Associates, Inc, 1969 pp.51-54.
[5] J. Cayce Morrison & Wm. A. McCall, *Morrison-McCall Spelling Scale,* (Harcourt, Brace & World, 1951).
[6] Arthur S. Otis and Roger T. Lennon, *Otis-Lennon Mental Ability Test, Form J.* (New York: Harcourt, Brace & World, Inc, 1967).

## Chapter 2: Related Literature

### Experiments involving spelling prior to the 20th Century

In most instances of reporting the results of a given "experiment" before the beginning of the 20th century, little of real value can be found because the earlier writers tended to use unscientific terminology, failed to state what controls, if any, were employed, and cited few figures or statistics to substantiate their conclusions. Still, the literature does indicate a preoccupation with the ability of children to spell, either as a by-product of reading instruction or as the result of the direct teaching of spelling as a separate subject. Books dealing with spelling reform attempts cite many instances, but this chapter will discuss only those where spelling skill was considered to be affected by the method of reading instruction used.

Some of the most widely reported studies occurred in the United States in the latter half of the 19th century. Maurice Harrison discussed three rather extensive studies, the first one conducted in Waltham, Mass., the second in St. Louis, Mo., and the third in Boston, Mass. [1]

The first to be reported in any detail was undertaken in order to test the effectiveness of the first initial teaching alphabet, Sir Isaac Pitman's "Fonotypy." The experiment continued from 1852 to 1860. Dr. Thomas Hill, Chairman of the School Committee of Waltham during that time, reported the results to the American Philosophical Society:

> Fears were expressed that this method should injure the pupil's spelling. In order to test that question, I took pains to procure, several times, lists of words which had actually been used in Boston, Roxbury, and other places, with the percentage of failure on each list. Springing these lists, without warning, upon classes of the same grade in Waltham, we always found our percentage of errors very much smaller than in the other towns, sometimes I think only one third as large. We also questioned each pupil in our high-school as to the amount of time which he or she had devoted in his or her whole school life to fonotypy or fonography. Comparing these times with the percentage of errors in spelling, by the same scholars, we found that those who had read the most fonotypy made the fewest mistakes. [2]

Harrison also reported on another study done in 1866, where the St. Louis school system employed the system of Dr. Edwin Leigh, a "Pronouncing Orthography." This was not a special alphabet, but a modified form of printing. For instance, silent letters were retained in words, but were represented by a "hairline" version of the conventional letter. Dr. Leigh claimed that the alphabet

> shows the pronunciation without changing the spelling, and even preserves the familiar form or face of the words. . . (the students) take interest in practicing the sounds, all of which they learn; they spell correctly by sound, they pronounce distinctly and accurately and they read fluently and naturally. [3]

As stated previously, no data were given as to what % of words were spelled correctly or what criteria were used in arriving at this conclusion, but in 1867, the Board of Education voted in favor of Leigh's method in all St. Louis schools. This method spread to Illinois and Iowa by 1871. [4]

In Massachusetts again, this time in Boston, another similar experiment was reported in 1873. Teachers had "no doubts as to the advantage of the system," and "found no difficulty about spelling." [5]

**Studies Conducted During the 20th Century**

Few experiments of any consequence appeared in the early years of the present century, but after the end of the First World War interest in reading instruction was revived. One who did notable work during the post-war years was Luther C. Gilbert. In the 30's he began a series of studies involving the relationship of reading and spelling, with special attention to eye movements. The first of these studies appeared in 1934, another in 1935, and in 1945 another study appeared done in conjunction with Doris Wilcox Gilbert. These all involved secondary and college students. Briefly, the students were given words to spell, sentences to read, and words to learn to spell. At the time that these tasks were being performed, their eye movements were photographed.

In the last study, it was found that students who were pretested on a list of very difficult words, on encountering the same words in printed prose, tended to take time studying the words, and on being tested on then later showed improvement in their ability to spell them. [6] The authors warned against interpreting these findings as a recommendation to teach spelling during actual reading. They felt that where poor students were concerned, any gain in spelling in this manner would probably cause a loss in meaning. They did conclude that, "Under certain conditions good spellers who perceive quickly can capitalize on the ability without detrimental effect." [7]

In 1946, Russell also wrote on the relation of spelling to achievement in reading and vocabulary. He quoted Spache's findings indicating that vocabulary was a more significant determiner of spelling ability than intelligence. [8] He proceeded to outline an investigation he had conducted involving students from "low" third through "high" fifth grades. These students were tested in spelling by means of the Modern School Achievement Test and were found to have a range in grade equivalents from 2.0 to 7.1. They were also given three reading subtests designed by Gates, Bond, and Russell: recognition of words in isolation, recognition of words in context, and vocabulary. [9]

The correlations were as follows:

1. Spelling and Reading Comprehension (M.S.A.) .84
2. Spelling and Reading Speed (M.S.A.) .66
3. Spelling and Word Recognition in Isolation .86
4. Spelling and Word Meaning .80. [10]

Russell felt that certain implications were evident. Among those he listed were that ". . there is no evidence here that poor spelling is necessarily caused by deficiencies in reading or vocabulary." Word recognition and vocabulary abilities as tested in this study seemed to be more closely related to spelling ability than to level of comprehension in reading. However, the correlations were so high between spelling ability and all these factors, it seemed probable that definite improvement in one of them might affect spelling ability favorably. He also warned that the implications gave no basis

for actually learning spelling while reading. It was suggested that a need for further study of the relationship of other types of reading ability to spelling was indicated. [11]

Gates wrote on the relationship of reading to spelling and discussed the methods used in the past to compile lists for spellers at various grade levels. He discussed Betts' list of most commonly used words published in 1940. In the 17 spellers, there was an average of 3,763 words for the first eight grades but well over twice that many *different* words, emphasizing the lack of consistency in what were considered to be the most important words for *any* level or even for *all* levels. Betts found that only 6¼% of the words were used in *all* the series and only one word was placed in the same grade by all 17 spellers. [12]

Townsend studied 200 students in each grade three through twelve and investigated correlations between spelling and reading comprehension and vocabulary. She also compared spelling scores and academic aptitude test data for grades five and seven. She found a median r, of .629 for spelling-vocabulary and .511 for comprehension and spelling, indicating a definite positive relationship between spelling and these two facets of reading. [13] In most grades, excepting four and five, the correlation between vocabulary and spelling were higher. The scores in this study were in disagreement with earlier studies;" done by Spache, that showed a tendency for the relationship of spelling to vocabulary to drop as students advanced thru school. This study seemed to indicate a trend, according to Townsend, for reading comprehension-spelling relationships to decrease while vocabulary-spelling relationships increase. There was also indicated a positive relationship between spelling and aptitude but not so great as in the previously discussed areas. [15]

Templin investigated phonic knowledge as it relates to reading and spelling ability. She sought to discover if there were any differences in the phonic knowledge of good and poor readers, and good and poor spellers, irrespective of how they obtained their phonic knowledge. She found that the correlation between phonic knowledge and spelling tended to be higher than between phonic knowledge and reading for the total sample. She found that, on the total sample, the correlation between reading and spelling was .70. [16] She also found that on phonic tests of recall and recognition, the better spellers tended to receive higher total scores. In sound discrimination, the difference between good and poor spellers was negligible and where the stimulus was a familiar word on the *word* phonic test, the difference in ability to apply phonic skills was not significant." [17]

Furness cited a study by Holmes who found that spelling ability of older students at secondary and college levels was not only dependent on how they were able to make phonic associations, but also upon an "L" or linguistic type of intelligence. He found that certain auditory elements contributed to spelling ability: "tonal movement, tonal memory, pitch, intensity, rhythm, and melodic taste. [18]

Cramer investigated the difference in spelling abilities between two groups taught to read with different methods. One was taught to read using a well known basal reading series, referred to in the article as the Basal Reading Approach or B.R.A. The other group used the Language Experience Approach (LEA), with early emphasis on word attack skills, creative writing, and individualized reading. There were 10 classrooms in the former group, 11 in the latter. The groups were tested twice during the year, first in February, then in May. Words used were taken from Gates Reading Vocabulary. The words were divided into two categories, one containing regularly spelled words, the other, irregularly spelled one. At the end of the study the findings were:

1. No significant difference in the spelling of regular words over irregular words for the LEA group.
2. Significantly better spelling of regular words over irregular words for the BRA group.
3. LEA students spelled both categories of words significantly better than the BRA group.

Regularly spelled words were spelled significantly better both times at the .01 level of confidence. On the irregularly spelled ones, they were significantly better at the .05 level in February and at the .01 level in May." **[19]**

The author drew several conclusions: (1) the LEA children were significantly better on both spelling lists and composition, (2) the basal reading classes found irregularly spelled words more difficult than the LEA children, (3) it seemed important to include in reading instruction (a) opportunities for more creative composition experience, (b) a strong emphasis on phonics training and functional phonics knowledge, and (c) opportunities to read widely in books other than the basal series, that is, a wider encounter with more words. He stated that *meaningful* writing might foster spelling growth and suggested that further research was needed in this area, particularly as it concerns those who advocate a controlled introduction of the irregularities of our orthography into our primary curriculum. **[20]**

Doyle reported on a study involving students at Arizona State Univ. Campus School, in which two methods of reading instruction were employed. He wrote of results obtained on tests at the end of the first year as they pertained to spelling achievement. No spelling had been taught to either group and so no skills could be thought of as by-products of the instructional method in spelling. Involved in the study were 26 first grade students who were matched for ability by means of two tests: Otis Quick-Scoring Mental Ability Test, Alpha Form AS; Metropolitan Readiness Test Form S. The control group had an average mental age of seven years, four months on the Otis Test, the experimental group, a mental age of 7 years, 2 months. The average readiness score for each group was 56.5. As far as instruction in reading was concerned, the control group followed the procedures recommended in the Guidebook for the Scott-Foresman series for the whole year. The experimental group tho using the same basal series, was carefully instructed in the Phonetic Keys to Reading series and employed the basals as supplemental reading. As each phase of the phonics series was completed, the group read rapidly thru the appropriate basal reader, disregarding the Guidebook entirely. Each group received its skills instruction while isolated in a small room adjoining the regular classroom except when skills common to both methods were to be covered. Then, all were instructed together.

In order to test spelling ability, two lists of words were used. The first was Johnson Phonetic Knowledge Test I, a list of 26 regularly spelled short vowel words; the second list consisted of 18 randomly selected words from the Scott-Foresman Primer. This list contained both regularly and irregularly spelled words. The spelling errors were studied so as to find any indication of misapplied phonic principles.

The median number of errors on the Johnson test were: control group 18.25, experimental group, 1.75. Interquartile range for the control group had errors from 14.9 to 21.25, for the experimental group, from .65 to 5.5. On the words from the primer, the median number of errors for the control group was 7.1 and 3.1 for the experimental group. On both tests, the difference between the scores of the two groups was significant at the .01 level of confidence! **[21]**

Concannon investigated the spelling skills of children with higher than average I.Q.'s who were in grades 4, 5, and 6. This investigator desired to know if these "superior" students were achieving at or near their potential. Of the group studied (N=51), the highest I.Q. score was 167, the lowest, 120. The mean for the 4th grade was 134.50, for grade 5, 128.80, and for 6th grade, 138.00. When tested on the Morrison-McCall Spelling Test, the results were as follows: the 4th grade students scored 2nd month of 5th grade, the 5th grade students scored 5th grade, 11th month, and the 6th grade group scored an even 7th grade level. The testing was done during the sixth month of school, and, tho each group scored at or above grade level, the investigator concluded that, considering their

superior intelligence, the scores were not significantly advanced since they were only 4 to 6 months above the norm for each grade level. [22]

Bloomer investigated the connotative meaning of the words that children were able to read and spell and found that the frequency of occurence as well as the word's length were related to the difficulty in learning that word. He found that words with a "positive" connotation were easier to spell and read, but also found that the more often the word was encountered the more likely it was to be read and spelled correctly, whether of positive or negative connotation. [23]

Betts also spoke of the interrelationship of reading and spelling and outlined a "language triangle." [24] He called the departmentalization of language related subjects undesirable and uneconomical and said it could not be justified in elementary school. He blamed a large share of reading, writing, and spelling disabilities of children on the "impovrished" vocabulary of most beginning and primary language and reading programs. [25] He pointed out that there exists statistical proof of a relationship between reading and spelling. He also said that intelligence is a factor in achievement in both areas. [26]

**Pitman's i.t.a. and Spelling: Early Studies**

Since the beginning of the British experiment involving Pitman's i.t.a. (1960), a great deal of interest has been evidenced in the long-range effects of this unconventional alphabet on the spelling of the children who learned to read with it. Those who were conducting the experiment, the developer, Sir James Pitman, and the director, Dr. John Downing, were particularly interested. As each year of the experiment was completed, and sometimes at shorter intervals, tests were administered to check the progress of the children in all phases of language arts. The same was done in the Lehigh-Bethlehem experiment. At the same time smaller studies were being done in various parts of the United States, mostly on the East Coast, in the Mid-West, and in California.

Pitman addressed the Royal Society of Arts in 1960 just as the experiment was beginning. He answered queries of those who feared that, tho the augmented alphabet might make learning to read easier, it might also have the side effect of making later spelling harder. His replies indicated doubt that early reading would cause habits so rigid as to persist past transition. He illustrated this point by saying, "the fact that *the* learnt and habituated first does not condition the child against the others. *THE The,* and the rest apparently take their place naturally.'" He said that time would have to pass and research have to ascertain if there were any lasting effects on spelling? [26]

Harrison, reporting on the British experiment in 1964, described briefly the results of one small study on the spelling of six-year olds. These children were tested on the Schonell Graded Spelling Test A. [29] The average age was 6.7. The mean score was 54.6 out of a possible 100, giving the group a mean spelling age of 10.9. The reader must keep in mind, however, that these English children are not to be equated with American children of the same age since the English school child has been in school for two or more years at this age, having started "infant school" at 4.5 or 5.5 years of age, at which time formal reading instruction begins.[30]

In 1964, Downing and Halliwell also presented a paper to the Ninth Annual Conference of the International Reading Association. They reported initial results from a spelling test administered in Feb. 1964, to children who had started in school in Sept. 1961. They were given the Schonell test also. The i.t.a. group (N=318) had a mean score of 28.7 on the test; the T.O. group (N=602) had a mean score of 24.1. The standard deviations for the groups were 16.4 and 14.0 respectively. The t was 4.34, significant at the .01 level of confidence. [31]

Mazurkiewicz and Lamana reported on the spelling skills of Pennsylvania children at the end of 2nd grade. Those using i.t.a. were compared to those using the regular alphabet. The two groups

were tested by means of the Stanford Achievement Test, Primary II, Spelling Section. The T.O. group contained 803 students, the i.t.a. group, 387. The results were as follows: first year, the i.t.a. group had a mean score of 9.88, a standard deviation of 5.76; second year, the i.t.a. group mean was 17.84, the standard deviation was 7.41, and the T.O. group mean was 13.85, the standard deviation, 8.04. While the T.O. group scored significantly higher the first year (z=4.06), the i.t.a. group was significantly higher one year later. At the time of the first testing, the i.t.a. group were at various stages of transition; 54% had completed transition, 46% had not? [32]

A second test was given to the same two groups. This one involved each child in an independent writing situation. The children were motivated by means of an open-ended story or a picture with no specific suggestions or ideas from the teacher. Analysis of the written matter showed that the i.t.a. children employed an average of 67.1 running words while the T.O. children used 48.9. i.t.a. children used 9.9 polysyllable words; T.O. children used 5.8. Of the 67.1 words used by the i.t.a. children, 57.4 were spelled correctly. Of the 48.9 words used by the t.o. children, 45.3 were spelled correctly. This study seemed to indicate a definite superiority in spelling skills for the i.t.a. children, but the writers believed that there was a need for a follow-up after the children had been in the traditional alphabet for a longer period. [33]

Gillooly, discussing later test results quoted several studies that found T.O. trained children making significantly higher spelling scores at the end of the first grade, as much as 3½ months in some cases. He noted tho, that when i.t.a. spellings were allowed, there was no significant difference. He drew the conclusion that i.t.a. was indeed teaching children to spell incorrectly. [34] In a footnote on the same page, he observed that data collected one year later showed the i.t.a. children still inferior but not significantly so. [35]

More recently, two more studies compared the spelling skills of children taught to read by several methods. In the first one, three groups learned to read using three different methods: i.t.a., a diacritical marking system, and a conventional basal series. The last two groups used the same texts, *The Sheldon Readers,* but the texts were marked so as to indicate the pronunciation of the symbols for the B.M.S. groups. The groups were tested at the end of the first, second, and third grades. The results of the tests are not significantly different. [36]

Altho the differences were not great between any two groups, after the first grade, the i.t.a. students out-scored the other two groups. He also found that the i.t.a. children were better independent writers at grades one and two, but not at grade three. [37]

In another study reported the same year, Hayes and Wuest compared groups using four reading series: i.t.a., Phonics and Word Power, Lippincott, and Scott-Foresman. When tested at the middle and again at the end of each of the first three grades, the scores of the spelling tests were revealing. Except for June of grade three, when they were tied for low, the Scott-Foresman students consistently scored lowest. After the end of grade one, it appears that both the Lippincott and i.t.a. approaches resulted in better spelling skills than either Scott-Foresman or Phonics and Word Power approaches. It is interesting to see that, while the Lippincott and i.t.a. students had identical scores in May of 2nd grade, the i.t.a. group scored significantly higher in Jan. of third grade (4.4 as opposed to 4.0) and the Lippincott group had equaled and surpassed the i.t.a. group five months later. It might also be noted that, except for Scott-Foresman in Jan. of first grade, all groups had mean scores above their grade equivalents. [38]

**Later i.t.a. Studies**

Nikos investigated the impact of i.t.a. on spelling and writing as compared to traditional orthography. His hypotheses all indicated an expected advantage for children who had been taught to read in the traditional manner. The subjects were children from the laboratory school of a large

university. They were divided into two groups, matched by means of the New York State Reading Readiness Test and the Calif. Test of Mental Maturity. The i.t.a. group (Sect. A) contained 23 students, the basal group (Sect. B) contained 21, all in 2nd grade. In the 3rd grade the sections contained 12 students each, since there were only 12 i.t.a. students at that level. The 2nd grade students were given the Metropolitan Spelling Test, Form B, Primary II. The 3rd grade was given Form A of the same test. The results of the tests found the i.t.a. group at each grade level scoring significantly higher than the T.O. group and the hypothesis favoring the T.O. group was rejected. The last week in Feb., the teachers administered a spelling test on commonly used words. 78 words were given to grade 2, 430 words to grade 3. Several testing sessions were held, all within the same week. The 2nd grade students were tested in 3 sessions. The testing of the 3rd grade was done in 14 sessions. Once again the hypothesis was rejected, since the i.t.a. groups scored higher. **[39]**

Writing for *Phi Delta Kappan* in Mar. 1971, Downing compared two large experiments involving i.t.a., one in Great Britain, the other in the U.S.A. Concerning spelling, he reported from the "summing up" of Blackie and Sadler, both retired from the British Ministry of Education. "There are no spelling problems in i.t.a. Queues round the teacher's desk have vanished and no adverse effects are noticed. . . **[40]**

In more recent years, studies involving older students and i.t.a. have been reported, tho few of them have dealt with spelling, several of them do mention spelling achievement. In another article by Downing, who had in recent years moved to Victoria, British Columbia, reading and spelling disabilities and their prevention were discussed. He presented results of tests after the children had been in school 2½ years. The researcher found only 8.8% of the experimental group in the ".poor" and "very poor" categories on the first test while 16.6% of the T.O. group fell in those categories. After 3½ years, the % in the same categories were still greatly to the advantage of the i.t.a. students. During the 5th year, the proportion scoring "poor" was still significantly smaller for the i.t.a. group. Downing concluded his paper by saying that, altho i.t.a. had its best results with children who were average ability students, or better than average ones, it did, nevertheless, reduce the number of poor spellers in the experimental population. **[41]**

In another article co-authored by Downing and Latham, figures were given for results at the end of fifth grade. The children who were in the original British experiment were tested by means of the National Foundation of Education Research English Progress Test B. On the spelling subtest, the i.t.a. children were found to have scored significantly higher at the .01 level. **[42]**

In another article written in 1970, Downing mentioned Southgate and Peters and their studies which showed i.t.a. students to be better in spelling at the end of the fifth year. He said that Peters found that ". . . i.t.a.-taught children, with their more systematic and economical attack, present a more receptive base for the teaching of spelling conventions," and that the experience with i.t.a. provided perceptual training which supplied the child with ". . . . the sort of non-redundant 'skeletal structure' from which traditional spellings could be developed. **[43]**

Mazurkiewicz reported on achievement of the Bethlehem i.t.a. students after the experiment had been underway six years. He found that from 2nd thru 6th grade years, the i.t.a. population scored significantly better on standardized tests in spelling than did the T.O. population. **[44]** The i.t.a. group also was significantly better in their ability to spell from dictation at the same grade level. **[45]**

In 1972, Ho, Schrock, and Stopak completed a study in which i.t.a. was used with inner-city black children. This study covered the first two years of school and presented some interesting results. At the end of the 2nd grade, on the Stanford reading subtest, the i.t.a. children spelled at the 3.2 grade level while the T.O. children obtained a 2.6 grade equivalent, a difference significant at the .01

level. [46] When the children were subdivided into groups according to I.Q., it was found that, of those with I.Q.'s above 100, 84% of the i.t.a. group were at or above grade level in spelling while this was true for only 45% of the T.O. students. Where the students were below 100 I.Q., 55% of the i.t.a. students were at or above grade level while 52% of the T.O. children were at or above the grade level." [47]

In a paper titled, "But Will They Ever Lern to Spel Korectly," written in 1972, Block summarized a group of studies making comparisons of spelling achievement at the *end of grade one.* He found that six studies found the i.t.a. students spelling significantly more poorly than the T.O. children, six studies found no significant difference in the spelling of the two groups, and six studies where the i.t.a. students were significantly better. It is interesting to note that in these studies, the children were at various stages of transition, but in every case, the test for both groups was administered in T.O. [48]

When the studies involved students who had completed two years of school, Block's summary showed quite a difference in results. Not one study found the i.t.a. children spelling significantly more poorly. Five studies found no significant difference in total populations. Eleven studies found the i.t.a. students significantly better spellers. When comparisons of sub-groups are made, no study found the T.O. group significantly better spellers. [49]

In the report of the i.t.a. Foundation, Block once more summarized studies done where the effect of i.t.a. on spelling was investigated. He abstracted 42 different studies in all, but not all presented spelling results. One study conducted in Nassau Co., Long Island had 104 students divided into two groups. One half were given a Stanford Achievement Test printed in i.t.a., then the T.O. form of the same test. The other students were given the same two tests but in reverse order. No significant difference was found between those who completed transition early and those who continued longer in the initial teaching medium. [50]

Block also quoted Menson, who found no significant difference in spelling ability at the end of first grade but did find a significant difference in spelling at the end of 2nd grade. The i.t.a. students scored significantly higher on both the Metropolitan Reading Test and the Stanford Achievement Test. [51] Montesi found "better" i.t.a. students scoring significantly higher on the Gates Advanced Test than did the high scoring T.O. students at the end of first grade. 2nd grade i.t.a. students scored significantly higher on spelling than did T.O. students. [52]

In two articles in *Reading Teacher,* one appearing in May, 1966, the other published one year later, Hehn reported on a study in Oakland Co., Mich., in which three approaches to reading instruction were used. The first article reported that when tested with the Stanford Test at the end of the first grade, the T.O. groups of children were significantly better than the i.t.a. children in spelling, except when i.t.a. spellings were allowed. Then, there were no significant differences. In the latter article, written when the children had completed their 2nd year, those who had begun with i.t.a. scored significantly higher than the Basal Reader group. The Language Experience group also scored higher than the Basal group. [53]

In the same publication, Block reported on another study by Canfield, where comparisons were made between two groups at the end of 2nd grade. On the Metropolitan Spelling Test, the control group who had learned to read with the conventional alphabet, had a mean score of 11.6 words while the i.t.a. group had a mean score of 17.8 words. No statement was included as to whether or not the difference, 6.2 words (more than 50%) was significant. [54] Block also reported another study by Jameson involving 980 first grade students. These children, 21 classes in each of two groups, were tested by means of the Writing-Reading Test, Botel Reading Inventory and a 22 word spelling test. The results for spelling were on the Writing-Spelling Test the i.t.a. children used an

average of 26.8 words while the T.O. children used 17.6 words. The number spelled correctly in T.O. were 13.7 for the i.t.a. children and 11.6 for the control group. On the 22-word spelling test, the average number of words spelled correctly were 137 words for the i.t.a. group and 11.2 words for the control group. No figures were included as to whether the differences were significant. A note was made that the T.O. children had had formal spelling instruction while the i.t.a. child had not. [55]

Block quoted Tanyzer, Alpert and Sandel's 1966 study that involved 1,288 children who were first tested in kindergarten and followed thru 2nd grade. At the end of 1st grade, the T.O. children were significantly higher in spelling. At the end of 2nd grade, the i.t.a. children had reversed the previous year's standing and were significantly better spellers than their T.O. counterparts. When children were divided into high, medium, and low I.Q. groups, the pattern of significant differences was maintained. [56]

Johnson reported on a study involving 1,934 children from schools in the United States, Canada, and England taught via T.O. She found that 96% of the children could spell *sun* while its rhyming counterpart, *spun,* stumped most: 96% in an Omaha, Neb. school, 72% in a Leeds, Eng. school, and 67% in Winnipeg, Canada. Some examples of attempts to spell the word were given, among them: *sping, coiyes, foeal* and *sishsha*. [57]

**Chapter 2 Summary**

Educators have long been interested in spelling and methods for teaching it. There were several so-called spelling experiments prior to the present century, but since modern research methods were not used and reporting was rather haphazard, few objective conclusions could be drawn from written reports of the studies. It is known from these early writings that educators were aware that there appeared to be some relation between reading and spelling. Some of the studies investigated the spelling abilities of children using a certain method or medium.

During the 20th century, studies have been more numerous and a more scientific method of conducting the experiments and reporting findings has given readers more dependable statistics to study. During this period investigators have been able to present evidence to support their hypotheses that certain approaches to reading do affect the spelling abilities of students. They have also presented evidence to support their contention that there is a definite positive correlation between spelling ability and certain aspects of reading.

Whereas many of these studies comparing two or more methods of reading presented information as to how well each group of pupils spell, most of these did not go into detail as to *how* they spell. In the i.t.a. studies, the same is true in most instances. Reports of spelling tended to be rather perfunctory and the scores were included as only one facet of a total reading test. The majority of the studies also dealt with the spelling skills of children after 1, 2, or 3 years of school. In the reports of the Bethlehem study were included some spelling scores for older children, but literature that treated specifically with the long-range effect on spelling after i.t.a. instruction was so scarce as to be almost impossible to locate. The study by Fry and the one by Hayes and Wuest compared scores thru 3rd grade but their main emphasis was on reading. Nikos was primarily interested in spelling and writing, but his study dealt with 2nd grade students who had been thru transition less than a year. Altho some of the British studies did go into the 5th yea; as stated earlier, these are difficult to compare with American studies since their children enter school at a much younger age.

When Dr. Downing was questioned personally as to the data available on spelling research and i.t.a., he indicated a scarcity in this area. [58] It appears that there is a definite need for further research among students who have reached intermediate and junior high school levels. As time goes on, more and more schools are adopting this teaching aid. Research on its lasting effects on

spelling, if any, could be instrumental in making a decision as to whether to employ this medium or not.


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## Chapter 3: Procedures

### The Subjects

The subjects of this study were students from Lumberton Independent School District in a suburban southeast Texas community. Those included were students in grades 2, 3, 4, 5, and 6 in the elementary school and the 7th grade from the nearby junior high school. The students had been chosen for the study because these grades contained students at all ability levels who had learned to read with one of two different orthographic systems, namely, the conventional alphabet and a special initial reaching alphabet for beginning reading.

One group, the T.O. group, was made up of children who had been taught to read with a conventional state-adopted basal reading series. They had not all been taught with the same series but with one of four or five available to public schools. All adopted series used the regular alphabet as the medium of instruction.

Most of the students in this T.O. group had come to the school after initial instruction in reading and had been in the district from 1 to 6 years, but a few students in grades 4, 5, 6, and 7 had begun at Lumberton. In grade 4 there were 13 T.O. students, in grade 5 there were 19, at grade 6 there were 20, and at grade 7 the T.O. number was 15 who had been taught to read at Lumberton School. The i.t.a. group had all started school at Lumberton and had been taught to read with materials printed in Pitman's Initial Teaching Alphabet.

Because of the constant movement of new students into the district, the size of the two groups varied at each grade level.

At the lower grades, the i.t.a. group was proportionally larger while at higher grades, the T.O. group was larger. The distribution of both groups is as follows:

| Group | 2 | 3 | 4 | 5 | 6 | 7 | totals |
|---|---|---|---|---|---|---|---|
| T.O. | 27 | 21 | 71 | 65 | 81 | 76 | 341 |
| i.t.a. | 86 | 98 | 77 | 49 | 57 | 44 | 411 |
| | | | | | | | 752 |

Since there was so much difference in the sizes of the groups at most grade levels, it was decided that grade, age and I.Q. would be used to pair students, with all unpairable students eliminated. After the students were paired, the distribution was as follows:

| Groups | 2 | 3 | 4 | 5 | 6 | 7 | total |
|---|---|---|---|---|---|---|---|
| T.O. | 18 | 24 | 56 | 40 | 49 | 38 | 226 |
| i.t.a. | 18 | 24 | 56 | 40 | 49 | 38 | 226 |
| | | | | | | | 452 |

After the students had been matched, in order to find out how the I.Q. scores for the T.O. members compared to the i.t.a. members at each grade level, a mean score for each was calculated. The greatest difference was at 6th grade where the average I.Q. was .22 of a point higher for the T.O. students; the smallest difference was .04 of a point at 3rd grade, favoring the i.t.a. students. The average I.Q. score for the whole group was the same for each group, 101.49 I.Q. When the group scores were subjected to a *t* test. for significance, no significant difference in I.Q. was found at any grade level or for the total population.

## The Tests

The data for the study were obtained from three sources: an intelligence test, an achievement test, and a spelling test.

*The Intelligence Test.* In order to obtain an I.Q. score for each child, they were given an intelligence test. The instrument used was the *Otis-Lennon Mental Ability Test.* [1] This test had been given annually at Lumberton to odd numbered grade levels but, in order to be assured of the availability of scores for all students, including those who had entered the system within the year, all levels of the elementary school were tested. The information obtained from this test was used to establish placement of the students within each group.

*The Achievement Test.* In grades two thru six, the children were given the *Science Research Associates (S.R.A.) Achievement Series* . [2] From these tests the scores for the reading and spelling subtests were used.

In constructing their achievement series, S.R.A. based its normative data on 71,199 students selected from all sections of the Nation. This sample population was based on percentages of the total population. For instance, 29% of the students were chosen from rural districts and towns of less than 5,000 population in the southwestern part of the United States, while 13.9% were chosen from urban sections of the mid-eastern states. Students came from every state in the nation. Schools were chosen to participate in the standardization only if all levels of the test could be administered in the same school system. [3] In the subtests used, the vocabularies were checked against Rinsland's list, as well as the Thorndike and Lorge list of 30,000 words, and Gates Primary Vocabulary list. [4]

The reliability coefficients were calculated by means of the Kuder-Richardson formula for each grade level and were presented in both grade equivalents and raw scores. In total reading the estimates range from .90 in grade 4 to .98 at the end of grade 1, with other grade levels ranging between. The subtests were subjected to a principal components type factor analysis. In establishing the validity of the series, the S.R.A. developers employed the Kaiser's Varimax to determine the number of independent dimensions measured by their test. Six 12x12 intercorrelation metrices were calculated. According to technical brochures, the tests have a high degree of validity. [5] Orliens stated, in a review written for Buros' *Sixth Mental Measurement Year Book,* that the S.R.A. Test developers made an ". . . impressive presentation of the validity of the content. . .". [6]

*The S.R.A. Spelling Subtest.* For the level of the test used in grades 2 and 3, the spelling list consisted of 25 words ranging from 1.1 grade level to grade 6+ level.

Once the child had spelled 19 words correctly, his score was recorded at 6+. This test was given to the children in grades 2 and 3. One notable exception was the "low" ability group of grade 2 which was given the 1-2 level of the test which contained no spelling subtest. The 2-4 achievement test was also given to the low ability 4th grade.

The remainder of the children in grades 4 thru 6 were given the *S.R.A. Multilevel Achievement Test.* [7] On this level of the test there was no list of words to be spelled. Instead, there was a spelling recognition test. In this subtest, each item contained 4 words. The student responded by indicating whether any one word was spelled incorrectly or if all the words were spelled correctly. Rather than a test of recall as in the more conventional approach, this was one of visual memory of the word as it should appear. The items on the test were classified as follows: *s* or *z* sounded as *z*, plural formation, double consonants, *e* before a suffix, recognizing whether letters were in the proper order in the word, and so forth! There are 46 items on the test.

This test was machine scored and the scores returned to the school so that a total score was available, but nothing was known as to which items were missed or what the errors were.

No spelling-subtest scores were available from the 7th grade because no achievement test was given at that level.

*The Morrison-McCall Spelling Scale* was developed by J. Cayce Morrison and William A. McCall. [9] All words used in developing the lists included in the tester's manual were chosen from *Ayres' Spelling Scale* and Buckingham's extension of *Ayres' Spelling Scale.* The lists were compiled in such a way that each list was of equivalent difficulty. Each list was also required to contain only those words that appeared in the 5,000 most commonly used words, according to Thorndike's *Word*

*Book."* In order to test their equivalence, lists 1, 2, and 3 were applied to 33,299 pupils, 10,542 pupils, and 13,490 pupils respectively. These pupils were randomly selected from grades 2 thru 9 in village and rural schools. Since *t* scales on all three were "almost identical," it was assumed that the same would be true of the remaining 5 tests, since all had been compiled in the same manner."

Buros reported that, tho the test was not a recent publication, comparisons of the words on the test to more recent studies of words used in children's writing showed that 96% of the words analyzed appeared in the first 5,000 of Horn's list and 78% of the words were on the first 5,000 on Rinsland's list. **[12]**

This test was chosen for the study because it was important that all students take the same *type* of spelling test. As stated previously, in the primary level of the achievement test, words were dictated, while the version for older students asked the student to examine 4 words, and decide which, if any, words were spelled incorrectly. This happened to be true in several series and in none examined did all the children spell the same words.

In the Morrison-McCall Test, since all levels spelled the same words, it was believed that better comparisons of spelling ability could be made. It was important to the investigation to see *how* words were misspelled as well as which words were misspelled. It was important to see how a child attacked a word he had never encountered before or never had studied as a spelling word. It was hoped that the child's attempt to spell unknown words might indicate where his strengths and weaknesses lay as far as generating the whole word was concerned.

The instructions suggested that the words be written on forms prepared by the school. Each group of children was tested in its own classroom with the exception of children who had been absent on the regular test day. These children were tested in special "make-up" sessions containing children from several rooms.

*Administering the Test.* The test given to the students at Lumberton School was the 2nd list in the tester's manual. Those giving the test had not seen the list previous to the test day. The words were written on a special form with spaces for 50 words. In the instruction period immediately before the test, the children were told that they were to have 50 words to spell, that some of the words would be easy and some would be hard, and that there would be some words that they did not know how to spell. They were encouraged to try to spell every word, and if they did not know how to spell a word, they were to spell it the way they *thought* it should be spelled. They were urged not to leave any of the spaces blank.

Each word was read once, the word was used in a sentence, then the word was pronounced again. No time limit was employed. The teacher called another word when it appeared that all were thru with the previous one.

*Scoring the Test.* Words were marked incorrect if there was any doubt as to the spelling. A word was counted incorrect if the i was not dotted or the *t* was not crossed. If a word was written in the plural when a singular form had been pronounced or vice versa, it was counted wrong. Capitalization was ignored. If the child had *obviously* tried to correct the word, the corrected version was accepted. In instances where children were still using manuscript writing, a reversed letter that caused the letter to appear to be another letter (*d* for *b, p* for g, and so forth) was counted as a misspelling.

The number of correct spellings was counted and recorded. The scores were converted to grade level scores. The scores were recorded on a special record sheet with the scores from the intelligence test and the achievement subtests in spelling and reading.

The test was designed to be administered to children from grades 2 thru 8. The method of administration was the same for all grades. The teacher's test manual includes 8 different lists of 50 words apiece. The words ranged from very easy primary words to words of high school difficulty. The manual stated that, since all grades were to spell all words, and since there is no time limit attached to any level, groups of several ages could be tested at one time.

## Preparing Test Results for Analysis

*Student Record Sheets.* Each child's record sheet had a place for name, grade level, school first attended, name of first grade teacher, and what his initial reading medium was. There were also spaces for recording the scores and grade equivalents on each test. At the time the children's tests were scored, each one was assigned a number. The first digit of the number told what the grade level of the child was; the other numbers were merely for identification and recording purposes. At the time the child was assigned a number, papers were also marked in such a way that the examiner could tell whether he had been taught to read with i.t.a. or not. If the child could not recall these details, they were filled in by the examiner from permanent record folders in the principal's office.

## Analysis of Morrison-McCall Test

*Regrouping students.* After the Morrison-McCall spelling test was scored, and the raw scores and grade equivalents recorded, the large group was separated into two groups, one composed of students who had learned to read with i.t.a., the other containing those who had not. A *t* test was applied to the resulting group scores for each grade level.

*Analyzing Spelling Errors.* After the *t* tests had been calculated, the larger job of analyzing the misspellings began. First of all, every misspelling of every word was recorded and tallies kept of how many times that misspelling occurred. These spellings were recorded by grades and by subgroups, that is, one list for T.O. children and one for i.t.a. children. The total number of *times* a word was misspelled was recorded. After the misspellings were recorded, they were classified according to type, such as:

1. Words spelled incorrectly (according to the word list) but still phonetically possible. In this category would be:
   a. words that used *c* for *k* or vice versa,
   b. *s* for soft *c*,
   c. a different vowel in a syllable with a schwa sound,
   d. deleted silent letters where the elimination of the silent letter does not affect the pronunciation of the word,
   e. *z* for *s* if the s has the former sound,
   f. an incorrect second vowel in a long vowel spelling in a word or syllable,
   g. a phonetic spelling of a very irregularly spelled word,
2. Words spelled incorrectly because of the addition or deletion of a suffix or inflected ending.
3. errors where reversals occurred either *d* for *b, q* for *p*, and so forth, or where the order of two or more letters was reversed or scrambled (*paly* for *play*, *gold* for *glad*).
4. Errors that were a complete substitution of a word either with a similar meaning or an entirely different meaning.
5. Errors of deletion where one or more *sounded* letters were omitted or one or more syllables omitted.
6. Substitution of a letter or letters when there was no equivalent sound or similar sound or elimination of silent letters that affect the sound of the word or syllable.
7. Gross misspellings where there was little or no logic to the way the word was spelled. In this category also would be words with too many errors to be classified under any of the previous categories.

8. Failure to attempt to spell the word or where the attempt to spell was erased or marked out.
9. Additions of unnecessary letters or syllables, doubled letters, extra sounds, repetitions of syllables, etc.

In this part of the study, each group's errors were analyzed to see if any group showed a tendency to any type of error or errors over any other.

In order to analyze the errors, each student's spelling was examined. Each misspelled word was recorded and marked with appropriate numbers indicating what type of error or errors had been made. For instance, if a child spelled *siks* for *six*, the word was followed by a number 1, indicating that the spelling was incorrect as far as accepted spelling was concerned, but was phonetically possible. A spelling of *gald* for *glad* would be followed by the number 3 to indicate that the letters were recorded in the wrong order, or metathesised. A word might have two numbers following it to indicate it contained two types of errors. Where a word contained 3 or more errors, a number 7 followed, indicating a grossly misspelled word.

After all words were marked as to types of misspellings, a master sheet was made and all errors were tallied. There were spaces for each word and the errors tallied in spaces for each grade. When the tally was completed, there were figures to indicate which type errors occurred most frequently, which words were most frequently misspelled and the number of errors of each type made by a given group or grade.

## Chapter 3 Summary

452 children in grades 2 thru 7 were tested to determine whether there were any differences in the spelling abilities of those who were taught to read with an initial teaching alphabet and those who were taught with the conventional alphabet and traditional reading materials.

The subjects were tested in order to find out not only *how well* they spelled, but also *how* they spelled the words they missed. In order to determine whether any differences that existed were significant, all group scores were subjected to a *t* test for significance.

1. Arthur S. Otis and Roger T. Lennon, *Otis-Lemon Mental Ability Test, Form J.* (New York: Harcourt, Brace & World, Inc. 1967).
2. *S.R.A. Achievement Series.* (Chicago: Science Research Associates, Inc. 1968).
3. *S.R.A. Achievement Report for Forms C and D* (Chicago: Science Research Associates, Inc. 1968), pp. 7-9.
4. O. K. Buros, *Sixth Mental Measurement Year Book,* (High and Park: Gryphon Press, 1965), pp. 86-88.
5. *S.R.A. Technical Report for Forms C and D. pp.* 20-23, 31-2.
6. Buros. Loc. cit.
7. *S.R.A. Achievement Series, Multilevel Edition, Form C,* (Chicago: Science Research Associates, Inc., 1969), pp. 51-4.
8. *S.R.A. Achievement Series, Interpretive Guide,* (Chicago: Science Research Associates, 1968), p. 11.
9. J. Cayce Morrison and William A. McCall, *Morrison-McCall Spelling Scale,* (Harcourt, Brace & World, 1951).
10. Ibid., p. 7.
11. Ibid., p. 7.
12. Buros, *Fourth Mental Measurement Year Book,* (Highland Park: Gryphon Press, 1953), pp. 205-7.

## Chapter 4: Findings (Part A.)
### Reading Tests

*Reading scores* were obtained from the reading subtest of the S.R.A Achievement series and were available for students of grades 2 thru 6. The 7th grade students were not given an achievement test. When the scores for all grades had been tested, the results showed that at every grade except six, the i.t.a. students had scored higher on the reading subtest, but not significantly so (see table 4):

**Table 4.**
t-ratios of Mean Differences in Scores Obtained on Reading Subtest of S. R. A. Achievement Series by 2 Groups.

| Grade | T.O. | i.t.a. | Significance |
|---|---|---|---|
| 2 | | -1.95 | nsd. |
| 3 | | -2.05 | nsd. |
| 4 | | -1.19 | nsd. |
| 5 | | -1.06 | nsd. |
| 6 | .72 | | nsd. |
| Total Group | | -2.23 | sd. At .05 level |

*T. O. Students Compared to National Norms.*
When the scores were compared by a t-test to National norms, it was found that no significant differences existed between the test scores of the T.O. children and National norms at any grade level. (See table 5)

**Table 5**
t-ratios of Mean Differences between Scores of T.O. Pupils and National Norms on S.R.A. Reading Subtest.

| Grade | National Norms | T.O. | Significance |
|---|---|---|---|
| 2 | | -1.90 | nsd. |
| 3 | .95 | | nsd. |
| 4 | | - .54 | nsd. |
| 5 | | - .51 | nsd. |
| 6 | .05 | | nsd. |
| Total Group | | - .64 | nsd. (well below sd.) |

i.t.a. *Students Compared to National Norms.*
When the i.t.a. students' reading scores were subjected to the direct-difference *t* in order to compare them to the National norms, the results showed that the i.t.a. students scored higher in all instances except at 6th grade level.

**Table 6**
t-ratios of Mean Differences between Scores of i.t.a. Students and National Norms on S.R.A. Reading Subtest.

| Grade | National Norms | i.t.a. | Significance |
|---|---|---|---|
| 2 | | -3.795 | sd. (.01) |
| 3 | | -2.01 | |
| 4 | | -2.39 | sd. (.02) |
| 5 | | -1.48 | |
| 6 | 1.15 | | |
| Total Group | | -2.78 | sd (.01) |

## Spelling Tests

*S.R.A. Spelling Subtest.*

The scores on the subtest in spelling from the S.R.A. Achievement Series were tested in the same manner as those from the reading subtest. The T.O. scores were compared to the i.t.a. scores, and both scores were compared to the National norms. This was done for the grade-level groups and for the group as a whole.

*T.O. Students vs. i.t.a. Students.* Where the scores of 11 of the i.t.a. students were compared to those of the T.O. students, it was found that at every grade level, the i.t.a. students scored higher than the T.O. students on the S.R.A. subtest. (see table 7).

**Table 7.**

**t-ratios** of Mean Differences Between Scores of Two Groups of Students on S.R.A Spelling Subtest.

| Groups | T.O. | i.t.a. | Significance |
|---|---|---|---|
| 2 | | -1.98 | nsd. |
| 3 | | -1.08 | nsd |
| 4 | | -2.04 | sd |
| 5 | | -1.66 | nsd |
| 6 | | -0.80 | nsd |
| Total group | | -3.01 | sd |

T. O. Scores *Compared to National Norms.*

At grades two and three, when subjected to a t-test, the T.O. students' scores were significantly higher than the National norms. (see table 8).

**Table 8**

t-ratios of Mean Differences Between Scores of T.O. Students and National Norms on S.R.A. Spelling Subtest.

| Grade | National Norms | T.O. | Significance |
|---|---|---|---|
| 2 | | -3.08 | sd. (.01) |
| 3 | | -2.72 | sd. (.02) |
| 4 | 1.96 | -0.04 | nsd. |
| 5 | | | nsd. |
| 6 | 0.18 | | nsd. |
| Total Group | | - .52 | nsd. |

i.t.a. *Students Compared* to National Norms.

Not only did the reading scores of the i.t.a. students exceed the National norms at all levels tested, but the S.R.A. spelling scores did also. (see table 9).

**Table 9**

t-ratios of Mean Differences Between Scores of i.t.a. Students and National Norms on S.R.A. Spelling Subtest.

| Grade | National Norms | i.t.a. | Significance |
|---|---|---|---|
| 2 | | -7.04 | sd. (.001) |
| 3 | | -4.70 | sd. (.001) |
| 4 | | -0.29 | nsd. |
| 5 | | -1.80 | nsd. |
| 6 | | - .36 | nsd. |
| Total Group | | -3.85 | sd. |

*Morrison-McCall Spelling Scale*
By far, the most information in the study was obtained from the Morrison-McCall test. Since the spelling papers were scored by hand, they were available for a detailed study of the errors of each child. As with the previous two tests treated, the first task was to calculate the difference between (1) the T.O. group and the i.t.a. group, (2) the T. O. group and the National norms, and (3) the i.t.a. group and National norms. A t was found for each grade and for each large group in each instance.

T.O. vs i.t.a.
Comparisons of the two groups of students showed the i.t.a. student scores exceeding those of the T.O. group at every grade level except the 6th. (see table 10).

**Table 10**
*t*-ratios of Mean Differences Between Scores of Two Groups of Students on Morrison-McCall Spelling Scale.

| Grade | T.O. | i.t.a. | Significance |
|---|---|---|---|
| 2 | | -2.23 | sd. (.05) |
| 3 | | -0.10 | nsd. |
| 4 | | -1.92 | nsd. |
| 5 | | -1.45 | nsd. |
| 6 | .78 | -2.17 | nsd. |
| 7 | | -3.37 | sd. (.05) |
| Total Group | | | sd. (.01) |

The fourth grade i.t.a. group's ratio approached significance.

*T.O. Scores Compared to National Norms.*
Comparisons of the scores of the different grade level groups to National norms showed grades 2 and 3 scoring somewhat higher than the norms but not significantly so. When the whole groups' scores were compared to the National norms, the T.O. group was found to be significantly lower. (see table 11).

**Table 11**
t-ratios of Mean Differences Between Scores of T.O. Students and National Norms on Morrison-McCall Spelling Scale:

| Grade | National Norms | T.O. | Significance |
|---|---|---|---|
| 2 | | -0.61 | nsd. |
| 3 | | -1.36 | nsd |
| 4 | 2.86 | | sd. (.01) |
| 5 | 0.78 | | nsd |
| 6 | 3.09 | | sd. (.01) |
| 7 | 1.58 | | nsd |
| Total Group | 3.227 | | sd. (.01) |

i.t.a. Scores Compared to National Norms.
When the scores of the i.t.a. students were compared to National norms, as with the S. R. A. spelling subtest, grades 2 and 3 spelled significantly better than the National norms. Only at 6th grade was the i.t.a. group significantly lower than the National norm. This was the only instance where the i.t.a. students scored significantly lower on any comparison. (see table 12).

**Table 12**
t-ratios of Mean Differences Between Scores of i.t.a. Students and National Norms on Morrison-McCall Spelling Scale:

| Grade | National Norms | i.t.a. | Significance |
|---|---|---|---|
| 2 | | -6.39 | sd. (.001) |
| 3 | | -4.80 | sd. (.001) |
| 4 | 0.91 | -1.12 | nsd. |
| 5 | | -1.06 | nsd. |
| 6 | 2.98 | -0.44 | sd. (.01) |
| 7 | | | nsd. |
| Total Group | | | nsd. |

## Chapter 4: Findings (Part B)

### Analysis of Spelling Errors

After the scores of the Morrison-McCall tests had been subjected to the t test for significance, the spelling words themselves were studied in order to find out what kinds of errors they contained. The papers were examined minutely. Each word was recorded and all of the misspellings for words recorded. Each misspelling was analyzed and the types of errors classified.

The errors were classified into 9 types: (1) phonetically possible misspellings, (2) addition or deletion of an ending, (3) reversals, (4) substituted words, (5) deletion of a letter of a syllable, (6) substitution of a wrong sound, (7) gross misspellings, (8) failure to record anything, and (9) too many letters of unnecessary sounds.

The records of the misspellings was made by group and by grade level. When all the errors had been tallied, the number of errors made by both large groups were compared. This was done in order to see if either group made significantly more errors of any type or types. Since the errors were classified into 9 types, 9 comparisons were made. The same test as was used on the previous data, Students' *t*-ratio, was employed.

It was found that of the 9 types of errors classified, only one type was made more often by the i.t.a. students than the T.O. students. (see table 13. Those were type I errors, errors in which the word was spelled in a phonetically possible way, even tho it was incorrect as far as acceptable English or American spelling was concerned. Some examples were *nite* for *night*, *chanj* for *change*, or *serton* or *surton* for *certain*. The i.t.a. students made a total of 1789 errors of this type, or an average of 7.95 type I errors (see table 14). The T.O. children made a total of 1581 errors or an average of 7.03 type I errors. When the type I errors of the T.O. children were compared to the i.t.a. errors, it was found that the *t* was -2.44 or significantly more misspellings for the i.t.a. children.

**Table 13**
t-ratios of Mean Differences Between Types of Errors Made by Two Groups of Students on Morrison-McCall Spelling Scale:

| Types of Errors | T.O. Group | i.t.a. | Significance |
|---|---|---|---|
| 1 | | -2.44 | sd. (.05) |
| 2 | 2.19 | | nsd. |
| 3 | 1.98 | | nsd. |
| 4 | 3.38 | | sd. (.02) |
| 5 | 3.84 | | sd. (.02) |

| | | |
|---|---|---|
| 6 | 1.66 | nsd |
| 7 | 4.19 | sd. (.01) |
| 8 | 1.09 | nsd. |
| 9 | 0.04 | nsd. |
| All types | 3.04 | sd. (.02) |

When the type 2 errors of the two groups were compared, it was found that the T.O. children made more of this type error, 54 as opposed to 31 by the i.t.a. students. There were errors in which an ending was added or deleted. Considering the number of students involved, there were comparatively few of these errors, with only an average of .25 error for the T.O. students and .14 for the i.t.a. students (see table 14).

When the errors were compared statistically, the *t* was 2.19. More errors were found for the T.O. children than for the i.t.a. children, but this was not significant at the .05 level, (see table 13). Type 3 errors, or errors of reversal were more common for the T.O. children also. They made a total of 367 errors of this type, or an average of 1.63 errors while the i.t.a. students made 306 errors, or an average of 1.36 errors. When the *t* test was applied to the differences, the result (*t*=1.98) tho higher for the T.O. group was not significant.

When the type 4 errors were compared, it was found that once more the T.O. students made more of this type error than did the i.t.a. students. Type 4 errors were those in which the student substituted another word for the word called. The T.O. students made 56 errors of this type, or an average of .25 errors. The i.t.a. group had 34 type 4 errors or an average of .15 errors. The t (3.38) was significant at the .02 level of confidence, (see table 13).

Type 5 errors, those words in which a sounded letter or syllable was deleted, were made 1094 times or 4.86 times apiece by the T.O. group. The i.t.a. group made 3.64 errors per student or a total of 819 type 5 errors, (see table 14). When the t test was employed, it was found that the T.O. students had made significantly more of this type error (*t*=3.84, significant at the .02 level).

Type 6 errors were those that result from the use of a letter or letters that caused the word to have an incorrect sound, that is, a substituted consonant or vowel that effected the pronunciation of the word. An example would be an x in especially instead of an s. Once again the T.O. group made more errors of this type. They made 1053 errors or an average of 4.68 errors per student. The i.t.a., students made a total of 964 errors, an average of 4.28 per student. Tho the T.O. students made more type 6 errors, the difference was not significant (t=1.66).

Gross misspellings, or type 7 errors were made 792 times by the T.O. students, an average of 3.50 per pupil, while the i.t.a. students made 449 such errors, or 1.99 apiece.

When the errors were compared for significance, it was found that the T.O. students had made significantly more type 7 errors (*t*=4.19, significant at the .01 level).

Altho comparatively few students in either group simply failed to record anything for some of the words called, the T.O. students still deleted a total of 74 words and the i.t.a. students failed to attempt 47 words. Tho the T.O. students made more errors, the difference was not significant (*t*=1.09).

The last type error, wherein the student recorded more letters than necessary to represent the sounds needed, was made 382 times by the T.O. students and 375 times by the i.t.a. students. The difference between the two groups was almost non-existent, being only 7 errors. The average errors

per student were 1.69 for the T.O. students and 1.66 for the i.t.a. group. As would be expected, the difference was not significant (*t=.04*).

When the errors of all types were totaled, it was found that T.O. students had made a total of 5463 errors, or an average of 24.17 errors on the 50 words on the list. The i.t.a. students had made a total of 4814 errors on the list, or an average of 21.30 errors per student, (see table 14). When the *t* test was applied to the errors of the paired groups, it was found that the T.O. group had made significantly more errors of all types than did the i.t.a. group (*t*=3.04, significant at the .02 level).

**Table 14. Types of Errors**
Comparison of Spellings of Two Groups of Students on Morrison-McCall Test; Average Number of Errors of Each Type by Group and by Grade.

| Grades | Types: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | All Types |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | T.O. | 5.5 | 0.33 | 2.39 | 0.73 | 8.61 | 8.89 | 11.55 | 1.28 | 2.17 | 41.50 |
| | i.t.a. | 4.72 | 0.39 | 1.83 | 0.28 | 6.17 | 7.83 | 5.06 | 0.00 | 2.00 | 28.28 |
| 3 | T.O. | 7.17 | 0.29 | 1.54 | 0.33 | 9.50 | 6.83 | 5.46 | 1.25 | 2.12 | 33.62 |
| | i.t.a. | 10.29 | 0.12 | 1.36 | 0.21 | 6.58 | 6.12 | 2.62 | 0.12 | 3.54 | 31.00 |
| 4 | T.O. | 7.38 | 0.32 | 1.96 | 0.45 | 6.00 | 6.14 | 4.77 | 0.46 | 2.23 | 29.71 |
| | i.t.a. | 8.70 | 0.12 | 1.41 | 0.36 | 5.20 | 5.32 | 3.87 | 0.61 | 1.97 | 27.56 |
| 5 | T.O. | 8.62 | 0.20 | 1.45 | 0.05 | 3.42 | 4.12 | 2.20 | 0.12 | 1.25 | 21.45 |
| | i.t.a. | 8.75 | 0.15 | 1.52 | 0.02 | 1.32 | 3.55 | 0.95 | 0.05 | 1.37 | 17.67 |
| 6 | T.O. | 7.49 | 0.20 | 1.41 | 0.06 | 3.61 | 2.29 | 1.12 | 0.20 | 1.45 | 18.50 |
| | i.t.a. | 9.00 | 0.08 | 1.39 | 0.04 | 3.59 | 3.37 | 0.71 | 0.12 | 0.88 | 19.18 |
| 7 | T.O. | 4.95 | 0.13 | 1.32 | 0.13 | 1.61 | 1.97 | 1.13 | 0.18 | 1.21 | 12.63 |
| | i.t.a. | 4.73 | 0.11 | 0.84 | 0.03 | 0.79 | 1.87 | 0.13 | 0.05 | 1.21 | 9.79 |
| Whole | T.O. | 7.03 | 0.24 | 1.63 | 0.24 | 4.86 | 4.68 | 3.50 | 0.33 | 1.69 | 24.17 |
| Group | i.t.a. | 7.95 | 0.14 | 1.36 | 0.15 | 3.64 | 4.28 | 2.00 | 0.21 | 1.67 | 21.30 |

*Discussion of Spelling Errors*
From the results of the tests, it appeared that, as far as the students at the school studied were concerned, the medium of instruction did have some effect on the T.O. spelling of the students. In 8 out of 9 types of errors, the i.t.a. students made fewer errors, and on 3 of the 8 types, the difference was significant (see table 13). In the only instance where the i.t.a. students made more errors than the T.O. students, the difference was barely significant at the .05 level.

*Phonetically Spelled Words.* The errors that were more common to the i.t.a. students than to the T.O. students were instances where the child transcribed the word dictated in an incorrect but phonetically possible manner. This in itself would appear that the i.t.a. children had a better concept of the relationship of sound-to-symbol. For instance, it was obvious that the child who spells *personal, pursonal,* knew more about spelling than the one who spelled it *prealest.* By the same token, the 3rd grade student who spelled *conforans* for *conference* was a better speller than the 6th grader who spelled it *consverns,* altho both were counted wrong on the test. Few people would have difficulty reading such words as *severel, populer, agensl, evedens,* or *carictor,* tho strictly speaking, they are incorrectly spelled.

*Gross Misspellings.* By comparison, another type of error that indicated whether a child understood the process of converting sound-to-symbol was the type 7 error. Here the child made 3 or more errors in a single word, or put down some combination of letters that defied analysis. The T.O. students made significantly more errors of this type than did the i.t.a. students. When one considers that each listing of this type represents *at least* three errors, it would seem to indicate that the T.O. students had a less secure grasp of how speech was to be recorded on paper. Some of the spellings

that fell into this category were obviously a combination of several errors such as reversals, deletions, or substitutions, but many, even in the higher grades seemed to be a hysterical response to the teacher's dictation. Some words that appeared to fit this description were: *istionly* for *especially, gugly* for *cordially, eseon* for *decision,* (4th grade), *ofsocpeasion* for *association, creatrive* for *character,* and *unpleciaealy* for *especially* (5th grade). While it is true that this type of error was more common at the lower levels of school (299 errors in the 2nd grade or 8+ errors per child), they still occurred in the 7th grade where 43 type 7 errors occurred among the T.O. students. For instance, one 7th grade T.O. student spelled *perhaps, prehards,* and another wrote *plaearlsler* for *popular.* In the same group, *certain* was spelled *sititite, elaborate* was spelled ealargater, and privilege was written prrageglug. Tho the nonsense spellings occurred more frequently among the T.O. papers, that is not to say that gross misspellings did not appear in the i.t.a. papers, but they were not so frequent. The i.t.a. 7th grade students made only 5 type 7 errors: *piecer* for *picture, epsically* for *especially, corbingly* and *cogajly* for *cordially,* and *villioun* for *villain.*

*Sound Substitutions.* Next to type 1 errors, the most common was type 6. These were errors involving the substitution of a symbol representing the wrong sound. The children made a total of 2,017 errors of this type. Often the substitution was a combination of vowels that caused the word to be sounded incorrectly, but at other times an incorrect consonant was used, with a similar result. One particularly persistent substitution was the previously mentioned substitution of *x* for *s* in *especially.* This spelling occurred in both groups, even at the 6th grade. Of the 34 misspellings of this word by the T.O. children,

5 had an *x* in place of the *s*; of the 30 misspellings of the word by i.t.a. students, 3 of them contained an x. Other persistent substitutions were an *h* or a *p* for the first sound in *cordially,* and a *c* or an *h* for the first sound in *parliament.* Not uncommon at all were spellings where *v* was substituted for *f* and vice versa. This was not surprising since the two letters are voiced and voiceless versions of the same articulation. Another frequent substitution, but not so common as the before-mentioned, was a *b* for a v, as in *bilon* or *billon* for *villain,* and *pribellage* for *privilege.* The letter substitution, like the z in *especially* may have resulted from the child's misconception of the correct pronunciation.

Another error that occurred comparatively often was the substitution of *p* for the *cr* in *secretary.* This error was not confined to the very young children but appeared in the spellings of both groups at the 4th grade level. This also was probably an indication of what the child *thought* he heard.

*Errors of Deletion.* The third most common error was the elimination of a letter or a syllable necessary to the pronunciation of the word. Type 5 errors occurred 1,094 times in the T.O. spelling papers and 819 times in the i.t.a. papers and resulted in such words as *sruk* for *struck, chug* for *change* (two deletions), *sevrl* for *several (also* two deletions), *prhaps* for *perhaps,* and *agnst* for *against.* Sometimes whole syllables were omitted as in *invesgate* for *investigate, cizen* for *citizen,* and *asoation* for *association.* Even at 7th grade level, the i.t.a. children average nearly one type 5 error apiece and the T.O. children averaged over one and a half.

*Too Many Letters.* There was very little difference in the number of type 9 errors made by the two groups (T.O. group 382, i.t.a, group 375). These occurred when the student put more letters than necessary in a word. For instance, one student wrote a word with a triple letter (adddress). Other errors of this type were the appearance of an unnecessary *r* in *poperlar,* and *popurler* for *popular, carictrer* for *character,* and *inderver* for *endeavor.* Often the child seemed uncertain as to how the vowel sound should be represented and so continued to insert one vowel here and another there. *Endeavor* was spelled *endevior, undeviere, endiavor,* and *indeiver* at 6th and 7th grade level. It was interesting to note that this type of error persisted even as the child grew older. The 2nd grade T.O. students made 2.17 type 9 errors, the 3rd grade made 2.12, but the 4th grade students made 2.23 errors of this type. The 6th grade T.O. students made more of this type error than did their 5th grade

counterparts. By the same token, the 3rd grade i.t.a. students made more type 9 errors (3.54) than did the i.t.a. 2nd graders (2.0) and the 7th grade made more than the 6th. Still, the average of the two large groups differed by only .02 of an error.

*Reversals.* Only one other error occurred often enough to warrant much discussion. These errors were the result of reversals or metathesis. The simplest type of error and the one that occurred mostly at the primary level, was one in which the letter itself was reversed. These errors disappeared when the children ceased to use manuscript. The most common error occurred when the child recorded the right letters, but put them in reversed or scrambled order. This type error could involve two or more letters or two or more syllables. The errors ranged from *fomr* for *form* and *prilavig* for *privilege.* One very common occurrence was the error of reversing the order of an *e* and an *r* in words. Words containing *er* were written *re* and vice versa. *Secretary* became *secertary* many times and *perhaps* often appeared as *prehaps.* One of the most common reversals of all was the *eir* of *their* which was changed to *ier.* Another was that of puting the *i* of *business* before the *s (bussness).* Also occurring frequently was reversing the letters of the digraph *oi* in *point* and *disappoint.*

The remaining three types of errors constituted a comparatively small portion of the total errors. Type 2 errors, ones in which a child added an ending or deleted one, occurred only 85 times in all, with the T.O. students making 54 and the i.t.a. students making 31. The number of type 4 errors was almost the same. 90 instances in which a child substituted a different word were recorded, 56 times for the T.O. children and 34 times for the i.t.a. children. A somewhat larger group failed to record *anything* for the word *called*. The T.O. children left 74 spaces blank and the i.t.a. students failed to write anything in 47 spaces.

## Results

After the data had been analyzed and all *t* tests calculated, the hypotheses were tested with the result that all five hypotheses (see page 2) were rejected because:

1. There was a significant difference in the reading scores of children taught to read via Pitman's i.t.a. and those taught via T.O. It was found that the i.t.a. children scored significantly higher than the T.O. children.

2. There was a significant difference in the spelling scores by both S.R.A. Achievement test and the Morrison-McCall Spelling Scale. The i.t.a. children were found to be significantly higher than those of the T.O. groups at grade 4 and for the whole group, and the i.t.a. scores were significantly higher at grades 2, 7 and for the total group on the Morrison-McCall Spelling Scale.

3. There was a significant difference between spelling scores of children taught to read via T.O. and the National norms. The T.O. students scored significantly higher at grades 2 and 3 on the S.R.A. test, and significantly lower at grades 4 and 6 and for the whole group on the Morrison-McCall test.

4. There was a significant difference between the spelling scores of the i.t.a. children and the National norms. The i.t.a. students were significantly higher at grades 2, 3 and for the whole group on the S.R.A. test; and they were significantly higher at grades 2 and 3 and significantly lower at grade 6 on the Morrison-McCall test.

5. There was a significant difference in the number of spelling errors of the two groups. Of the 9 types of errors, the T.O. students made significantly more errors of types 4, 5 and 7 and more total errors in spelling.

## Chapter 5: Summary, Conclusion and Recommendations Summary

The purpose of this study was to gain information as to whether the medium of reading instruction had any measurable effect on the reading and spelling skills of elementary school children. The sample studied was made up of two groups, one of which had learned to read using the conventional English alphabet while the other group had been taught with an augmented alphabet, namely, Pitman's Initial Teaching Alphabet.

Each large group consisted of 226 paired students in grades 2 thru 7.

The group scores from a standardized reading test and two standardized spelling tests were compared to each other and to the National norms. These comparisons were made by grade level and for the total group. Also, all spelling errors made by the students were classified as to type and the errors of the two groups were compared. All differences were subjected to a *t* test for matched pairs. The results of the several tests indicated that:

1. The i.t.a. group scores were significantly higher than the T.O. group scores on the S.R.A. reading subtest.
2. The T.O. students' reading scores were not significantly different as a group than the National norms.
3. The i.t.a. group reading scores were significantly higher than the National norms.
4. The i.t.a. group scores were significantly higher on the S.R.A. spelling subtest than were the T.O. group scores.
5. The T.O. group scores were not significantly higher than National norms on the S.R.A. spelling subtest.
6. The i.t.a. group scores were significantly higher than the T.O. group scores on the Morrison-McCall Spelling test.
7. The T.O. group scores were significantly lower than National norms on the Morrison-McCall spelling test.
8. The i.t.a. group scores were not significantly different than the National norms on the Morrison-McCall spelling test.
9. When spelling errors of the two groups were compared, the results showed that the T.O. group made significantly more spelling errors than did the i.t.a. students.

### Conclusions

Pitman's Initial Teaching Alphabet appeared to be an effective medium for teaching reading to first grade children. In the group studied, the findings indicated that students did better on reading tests after having learned to read with an initial teaching alphabet than those who had learned to read with the regular alphabet. The i.t.a. students also did significantly better than the National norms.

It appeared also that, rather than causing the children to have spelling difficulties as some critics had predicted, those who had experienced initial instruction with the artificial orthography spelled significantly better than did their T.O. counterparts on two standardized spelling tests. The i.t.a. group also scored significantly higher than National norms on the S.R.A. tests.

There also appeared to be a definite difference in the kinds of errors made by the two groups of students. Since the only kind of error in which the i.t.a. students exceeded those of the T.O. students

was that of spelling words a *phonetically possible way,* and as the T.O. students made 312 nonsense spellings for every 2 made by the i.t.a. students, it would seem to indicate less security in the T.O. group, where spelling generalizations are concerned. It appeared that the T.O. students tended to depend more on memory of the total word and less on the sound-symbol relationship. This belief was further reinforced by the fact that the T.O. students made considerably more errors that consisted of using too few letters to represent the sounds needed to reproduce the word dictated.

## Recommendations

The scope of this study was limited as the group studied was small. The results were enlightening and seemed to suggest that the medium of reading instruction can have an effect on the reading and spelling skills of children learning to read. A more controlled study, one in which the mediums differed but the *materials* were the same, would tend to eliminate or at least lessen the possibilities of extraneous factors effecting the outcome.

Since, in the findings, there was an indication that the lower grade level children tended to be better readers and spellers than the National norms, while the differences dropped off in the middle grades, it would appear that valuable information could be gained by longitudinal studies designed to ascertain if indeed all 2nd, 3rd, and 4th grade groups at Lumberton School exceed the National norms to a greater extent than the children at higher levels and then lose this advantage, or if perhaps these particular groups happened to be more able than those at the upper levels studied.

Early in the study, when the unmatched I.Q. scores of the total population (over 750 students) were compared, at every grade level the i.t.a. students' mean I.Q. was higher than the T.O. students', in one instance by more than five I.Q. points. This information gave rise to a question: could it be possible that chance alone accounted for these differences or could the medium of instruction have anything to do with how well a child did on an I.Q. test? A study in which children's I.Q.'s were tested prior to and after their learning to read might give some valuable insight into this question.

Since the same type of misspellings occurred to a greater or lesser degree in both groups, further study of the anatomy of misspelled words would go far to aid in the task of designing a spelling program that would help children to become better spellers.

Another possibility that the present study suggested would be one in which the spellings of children were compared, not when the children were spelling dictated words, but when they were writing independently. Such a study would be difficult to design, but might give more practical information since the object of spelling instruction is not to spell words in isolation, but to prepare the student to record the language correctly.

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*[Spelling Reform Anthology §3.1 pp40,41 in the printed version]*
*[Spelling Progress Bulletin Winter 1974 pp15,16 in the printed version]*

## 3. Viewpoints II, by Emmett Albert Betts, Ph.D., L.L.D.*

*Research Prof., Graduate School Adjunct Prof. of Psychology, Univ. of Miami, Coral Gables, Fla.

This Viewpoints column is written to call attention to the diversity of opinions regarding spelling reform, to some of the basic issues of spelling reform, and to experimental studies of spelling and related factors.

In fruitful discussions of spelling reform, there is a need to distinguish between two types of reform: an initial learning medium for beginners in reading, and all-out spelling reform for permanent use. During the 1960's, Sir James Pitman introduced an opening wedge to spelling reform via his Augmented Roman Alphabet, later called Initial Teaching Alphabet, or simply i.t.a. As a result of introducing this concept, the reading establishment is gradually becoming sensitive or allergic, as the case may be, to the need for at least a reformed spelling for beginners in reading.

Spelling reform even for beginners in reading is an anathema to many political leaders in the reading establishment. But in fact, our growing correspondence indicates that pressure against the establishment is developing at the grassroots – in the classroom. This pressure from "below," where the action really is, gives impetus to spelling reform and is to be encouraged.

In 1969, George Riemer, a professional free-lance writer and protagonist of Pitman's i.t.a., endorsed i.t.a. altho "it isn't perfect":
"i.t.a. is a compromise of logic and realism, for its solution is a limited-time alphabet reform for the sake of beginning learners. It balances the sound-symbol relationship by fixing temporary extensions to our traditional alphabet. The result is a consistent, logical spelling. i.t.a. uses no symbols which don't carry their own sound – no silent letters. It requires seventeen spellings for all vowel phonic facts. And that, i.t.a. isn't perfect. Some inconsistency has been built into it to help the child be ready for his transition to the regular alphabet." (Riemer, George. *How They Murdered the Second "R"*. New York: W. W. Norton & Co., p.81.)

In 1961, the eminent educational psychologist (and psycholinguist) John B. Carroll stated the relationship between the "confusing" English alphabet and reading disabilities:
"Like most languages of the world (the exceptions are chiefly the Oriental languages, Chinese, Japanese, and Korean), English has an alphabetic writing system. The letters (or clusters of letters) in a word, read from left to right, show a rather high degree of correspondence with the sounds of the spoken word. The correspondence is not as exact as it could be; indeed, there are few if any languages where the discrepancies between written symbols and the corresponding sounds are as many and as confusing as they are in English. This characteristic of English orthography is probably a contributing factor to the rather large amount of difficulty in the learning of reading that has been experienced in all English-speaking countries. Although the evidence is none too clear because of the many extraneous social, educational, religious, and other factors that may also be present, there is a possibility that incidence of reading disability is correlated with the complexity of orthographic system in a language . . ." (Carroll, John B. Chapter 13, "Research on Reading and It's Teaching," *Educational Psychology and Educational Research*. Harvard University, Sept., 1961. (unpublished draft.), p.13-16.
In short, Dr. Carroll has certainly endorsed a revised initial learning medium as well as spelling reform.

In 1957, Dr. Ernest Horn who was eminent in elementary education, summarised a life-time of crucial investigations of spelling and *learning* to spell:
"When the evidence, on both the consistency and the irregularities of English spelling, is critically and realistically assessed, little justification is found for the claim that pupils can arrive deductively at the spelling of most words they can pronounce." (Horn, Ernest. "Phonetics and Spelling," *Elementary School Journal*, v. LVII, (May, 1957) pp.424-32.)

From the first two editions of Viewpoints, it appears that educators, psychologists, linguists, and journalists make the need for spelling reform "crystal clear." At this juncture, there is need for scholars in these and cognate disciplines to pool their energies in one gigantic interdisciplinary effort which cannot be denied by the reading establishment.

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*[Spelling Progress Bulletin Winter 1974 pp16,17 in the printed version]*

## 4. Reading: Linguistic Guidelines, by Emmett A. Betts, Ph.D, LL.D.*

*Reprinted from *Elementary English,* Sept. 1974. Copyright 1974 by the National Council of Teachers of English.

In 1933, Leonard Bloomfield's *Language,* a revised version of the 1914 *Introduction to the Study of Language,* presented structural linguistics to academic America. This unique contribution has influenced not only the direction of the study of language but also the teaching of speech, grammar, and reading.

Thirty years later, the publication of Fries' *Linguistics and Reading* (1962) followed by Le Fevre's *Linguistics and the Teaching of Reading* (1964) directed attention to the phonemic basis of word perception and the intonation basis of both word perception and comprehension. These and other publications by linguists reflected in varying degrees Bloomfield's criticisms of reading instruction and his emphasis on regular spellings in beginning reading materials.

Altho the relationships of phonemics, morphemics, and syntax to reading were not new to a few dedicated scholars, some educators with a messianic urge lined up behind the prestigious banner of linguistics and pursued this "innovation" with extreme unction. Satisfied with terminal inexactitude, they (1) talked about *the* linguistic approach, (2) overemphasized the regularity of English orthography, (3) elevated the triad of relatively consistent vowel rules to the status of spelling patterns (e.g., *hot-hop, came-game, eat-cheap*), (4) became preoccupied with either phonemics or intonation to the exclusion of the other, (5) adopted a superficial notion of reading as a simple process of decoding writing into speech, and (6) espoused programs in need of sound learning theory.

Undoubtedly some of the penumbral gloom of linguistics and reading derives from different viewpoints of linguists, reading specialists, psychologists, philologists, philosophers, social scientists, anthropologists, information theorists, semanticists, orthographers, logicians, acoustic physicists, and others interested in this medium of communication. These scholars tend (1) to restrict their views to the problems in their own discipline, (2) to use special terminology which uncritically interpreted may produce mutual misunderstandings, (3) to commit themselves to one school of thought in their own field, and (4) to entertain simplistic notions regarding the stepchild called reading.

Teachers are concerned with three facets of instruction: motivation, perception, and thinking. The last two facets deal with language structure related to orthography, cognitive structure, different categories of meaning, regional speech and sub-dialects, and sub-dialects, and communication in general.

Hence, they have a unique package of profound, multi-faceted questions which require moderate alternative answers for evolving quality instruction. In short, reading specialists make use of relevant yields from diverse researches on verbal behavior – with reading processes which include, but transend, linguistic processes.

**Linguistics: Applied Values**

Dedicated scholars, exercising a voice of responsibility in reading instruction, have continued to ask rewarding questions about the contributions of different linguists.

Contributions of linguists to reading instruction include:

1. A growing awareness of a need for courses in phonemics and grammar as one set of prerequisites for a course on reading methodology. (These prerequisites are complementary to prerequisite psychology courses dealing with learning theory, perception, and thinking.)
2. A description of language – its phonemic grammatical aspects – an essential but not an all-inclusive basis for understanding reading processes.
3. Concepts for studying language development and assessing achievement in the use of language.
4. A distinction between the language code (speech sounds or the graphemes representing these sounds) and the message. (But this dichotomy, involving the assigned role of meaning in a theory, can be a psychological trap in a rationale for reading instruction.)
5. An approach to (a) the assessment of linguistic prerequisites (e.g., speech production and grammar) for beginning reading instruction and (b) differentiation of instruction to insure preparation for initial reading.
6. A systematic approach to the study of the relationships between phonemes and graphemes as one facet of the perceptual process. (Studies of this orthographic dimension of reading instruction have spotlighted the futility of applying phonic rules to the host of irregularly spelled words in beginning reading – e.g., *you*, *come, who, said* – and the need to validate an initial learning alphabet.)
7. Phonemic concepts for developing an initial teaching medium-an augmented alphabet (e.g., i.t.a.), spellings using the Roman alphabet (e.g., Godfrey Dewey's *World English),* diacritical markings (e.g., Edward Fry's DMS).
8. An impetus to the study of the discriminability and perceptual liabilities and assets of different alphabets for initial reading instruction, as one approach to reducing what Bloomfield called the "graphic eccentricities" of writing.
9. A reduction of "noise" in the teaching of word perception skills via understandings of regional speech.
10. An intonational basis for teaching word-perception skills and comprehension.
11. An expansion of the concept to context clues- semantic structure vis-a-vis linguistic structure.
12. An essential contrast of structural meaning with referential meaning, fundamental to teaching, word-perception skills and reading by structures (cognitive structures shaped by linguistic structures).
13. An approach to the study of and accommodation to the language of culturally different individuals.
14. A linguistic dimension to formulas for estimating the readability of instruction materials.
15. A step forward to the evaluation of the concept that linguistics is fundamental to the theory of thinking – of Benjamin Whorf's concept of "linguistic relativity." (Thinking is relative to the language learned.)
16. New insight regarding the investigation of reading disabilities caused by brain lesion (dyslexia), especially syntactic aphasia.
17. Theoretical constructs for research on learning to read as one facet of language development.

18. New concepts for researching the reading processes of reading achievers: e.g., the influence of syntactic structure on fixation pauses, eye-voice span, regressive movements, word perception, etc.
19. Theoretical constructs which facilitate an interdisciplinary approach to research on the reading process, particularly for a psycholinguistic approach.
20. An increasing amount of significant research on the learning of phoneme-grapheme relationships, conducted by psycholinguists in cooperation with teams of scholars including linguists and paralinguists. (Note: the process of reading by structures at the grammar-cognition level has received less attention.)

**Bases of Reading instruction**

Linguistics, psychology, sociology – all offer guidelines to the escalation of reading instruction. This discussion deals with one of the bases of reading instruction: linguistics.

One, but only one, of the prerequisites to understanding word-perception in reading is a "working" knowledge of phonemics (significant sounds of speech) and grammar.

A streamlined course in phonemics relevant to the needs of teachers permits an understanding of speech sounds related to spellings, syllable stress, and phrase stress plus a healthy respect for *different* dialects. Equally important is a "working" knowledge of grammar, especially of intonation, as the keystone of "grammar and reading.

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*[Spelling Reform Anthology §4.2 pp58,59 in the printed version]*
*[Spelling Progress Bulletin Winter 1974 pp17,18 in the printed version]*
[Green s,h in Arabic words should have a dot below the letter.]

## 5. Book Review, by Ismail K. Poonawala, Ph.D.*

***Near Eastern Languages, UCLA, Los Angeles, Ca.**

**Tarazī, Fu'ād: *Fī sabīl taysīr al-'Arabīya wa tahdītihā***
**<Toward Simplification and Modernization of Arabic>**
**pp. 152. Beirut, Lebanon, 1973.**

Much ink has been shed on the problems and proposals for reform of Arabic over the past few decades. [1] The need for linguistic reform is widely accepted, however the approaches and ways and means to achieve it differ profoundly. The advocates of reform could be classified into two main groups: first, those who advocate the revival of Arabic in its classical form preserving its integrity in conformity with the past tradition and literary heritage; second, those who advocate reform from the standpoint of modern exigencies without consideration of its past history. Proposals for sweeping reform of the script and adoption of colloquial over the written standard Arabic have also been forwarded by the latter group.

In order to understand the problems involved in implementing any reform, one has to comprehend the significance and place of Arabic in the modern Arab-Muslim society. Arabic developed from humble beginnings and became one of the great universal languages such as Greek and Latin. It has a very rich literary heritage and the sacred character of the revealed book, Koran, places it in a special category. It is the language of prayer for the Muslims, both Arabs and non-Arabs. Arabic and Islam constituted the major bonds of kinship among the people stretched from Spain to the Indian sub-continent. The written language has remained common to all Arabic speaking countries in spite of different spoken dialects in different countries. Thus, Arabic played a unifying role and contributed greatly to cultural unity and continuity in the Islamic world. The language is also the mainstay of contemporary Arab nationalism. The problem of reform, therefore, is pregnant with far-reaching consequences. This is the reason why this debate still continues without bearing any fruit.

The book under review is one of the recent works on the subject. In his brief introduction, the author points to the fact that there exists a disparity between the written (fushā) and the spoken ('āmmīya) language. Hence, efforts should be made to bridge the gap and eliminate the linguistic dichotomy by simplification of the written language before the local dialects would encroach on it. Next, the principles of reform are outlined as follows:

1. Need to reconcile the ancient Arabic philology with modern linguistics.
2. Need to get rid of the effects of olden dialects on grammar and lexicography.
3. Need to make away with divergent views on one grammatical problem.
4. Need to abandon the linguistic anomalies and to make it possible to employ deduction by analogy.
5. Need for spelling reform so that the written would conform to the spoken.

The above principles are applied to three specific areas of reform: grammar, lexicography, and orthography. More than two thirds of the book consists of proposals to simplify the grammar. The main thrust of the author's argument is that the complexities of Arabic grammar arose as a result of different dialects and over concern of the grammarians to record the linguistic anomalies and their obsession with the principle of *'awāmil* (word governing another word in syntactical regimen). There is some truth in the above argument, but it is not the whole truth. Time and space do not permit us to go into the details, therefore, summary of the main proposals is attempted below:

**Grammar:**

1. Certain nouns that could be read in two or more ways, such as *jabd* or *juhd,* only one reading should be adopted.
2. Instead of two forms of the dual: *āni* for the nominative case and *ayni* for the accusative and genitive cases, only the latter should be adopted for all the three cases.
3. There are five forms of plural:
    i. masculine sound plural with the ending *ūna* for the nominative case,
    ii. masculine sound plural with the ending īna for both the accusative and genitive cases, iii. feminine sound plural with the ending *ātun* for the nominative case,
    iv. feminine sound plural with the ending *ātin* for the accusative and genitive cases,
    v. broken plural with three case endings or two when it is a diptote. Instead of these five forms, only two, numbers ii and iii, should be adopted for all the three cases by reading the last letter as silent (vowelless).
4. Some of the derived forms of the trilateral verb no longer in use should be dropped.
5. Certain verbs, either in perfect or imperfect tenses, that could be read with two different vowels on the middle radical, only one reading should be adopted.
6. The imperfect tense has three cases:
    i. with *damma* for the indicative mood in the nominative case,
    ii. with *fatha* for the subjunctive mood in the accusative,
    iii. with *sukūn* for the jussive mood in the vowelless final consonant. The latter case ending should be adopted for all the cases and moods.
7. The complex and difficult phenomenon of different case endings should be eliminated by adopting the silent reading of the final consonant.

**Lexicography:**

Most of the proposals presented in the book deal with the compilation of a new lexicography that would serve the need of modern times. The coining of scientific and technical terminology should be handled by joint academies of various Arab countries rather than disjointed endeavors of some individuals or one country.

**Orthography and the spelling reform:**

The short vowels in Arabic *(damma=u, fatha=a, kasra=i)* are written outside the word. Hence, a non-vocalized word could be read in various ways, for example *k-t-b* could be read as: *kataba, kutiba, kutubun, kattaba, etc.* This phenomenon presents some difficulty to the reader because he will not be able to read correctly unless he understands what he reads. Dr. Tarazī, therefore, proposes to use the letters *alif, wāw,* and *yā'* (they are used for long vowels and written within the word) for short vowels and the same letters with a macron over them for long vowels.

The form of Arabic alphabets vary according to whether the letter is isolated, initial, medial, or final in a given word context, although the letter has a simple basic form. Thus, besides one basic isolated form, there are three additional forms when a letter is joined either to the succeeding letters, or the preceding letter. The author proposes that either the initial form or a new system of unified alphabets be adopted to simplify the script.

Some letters in Arabic are written without being pronounced while others are pronounced differently than the way they are written. In order that the written word would conform to the spoken, the author proposes some spelling reforms, for example *hādhā* should be spelled with *alif* after *hā',* and the *alif* at the end of third person masculine plural form in the perfect tense should be dropped. Moreover, Arabic lacks symbols for certain sounds, such as *p, v, g,* so they should be added to the script,

Disconcertingly, there are numerous typographical errors in the book. In conclusion, it should be stated that any reform which does not affect the spirit of the language and its integrity should be welcomed.

[1] For listing of articles, especially in the Western languages, cf. J. Pearson, *Index Islamicus,* Cambridge, 1958-, under the heading "Arabic language and literature." Anwar Chejne, "Arabic: its significance and place in Arab-Muslim society," *Middle East journal,* XIX,/4, 1965, p. 447-70; idem, "Arabic: problems and proposals for reform," *Studies in Islam,* II/4, 1965, p. 195-227. The latter article sums up various proposals put forth by their advocates and contains a good bibliography.

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*[Spelling Progress Bulletin Winter 1974 p18 in the printed version]*

## 6. Book Review by Newell W. Tune

**The Letter Breakdown. Dobrauz, John W.**
**Exposition Press, 1974. pp. 126. $6.00.**

This unusual book is variously described as a spelling aid, a vocabulary builder, a source for cross-word puzzle writers, a code book, a means for analyzing English spelling, and a fun toy for English spelling teachers. Actually it is a listing of actual and possible English words by means of their initial, first two, and three letters. The *Letter Breakdown* exposes the intricate mechanisms of the English language as its alphabet is formed into meaningful units. It is of interest to educators because it shows the letter combinations which must follow any initial letter in English. Conversely, it also shows, by blank spaces, impossible letter combinations of English.

Mr. Dobrauz' technique is educational, interesting, and has a multitude of uses for the blue- and white-collar worker, readers of fiction and non-fiction, cryptographers, puzzlers and puzzle makers, as well as teachers of spelling.

Dobrauz tackles word formation in an orderly manner so that the research worker in philology can work systematically. His compilation makes an interesting toy of the anomalies of English spelling and hence the book becomes a useful tool for word merchants, writers, and many others who need to use words as building units. The author, with his remarkable insight to the English language, has taken it by the roots and has solved the greatest puzzle of all! – how to bring order and system to the chaos of English spelling. We are presented with a visual pleasure – our language is revealed with a new and delightful simplicity. Yet this book is in no way a plan or a means of spelling reform. It merely organizes spelling into an orderly arrangement.

*The Letter Breakdown* will help readers of all ages and walks of life to increase their vocabulary, and develop their spelling skills. Its gift is a greater facility in the English language who read it.

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Spelling is learning all the inconsistencies English wouldn't have if it was written phonetically. Performance is as much a matter of persistence, practice, and patience as it is of perfection. Determination regards a failure as only a step on the road to success. N. Tune.

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*[Spelling Progress Bulletin Winter 1974 pp19,20 in the printed version]*

## 7. Our Readers Write Us

### The distinction between a writing system and a reading system

**Dear Editor:** **Sir James Pitman**

The article in your Summer issue by W. Nelson Francis is so full of the old hoard errors, from which it has been hoped that reformers had come to be relieved, that correction of at least the most important is called for, lest he be allowed "to corrupt the youth."

Very early on he denies that "meaning can be derived directly from the printed page." He must be wrong. How else does a reader, totally deaf from birth, obtain information from what he reads? How, too, are the readers of Chinese print, (although speaking languages differing as greatly from one another as French differs from English), able to share the same morning newspaper while unable to converse with one another?

He then further shows his confusion of mind by failing to make the distinction between a *writing* system and a *reading* system. Moreover, while asserting that "to the extent a writing system departs from a one-to-one grapheme-to-phoneme relationship, it is an imperfect one," (which is very true), and proceeds to argue from this that a reading system (which is quite different) is imperfect if it so departs; whereas a reading system cannot escape from the requirement to depart. The beginner learning to read will pronounce in his own pronunciation (the words he succeeds in reading) because inescapably he is habituated to employ his own regional, his familiar and even his own idiosyncratic diaphones and will, because it is a reading system, understand what he reads, notwithstanding that the reading system suits well also those who will pronounce it differently.

It is only the reader of a pronouncing dictionary of a phonetic transcription who is required to pronounce what he reads in the one particular set of conventions peculiar to the writing system in which it has been written – a writing system which can comprehend no diaphonic variance. In such transcription he may read out loud with no understanding whatever of what he has read and is speaking, and even with no knowledge whatever of the language to which that writing system has been applied.

So John Hart, the Chester Herald of England in the 16th Century, astonished his Welsh speaking neighbors by reading to a congregation the Bible in Welsh though totally ignorant of the Welsh language.

A reading system however, such as Chinese, our traditional orthography (T.O.), i.t.a., les formes imprimées traditionelles of the French language, is dependent upon the language, its meaning, and context, rather than upon the phonetic decisions of any editor or inventor of a writing system.

Moreover, a writing system, being designed to teach pronunciation, needs a key of reference either from the teacher's speech, or from an already prepared tape, or from a table. A writing system is thus useless without one or more of these, whereas a reading system needs none of these since its purpose is no more than to trigger off by reference to meaning recognition of syllables and words already in the spoken vocabulary of the reader.

Yours faithfully,
James Pitman, London, England.

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**"Initial Teaching Alphabet 100 Years Ago"**

The Editor, *Elementary School Journal,* Sir James Pitman
University of Chicago Press, Chicago, U.S.A.

Dear Sir:
It appears from the article "Initial Teaching Alphabet 100 Years Ago" in your February issue, that Messrs. Paul Travers and Wallace Z. Ramsey have written on their subject after no better than superficial study.

In the first place they say nothing about Stephen Pearl Andrews and his importation to Boston in 1845 of the type of my grand-father Isaac Pitman's "Phonotypy," nor of the evidence of the large scale and most successful experiment with it in 10 schools in Waltham, Mass. between 1852 and 1862. This demonstration of the confusion caused by our traditional orthography (T.O.) to learning children not only ante-dated Edwin Leigh's also very convincing demonstration in St. Louis from 1866 but was the inspiration and stimulus for Leigh's imitation.

Secondly, the authors give the impression that the idea of eliminating the confusions inherent in our traditional orthography (T.O.) originated only 100 years ago and in America. If they had read only Chapter 6 ("Four Centuries of Spelling and Alphabet Reform")in my book "*Alphabets and Reading"* they would not have made such a bad mistake, even in American educational history. (Surely Benjamin Franklin's alphabet of 1768 was worth a mention?) Nor would they have failed to appreciate that the idea started in England, even long before the Pilgrim fathers settled in America – in 1568.

Furthermore they have misled your readers in their beliefs as to the reasons for the rejection of the evidence that T.O. is confusing and that an initial learning medium – indeed any i.l.m. – can greatly help learners when they first begin.

It was not the departure of William T. Harris as School Superintendent at St. Louis to become after all later the continuing great advocate of Edwin Leigh's alphabet in his new and stronger position as Commissioner of Education at Washington. Nor was it Leigh's death. Rather was it as always the emotional irrationality of the ignorant who do not wish to study the evidence and are not willing to accept it even if they do. The emotional irrationality and the ignorance were the same also at Waltham and at Cincinnati where Ben Pitman, Isaac Pitman's younger brother had supplanted T.O. with another systematic initial learning medium – and with the same outstanding improvement and demonstration that T.O. is damaging to young children by its many confusions.

It was in different but relatable cases that the same irrationality of the ignorant rejected the evidences of Gallileo, Joseph Lister, and Marie Curie in the fields of astronomy, antiseptics, and physics and is still at work today among educationalists who continue to support T.O. even though several millions of young beginners have proved beyond peradventure what over 80 reputable researches have consistently shown that it is the confusions inherent in our T.O. which hold all beginners back and cause failure for a deplorably large proportion of the beginners of each age group as they come along.

Any Superintendent or Principal who really wishes to obtain the successes in his schools which so delighted Harris and the principals, teachers and parents in St. Louis, Waltham and Cincinnati should write to Dr. John Henry Martin, Executive Director, the I.T.A. Foundation, 52 Vanderbilt Ave, New York City, 10017 and express his sincerity in seeking to help the children and teachers under his care in those early months in which success is so important. There is a plentiful supply of materials and it is a pleasure for all concerned to escape from the old rut of failure – or of success acquired only after long effort They only have to enquire and they will be told the why and how.
Yours faithfully, James Pitman.

**Work with the United Nations**

**Dr. Robert W. C. Brown** **Harvie Barnard**
Unitarian Universalist U.N. Office, R. 70,
777 United Nations Plaza,
New York, N. Y. 10017.

Dear Dr. Brown:

I have been referred to you by my friend Jane A. Raible of the Unitarian Church of Tacoma.

This letter relates to our mutual interest in improved international communications, which I understand is one of the fundamental purposes of the United Nations. In this regard it is apparent that an increasing number of students and professors of language, linguistics, believe that a significant forward step for improved worldwide understanding would be the establishment of English, – appropriately modified, – as an International Language.

Altho this approach may have been proposed previously, most of the suggestions have been in the nature of research papers, scholarly essays, and perhaps more idealistic than practical proposals. Tho basically sound and generally logical, such suggestions and theses have been so academically oriented as to go beyond the comprehension of most students and many teachers.

As a consequence of the academic nature of these publications, the vital importance of logical linguistics in the development of an appropriately modified, – and simplified, International English, has not gained the attention it deserves in UNESCO or in our circles of higher learning. Therefore there exists a great gap between "grass roots" teaching-and-learning and those "upper tier" educators whose pronouncements of what is best for education are often based upon something other than practical experience and down-to-earth conceptions of what the problems really are.

As an initial step in acquainting you with this problem, I am enclosing for your thotful consideration a rather unusual piece of work describing the experiences of a teacher working with illiterate delinquents, reporting in strait-forward, non-academic language what the problems were, and how they were met.

If you will be kind enuf to give this article your time and serious consideration, I will appreciate hearing from you further. And if you are interested, it is possible that this subject of a suitably modified English language could be extended into an acceptable International English, which would provide an improved means of international communication for all of us concerned with UNESCO and improved international understanding.

Yours very sincerely,
Harvie Barnard, Tacoma, Wn.

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*[Spelling Reform Anthology §12.6 p17 in the printed version 5]*
*[Spelling Progress Bulletin Winter 1974 p20 in the printed version]*

# Our Readers Write Us

## Planning a new fonetic alfabet

**Barnett Russell, M.D.** **Newell T. Tune**
Plainview, N.Y.

Dear Dr. Russell:

In planning eny scheme of spelling reform, it is much more than merely matching each of the 40 or more sounds of English speech to a distinctive symbol(either a single letter or digraf), so as to produce a one-sound-one-symbol system. Enyone with an eight year old mind can put 40 symbols into a hat, and draw out one at a time to represent each sound as it is mentioned – and some of them look just as if that was how the system was made. Some bear little resemblance to our regular spelling. So then, it becomes as much a matter of judgement as it is a knowledge of phonetics and sounds of English speech. Every newly designed system must consider all these qualifications for the use of every symbol (letter or digraf); and I consider their importance in this order: 1. phoneticness, 2. simplicity, 3. ease of learning, 4. freedom from confusion with T.O., 5. nearness to T.O. (the principle of least disturbance of the regular parts of English spelling). As you can see, I consider this (5th) as the least important of the several considerations. Why?; because on reflection a logical mind will see that all the others are obviously very important.

Since eny one-sound-one-symbol is fonetic if it has no exceptions, rule no. 1 is easily followed (conformed).

In our questionnaire, the large majority of answerers gave no. 2 the next priority in importance. From this it follows logically that Ease of learning is next in importance, and regularity of pattern is the best aid to remembering; hence it is very important in teaching. Next it is logical to assume that confusion is the greatest obstacle to learning and hence freedom from confusion is our next most important goal.

Are there eny other conditions that affect ease of learning? If so, they should be inserted here before we consider the importance of nearness to T.O., for we can only accept those parts of T.O. that conform with our previously decided rules or priorities. That is why we cannot blindly accept frequency of use in T.O. as an important means of selecting a symbol to represent an English speech sound. Our T.O. was derived as a conglomeration of words from meny other languages. Often their spellings are in conflict with each other, hence some good judgement must be used to decide which of several sounds are to be given to a certain digraf, for instance: ai, or whether because of its meny sounds, it should be used at all. Shall it be as in: *main, mountain, plaid, said* or *Britain?* Or should we refuse to use it at all because whatever sound we try to establish for it will cause confusion because of its present 5 different frequently used associations? I think the latter is wisest, not only because of the confusion that would result with T.O. if *ai* were used at all but because it cannot fit in with a regular pattern for vowel symbols.

Remember that each suggested symbol must be tested by these 5 rules before it can provisionally be accepted. Then as others are accepted, each has a bearing on the previously accepted symbols and must pass a test of compatibility with the system as a whole. Sometimes further adjustments must be made in the interest of compatibility.

We must use the single vowel letters for the short vowels as in: *that, pen, is, not, much* because they

all occur more frequently than do the corresponding long vowel sounds. So we are forced to use digrafs for the long vowel sounds. Since *ee* is by far the most frequent symbol for long-e (see SPB March. 1963), it must be used for this sound. For the rest of the discussion, see the same reference.

The discussion ends up by showing that the most logical system is this: Mae, see, thie, toe, Tuesdae, noon; and faather, shuud, haul, our, oil, urlier. (plus the aforementioned mnemonic: *that pen is not much).* As you will see by comparison, this is principally World English (altho a few additional combinations are also given for special situations.

You are quite right in saying that "unlearning a word once learned incorrectly is more difficult than learning a spelling in the first place." That is why Sir James Pitman emphasized the ease of transition most of all, in designing his initial teaching alfabet, and its system of spelling. (which by the way, is not strictly fonetic, but is weighted by several rules keeping as near as possible to T.O.)

I am glad that you agree that our goal should be a one time reform with a date set for its introduction in the schools preceeded by a period of psychological conditioning (propaganda and familiarizing) for adults. But I don't agree that WES is not likely to be the ultimate solution to the problem of spelling reform. Its simplicity, regularity, ease of learning, and freedom from confusion with T.O. put it vastly in front of other systems I've seen.

Sincerely yours,