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Research  
in  
Reading  
*at the Primary Level*

AN ANNOTATED BIBLIOGRAPHY

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## Foreword

**T**HIS BULLETIN is the first in a series of summaries of research conducted in reading from 1955 to 1960. The publication includes both published and unpublished research during the 5-year period. The published research has been compiled largely from studies reported in educational periodicals. The unpublished research was made available through a survey conducted under the auspices of the U.S. Office of Education, with the cooperation of colleges, universities, and public school systems, which furnished information on studies undertaken in the various educational institutions.

Acknowledgment is made to the members of the Subcommittee on Reading of the National Council on Research in English for their assistance in formulating plans for the project and preparing and testing the questionnaire, *Report of Research in Reading (1955-60)*.

In addition to acquainting teachers, supervisors, and administrators with recent research in reading at the primary level, this bulletin may serve as a source of information for the college teacher or student who wishes to locate areas in reading which have been investigated or which need further investigation. The research covers a wide range of topics in primary reading.

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## Introduction

**T**HE UNPUBLISHED research included in this compilation has been screened to the extent that a faculty member at each college or university selected the studies included in this bibliography.

A reviewer at each institution which participated in the project completed forms furnishing the following information: purpose of the study; hypotheses tested; design of the study including population, duration, and scope; research design; method of collecting data; controls; tests used; and method of treatment of data.

No attempt has been made to analyze the abstracts critically or to cite the specific limitations of each study. As it was impossible to gain access to the original studies, the only information available was the information furnished by the reviewer at each institution. In some cases the information reported by the reviewer was insufficient, such as the statistical techniques employed or the methods used to collect data.

The studies have been categorized according to topics. The first section of the bulletin consists of a summary of the studies in each category. The abstracts of the studies, arranged by category, appear in the second section.

## CHAPTER I. Summary of Research in the Teaching of Primary Reading

### Reading Readiness

Results of studies conducted in the past have established quite conclusively that readiness for reading is determined by a constellation of factors.

*Maggart* (13)\*, investigating techniques used in predicting readiness for reading, concluded that chronological age is not closely related to reading achievement, and that the *SRA Primary Mental Abilities Test* correlates with reading success. *Spiggle* (22) examined a readiness program in one Tennessee school and recommended that reading materials used in the first-grade curriculum be adjusted to the abilities of the children, and that all children entering first grade be 6 years of age. A pupil should reach the mental age of 6½ years before he is introduced to reading instruction, in *Williams'* (26) opinion; other factors affecting reading readiness include formal preparation in kindergarten or first grade, emotional adjustment, auditory readiness, and physical condition.

A study conducted in Orange County, Fla., by *Clark* (5) revealed a positive correlation between readiness scores and academic achievement. *Allen* (1) measured abilities found in readiness workbooks and related findings to reading achievement at the end of a half-year period of instruction in grade one. The significance of intelligence in relation to certain factors of reading readiness was the topic of two studies, one reported by *Natale* (16) and one by *McMillan* (14). *Natale* found significant relationships among intelligence and vocabulary opposites, memory span, and word discrimination. *McMillan's* study revealed relationships between intelligence and reading readiness and between intelligence and use of context. Results of intelligence tests can be used as one criterion in determining readiness for reading, according to *Stephey* (23); boys should have a longer readiness period than girls.

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\*Numbers in parentheses are keyed to references in chapter II.

*Perry* (17), in studying the most effective methods of word recognition for each of 16 beginning first-grade children by the use of readiness tests and the predictive value measured by correlation of readiness factors, found that no one method of teaching reading is best for all children, and that certain measurable readiness factors should be considered in planning a first-grade reading program. *Stewart's* (24) investigation revealed a very significant relationship between individually and group-administered reading readiness tests in the 29-pupil sample. *Collins* (6) compared use of teacher-prepared readiness materials with commercial materials and found no significant difference between them. Results of readiness tests as predictors of reading achievement were reported by *Jackall* (7) and by *Smith* (21). *Jackall* found that results of the Individual Record Check List and mental age are sufficiently correlated with success in reading to warrant their use in grouping in the first grade. According to *Smith*, three readiness tests, the *Metropolitan*, *Harrison*, and *Science Research Associates Tests*, are significant predictors of reading achievement.

*Kansora* (9) listed practices which could be followed by parents in developing reading readiness in their children. Investigating the relationship between reading readiness and speech development, *Maddax* (12) found that children with articulation errors score lower on readiness tests, that older children have fewer errors of articulation, and that the higher the child's IQ is, the fewer the articulation errors he makes.

The need for an extended reading readiness program at the kindergarten level was reported by *Johnson* (8); the initiation of such a program with attention to the interests, needs, and abilities of the children resulted in the children's preparation for experiencing success in learning to read. *Naisbitt* (15) reported that results of a readiness program in kindergarten revealed that 47 of 55 children were prepared to move on to the next level of reading.

Procedures used by first-grade teachers and problems encountered in promoting growth for initial reading were examined by *Alsup* (2). Teachers utilized research findings, but did not use intelligence test data to maximum advantage. He cited a number of problems in readiness programs.

Two groups of children, matched on sex, chronological age, IQ, and socioeconomic status, were studied for two years and tested at the end of the third year. Children in the experimental group had many types of experience before receiving reading instruction. Children in the control group were given instruction in a preprimer during the first month of the first grade. The early intensive start in reading did not

result in greater gains for the control group, for the experimental group showed slight gains over the control group, according to *Bradley* (4).

The purpose of a study conducted by *Kermoian* (11) was to determine the validity of teacher judgment of readiness status of children entering the first grade. Validity was interpreted in terms of the significance of the relationship between teachers' estimates and scores of a readiness test. *Kermoian* concluded that a classroom teacher's appraisal correlates highly and significantly with the scores of the *Metropolitan Readiness Test*.

Two types of reading readiness programs in kindergarten were studied and compared by *Blakely* and *Shadle* (8). The program of the control group was centered about the readiness workbook of a basal reader program, and that of the experimental group grew out of the children's interests, giving them freedom to participate in various activities. The investigators found that the experience-activity approach at the kindergarten level results in significantly greater readiness to read, in the case of boys, than the basal reader readiness workbook approach and that girls profit equally from either approach. Therefore, they recommended the experience-activity approach.

Reading readiness tests have been employed in many schools in an attempt to determine the most appropriate time at which formal reading instruction should be given.

The purpose of *Karlin's* (10) study was to reexamine the desirability of using existing reading readiness tests almost exclusively to measure extent of readiness. Analysis of the data in which 110 first-grade children were tested revealed that when the influences of chronological age and intelligence were removed, the relationship between reading-readiness test scores and reading achievement test scores is only .25, with a coefficient of alienation of .96. A similar study was conducted by *Powell* and *Parsley* (18), who investigated relationships of a readiness test with the results of a reading achievement test administered at the beginning of the second grade. They concluded that the readiness test was a useful instrument for predicting the general reading achievement of a total group of first-grade children, but doubted its usefulness in dividing children into reading groups.

*Russell* (20) tested the hypothesis that the *Davis-Eells Test* provides important information regarding reading readiness. Scores on the *Davis-Eells Test* proved to be significantly lower for first-grade pupils than IQ's on the *Stanford-Binet*; *Russell* concluded that the *Stanford-Binet* gives a better prediction of reading progress in the first grade than the *Davis-Eells Test*.



The extent of sex differences in the performance of beginning first-grade pupils on the *Metropolitan Readiness Test* was examined by *Prescott* (19). Test performance of the girls was somewhat superior to that of the boys.

The purpose of *Wheeler's* (25) study was to determine whether proactive and retroactive inhibition occurred in relation to words presented first as word forms only and later as meaningful words in reading material. Four groups of first-grade children were included. Five hundred seventy-four words of a given list were presented in readiness materials and 795 words not presented. *Wheeler* concluded that some inhibition was evidenced for 72.8 percent of the cases, and that for 27 percent of the children inhibition was caused by the presentation of words as word forms without name or meaning in readiness material.

### Age of Beginning Reading

The chronological age at which reading should be introduced has been the subject of studies for many years. Reading authorities generally agree that there is no specific age at which reading instruction should begin, for many factors which are involved must be considered.

The relationship of school entrance age to school achievement was investigated by *Fava* (28). Results of her study indicated that age was not a detrimental factor to the younger children and that the expected higher mental age of the older group was not always in evidence. The period of time spent in school appeared to be more important for school achievement than entrance age.

The comparative reading achievements of 58 children who entered school early or late were studied by *Hampleman* (29). Children in one group were 6 years and 3 months of age or younger at the time of school entrance. Children in the other group were 6 years and 4 months or older. Scores of reading achievement tests administered in grade six revealed that, although the differences were not statistically significant, the mean reading achievement of the older group was higher than that of the younger group.

A longitudinal study of 49 children who learned to read at home was conducted by *Durkin* (27). The reading level of children who read at 3 years of age was 2.6 at the beginning of the first grade and 1.7 for those children who learned to read at 5 years of age. At the end of the second year of school, the group who read at 3 still showed a greater achievement, but the lead was reduced by 4 months.

## Methods of Teaching Reading

The most efficient method of teaching reading has been the center of heated controversy during the past few years. Many proponents of the individualized method of teaching reading argue that children learn to read most effectively if, in the process of learning, they are allowed to select their own materials, confer with their teachers, and proceed at their individual rates of learning. On the other hand, some educators feel that certain abilities and skills can be taught more satisfactorily using a basal reader approach, and that these and supplementary materials adequately supply the needs of children who are learning to read. Current methods of teaching reading, structured to include various methods of word recognition, have been attacked by those who stress a phonic-centered method of instruction.

*Carlisle* (34) compared six matched classes, three second- and three third-grade groups, to ascertain differences in reading growth when basic and individualized methods of teaching reading are used. She found that the rate of reading growth was similar under either method of instruction. Another study comparing the two approaches was reported by *Patterson* (42). Both groups of children received both types of instruction. One group was taught using the basal reader approach for a month, and the other using the individualized approach for a month; the procedure was reversed during the following month. *Patterson* concluded that the individualized reading approach was the more desirable of the two; however, it would appear that such a conclusion might be questionable since both groups had been exposed to both types of instruction.

*Cookston* (37) examined the progress of a third-grade class using an individualized reading program for a 3-month period. Although the progress made by the pupils was favorable, it was not statistically significant, and the duration of the study was too brief to evaluate the results properly.

*Friedman* (39) listed factors which should be considered in establishing an individualized reading program: for each child a minimum of two or three books with an appropriate range of difficulty and interests; 60- to 90-minute daily class periods; individual pupil-teacher conferences of 3 to 5 minutes, and possible class discussion during the last part of the class period.

*Basting* (30) compared the "experience approach" to beginning reading (which was not clearly defined) with the procedure of using a teacher's manual accompanying a basal reader series. She found a significant difference in the number of words reproduced in favor

of the experience approach, but found no significant difference between the groups in comprehension or word recognition and meaning.

The effect of experiential background upon elaborative reading skills and general reading ability of third-grade pupils was considered by *Simmons* (43), who found no significant relationship among these factors. She stated that the influence of modern media upon experience has modified the role of firsthand experience in relation to reading.

*Batty* (31) evaluated the effectiveness of children working in pairs at the preprimer level. Pupils in the experimental group worked in pairs in preprimer workbooks, and children in the control group worked individually. *Batty* concluded that the experimental group was superior to the control group in word recognition and phonetic skills, and that team learning appeared to be a more effective method both for intelligence levels and for the sexes in developing word recognition skills.

Another study evaluating the effectiveness of paired learning on a reading program was reported by *Clapper* (35). One hundred and seven second- and third-grade students worked in pairs 4 days a week and singly on one day. *Clapper* found a statistically significant gain in word recognition for children in both grades and in paragraph reading for children in the third grade.

*Blockett* (32) examined the value of using an independent oral reading circle in teaching first-grade reading. Results of a reading test favored the experimental group, who had 20 minutes of oral reading independent of teacher direction, at the .01 level of significance indicating that such a circle could be used profitably in the improvement of reading achievement.

Audiovisual aids and booklets based on semantic principles were used in an integrated language arts program in the primary grades. *Flinton* (38) reported that pupils in the experimental groups attained higher scores on work in composition, but that there were no significant differences between students in the control group, who did not use the materials, and pupils in the experimental group in reading ability.

Teaching reading through imaginative play situations in grades one and two was the topic of a study conducted by *Conley* (36). The method appeared to be effective in strengthening learning and oral language skills and in developing social habits.

*Noskoff* (41) investigated the effect of teaching reading to first-grade children in Burbank, Calif., under the divided opening of class; one-half of the class came an hour earlier and left an hour earlier. Reading was taught the first and last hours with only one-half of the

class in session. Both experimental and control groups were used, but the size of the sample was not indicated. The experiment was conducted with entire classes, with statistical allowance for lack of equivalence made by applying an adjustment for covariance. There were no statistically significant differences between the groups on the initial test; the experimental group was significantly superior at the .01 level of confidence on the final test. *Noskoff* cautioned that the obtained gain could have been caused by variables that were impossible to control.

Techniques for teaching reading which proved useful in one third-grade class were listed by *Munsey* (40): provisions should be made to meet the needs of pupils revealed by diagnosis; child development rather than grade level should be emphasized; and a variety of materials on several grade levels should be available.

*Taylor* (46) examined articles in both popular and professional periodicals provoked by the Flesch book, *Why Johnny Can't Read*, and concluded that reading problems are not confined to the United States; neither are they solved by the use of a strictly phonetic method of instruction. Readiness activities are a vital part of the reading program.

*Sowers* (44), surveying the methods and procedures used by teachers in the primary grades in one school, found them consistent with those prescribed by authorities in the field of reading.

*Walker* (47) evaluated the rate of progress of a first-grade group using a phonetic approach in reading. Although progress ranging from adequate to good was made by the pupils, *Walker* concluded that no one method of teaching reading is sufficient for teaching all pupils.

Two methods of teaching reading were studied and compared by *Sparks and Fay* (45). The *Phonetic Keys to Reading* method was used in one school and the "Basic Reading Program" in the other. In the school using the phonetic approach, first-grade pupils were significantly superior in reading comprehension and vocabulary, and second-grade pupils were superior in reading comprehension. There were no significant differences between the third- and fourth-grade groups in the two schools; however, at the end of grade four, pupils in the school using the basic reading program appeared to be significantly superior in reading accuracy.

*Brekke* (33) identified and compared current practices in eight geographic areas in the United States in time allotments for basal and "other" reading with the optimum amounts of time recommended by reading authorities. He found that the basal reading approach is the instructional method employed by a great majority of the schools. Weekly time allotments for basal reading in the primary grades in

the areas sampled were greater than the time allotments recommended by reading authorities.

### Grouping for Reading Instruction

Grouping children for reading instruction appears to be customary practice in many schools. The specific means of grouping may vary from homogeneous or heterogeneous grouping to self-selection grouping by pupils.

*Lemley* (49), in attempting to determine whether heterogeneity in the classroom hampers progress, found that grouping by reading ability in the classroom resulted in an improved learning situation. The population consisted of 798 students in grades 1 through 6 in Reading, Pa. *Sebolt* (51) tested the relative effectiveness of solo v. multiple grouping, rotating the methods. The majority of the 31 children showed an increase in reading level and indicated approval of the program. Children were allowed to select their own reading groups in grades 1 through 4 in a study reported by *Rittenhouse* (50); with the exception of third-grade pupils, all the children gained in reading growth.

The reading achievement of first-grade pupils who worked under two plans of grouping was compared by *Bremer* (48). Under one plan children of low-readiness level were placed in separate classrooms; under the other plan children of low-readiness level remained in the regular classroom. The mean reading score of the group who remained in the classroom was significantly higher at the 5 percent level than the group placed in separate rooms.

### Reading Achievement

A number of studies concerned with reading achievement were reported during the 1955-60 period. These studies range in scope from the effect of class size upon reading achievement to the relationship between affective environmental factors and reading achievement.

*Gavel* (61) investigated levels of reading achievement at the end of grade 1 in relation to the status and growth of various word perception abilities measured earlier in the year. She found that the average reading achievement of 1,542 children in the study was above the national norm. With the elimination of needless readiness practice for pupils with high September learning rates and background abilities, an unusually high proportion of children read above third-grade level.

Investigating the relationship of standardized diagnosis to reading achievement in a third-grade class, *McGhee* (71) concluded that time is saved by diagnostic testing, for both individual and group weaknesses are apparent at the beginning of the year. The testing aided both above- and below-average groups, as gains for both were significant.

Selected teaching procedures were used by *Scott* (79) in an attempt to determine whether they would aid six second-grade pupils with reading difficulties to achieve better academic, social, and emotional development. She found that children with reading difficulties improve in academic achievement if planned programs are geared to individual levels of learning.

*Johnston* (67), in determining the effect upon learning to read of a 3-year phonics-based reading program, concluded that the phonics program in grades one and two did not appear to contribute anything beyond the reading program used previously, in which phonics were not emphasized.

The effectiveness of a planned kindergarten curriculum on scholastic achievement and social adjustment in primary grades was the subject of *McHugh's* (72) study. Such a curriculum contributed significantly to total achievement in the third grade.

*Balkus* (52), who compared reading achievement at the "primary three," or third-grade level of graded and ungraded reading programs, found that differences between the groups were negligible.

The effect of class size upon reading achievement was the subject of two studies. *Fraser* (59) attempted to discover the causes of poor reading achievement in the primary grades and to provide methods which would prevent reading failures. She found smaller groups and individualized attention preferable to a single class in the first grade: there were no significant differences in regard to class size in the second grade. *Cosby* (55) assessed the effect of class size upon first-grade reading achievement by comparing large classes, exceeding 36 pupils, with small classes of fewer than 30. A statistically significant difference favored the students in the small classes.

Selection of children for initial reading instruction in districts unable to buy reading readiness tests was the subject of *Donald Jones'* (68) study. He considered chronological age a valuable criterion to use in selecting children for readiness instruction. Children of high intelligence should be given reading instruction earlier than those of average intelligence and should be expected to have better comprehension and larger vocabularies.

*Launderville* (69) investigated the use of a listening test as a prediction of reading success and concluded that such a test can be used

to predict reading achievement as effectively as a standardized reading readiness test.

The use of a periodical in the first grade apparently does not contribute to an increase in reading skills, according to *Schmidhamer* (78), although it provides a variety of materials to use in developing various concepts, attitudes, and appreciations.

The relationship between personality and elements of academic achievement was considered in studies made by *Carter* (54) and *John Wilson* (85). *Carter* found no significant correlations between socioeconomic status or personality and reading achievement of 7-year-old children; the inclusion of personality or socioeconomic factors in multiple correlation prediction did not increase the correlation significantly over that of intelligence alone. *Wilson* examined the achievement, age, intelligence, and promotion characteristics of third-grade students who scored at or below the 10th percentile on the *California Test of Personality*. Among other things, he found that attention to academic achievement in first and second grades sufficient to produce from 30 percent to 58 percent greater efficiency than is normal in these subjects, may be beneficial to personality structure.

Selected background abilities related to first-grade reading achievement were investigated by *Nicholson* (73). Analysis by learning rate quartiles revealed that children high in learning rate were markedly higher in background skills than those who were low in learning rate; success in beginning reading rests upon prereading background skills.

Affective environmental factors in relation to first-grade children's reading achievement were explored by *Vickery* (83). Several factors were correlated with reading achievement: parents' opinions that children should not only be given freedom of choice and responsibility for their own behavior but also should be active in their social relationships; fathers' tendency toward dominance in face-to-face situations, and parents' tendency to describe themselves as self-confident. Reading achievement of boys seemed to be more closely related to affective factors than did that of girls.

Whether a difference exists between rate of growth in reading skills of children who share self-selected books with friends in a social situation and children who read independently without sharing was the subject of *Petersen's* (74) study. She concluded that the sharing of books was not significantly more effective in increasing reading skills than was independent reading.

*Tronvold* (82) compared the reading achievement of a first-grade class in Norway with one in Minnesota. The phonetic-syllable method was used in the Norwegian school, and sentence, phrase, and word

methods emphasizing comprehension were used in the Minnesota school. The two groups did not differ greatly in total achievement; the Norwegian group was superior in word recognition, and the Minnesota group, in paragraph reading.

*Burwen* (53) analyzed the relationship between school achievement and C.A. at entrance into grade one. There was no consistent tendency for any age group to have the lowest mean in spelling or in language achievement at any grade level.

In suggesting criteria for the identification of superior readers in the first grade, *Gillmore* (62) concluded that no one measuring device is adequate to measure all reading abilities and that most of the evaluation is dependent upon the teacher, who is in a position to study the child daily.

*Hoffman* (65) compared the child's reading experiences in the home with his reaction to reading instruction in school to determine his attitude toward beginning first-grade reading. A positive correlation of .765 indicated a direct relationship between the amount of reading material in the home and readiness test scores, and a correlation of .930 between interest in classroom materials and readiness test scores.

The influence of background music on reading achievement was investigated by *Hartsfield* (64). Rate of reading was found to be significant when tested with background music with a beat, with relaxing music, or without music. Comprehension was significant when tested with relaxing music, with background music with a beat, or without music.

*Dixon* (56) investigated the relationship between reading achievement and the method of teaching reading. Reading achievement of 211 children who had attended the University of Michigan elementary school was compared with that of 434 children who had attended a public school. He found that more of the children from the public school achieved a reading age of 84 months at or before the chronological age of 84 months than the children from the university school. A systematic approach to reading was employed in the public school; highly individualized instruction was given in the university school, with each child advancing at his own rate of growth. *Dixon* found that the systematic approach enabled children to learn to read early and reduced individual variation in age of learning to read, and that the informal practice pursued by the university school apparently delayed the age of beginning reading and maximized the individual variation. Since the initial difference between groups was not sustained indefinitely, he concluded that the difference in method does



not have a lasting effect and that reading can be taught successfully either way.

*Hughes and Olson* (66) analyzed evidence accumulated at the University of Michigan elementary school on a group of "late-starting" children—those having an age of beginning reading at or later than 96 months on the *Gates Primary Reading Test*. The investigators concluded that late starting in itself does not have durability through time, that late-starting children in the study were significantly less mature physically than other children, and age of beginning achievement and level of achievement at any specific time point will co-vary in direct proportion to variation in physical maturation.

*Dustin Wilson* (84) investigated the effect of kinesthetic ability upon first-grade reading and found that it had no significant effect on either success or failure.

*Schiffman* (77) found that color blindness is not a handicap to reading achievement of boys in the first grade. Informing the teacher of a supposed handicap may result in increased learning.

*Sowers* (80) examined the relationship between personality adjustment and reading achievement in a first-grade class. Although some positive correlations were found between personality and reading, no statistical analysis for chance was attempted.

*Sutton* (81) studied variations in the reading achievement of children who scored high on measures used in the kindergarten. The purposes of her study were to determine reading readiness, to observe unique traits in the maturing individual, and to discover environmental influences that tend to foster individuality and independence in reading. Analysis of the cumulative data over the 7-year period substantiated several conclusions: various attributes in an individual tend to cluster about a center of gravity in growth. Precocity and slowness in reading may be detected early in the child's development. Reading achievement is a function of total growth, and the child is his own standard. Both over- and underachievement are related to the individual's developmental design and describe temporary reactions.

The purpose of *Sartain's* (76) study was to determine whether the use of workbooks produced significant differences in reading skills and abilities. Ten classes of third-grade pupils were in the experimental and control groups. Some of the conclusions were that groups of less capable readers who used workbooks showed a significantly greater knowledge of the reading vocabulary of the unit than groups of similar capacity who did not use the workbooks; during the 4-week period neither the more capable nor the less capable readers in the experi-

mental groups achieved gains in reading comprehension that were significantly different from those of the control groups; the few pages of exercises on word analysis in the workbooks did not aid the experimental group to achieve significantly more in word analysis techniques than the control group.

The influence of visual and auditory discrimination, phonics, and mental age upon reading success of 500 children at the end of the second grade was investigated by *Harrington and Durrell* (63), who concluded that auditory and visual discrimination and phonics are important to reading achievement, but that mental age, as measured by the test used, has little influence on success in learning to read.

Interrelationships among functional phonic knowledge, reading and spelling achievement, and mental age were investigated by *Rudisill* (75). Intercorrelations between reading with spelling, reading with phonic knowledge, and spelling with phonic knowledge were significantly higher than correlation of either factor with mental age.

*Gates* (60) reported a study of sex differences in reading ability based on the test scores of 13,114 pupils. Although the usual explanation for girls' superiority in reading is that they mature earlier, *Gates* considers this unlikely, for the superiority appears to be as great in the upper grades as in the lower. The data suggest an environmental rather than an hereditary explanation; it is possible that more girls than boys pursue a kind of life in which more respect, more incentives, and more opportunities for reading appear earlier and persist longer.

*Eddings* (57) identified patterns of reading growth among pupils during six years of elementary school. Patterns of reading growth are established early in formal reading experience; there is a tendency for individuals to progress in reading in harmony with their mental ability. There is little difference between patterns of reading growth of the sexes within different reading level groups.

*Faulkner* (58) followed the achievement of first-grade pupils who had failed to progress in knowledge of letter names, consonants and blends, applied phonics, and reading achievement. With an increase in knowledge of these elements of reading, children experienced a corresponding increase in reading achievement.

*Waesthoff* (86) investigated some of the problems involved in teaching children who achieve above-grade placement. The experimental group of 340 third-grade pupils scored within the range scored by the control group of 924 fifth-graders. He found little justification for assuming that a given level of general reading ability will insure an equivalent level of competence in the more complex compre-

hension skills, in various types of work study skills, and in visual analysis skills, regardless of the amount of formal reading instruction.

*Carrithers* conducted a study reported by *Wolfson* (87) in an attempt to discover if reading patterns and reading success during children's primary years can be anticipated from an emotional classification determined during their preschool years. Emotional classifications were made by the school psychologist, social worker, and classroom teacher. Correlations significant at the .01 level were found between emotional status scores and the following: word knowledge, word discrimination, and comprehension. Children who had no emotional difficulties showed more positive attitudes toward reading.

A study concerned with oral reading performance was reported by *McCracken* (70). He recorded the oral reading performances of 36 second-grade children, who read materials below grade level and at grade level, and then compared performances of the good, average, and poor readers. He concluded that either quantitative or qualitative errors appeared to have equal discriminatory value in determining oral reading achievement. Neither qualitative errors nor comprehension seemed to discriminate between average and poor readers. Speed of oral reading appeared to discriminate among good, average, and poor readers. Wide ranges of individual performance were observed in all three areas in speed, comprehension, and errors, with degrees of overlapping touching groups in all areas.

### Reading Programs

Various types of reading programs have been organized in order to provide reading instruction best suited to individuals or to groups within a classroom. *Casey* (91) adapted a basal reader program using supplementary materials in an attempt to meet individual needs of 43 third-grade pupils within one class and concluded that the value of the procedure was evidenced by growth in reading and increased interest in reading. *Uzmack* (94), comparing a homogeneous grouping method and a self-contained classroom method of teaching reading, found that in the majority of cases the homogeneous grouping produced from one to three times greater improvement over a 5-month period than the self-contained method.

A free reading program to supplement basic first-grade reading was developed by *Blakey* (89) in order to give children an opportunity to use more reading materials. Implementation of the program produced favorable results in the test grade class of 24 pupils: greater op-

portunity to provide for individual differences, activities to develop all phases of the language arts, and more extensive reading on the part of the children. *Brown* (90) found that as a result of a planned recreational reading program, the 29 third-grade children not only advanced in reading growth but also read twice as many books as they had read before the program was put into operation.

Inservice teacher training was used as a means of improving a beginning reading program reported by *Sanders* (92). Emphasis was placed on developmental reading, learning environment, abundance of reading materials, and the use of manuals. She concluded that considerable progress was made over the previous year.

A reading program to meet the needs of the mentally retarded in elementary school was described by *Sensor* (93). The criterion for evaluation of such a reading program should be the same as that of the reading program used for the normal child.

Interpretation of the organization and administration of a first-grade reading program to parents was surveyed by *Besio* (88), who found that the framework of the Modesto program followed basic principles of reading. He recommended that a continuing appraisal be made using scientific objective instruments.

### Reading Interests

Several studies have focused on reading interests. In an investigation of the reading interests of first-grade pupils, *Harris* (96) compared interest in the kinds of content in basic readers with interest in other types of content. He found significant differences between the sexes in the amount of interest in basic readers, but no differences between levels of intelligence. Reading ability is a factor which influences interest in basal readers.

*Wilsberg* (98) studied the interests of second-grade pupils, as demonstrated in their selection of books. Information was the most frequently recommended category; humor was the second choice. A greater number of books were read by the group in a self-selection program than by previous groups taught by the same teacher in a basal reading program.

The interests of poor reading achievers in the second grade were surveyed by *Lamb* (97). Areas preferred by 86 percent of the children were animals, cowboys, "things that go," and make-believe. As very few books in the libraries could be read by the children of the second-grade level, *Lamb* stressed the need for interesting reading materials at the primer level.

*Griffin* (95) recommended that both parents and teachers be made familiar with the reading interests of children through panels and discussions, that a special period for the enjoyment of stories and poems be established in classrooms, and that teachers familiarize themselves with the interests of their students.

## Reading Materials

Materials of various kinds used in teaching reading on the primary level have been considered or evaluated in many of the studies reported.

*Berg* (99) analyzed workbooks accompanying basal readers published by six companies and found both similarities and differences. Many types of exercises are included in workbooks; a diverse schedule of skills practice makes concentration on certain phases difficult. *Tucker* (119) examined the workbooks of eight basal reader series in an attempt to establish criteria for evaluation and emphasized the necessity of a systematic means of evaluation. The relative effectiveness of workbook and nonworkbook methods of reading followup activities was studied by *Docter* (105). The peak of efficiency of workbook material is reached in grades 2, 3, and 4. *Sartain* (113), investigating the effect of the use of workbooks on reading growth, concluded that the learning environment of the classroom rather than use or nonuse of workbooks appeared to be a significant factor in the growth of the reading skills considered in his study.

Five readability formulas were applied to four series of primary readers by *Sherrod* (114), who found very little difference among the series in the factors tested by the formulas. *Kerchenfaut* (109), using two readability formulas, found a significant correlation in the grade placement of 116 primary books. Three methods of estimating readability were compared by *Inskeep* (108), who also investigated the value of an especially prepared readability scale. The readability scale did not seem to contribute to the accuracy of teacher estimates of reading level; the three methods of estimating readability did not correspond closely to children's comprehension, and teacher estimates were more closely related to the formula's estimate than to children's comprehension.

*Mary Bradley* (100) constructed and evaluated materials to provide meaningful practice in teaching reading vocabulary. A group of 192 second-grade pupils working in pairs and a group of 187 working as a teacher-directed unit improved significantly in reading achievement when compared with a control group of 187 children. All three groups showed gains in applied phonics. "Picture Cards for Phonic

Problems," "Picture-Story Word Study Charts," and "Action Sentences" were new materials used in teaching first-grade pupils reading and spelling. *Rudisill* (112) found that after 7 months of instruction with new materials, "Picture Cards for Phonic Problems," "Picture-Story Word Study Charts," and "Action Sentences," children not only achieved reading and spelling levels that required 13 months of teaching with the customary approach, but also were reading at or above their mental age levels.

*Edgar Smith* (116) examined the vocabulary in 11 basal reading series. He found little uniformity in either series or grade level at which words are introduced, and little correlation between the vocabularies of the reading series and words in the Thorndike-Lorge word-list.

A purpose of *Yates'* (122) study was to provide high interest material written with a primary vocabulary which would encourage the low achiever to read independently, and to ascertain the readability and interest level of selected books. *Trousdale* (118) formulated criteria for selecting quality trade books which could be placed in school libraries at the primary level.

Teachers who used supplementary reading materials assembled by *Wales* (120) expressed favorable opinions of the materials as aids in teaching primary reading. *Canada* (101) found that audiovisual materials possess value in developing background experiences essential for successful reading experience in the first grade. Selected types of reading games and aids can be used both to strengthen and to extend reading skills according to *Stanchfield* (117).

Examining the use of the teacher's manual in basal reading series, *Christensen* (103) concluded that principals' evaluations of manuals influenced their use, and that the way a manual was used by a teacher was dependent upon the individual rather than the years of teaching experience.

*McKeever* (110) examined phonic sections of manuals and textbooks of three basal reading series. Although a systematic program of phonic instruction was used in each series, the same skills were introduced at different times and presented differently in the various series. Vocabularies of four basal reader series were compared by *Simpkins* (115), who found a wide variation in the number of different words used at all levels; the percentage of common words varied from 4 percent in first preprimers to 23 percent in second readers, and the number of new words a pupil would meet if he changed from one series to another ranged from 8 words in 10 in the first grade to 4 words in 10 in the second grade.

*Williams* (121) attempted to determine the extent to which pupils in elementary schools are provided with experiences in critical thinking when basic readers are used for instructional purposes. She found that, although the basal reading series varied in the presentation of critical reading skills, provisions were made in all 10 series for developing fundamental reasoning abilities.

*Chilcott* (102) examined and compared three contemporary basal reader series with the McGuffey readers to determine the values with which the authors and publishers attempt to enculturate children and teachers. Modern readers were concerned with sources of pleasure in a child's life; the McGuffey readers emphasized adult ideals available to all social strata. A work-success character-building theme was prevalent in the McGuffey readers, while the modern books employed a status-seeking, pleasure-dominated theme.

Eight currently used basal reading series were analyzed and compared by *Diggs* (104) for the purpose of determining how effectively research findings had been applied; she concluded that authors have utilized findings in primary textbook production, but that there is a need for more research centered upon physical makeup, textual content, and illustrations.

*Young* (123) surveyed provisions made in teacher training for the teaching of children's literature. He found that about 16 percent of the future elementary teachers enrolled in 35 California institutions had taken no literature course, and that few college programs required such a course.

The purpose of *Ploghoft's* (111) study was to determine whether reading readiness workbooks promoted readiness. One group of 28 children used readiness workbooks during the last 9 weeks of kindergarten; the other group of 27 children did not use them. The same teacher taught both groups. Results of a readiness test administered the following September appeared to indicate that children in the group which had used the readiness workbooks were not better prepared to learn to read than the group which had not used the workbooks.

The progress of first-grade classes using workbooks was compared with that of classes not using workbooks. *Felton* (106) concluded that workbooks have many worthwhile features for first-grade classes.

A study concerning mental imagery and the reading process was reported by *Fennema* (107). Two groups of children were asked to tell what pictures they would draw for a particular story. Correlations between the various mental-image scores and between scores on reading ability and intelligence were computed. Correlations between

reading ability and mental-image scores and between intelligence and mental-image scores were negative.

### Comprehension

Emphasis on increasing comprehension skills is evidenced in studies reported during the period 1955-60. The majority of the studies stress exercises or techniques which may be useful in developing the various comprehension abilities.

The development of thinking skills as applied to reading was studied by *Naegelin* (130). She reported that about 76 percent of the children in one first-grade class were not ready for formal reading instruction and needed an extended readiness program; however, about half the children in the study came from Spanish-speaking homes.

*Duggins* (126) investigated reading achievement of a control group of 55 children and an experimental group of 43 pupils who had lessons which emphasized skill in spatial relationships and closure. The experimental group exhibited superior reading achievement and a total reading age one year higher than that of the control group.

A series of oral and written exercises to stress response to meaning was constructed and evaluated by *Cox* (125). The experimental group of 172 first-grade pupils using the exercises achieved a greater gain in reading achievement than the control group of 161 children who did not use the exercises; girls showed a greater gain than boys.

Supplementary reading can be used as an aid in improving comprehension skills, according to *Yorwaiski* (133). Applied techniques such as conversation, discussion, story-telling, dramatization, instruction, and reporting were employed successfully in the improvement of comprehension skills.

*Weintraub* (132) investigated the effects on reading comprehension of 62 second-grade pupils of stories from basal readers presented with or without pictures. Both sexes did equally well with the text alone or with both text and picture; poor readers achieved better with the text alone, but good readers did equally well with either.

A technique, which utilized not only a sound-film but also reading material developed from the film to help Spanish-speaking children increase their comprehension, was evaluated by *Waltrip* (131); some of the data obtained from the investigation suggested the effectiveness of similar programs in total language development.

A 3-year study of a reading program in one school system was made by *Heck* (128), who found that a cooperatively planned instruc-



tional program in reading was an effective means of improving comprehension.

*Hayes* (127) constructed and evaluated tests of language comprehension to show direct comparison between reading and listening abilities of children in the primary grades. She suggested that such tests should be useful in determining not only differences between reading and listening comprehension but also the value of increased use of oral language experiences in initial reading instruction.

The effect of training in listening skills with retarded readers in the third grade was studied by *Conlon* (124). There were no significant correlations between reading and listening comprehension and listening scores after the training period.

The purpose of *McCullough's* (129) study was to determine whether essentially different things are being tested when different types of comprehension are tested. Analysis of the data indicated that there is a positive and perhaps substantial relationship among the four types of comprehension (main idea, details, sequence, and creative reading). A common factor which seemed to be present appeared to arise from the reader's fact-getting ability. The reader's abilities to obtain facts and main ideas are correlated to the extent that both are based upon the same ability, but they are not perfectly correlated when he must go beyond the facts to summarize for his main idea.

## Vocabulary

The vocabulary load of basal readers has been the subject of a number of studies. *Baumann* (137) analyzed four series of primary basal readers in order to determine the common vocabulary and the most frequently used initial consonants; as the vocabulary load increased, the list of common words in the series decreased; the frequency of use of initial consonants varied. An examination of the first readers of seven basal series made by *Dove* (143) revealed that approximately 718 new words were introduced in seven first readers; that the numbers of new words ranged from 115 to 194, and that 129 of the words were most useful for the first grade.

*Lazar* (150), analyzing 11 basic reader series, found that progression of difficulty appeared to be based on criteria established by each publishing company. A much greater degree of nonagreement than of agreement existed in the selection and placement of words.

An investigation of eight basal reader series was made by *Behn* (138) in an attempt to determine the feasibility of transfer from one preprimer to another. The total vocabulary count was 129 words with

a 60 percent overlap from one series to another. *Behn* concluded that it was wiser to use only one basal series supplemented by other readers as feasible. *Behn's* findings were seconded by *Fabiano* (144), who also found insufficient overlap to warrant ease in transfer from one series to another.

*Arndt* (134) reported, after an examination of trade books on a selected list of books which could be read successfully by children at the end of the first year of reading instruction, that the vocabulary load of the majority of the books was too heavy for the first grade.

A determination of the basal reader level at which 220 words of the Dolch List series are introduced in each of six basal reader series was the subject of *Weaver's* (151) study. She found a considerable discrepancy in the levels at which words on the list were introduced in different series.

*Hofer* (148) investigated the possibility of a vocabulary relationship between a reading and number series published by one company, and recommended that similar studies be made of other publishers' series.

Whether original stories could be employed as supplementary reading was the topic of *Bohannon's* (140) study. Findings were inconclusive other than that pupils enjoyed some stories more than others and that teachers reported a gain in the children's self-confidence.

The purpose of *Flamand's* (145) study was to investigate the relationship between vocabulary as measured by different tests and performance in beginning reading at the first-grade level. Moderately significant correlations between reading performance and various tests existed.

*Dawson* (142), investigating the relationship between vocabulary size of third-grade pupils and home environmental factors, found that the vocabulary size of lower socioeconomic level third-grade pupils is comparatively low; that while the mothers' understanding vocabularies are superior to children's, 30 percent had vocabulary scores within the pupils' range; that the educational level of the mother possibly contributes to the individual's language pattern; children from more favorable home environments probably achieve greater success in language arts curriculum experiences; and that children with meager home-environmental experiences probably will have difficulties in comprehension unless special instruction is provided.

Two studies, conducted at Boston University, evaluated the effect of "meaningful word practice" on reading vocabulary in the first and third grades. *Berger* (139) found that first-grade pupils in the experimental group made a statistically significant gain with a critical

ratio of 2.74 and that the achievement of the girls was greater than that of the boys. *Barry* (136) concluded that the material was effective in improving the reading achievement of third-grade pupils; the gain for the experimental group was 3.19 and for the control group, 0.64; there was very little difference in achievement between the sexes.

Determining the vocabulary of kindergarten children with regard to size, nature, and possible changes since publication of The International Kindergarten Union List was the objective of *Kolson's* (149) study. He concluded that the minimal vocabulary of the kindergarten child is 3,728 words. In their speaking vocabularies children had 97 percent of the basal reading vocabulary used in the schools' first-grade reading books. The most significant change in vocabulary since publication of The International Kindergarten Union List seems to be in replacement of natural with a mechanical vocabulary and elimination of "baby talk" and "animal" noises. Since 80 percent of the vocabulary of the children is unchanged, apparently a large proportion of the vocabulary remains constant.

*Woofer* (152) devised a set of vocabulary word cards to represent each word introduced in the books of five basal series used in the primary grades, and found them useful both as visual aids and as classroom research tools.

The relationship between growth in vocabulary, as measured by a standardized reading test and a test accompanying basal readers, was compared by *Carter* (141). Test scores in grades 1 and 2 were related, with a higher correlation in grade 1 than in grade 2.

*Geremia* (147) evaluated vocabulary exercises to be used in the third grade and concluded that children who receive training in vocabulary building achieve gains in vocabulary growth and attain facility in the use of word recognition techniques.

*Bailey* (135), examining the vocabulary load of second-grade textbooks adopted by the State of Louisiana, found a great degree of variation in the total number of different words in various texts. Although the vocabulary in readers is closely controlled, there appeared to be no vocabulary control in the content area textbooks.

*Gates* (146) compared the ability of pupils to work out recognition and meaning of words previously introduced in a basal series with their ability to handle the "new" words introduced in later books in the same series. Three hundred ten pupils near the end of the third grade who had used one basal series from the first grade recognized the form and meaning of almost as many of the words first introduced in the fourth as those words studied in the third grade.

Comparing second- with third-grade pupils on both third- and fourth-grade words, *Gates* found that more than half of the third-grade children made substantially perfect scores on both third- and fourth-grade words. The average second-grade child recognized and understood about 60 percent of new third-grade and 57 percent of new fourth-grade words.

### Word Recognition

A number of studies concerned with word recognition were conducted during the period from 1955 to 1960. Surveys of methods and practices used in teaching word recognition were reported by several persons. *Massey* (176) traced the development of a sequential, balanced word-perception program. Since 1925, yearbooks of the National Society for the Study of Education have consistently recommended balanced word perception programs; use of a single approach has led to programs lacking in the development of certain essential skills. *Massey* concluded that there is little justification for a return to a single approach such as the currently advocated alphabet-phonetic method.

*Connell* (159), investigating and evaluating current methods and techniques used in teaching phonics in the primary grades, found that the best methods are those which involve meaningful content and which lead to the discovery of sounds from whole word units; and that the greatest value of phonics is in relation to the child's needs with application of phonics to words which cause difficulty. *Farnham* (163) surveyed various principles and procedures of teaching phonics. She concluded that the principles listed were similar to those of good pedagogy; the procedures appear either to illustrate or incorporate one or more pedagogical principles. That phonics is only one of several word analysis skills was the consensus among writers. After analyzing word recognition skills in selected basal readers in grades 1 through 3, *Leighton* (172) decided that there were more differences than similarities in the placement and frequency of repetition of words in the readers.

Discovery of the method or methods most effective in teaching word recognition to various types of individuals was the objective of *Mills'* (177) investigation. No one method is superior for all children; certain variables interact significantly in determining the number of words learned in a 15-minute teaching session; intelligence, chronological age, and method. Intelligence is a significant variable in determining the number of words learned during a 15-minute period.

In attempting to determine which of four instructional methods of word recognition—visual, phonic, kinesthetic, or combination—was most effective for individuals or small groups, *Rivkind* (181) found no significant differences in results under controlled conditions. *Hughes* (170) concluded that, in a controlled situation, second-grade children who received instruction in word recognition with emphasis on phonetic skills did not attain significantly higher scores in paragraph meaning or word meaning than children who pursued a program in which phonetic skills were not emphasized.

A series of studies was conducted at Boston University to discover what the effects on vocabulary mastery were during oral reading if children followed in the book or if they listened as another child read. *Eusick* (161) found no significant differences between the two methods in grade 1. In grade 2, method appeared to make little difference, although some words were learned more effectively by one method than by another, according to *Lipkin* (175). *Hickey's* (168) findings for grade 3 again indicated no significant difference for either method.

Two oral reading procedures were evaluated in three studies for grades 1, 2, and 3. A child either was told an unknown word immediately, or he was expected to "sound out" the word. Recall was tested both a week and a month later. *Jennings* (171) found no statistically significant ratios in the two methods in grade 1. Similar results were reported for grade 2 by *Buckley* (156) and for grade 3 by *Dee* (162).

*Berry* (154) constructed and evaluated lessons to be used in the teaching of the homophones most frequently found in first-, second-, and third-grade reading vocabularies and concluded that the lessons apparently were effective in each of the three grades. Another study concerned with homophones was made by *Barrett* (153); the purpose was to determine whether directed teaching of homophones would improve spelling ability. Statistically significant gains were made at both second- and third-grade levels, but there was no marked change at the sixth-grade level.

*Campbell* (157) analyzed the *McKee Inventory of Phonetic Skills* and investigated the relationship between pupils' scores on the test and intelligence, chronological age, and reading and spelling achievement. Analysis by quartiles indicated that pupils with the highest scores also had the highest intelligence quotients, mental ages, and chronological ages, and that phonetic knowledge appeared to be a factor in both reading and spelling achievement.

Several studies were concerned with the effect of knowledge of letter names on beginning reading using experimental and control groups. *Hudak* (169) concluded that a knowledge of letters prior to formal

reading aids children in attaining success in beginning reading. Similar conclusions were reported by *Zajac* and *Linehan* (174). In all three studies experimental groups excelled significantly by comparison with control groups.

Investigating the relationship between growth in word perception and success in beginning reading, *Olson* (180) found that letter knowledge has a positive relationship to reading achievement.

The relationship between word recognition techniques and comprehension was studied by *Strand* (183). She found a relationship between nine word recognition skills and overachieving and underachieving in reading comprehension, but no relationship between knowledge of letter sounds and overachieving and underachieving in reading comprehension.

*Odland* (179) found a relationship between word recognition skills and reading comprehension and speed; no relationship existed for boys between speed and initial errors, beginning and letter sounds. Differences in word recognition abilities of good and poor spellers were studied by *Chase* (158). With the exception of skills related to initial, middle, and ending elements and those related to locating elements for girls, all spelling "over-achievers" were superior to all "under-achievers" in the 20 word recognition abilities measured.

*Schummers* (182) determined the extent of pronunciation errors and relationship to sex, intelligence, accuracy of oral reading, and difficulty of reading material. The proportion of vowel errors, omissions, and reversals increases as difficulty level increases. General accuracy of pronunciation increases as IQ level increases, but results in no consistent change in proportion of errors. As accuracy level increases, the proportion of vowel errors increases and that of vowel-consonant errors decreases.

The purpose of *Thurston's* (184) study was to determine whether there was an order of difficulty in the ability of first-grade pupils to associate consonant sounds with initial letter symbols in nonsense syllables. An analysis of test scores indicated a higher correlation between the performance of children from different schools, sections within the schools, sex, and mental age groups than between performance and features of the first-grade basal reading program.

*Lewis* (178) measured the auditory and visual discrimination skills of beginning kindergarten children and determined the effect of chronological age, sex, and socioeconomic status upon these skills. The majority of the children tested were able to hear the rhyming element in words but experienced difficulty in hearing beginning sounds in words. Children found it harder to discriminate between

letters and words than between designs and pictures. Socioeconomic status had a significant effect upon test performance, although neither chronological age nor sex was a significant factor.

*Gesler* (167) analyzed the relationship between pitch discrimination and phonic sensitivity in first-grade children. There was a significant correlation for boys between pitch discrimination and consonant perception, pitch and consonant blend perception, and pitch and vowel perception, and for girls between pitch and consonant perception.

*Farrelly* (164) evaluated a series of lessons for slow readers in the second grade to determine whether reading ability can be improved by drills in word attack skills. Test results indicated a gain in both the phonics and comprehension sections of a standardized achievement test.

A program of word attack skills was evaluated by *Curtin* (160), who found that the group made a 4-month gain in reading comprehension in a 2-month period.

*Muehl* (178) attempted to determine stimuli which are relevant to visual discrimination among word forms for beginning readers. Two groups of children received discrimination pretraining with words and one group with relevant letters alone. There were no significant differences in performing reading tasks among the groups.

*Gates* (165) examined the reading abilities of pupils in a school system in which the Carden system of phonics had been used for several years. An analysis of test results indicated that the average reading grades of the children were lower than their mental grades. *Gates* concluded that the phonic type of instruction used was a handicap rather than a help to the teachers.

*Gates* (166) also conducted a study of second-grade children who had completed second-grade basal readers. The children were given exercises using words appearing in third- and fourth-grade readers. He found that, for every previously studied 100 words the average child could read and understand in the basal reader, he could handle equally well 91 "new" third- and 88 "new" fourth-grade words.

The purpose of *Bloomer's* (155) study was an attempt to determine whether readiness for phonics at the age at which children derive benefit from phonics training is a function of method, which is *Gates'* point of view. Results of the study involving experimental and control groups indicated that a systematic reorganization of formal phonics training given prior to usual reading techniques appears to produce superior results.

## Reading and Language Arts

Relatively few studies concerned with the relationship of reading to the total language arts program were reported from 1955 to 1960. The purpose of *Lemley's* (189) study was to determine whether time might be saved through a language arts approach to free choice reading. The reading achievement of one first-grade class of 29 pupils using this approach was compared with that of 48 other classes which did not use the approach. She found that the experimental group, which had scored the lowest in the city in September, was the highest in the city in May; the group exhibited great enthusiasm for school and for reading.

In considering the relationship of spelling to reading in the primary grades, *Hofreiter* (187) found significant correlations between spelling and word recognition, spelling and paragraph comprehension, spelling and reading ability, spelling and average reading, and word recognition and paragraph comprehension. *Dilys Jones* (188) investigated various aspects of language development as shown by the achievement of second-grade pupils in the use of a core communication vocabulary. The words most frequently used by second graders were one-syllable, 4- or 5-letter words; letter placement was the primary cause of errors.

*West* (190) identified serious English errors made by third-grade children, the majority of whom came from home environments in which a low level of English was spoken. She concluded that the ability to recognize usage errors can be developed by correlating English usage instruction with social studies units.

A preschool program designed to aid non-English speaking children to "leap the language barrier" and to avoid spending 2 years in the first grade was reported by *Carrell* and *Stevens* (186). Of the 15,000 enrollees in the summer of 1960, 57 percent of the children were promoted to the second grade in the spring of 1961. In some schools all the children were moved into the second-year program, where the teachers began reading instruction at the reading level of the children.

## Reading and Intelligence

A topic of many research studies at various levels has been the relationship between reading and intelligence. The general consensus appears to be that a correlation exists between various intellectual factors and reading abilities.



*Lucile Jones* (192) compared relationships between intelligence and various reading and spelling abilities of 22 primary pupils. Although all the relationships tested were positive, none was significant with the exception of rate of oral and silent reading and that of reading and spelling achievement. *Reed* (194) attempted to determine which components of intelligence were most closely related to reading and found that they vary at different grade levels. Consequently, a child proficient in reading at the primary level will not necessarily be an efficient reader in the intermediate grades. *Owen* (193) explored the relationship between selected measures of intelligence, listening comprehension, and reading achievement as a basis for estimating reading achievement. A combination of measures will predict reading expectancy more accurately than any single measure of intelligence or listening comprehension.

The purpose of a study conducted by *Burks and Bruce* (191) was to determine whether poor readers are relatively weak in those parts of intelligence tests which resemble vital characteristics inherent in written language. The 31 poor readers were significantly low on the Information, Arithmetic, and Coding subtests of the Wechsler Intelligence Scale for Children and significantly high on the Picture Arrangement, Block Design, and Comprehension subtests. The 11 good readers were significantly high on the Similarities subtest. The investigators hypothesized that poor readers approach learning situations in a more concrete manner than the good readers because of an inability to handle abstractions. Since the reading process inherently consists of abstractions strongly depending on memory functions, the poor readers are handicapped.

### Auditory Factors

Auditory discrimination is one of the factors essential to reading success which are emphasized in beginning reading instruction. *Murray* (198), examining the reading achievement of 25 children who had received reading instruction with special emphasis on auditory discrimination skills, found a very significant relationship between auditory discrimination and reading achievement. *Smith* (199) also found a significant relationship at the first-grade level between reading achievement and auditory discrimination, as well as relationships between readiness and auditory discrimination and between intelligence and auditory discrimination.

Auding as a predictive measure of reading performance in primary grades was investigated by *Moe* (197), who found correlations between auding test scores and reading test scores.

*Edgar* (195) investigated the relationship between certain types of hearing loss and the perception and discrimination of initial high-frequency phonetic elements. He found no relationship between binaural high-frequency hearing loss and perception, identification and reproduction of initial high frequency consonant sounds.

*Gogolewski* (196) determined the effectiveness of speech correction methods in improving the ability to distinguish separate speech sounds in words. The experimental group used a manual built for the study; however, there were no significant differences between control and experimental groups in auditory discrimination, visual discrimination, or learning rate.

### Reading and Physical Growth

The purpose of *Karlin's* (202) study was to learn whether certain measures of physical growth, used alone and in combinations, were related significantly to success in beginning reading in first grade. Analysis of the data revealed that skeletal growth, height, and weight did not appear to be related to reading readiness test scores.

Two hypotheses were tested by *Gleason and Klausmeier* (201): variability in physical growth is accompanied by variability in academic achievement, and variability in physical growth is accompanied by low academic achievement. Subjects in the study were third- and fifth-grade children. The investigators found that uneven growth in height, weight, strength of grip, and carpal development tended to be accompanied by uneven and low achievement in reading, arithmetic, and language among third- and fifth-grade girls, and by low achievement among fifth-grade boys.

*Anderson and Hughes* (200) examined the records of boys who were early and late readers. Early readers read before they were 84 months old; late readers did not read until they were 96 months old or later. On the basis of the evidence, the investigators concluded that boys who began reading late tended to be physically less mature than boys who began reading early.

### Reversals

Few studies concerning reading reversals were reported during 1955-60. The purpose of *Benton's* (203) study was to determine

whether children showing consistent reversal in right-to-left discrimination differ from a control group in language skills and achievement. Children showing systematic reversals were generally inferior in the development of language skills and reading ability. He advanced the view that such persistent reversals may be symptomatic of a general language deficit.

*Preston* (204) tested the hypothesis that German children committed fewer reversals than American children because of less pressure exerted upon the German children and greater simplicity and consistency in the German language. However, pupils in a Munich school made a significantly greater number of reversals than pupils in a Philadelphia school. Equalized kindergarten experience might reduce the differences in frequency of reversal errors.

### Kindergarten Attendance

The effect of kindergarten training on motor coordination as related to perception and writing of letters, knowledge of letter names and sounds and their relationship to increased learning rate was studied by *Haley* (205). Children who had received such training were superior to those without training in capitals matched and named, lower case named and sounded, learning rate, and mental age factors.

### Language

A semantic study of the vocabulary in primary reading materials was made by two investigators. The nature and structure of language were considered in other studies.

A semantic study of the vocabulary in supplementary reading books was made by *Groff* (207), who found that many words with multiple meanings were used. He believes that authors of primary-grade reading material should maintain close control over word meaning in context.

The purpose of *Pency's* (209) study was to determine whether semantic variations existed in a third-grade basal reader. Since many words in the reading materials have more than one concept, she recommended careful selection of textbooks and instruction on shifts in meanings of words.

One of the purposes of a study made by *Langman* (208) was to show the relationship between the nature of language as a generalizing and conceptualizing process and the skills involved in reading. She con-

cluded that individuals who function inadequately in any area of reading behavior do so in the entire complex of language usage, and may suffer from a learning disability, of which reading failure is only a symptom.

*Rosenthal* (210) determined relationships between sociometric position and language structure of young children, and found that children of high sociometric status use language which is more active, variable, and communicative to another individual than those of low socioeconomic status.

The quality of instruction of non-English-speaking American Indian children who are beginning school could be improved by more comprehensive learning experiences, according to *Gondie* (206). Research in approaches to "second language teaching" is needed.

### Causes of Reading Difficulties

Causes of reading difficulties were examined by *McBath* and *Hancock*, who found that several factors contribute to reading deficiencies. *McBath* (212) investigated some causal factors underlying reading deficiencies and found that mental ability is related to achievement. *Hancock* (211) found that certain factors affected reading ability. Hearing and speech defects were negligible in their effect. Symptoms of pupil emotional instability appeared in teachers' comments regarding 38 of 62 pupils; health factors indicative of emotional disturbances appeared in the records of 26 students, and 22 of 62 third-grade children of normal intelligence failed to achieve better than first-grade reading ability.

## CHAPTER II. Studies in the Teaching of Primary Reading

### Reading Readiness

1. ALLEN, RUTH J.; GILFAX, SARAH R.; HALLERAN, JOHN F.; HERRICK, VIRGINIA L.; LEVIS, MYRNA A.; MARSTON, MARILYN; NORTH-RIDGE, NANCY L.; PAPPAS, VASILIKE; and WOOD, VIRGINIA S. *The Relationship of Readiness Factors to First-Grade Reading Achievement*, Unpublished M. Ed. Thesis, Boston University, 1959.

*Purposes.* To measure various abilities presented in readiness workbooks of basal reading series and to relate findings to reading achievement of pupils in grade one in January. To measure knowledge of letter names and sounds and relate findings to reading achievement of students in grade one in January. Population consisted of 311 first-grade pupils in 16 classes. Duration of study was 4 months. Tests used were *Otto Quick Scoring Mental Ability Test*, original, unpublished Readiness Test, *First Grade Success Study*, and *Reading Achievement Test*. Test scores were compared and analyzed to determine relationship to other factors.

*Findings.* Reading achievement in January in grade one seems more closely related to knowledge of letter names and sounds than to abilities taught in readiness workbooks of basal series. Different types of auditory tests showed different relationships with reading achievement. Chronological age does not appear to be important factor in first-grade success. IQ is one factor in first-grade reading achievement.

2. ALSUP, ROBERT F. *A Study of the Procedures Used and the Problems Encountered in Promoting Growth in Initial Reading*. Unpublished Ed D. Thesis, University of Missouri, 1955.

*Purpose.* To determine procedures first-grade teachers use and problems they encounter in promoting growth for initial reading. Sixty first-grade teachers in Columbia, Mo., area were interviewed.

*Conclusions.* Teachers were making practical use of many findings of research in area of reading readiness. Strong phases of program were use of basic readiness materials; grouping; readiness tests; extended readiness program for slow learners; required physical examination for first-grade entrance; use of parent-teacher conferences; use of visual and auditory discrimination activities, and use of literature in the program. Weaknesses in existing program were inadequate visual and auditory screening, in intelligence test data, lack of enriched readiness program for accelerated learners, and lack of understanding

of procedures in helping child in social and emotional adjustment in school. Problems encountered were difficulties in promoting independent work habits, failure to help children overcome emotional and social difficulties, overcrowding in classrooms, inability to relate phonics program with basic readiness program, and difficulty in helping ambidextrous children to establish hand preference, in helping immature children in visual and auditory discrimination, and in helping parents of slow learners to realize necessity of extended readiness program. Although intelligence testing was conducted in a large number of first-grade classrooms of teachers interviewed, data derived from tests were not used to maximum advantage in readiness program.

3. BLAKELY, W. PAUL, and SHADLE, ERMA M. "A Study of Two Readiness-for-Reading Programs in Kindergarten," *Elementary English*, 38: 502-505, November 1961.

*Purpose.* To determine whether a kindergarten child shows more readiness and potential for reading after using readiness books of a basal reader program or after an activity program of experiences. Tests used were *Metropolitan Readiness Test*, *Maturity Check List*, and *Informal Reading Readiness Appraisal Check List*. Population consisted of an experimental and a control group, each consisting of 28 children. Mean age of girls in both groups was 5 years, 6 months, and of boys in both groups, 5 years, 9 months. Program of control group centered about a readiness workbook of a basal reader series; program of experimental group grew out of interests of the children, who were given freedom to participate in various activities. A test of significance of differences between means for matched pairs of subjects was computed. Experimental group made a greater mean gain, statistically significant, than control group in the *Maturity Check List* and *Reading Readiness Appraisal Check List*. Boys in experimental group made statistically significant gains greater than boys in control group in all three measures.

*Conclusions.* In boys, experience-activity approach at the kindergarten level results in significantly greater readiness to read. In girls, readiness to read develops with equal efficiency under basal reader or experience approach. Since girls profit equally from either approach, and boys profit more from experience-activity approach, latter is preferable at kindergarten level.

4. BRADLEY, BEATRICE. "An Experimental Study of the Readiness Approach to Reading," *Elementary School Journal*, 56: 262-267, February 1956.

*Purpose.* To determine whether children profit if formal instruction in reading is withheld until they are ready. Population consisted of an experimental and control group, each with 31 children matched as closely as possible on bases of sex, chronological age, IQ, and father's socioeconomic status. Duration of study was 2 years; a comprehensive test was administered at end of third year for additional study. Teacher of experimental group remained with group for 2-year period. Teachers of control group each had group for 1 year. Tests administered were *Philadelphia Verbal Ability Test*, *Chicago Reading Test*, and *Iowa Every-Pupil Tests of Basic Skills*.

Experimental group worked in a classroom arranged to stimulate children and to provide them with materials for many types of activities. Experiences to enrich and widen children's understanding were provided. Reading groups

were formed when teacher's judgment and results of objective tests indicated child was ready for reading. First group received reading instruction after 5 months in readiness program, second group after 8 months, and third group after 10 months. Control group worked in a classroom where decoration consisted of children's work. Reading instruction was given every child in first month of grade 1. Three groups were formed. Children in both experimental and control groups were given standardized reading tests in November, December, and June of their second year and in November and June of their third year. Data were treated statistically by means of t-technique. Means of raw scores were obtained for interpretation.

*Conclusions.* Children in readiness program attained degree of achievement in reading equal to that of the control group by end of second year. By end of third year, experimental group was up to grade standard in reading and continued to equal progress of control group. In other skills, such as work-study skills and basic language and arithmetic skills, experimental group was above grade standard by end of third year, and showed slight gains, some statistically significant, over control group. Time spent in the early months of first year on academic learning could have been used with profit to develop social and emotional growth and experiential background of children in control group. Pupils in experimental group had many more experiences than those in control group.

5. CLARK, MORITA; TRULOCK, HELEN; SMITH, JEAN; DAVIS, LAURIE; LEE, MAUREEN; and SMITH, DIANA. *The Relationship of Readiness Scores to Academic Achievement*, Curriculum Research Bulletin No. 6, Orange County, Fla., Board of Public Instruction, July 1961.

*Purpose.* To ascertain accuracy of readiness test scores as predictors of academic achievement for first-grade students. Population consisted of 114 children in five first-grade classrooms. Tests used were *Metropolitan Readiness Test* and *Metropolitan Achievement Test*. Duration of study was 1 year. Rank order correlation coefficients between readiness scores and achievement scores in word knowledge, word discrimination, reading, and arithmetic were computed for each group.

*Conclusion.* There is a positive correlation between readiness scores and achievement on standardized tests in reading and arithmetic.

6. COLLINS, MARY L. *Determining the Relative Efficiency of a Particular Reading Readiness Workbook and a Teacher Developed Program in Promoting Reading Readiness*, Unpublished M.A. Thesis, De Paul University, 1960.

*Purpose.* To determine which is better at kindergarten level: informal presentation of readiness material or use of *Red Book*, a reading readiness workbook. Twenty-seven kindergarten pupils were divided into experimental and control groups. IQ's, drive, socioeconomic status, and emotional stability of pupils and their homes were bases for pairing students in experimental and control groups. Tests used were *Scholastic Mental Ability Tests* and *Lee-Clark Reading Readiness Test*. Test scores were compared for both groups.

*Conclusion.* No significant difference was found between teacher-planned readiness program and use of *Red Book*.

7. JACKALL, MARY. *Measuring Preschool Readiness*, Experimental Research Series, Report No. 103, Board of Education, Baltimore County, Md., 1961.

*Purpose.* To determine whether *Individual Record Check List* compared favorably with *Lee-Clark Reading Readiness Test* as predictor of reading achievement in first grade. Population consisted of two groups: 28 children who had attended kindergarten and 55 who had not. Tests included *Individual Record Check List*, *Lee-Clark Reading Readiness Test*, *Otto Mental Ability Tests*, *Scott Foresman Reading Achievement Test*, and teacher evaluations on a 5-point scale. Duration of study was 1 year. Regression coefficients were computed.

*Conclusions.* Reading score, *Individual Record Check List*, and mental age in months are sufficiently correlated with success in reading, as measured by criterion test, to warrant their use in grouping in the first grade. *Lee-Clark Reading Readiness Test* is not significantly enough correlated with criterion to warrant its use, since its data are typical of other situations.

8. JOHNSON, WILMA E. *The Initiation of an Extended Reading Readiness Program for the Public Schools in Boone County, Iowa*. Unpublished M.S.E. Field Report, 1957.

*Purpose.* To demonstrate need for extended reading readiness program at kindergarten level. Program was initiated in one county school. Tests were administered by a psychologist; parents were interviewed. Interests, needs, and abilities were considered in selection of curricular materials.

*Results.* Children liked program. Parents were pleased with their children's progress. Children were prepared to experience success in learning to read.

9. KANSORA, EDNA. *Parent Education in Reading Readiness*, Field Study, San Francisco State College, 1955.

*Purpose.* To prepare a handbook on reading readiness for parents of children who scored low on a reading readiness test given at end of kindergarten or who were retained in first or second grade. First-grade teacher interviewed parents of children in class, and kept a record of their questions. Data on reading readiness secured from 19 books and articles were summarized. A 7-page bulletin to explain readiness to parents was written.

*Conclusions.* Parents should be advised to provide proper diet and rest for their children, to take them on trips, to play records for them of poems and songs, to show interest in their school, to praise and encourage them, to tell them words when they ask, to read stories to them, and to buy books for them to read.

10. KARLIN, ROBERT. "The Prediction of Reading Success and Reading Readiness Tests," *Elementary English*, 34: 320-22, May 1957.

*Purpose.* To reexamine "desirability of using existing reading readiness tests almost exclusively to measure extent of readiness." Population consisted of 111 first-grade students in Rockville Center, N.Y. Criteria included IQ of 90 or higher, normal, near and far point vision; hearing loss of not more than 10 decibels; freedom from any serious speech defect, from immaturity of speech, and from foreign language influences; attendance in kindergarten, and social and emotional maturity. Tests included *Metropolitan Readiness Test* (in September), *Gates Primary Reading Test, Type Three, Paragraph Reading* (in May). Pearson product-moment coefficient of correlation was computed to



determine extent to which scores on readiness and reading achievement tests are related; correlation was .36 and its standard error, .08 significant at the 1-percent level. When influences of chronological age and intelligence upon test scores are removed, correlation drops to .25 and standard error remains the same.

*Findings.* Therefore, relationship between reading-readiness test scores and reading-achievement scores is small. Coefficient of alienation is .96, indication of degree of lack of relationship between the variables. Analysis of data reveals very small relationship between scores on reading-readiness test and reading-achievement test. It is "virtually impossible to predict from a reading-readiness test score how well any child in the sample will do on the reading test." There is need for better understanding of what present reading-readiness tests measure.

11. FERMOIAN, SAMUEL B. "Teacher Appraisal of First Grade Reading," *Elementary English*, 39: 196-201, March 1962.

*Purpose.* To determine validity of teacher judgment of readiness of children entering first grade. Validity interpreted in terms of relationship between teachers' estimates and scores of *Metropolitan Readiness Test*. Population included 276 first-grade children attending 6 schools located in varied socio-economic areas of San Francisco. Thirteen teachers with 1 to 21 years of first-grade experience collaborated in the study. For 2 weeks at the beginning of the semester, each teacher was asked to evaluate informally the readiness status of pupils. Techniques were observation, group discussions, conferences, and examination of records. Computed coefficients of correlation were as follows: reading readiness .73, number readiness .73, and total readiness .77.

*Conclusion.* Teacher's appraisal of pupil readiness for first-grade work correlates highly and significantly with that of a formal instrument.

12. MADDAX, AGNES B. *A Comparison of Speech Development and Reading Readiness of First-Grade Children in Rhea County, Tennessee*, Unpublished M.S. Thesis, University of Tennessee, 1957.

*Purpose.* To ascertain whether there is a relationship between reading readiness and ability to produce consonant sounds among first-grade children. Population consisted of 155 pupils in grade one. Tests included *Lorge-Thornike Intelligence Test*, "First Year Readiness Test," and "Articulation Test" devised by writer. Data were treated by comparative analysis.

*Findings.* Higher IQ makes for higher reading readiness scores upon entrance into school. Girls rank higher on reading tests than boys. The older the child, the fewer the errors of articulation. Children with articulation errors score lower on readiness tests. The higher the child's IQ, the fewer the articulation errors. Boys at this age develop fewer consonant sounds than girls do.

13. MAGGART, MILDRED ENSOR. *A Comparative Study of Reading Readiness Prediction*, Unpublished M.S. Thesis, University of Tennessee, 1957.

*Purpose.* To investigate relative value, in predicting reading readiness, of *Metropolitan Reading Readiness Test* score, *SRA Primary Mental Abilities Test* score, mental age, chronological age, teacher's prediction, and mother's prediction. Duration of study was one year. Population consisted of 23 pupils in grade one. Tests used were *Metropolitan Achievement Test*, *Metropolitan Read-*

*ing Readiness Test, SRA Primary Mental Abilities Test, and Gates Primary Reading Test.* Data were treated by comparative analysis.

*Findings.* Chronological age is not closely related to reading achievement in grade one. *SRA Primary Mental Abilities Test* is closely related to reading success. Rank-order correlations between techniques and reading criteria vary both in magnitude and statistical significance.

14. MOMILLAN, BERNIECE. *The Relationship of the Drawing of a Man to Reading Readiness*, Unpublished M.A. Thesis, Illinois State Normal University, 1960.

*Purpose.* To determine whether significant relationship exists between intelligence and certain factors of readiness in reading. Population consisted of 100 pupils in the first grade. Duration of study was 2 years, 3 months. Intelligence and reading readiness tests were used. Techniques used to treat data were Pearson product-moment coefficient of correlation and t-test.

*Conclusions.* Relationship between intelligence and reading readiness was significant at 1 percent level of confidence. Relationship between intelligence and use of context was significant at 2 percent level of confidence. Relationship between intelligence and use of context and auditory discrimination was significant at 5 percent level.

15. NAISBITT, ESTHER C. *A Program of Pre-reading Activities in the Kindergarten in the Colfax, Iowa, Community School*, Unpublished M.S.E. Field Report, Drake University, 1959.

*Purpose.* To describe a program of kindergarten activities that was based on interests and needs of the children in this study and was designed to promote readiness for reading, to evaluate program, and to draw inferences on appropriateness of reading activities as part of a kindergarten program. Tests used included an intelligence test, two reading readiness tests, and checklists based on teacher observation. Population consisted of 55 kindergarten children. No statistical treatment was indicated.

*Results.* Forty-seven children were ready to move to next level of reading, 5 needed additional readiness activities in first grade, and 3 were to remain in kindergarten. Program was considered successful, and was to be used as a guide for future planning of kindergarten experiences.

16. NATALE, MARY E. *Intelligence and Its Relationship with Certain Factors of Reading Readiness*, Unpublished M.A. Thesis, Illinois State Normal University, 1959.

*Purpose.* To determine significance of intelligence in relation to certain factors in reading readiness: range of information, perception of relation, vocabulary opposites, memory span, and word discrimination. Population consisted of 24 first-grade pupils. Tests used were *California Maturity Pre-Primer Tests* and *Van Waganen Reading Readiness Tests*. Duration of study was 1 year. Pearson product-moment coefficient of correlation and Fisher t-test were used.

*Conclusions.* There were no significant relationships among intelligence and range of information and perception of relations. Relationships among intelligence and vocabulary opposites, memory span, and word discrimination were significant at 1 percent level of confidence. Relationship between intelligence and total of these factors was significant at 5 percent level of confidence.

17. PERRY, JANET T. *A Study of Readiness and the Most Effective Methods of Word Recognition with Attention to Visual and Auditory Correlations*, Unpublished M. Ed. Thesis, East Tennessee State College, 1960.

*Purpose.* To determine (1) the most effective method of word recognition for each of 16 children beginning the first grade at one school by use of readiness tests and a learning methods test; and (2) predictive value measured by correlation of readiness factors and visual and auditory discrimination in *Harrison-Stroud Reading Readiness Profiles* with visual and auditory learning methods of recognizing words of the *Mills Learning Methods Test*. Other tests included *Metropolitan Readiness Tests*, *Lorge-Thorndike Intelligence Test*, *California Test of Personality*, and *Stanford Achievement Test*. Duration of study was 1 year. Children were grouped for reading instruction; groups were flexible at all times. Coefficients of correlation were computed.

*Conclusions.* No one method of teaching reading is best for all children, since different children learn to recognize words more effectively by different teaching methods. Certain readiness factors that can be measured by readiness tests should be considered in planning a reading program for first-grade children. Mature children with higher IQ's learn words by more than one method and retain them more easily than do less mature children with lower IQ's.

18. POWELL, MARVIN, and PARSLEY, KENNETH M., JR. "The Relationships Between First Grade Reading Readiness and Second Grade Reading Achievement," *Journal of Educational Research*, 54: 229-33, February 1961.

*Purpose.* To investigate relationships between results of *Lee-Clark Reading Readiness Test*, given at beginning of first grade, and results of *California Reading Test*, given at beginning of the second grade. Lee-Clark scores were correlated with reading-vocabulary score, reading comprehension score, and total reading score (average of the first two) to determine if whole test or one of the parts offered best prediction. Population consisted of 711 first-grade pupils in Willoughby-Eastlake city schools (Ohio). Children in the three groups were categorized as to grade placement: low 0.0-0.4 (49), middle 0.5-1.4 (365), and high 1.5-1.9 (297). Coefficients of correlation as computed between Lee-Clark and California tests were as follows: low .48\*, middle .50\*, and high .25\*.

*Conclusions.* Lee-Clark test was useful primarily as predictor of the total reading test results for the entire group. Although there seems reason to doubt its usefulness in dividing children into reading groups, the investigators consider the Lee-Clark a useful instrument for predicting general reading achievement of a total group of first-grade students. [\*Significant at .05 level of confidence.]

19. PRESCOTT, GEORGE A. "Sex Differences in Metropolitan Readiness Test Results," *Journal of Educational Research*, 48: 605-10, April 1955.

*Purpose.* To determine extent of sex differences in performance of beginning first-grade pupils on *Metropolitan Readiness Test*. Population consisted of 14,959 children: 7,821 boys and 7,138 girls. Readiness test was given during first month of school. Mean chronological age of boys was 70.24 months and of

girls, (was) 75.57 months; difference of .67 months was significant well beyond 1 percent level. Mean readiness test score for group was 68.02, for boys 67.42, and for girls 68.69. Random samples of 400 boys and 400 girls were drawn from standardization population according to percentage of cases at each month of chronological age. Difference in mean score of 2.6 in favor of girls is significant at 5 percent level of confidence.

A second purpose of the study was to ascertain extent of any sex differences between performance of "overage" beginning first-grade boys and girls, and differences between "underage" boys and girls. "Overage" included all pupils aged 7 years, 2 months and above, and "underage" all pupils aged 5 years, 8 months and below. Mean scores of "overage" pupils are approximately 10 points higher than those of "underage" pupils.

*Conclusions.* When beginning first-grade boys and girls were matched according to chronological age, the *Metropolitan Readiness Test* performance of girls was somewhat superior to that of boys (C.R.=2.14). Mean *Metropolitan Readiness Test* score of "overage" boys was slightly higher than that of "overage" girls; however, difference was of neither practical nor statistical significance (C.R.=.82). Mean *Metropolitan Readiness Test* score of "underage" girls was slightly higher than that of "underage" boys. Again, difference was of neither practical nor statistical significance (C.R.=.82).

20. RUSSELL, IVAN L. "The *Davis-Eells Test* and Reading Success in First Grade," *Journal of Educational Psychology*, 47:269-270, May 1956.

*Purpose.* To test hypothesis that *Davis-Eells Test* provides important information regarding reading readiness. Population consisted of 50 first-grade pupils (28 girls and 22 boys). *Davis-Eells Test* was administered during first week of school to groups of 10 pupils each. For comparative purposes, *Stanford-Binet Test, Form L* was administered to each of the 50 pupils during first 2 weeks of school. *Gates Sentence and Paragraph Reading Tests* were given during last 2 weeks of school in May. These sets of test scores were compared statistically with Gates reading scores as criterion of reading success.

*Findings.* Pearson product-moment correlation coefficient of .48 between *Davis-Eells* IPSA (Index of Problems Solving Ability) and Stanford-Binet IQ scores. Mean of the girls on IPSA was 95.3 and on SB was 110.0. Mean of the boys on IPSA was 87.9 and on IQ was 104.5. Mean of the total group on IPSA was 91.9 and on IQ was 108.9. IQ mental ages correlated with Gates reading ages obtained at end of school year were: for boys, .48; girls, .63; and total group, .57. *Davis-Eells Test* does not provide mental age scores; they were derived by multiplying pupil's IPSA score by his chronological age. These were correlated with end-of-the-year reading scores. Coefficients were: girls, .28; boys, .08; and total group, .21.

*Conclusions.* IPSA scores obtained in study involving first-grade pupils proved significantly lower than IQ's ( $p=.01$ ). For this limited sample, IQ test gives better prediction of reading progress during first year's instruction than the *Davis-Eells Test*.

21. SMITH, ELIZABETH FREY. *Reliability of Reading Readiness Tests*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1960.

*Purpose.* To determine whether certain reading readiness tests give approximately the same results and whether they are good predictors of reading achievement. Population consisted of 28 first-grade pupils. Three reading readiness tests were given: *Metropolitan*, *Harrison*, and *Science Research Associates*. Duration of study was 1 year, 11 months. Statistical techniques used were Pearson product-moment coefficient of correlation and Fisher t-test.

*Conclusion.* Tests were significant predictors of reading achievement.

22. SPIGGLE, LUCILE W. *A Study of the First-Grade Readiness and Early Reading Program of City Park School, Athens, Tennessee*, Unpublished M.S. Thesis, University of Tennessee, 1957.

*Purpose.* To describe first-grade readiness and early reading program of City Park School, Athens, Tenn., beginning with spring preschool clinic in May 1956, and concluding with first weeks of school in fall of 1956. Duration of study was 6 months. Population consisted of 32 students in grade 1. Tests used were *Lee-Clark Reading Readiness Test* and *Large-Thorndike Intelligence Test*. Data were treated by summarization analysis.

*Recommendations.* First-grade curriculum should be made less difficult, with slow learner required to read only from primers and mature child from both primer and first reader. All children entering first grade should be 6 years of age by September 1. Parents of children ranking low on readiness test should be informed that child will probably remain in grade one more than 1 year. Slow learner should be provided with more practices which will give him feeling of success and satisfaction.

23. STEPHEY, FLEDA M. *Factors of Reading Readiness*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1957.

*Purpose.* To determine relationship between intelligence, chronological age, and sex in regard to readiness for reading. Population consisted of 50 first-grade pupils. Tests used were *Revised Stanford-Binet Scale* and *Metropolitan Readiness Test*. Statistical techniques used were Pearson product-moment coefficient of correlation and t-test of significance.

*Conclusions.* Readiness for reading test results and intelligence test results are good criteria for a teacher to use in determining readiness for reading. Chronological age does not seem to be an important factor in readiness for reading but cannot be considered unimportant; younger age groups should have a longer period of preparation than older age groups. Sex cannot be considered an important factor, although boys may need a longer period of preparation than girls.

24. STEWART, TRUNELLA W. *Reading Readiness and Its Effect on Reading Achievement*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1959.

*Purpose.* To investigate relationship between group readiness tests and individual reading readiness tests, relationship between readiness for reading and future success in reading achievement, and whether children make satisfactory progress in reading if instruction is delayed until results of a standardized test indicate readiness for reading. Population consisted of 20 first-grade pupils. Reading readiness tests and reading achievement tests were administered. Statistical techniques used were Pearson product-moment coefficient of correlation and t-test of significance.

*Conclusions.* There was a very significant relationship between individually administered and group-administered reading readiness tests. Diagnostic program to individualize readiness activities gave foundation for readiness and subsequent success in reading achievement when instruction was delayed until readiness instruments indicated readiness for reading.

25. WHEELER, OLIVE BOONE. *The Proactive and Retroactive Inhibition Factors of Certain Types of Reading Readiness Material*, Unpublished Ed. D. Thesis, Texas Technological College, 1955.

*Purpose.* To determine whether proactive and retroactive inhibition occurred in relation to words presented first as word forms only, without name or meaning, in reading readiness material and later as meaningful words in reading material. Study was conducted in first-grade classroom. Children were divided into four groups; three began use of readiness material at same time. Each group progressed at a different rate. A total of 574 words presented in readiness and 795 not presented were missed an average of 10.62 each. Of the substitutions made, 400, or an average of 7.4 each, had been presented and 441, or an average of 4.59 each, had not been presented. Chi-square formula was used to determine degree of significance in number of words missed.

*Conclusions.* Group missed greater percentage of words presented in readiness than not presented. Inhibition was caused by presentation of words as word forms without name or meaning in reading readiness material; this conclusion was true of 27.2 percent of individuals in group. Some inhibition was evidenced for 72.8 percent of cases. Facilitation in actual reading of words previously presented as meaningless symbols in readiness material was evidenced by only one member of class.

26. WILLIAMS, ESTELLE M. *The Teaching of Reading in the First Grade*, Unpublished M. Ed. Thesis, University of Southern California, 1958.

*Purposes.* To determine factors affecting reading readiness and to ascertain when reading instruction should begin. To devise criteria for distinguishing between preprimer, primer, and first-reader levels of reading. To discover what materials and methods are best for teaching reading in first grade.

*Findings.* Best time to begin reading instruction is when pupil has achieved mental age of 6 years, 6 months. Readiness for reading involves formal preparation, preferably including kindergarten and portion of first grade. Emotional adjustment is essential to reading readiness. Auditory readiness increases possibility of child's learning to read. Physical condition of child will have direct bearing on his learning to read.

## Age of Beginning Reading

27. DURKIN, DOLORES. "Children Who Learned to Read at Home," *Elementary School Journal*, 62: 15-18, October 1961.

*Purpose.* To determine what accounts for preschool ability in reading and what the value is of learning to read early. Criterion for selecting children was ability to identify at least 18 words from a list of 37. In the fall of 1958, the list was used with 5,103 beginning first-grade students in a California community.

The children were asked to read, individually and orally, as many words as possible. The subjects, selected from original number, were 20 girls and 20 boys. Tests used were *Gates Primary Word Recognition Test* and *Gates Primary Paragraph Reading Test*. If the child got a perfect score, he was given the *Gates Advanced*. The children were tested also in February and June of the first year and in September, February, and June of the second year. *The Revised Stanford-Binet* was administered; range was from 91 to 161 with median IQ of 121. Families included 7 of professional or upper-middle class; 15 of lower-middle; 26 of upper-lower; and one of lower-lower bracket. Parents in lower socioeconomic level had ready and enthusiastic acceptance of preschool reading ability. Parents in higher socioeconomic level showed concern and even guilt about children's ability to read before school. The average number of children in a family was three. Forty children had at least one older sibling. Help from them often accounted in part for early reading ability. Having a sibling, especially a sister about 2 years older who likes to play school, appears to have something to do with early reading ability.

*Conclusions.* Reading grade score of group that received help at 3 years of age was 2.6 at beginning of first grade. Average achievement of children who had help at 5 years was 1.7. At the end of second year of school, group that received help at three years of age still showed greater achievement, but the lead was reduced by 4 months.

28. FAVA, LORRAINE E. *An Analysis of the Relationship of School Entrance Age to School Achievement*. Unpublished Ed. M. Thesis, Boston University, 1957.

*Purpose.* To establish relationship of school entrance age to school achievement. Population included 2,104 students in grades two through six. Pupils entering school with chronological ages of 5 years, 9 months to 6 years, 2 months were termed the "younger group," and those entering at ages 6 years, 3 months to 6 years, 9 months, the "older group." Tests used were *Metropolitan Achievement Test* and *Kuhlmann-Finch Test*. Standard error of means, difference of means, standard error of differences, and critical ratios for all categories were computed.

*Findings.* Age was not a detrimental factor to younger group. Expected higher mental age of the older group was not always in evidence. Achievements of the two groups seemed to indicate that time spent in school was more important than entrance age. Greatest mean differences were in reading; at grade six the mean for the older group was 6.2 and for the younger 6.9. Mean differences were slight in field of numbers.

29. HAMPLEMAN, RICHARD S. "A Study of the Comparative Reading Achievements of Early and Late School Starters," *Elementary English*, 36: 331-334, May 1959.

*Purpose.* To determine whether pupils who start school at the age of 6 years, 4 months or over are better readers in the sixth grade than those who start below that age. Population consisted of 58 pupils who entered the first grade in September 1947, finished the sixth grade in June 1953, and had all elementary education in Bloomington, Ind., schools. The age of the children of group one was 6 years, 3 months, or younger at time of entrance into school. The age of children of group two was 6 years, 4 months, or older at time of entrance into school. The

*Stanford Achievement Test* was used to measure reading achievement score; other data included date of birth and all available IQ scores; IQ scores were not used to equate the two groups, but only to assist in analysis and interpretation of results.

**Conclusions.** Mean reading achievement of group two (148.86) was slightly more than 4 months higher than that of group one (144.70). Mean IQ was 106 for both groups. When each group was divided in half, mean of the oldest quarter (146.56) was almost 7 months higher than that of youngest quarter (139.73). Of 15 in the youngest quarter, only 5 were up to grade level in reading; 4 had IQ's of 110 or better. Of 16 in oldest group, 9 were up to grade level, 5 of whom had IQ's below 110. Differences were not statistically significant, but interesting enough to merit further attention.

## Methods of Teaching Reading

30. BASTING, DOROTHY L. *An Experience Approach to Beginning Reading Instruction*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1959.

**Purpose.** To determine effectiveness of an experience approach to beginning reading, as compared to procedure of using teacher's manual of basal series. Population consisted of 60 students in two groups in the first grade. The *Metropolitan Achievement Test* was used. Duration of study was 2 years, 5 months. Data were treated by means of Fisher t-test.

**Conclusions.** There was a significant difference in number of words experimental group was able to reproduce. There was no significant difference between groups in reading comprehension, word recognition, and word meaning.

31. BATTY, DOROTHY B. *Comparison of Individual and Paired Practice at Preprimer Level*, Unpublished M. Ed. Thesis, Boston University, 1959.

**Purpose.** To evaluate effectiveness of children working in pairs in preprimer workbooks. Population consisted of 150 first-grade children; those in the experimental group worked in pairs, and those in the control group worked individually. Tests used included the *California Test of Mental Maturity*, *Science Research Associates Primary Mental Abilities Test*, *Durrell Hearing Sounds in Words Test*, and a word recognition test.

**Findings.** Experimental group was superior to control group in word recognition and phonetic skills. Team learning appeared to be more effective method both for intelligence levels and for the sexes in developing word recognition skills and for the 90-110 IQ group in learning phonetic skills. There was no significant difference in word recognition or phonetic skills between the sexes.

32. BLOCKETT, LILLIAN H. *A Study of the Value of Using an Independent Oral Reading Circle in Teaching First-Grade Reading*. Unpublished M.A. Thesis, San Diego State College, 1955.

**Purposes.** To set up experimental program of independent oral reading in the first-grade. To evaluate effectiveness of this teaching technique by statistical analysis of standardized reading scores of experimental and control groups. To



determine whether additional 20 minutes daily of oral reading, independent of teacher direction, would result in sufficient pupil accomplishment to merit city-wide use in San Diego city schools. Population consisted of 208 first-grade pupils divided into 14 experimental and 14 control groups, consisting of 104 pairs of children matched for mental age. *Gates Primary Reading Tests* were given. Duration of the study was 10 months. The t-test for significance was used to treat data.

**Conclusions.** A paragraph reading test was shown to favor experimental group at .01 level of significance; therefore, an independent reading circle could be used to advantage with similar first-grade groups to improve achievement. Further study should be done at second- and third-grade levels.

33. BREKKE, GERALD W. *A Comparison of Time Allotments for Basal and Other Reading with the Recommendations of Reading Authorities*, Unpublished Ed. D. Thesis, University of North Dakota, 1962.

**Purpose.** To identify and compare current practices in time allotments for basal and other reading with optimum amounts of time recommended by reading authorities. Author defines "basal reading" as reading in a formal instruction period, using a basal reader series. "Other reading" was that done outside of specifically designated reading classes, either in free reading periods or in other subject areas. Normative-survey methodology was used. Sample was selected from eight geographic areas in the United States. Proportional sampling was used to select individual schools within each State. Respondents for criterion measure were selected from officers and members of International Reading Association. Means, standard deviations, and analysis of variance were used. The t-test was used in testing significance of differences between groups. Sixty-five reading authorities forwarded recommendations for weekly basal reading time allotments; 60 furnished responses for optimum amounts of time which should be used for other reading.

**Conclusions.** (1) Weekly time allotments in basal reading were 48.21 minutes greater than reading authorities recommended in grade one, 23.05 in grade two, and 40.11 in grade three. Differences were significant at the 5 percent level in the first and third grades. (2) Amounts of time employed for other reading by schools were less than those recommended by reading authorities in every grade. Number of minutes by which schools failed to meet criterion were 63.27 minutes in grade one, 48.21 minutes in grade two, and 53.79 minutes in grade three. (3) In general, less time is allotted to basal reading in each successive grade and more time is used for other reading. (4) Basal reading accounts for slightly more than half the reading experiences in the schools; other reading accounts for slightly less than half. (5) There are marked differences in time allotments for reading between various States and geographical regions. (6) For the sample, there is an apparent lack of correlation between increased time allotments for basal reading and improved achievement in reading as measured by standardized reading tests. Slight correlation is found at the third-grade level between increased time and measured achievement in reading. (7) More time is now being allotted to basal reading instruction than previously. (8) Basal reading approach is method of instruction employed by great majority of the schools.

34. CARLISLE, DON ETTA JUNE. *A Study of Individualized Reading and Basic Methods of Instruction*, Unpublished M.S. Thesis, Brigham Young University, 1960.

*Purpose.* To ascertain whether there are significant differences in growth in reading when individualized and basic methods are used. Population consisted of 150 students of six matched classes, three second- and three third-grade classes. Mean IQ of experimental group of 40 boys and 43 girls was 114. Mean IQ of control group of 29 boys and 37 girls was 113. Duration of study was 6 months. Tests used were *California Test of Mental Maturity* and *California Reading Test*. The t-ratio was used to determine whether there was a significant difference in reading growth.

*Conclusion.* There was no significant difference in rate of growth in reading corresponding to use of individualized or basic methods of instruction.

35. CLAPPER, HARRIET; CONOM, MARY L.; FLAGG, MARCIA; PUGH, ROSAMOND; SCHMALZ, VIRGINIA. *The Effectiveness of Paired Learning on a Reading Program in Grades II and III*, Unpublished M. Ed. Thesis, Boston University, 1958.

*Purpose.* To evaluate effectiveness of paired learning on a reading program in grades two and three for a 30-day period. Population consisted of 107 students in five classes. Pupils worked in pairs 4 days a week and singly on 1 day. Tests included *Gates Advanced Primary Reading Tests* and *Check Tests* built for the study. Mean differences and critical ratios were computed and compared.

*Findings.* In grade two there was a statistically significant gain in word recognition from initial to final tests, with a critical ratio of 3.76; there was no statistically significant gain on the tests in paragraph reading. In grade three there was a statistically significant gain in word recognition, with a critical ratio of 5.62, and also a statistically significant gain in paragraph reading, with a critical ratio of 2.37.

36. CONLEY, M. ELEANOR; DAS, MAYA C.; DYNAN, MARY J.; HALPIN, NANCY E.; MCKEAN, ELINOR M.; RYAN, JOANN M.; and TATTLEBAUM, SELMA R. *Teaching Reading Through Imaginative Play Situations in Grades One and Two*, Unpublished Ed. M. Thesis, Boston University, 1960.

*Purpose.* To evaluate teaching of reading through imaginative play situations in grades one and two. Population consisted of 91 children in grade one and 68 children in grade two; children were heterogeneously grouped in three classrooms in each grade. Duration of study was 6 weeks. Two inventory tests (for each grade), including basic and enrichment vocabularies, were administered at close of study. Data were analyzed to determine both basic and enrichment vocabulary mastered for each grade.

*Findings.* Imaginative play method appeared to be effective in both grades. Learning was strengthened by having children of varied abilities work together. Enthusiasm was demonstrated toward learning to read by this method. Play situation helped to draw out shy children. Good social habits developed. Oral language skills appeared to be strengthened.

37. COOKSTON, HELEN M. *An Experimental Study of Teaching Reading in a Third-Grade Classroom Through an Individualized Program*, Unpublished M.A. Thesis, Northwestern State College, Natchitoches, La., 1959.

*Purpose.* To determine progress of a third-grade class through use of an individualized reading program. Population consisted of 22 pupils in grade three. Duration of study was 3 months. *Stanford Reading Achievement Tests* were used. Reading achievement scores at beginning and end of program were compared.

*Conclusions.* Length of study was too brief to evaluate results properly. Progress was favorable but not statistically significant. Teacher considered method effective but somewhat difficult to organize and reorganize. Pupil and parent reaction to program was favorable.

38. FLINTON, DORIS. *Audio-Visual Methods for Teaching Primary Reading*, State University College of Education, Albany, N.Y., 1962.

*Purpose.* To determine effect on teaching of reading in an experimental, integrated language arts program for grades one through three of films, filmstrips, and booklets employing "Basic English." Population consisted of 148 pupils in six experimental classes and six control classes. Experimental and control groups were compared in performance on *Metropolitan Achievement Test*, *Step Listening Test*, *California Test of Personality*, and an educability test. Duration of study was 3 years.

*Results.* Boys in control group tended to surpass boys in experimental group, while girls in control group tended to do less well than girls in experimental group. Both boys and girls in experimental groups attained somewhat higher scores on various aspects of work in composition. There were no significant differences in reading ability. After the third year of operation, the experimental program was adopted for all incoming first-grade classes.

39. FRIEDMAN, HAROLD E. *Guidelines for the Organization and Administration of an Individualized Reading Program in the Elementary School*, Unpublished M. Ed. Thesis, University of Southern California, 1959.

*Purpose.* To bring together main principles and factors that should be considered in establishing an individualized reading program.

*Recommendations.* Range of difficulty and interests in reading necessitates minimum of two or three books per child. Author recommends class period of 60 to 90 minutes daily, and individual conferences with teacher of 3 to 5 minutes. Teacher may unify class for discussion purposes during last 10 to 20 minutes.

40. MUNSEY, THELMA L. *Techniques for the Effective Teaching of Reading in the Third Grade in Soldiers Memorial School in Claiborne County During 1956-1957*, Unpublished M.S. Thesis, University of Tennessee, 1957.

*Purpose.* To determine, select, and use techniques most valuable in teaching reading in the third grade in Soldiers Memorial School during 1956-57. Dura-

tion of study was 1 year. Population consisted of 38 pupils in grade three. Tests used were *Lorge-Thorndike Intelligence Test*, *Metropolitan Achievement Test*, *My Weekly Reader Test*, *Third Grade Readiness Test*, *Speech Test*, and *Audiometric Test*.

*Findings.* Diagnosis should be made of pupils' needs, and techniques should be devised to meet needs. Books of several grade levels should be available. Close contact with parents is desirable. Tests should be used for diagnosis. There should be centralization of audiovisual aids. There should be more emphasis on child development and less on grades. Teachers should handle no more than 30 students. There should be more preplanning on the part of the teacher.

41. NOSKOFF, FAYE HARWOOD. *A Study of the Effect of the Divided Opening Program on Reading Achievement of First-Grade Children in the City of Burbank*. Unpublished M.A. Thesis, University of California, Los Angeles, 1955.

*Purpose.* To investigate effect of teaching reading to first-grade children under divided opening of classes, i.e., approximately one-half of class came an hour earlier and left an hour earlier than other-half. Reading was taught during first and last hours, with one-half of class in each session. Initial and final tests were administered to all first-grade pupils. Significance of difference between experimental and control groups was determined by analysis of variance. Experiment was conducted with entire classes, with statistical allowance for lack of equivalence made by applying adjustment for covariance.

*Conclusion.* Although two groups started with no statistically significant difference on initial test, experimental group was significantly superior at 1 percent level of confidence on final test; difference was even more marked when adjustment for covariance was made. Plan was discontinued in Burbank district.

42. PATTERSON, AGNES MACLACHLAN. *A Comparison of the Individualized Reading Approach with the Basal Reader Group Approach in the Teaching of Reading to a Selected Group of First-Grade Children*. Unpublished M. Ed. Project, Indiana (Pa.) State College, 1961.

*Purpose.* To examine individualized reading approach critically. To report writer's findings in alternating its use with that of basal reader group approach in teaching reading to 27 first-grade children. Fourteen children were taught reading according to basal reader group approach, and 13 were taught by means of individualized reading approach for 1 month. During ensuing month, approaches were reversed. *Metropolitan Primary Reading Tests* were administered.

*Conclusion.* Comparison of advantages and disadvantages makes individualized reading approach appear more desirable than basal reading approach.

43. SIMMONS, MARIAN A. *An Exploratory Analysis of Experiential Background and Elaborative Reading Within the Framework of a Developmental Program of Reading Instruction in a Third-Grade Classroom*. Unpublished Ed. D. Thesis, University of Colorado, 1957.

*Purpose.* To determine effect of children's experiential backgrounds upon their acquisition of skills of elaborative reading and upon their general reading.

ability. Population consisted of 15 boys and 15 girls in the third grade. Tests included standardized reading tests and informal testing instruments. Duration of study was one year. Data were analyzed to reveal relationships among background, elaborative and general reading ability, and other factors.

**Conclusions.** Experiential background showed no significant relationship to general reading ability, elaborative reading ability, or to other related factors. Instruction increased the extent to which children related personal experience to reading with outcomes influenced by individual differences. Extension of experience via modern media has unquestionably modified rate of firsthand experience in relation to reading. Instruction was deemed to be most important factor in effecting superior reading progress which was realized. Boys realized more progress than girls in both general reading ability and elaborative reading ability. Oral reading by sight under teacher direction in small reading groups was regarded as most effective instructional procedure for primary children. Each of elaborative reading skills was within capabilities of third-grade children. Levels of performance were identified for third-grade children in each aspect of elaborative reading. Skillful questioning was important instructional technique for structuring type of desired mental reactions involved in elaborative reading. Elaborative reading was effective with all children within their limits but especially with rapid-learning children. Statistical analysis suggested that the test devised to appraise the five elaborative reading skills possessed inherent value as an evaluation instrument.

44. SOWERS, WILLIE K. *Does the Westside Elementary School Provide for the Reading Needs of Students in the Primary Grades?* Unpublished M. Ed. Thesis, Northwestern State College, Natchitoches, La., 1958.

**Purposes.** To review opinions of leading educators in field of reading in primary grades. To survey methods and procedures used by teachers in primary grades in Westside School and to evaluate them in light of authoritative opinions. To evaluate pupils' progress at end of third year of instruction to determine effectiveness of the school's program. Population consisted of 345 students in 11 classes in one school, plus the teacher of each class. Duration of study was 4.5 months. Tests used were the *SRA Primary Mental Abilities Test* and *California Reading Achievement Test*. Narrative and tabular presentations of achievement scores were made, indicating progress.

**Conclusions.** Methods and procedures used in the school were consistent with those prescribed by leading authorities in the field of reading in primary grades. Meeting these needs is not a static condition; methods must be continually adjusted and revised.

45. SPARKS, PAUL E., and FAY, LEO C. "An Evaluation of Two Methods of Teaching Reading," *Elementary School Journal*, 57: 386-390, April 1957.

**Purpose.** To determine whether *Phonetic Keys to Reading* method produced readers superior to those produced by conventional *Basic Reading Program* method. Duration of study was 4 years. Population consisted of two school communities with approximately equal socioeconomic status, as determined by Warner's Index of Status Characteristics. Teaching staffs were quite com-

parable, as determined through use of *Almy-Sorenson Rating Scale for Teachers*. All pupils from grades one, two, three, and four who had attended one school were included—418 pupils from School A and 406 from School B. Tests administered were *Otis Quick-Scoring Mental Ability, Alpha, California Reading Test, Gates Reading Survey*, and *Stanford Achievement Test*. Attempts were made to control all variables except methods. Covariance analyses were performed for each test at each grade level, using successively all subjects, girls alone, boys alone, high-intelligence groups alone, and low-intelligence groups alone. High-intelligence groups included pupils with IQ's of 101 and above; low-intelligence, those with IQ's of 100 and below. *Phonetic Keys to Reading* method was used in School A and *Basic Reading Program* was used in School B.

*Findings.* First-grade pupils of School A were superior in reading comprehension and vocabulary, with significant difference at 1 percent level. Second-grade pupils of School A were superior in reading comprehension, but there was no significant difference between groups in vocabulary. There was no significant difference between third- and fourth-grade groups in Schools A and B in reading comprehension, although a slight trend in significance favored slow-learning pupils in grade three of School B in reading comprehension. There was no significant difference between third- and fourth-grade pupils in the two schools in vocabulary. There was no significant difference at end of grade four in reading speed or spelling achievement of the pupils. At end of grade four, pupils of School B appeared to be superior in reading accuracy, which was significant at 5 percent level.

46. TAYLOR, BLANCHE F. *An Evaluation of Professional and Popular Periodical Literature on the Teaching of Reading in the Primary Grades*. Unpublished M.A. Thesis, Catholic University of America, 1959.

*Purpose.* To examine both popular and professional articles appearing in periodicals provoked by Flesch's book, *Why Johnny Can't Read and What You Can do About it*.

*Conclusions.* Reading problems are not confined to the United States; they are not solved by use of a strictly phonetic method of instruction, or by having parents teach their children. Reading readiness is a vital part of the reading program, since all children entering the first grade are not necessarily ready to read. Research is needed to point the way to more effective methods of teaching reading.

47. WALKER, GAYNELL J. *An Experiment by a First-Grade Teacher with a New Program of Teaching Reading*. Unpublished M.A. Thesis, Northwestern State College, Natchitoches, La., 1959.

*Purpose.* To evaluate rate of progress of a first-grade group using *Phonic Keys to Reading* as basic program in reading. Population consisted of 27 first-grade pupils. Duration of study was nine months. Tests used were *Roe Peterson Reading Readiness Test* and *Metropolitan Achievement Test*. Individual scores and group means were compared at beginning and end of study.

*Conclusions.* Adequate to good progress was made by all pupils using the method. No one method of teaching reading is sufficient to teach all pupils.

## Grouping for Reading Instruction

48. BREMER, NEVILLE. "First-Grade Achievement Under Different Plans of Grouping," *Elementary English*, 35: 324-6, May 1958.

*Purpose.* To compare achievement in reading in grade one of children who worked under two plans of grouping, designed to provide instruction for children of different readiness levels. (Children entered school at the age of 6.) In one plan low-readiness children were placed in separate classrooms; in the other plan low-readiness pupils remained in the regular classroom. Population consisted of Anglo-American children in Amarillo, Tex. Pupils were classified as low, average, or high in readiness. Tests administered were *Metropolitan Readiness Tests*, *Gray-Volaw-Rogers General Achievement Tests*, *Primary Test, Form Q* (latter given at beginning of grade two). Children who scored below 65 on readiness test in 1952 were placed in separate rooms, whereas those who scored below 65 in 1953 remained in assigned rooms. The two sets of children were paired according to chronological age, readiness test scores, sex, class size, half or full days in school, attendance, and socioeconomic status of family. The same teacher was assigned to both members of each pair.

*Results.* Mean reading score (21.00) of the 1953 group, in which low-readiness pupils remained in the classroom, was significantly greater at the 5-percent level than the score (20.50) of the 1952 group, in which low-readiness pupils were in separate rooms.

49. LEMLEY, LOIS M. *Grouping by Reading Ability in Self-Contained Classrooms*, School District of Reading, Pa., 1961.

*Purposes.* To determine whether heterogeneity hampers progress in the classroom. To find out if better results could be accomplished by grouping children in classrooms according to reading ability (by grades in self-contained classrooms). Population consisted of 798 students in grades one through six in 26 classes. Tests used were *Gates Reading Tests*, *Science Research Associates Tests*, *Metropolitan Achievement Tests*, and *Stanford-Binet*. Teacher opinion was also used.

*Conclusions.* Learning situation, as well as classroom climate, improved. Test results, teacher judgment, and children showed marked gain. Children, teachers, and principal preferred this arrangement.

50. RITTENHOUSE, GLORIA G. *An Experiment in Reading by Invitation in Grades One Through Four*, M.S.E. Thesis, University of Akron, 1959. (Published in *Reading Teacher*, April 1960.)

*Purpose.* To assess value of allowing children to select their own reading groups. Population consisted of 234 children from grades one through four. Duration of study was 2 years. Tests used were *California Reading Test* and *Durrell Analysis of Reading Difficulty*. Critical ratios were computed.

*Findings.* In grade one, greatest number of points gained on *California Reading Test* was 23 the first year and 44 the second year. In grade two, six children made gains of 10 or more points the first year and 8 the second year. Growth in grade three was undetermined, since critical ratios for both years indicated that growth was due to chance. In grade four there were 13 children with 10 points or more the first year and 23 the second year.

51. SEBOLT, ALBERTA P. *An Applied Study Concerned With Grouping in Reading*, Unpublished M. Ed. Thesis, Springfield College, 1958.

*Purpose.* To test relative effectiveness of solo grouping v. multiple grouping. Population consisted of 31 third-grade students in 1 classroom. Duration of study was 6 weeks. *Gates Advanced Primary Reading Test* was administered in September, January, and May. Methods of grouping were rotated during study. Test scores were compared.

*Findings.* Twenty-three children showed increase in reading level from .1 to 1.35 at end of 6 weeks. Two dropped in reading level and six showed no increase. Majority of the children, 93.5 percent, indicated approval of the program.

### Reading Achievement

52. BALKUS, LILLIAN PATRICIA. *A Comparative Study of Reading Achievement in a Graded and a Nongraded School*, Unpublished M. A. Thesis, De Paul University, 1959.

*Purpose.* To determine through statistical computations the comparative value of a graded and a nongraded reading program at primary three, or third-grade, level, as evidenced by gains in reading achievement made by both groups. Ninety-six third-grade pupils who had been in the school for three consecutive years were used in study. Tests used were *Kuhlmann-Anderson* and *Stanford Achievement Tests*, Forms J and K. Test scores were compared.

*Conclusion.* Differences were found negligible between groups.

53. BURWEN, BARBARA R.; CULLITON, THOMAS E., JR.; MATHESON, LOIS A.; VINAORA, JOHN. *An Analysis of the Relationship of School Entrance Age to Mental Age and School Achievement in Grades One, Three, Five, and Eight*. Unpublished Ed. M. Thesis, Boston University, 1958.

*Purpose.* To obtain further information concerning relationship of school achievement to chronological age at time of entrance into grade one. Population consisted of two groups: "original group", consisting of 915 children who entered the first grade and "select group," consisting of 394 children of the original population who continued in the same community through grade eight. Tests included *Metropolitan Achievement Test* and *Kuhlmann-Anderson Test*.

*Findings in regard to mental age.* There was one significant difference in the comparison of mental ages in select groups in grades one and five but none in grades-three and eight. In the original group, younger children had higher IQ's because there was a greater difference between their mental and chronological ages than there was for the older children. In select group, mental age was greater than chronological age, with the greatest difference for the youngest group. In both original and select groups, younger children did as well in school as older children, with no significant differences between any of the age groups in any subject.

*Findings in regard to achievement.* There were no statistically significant differences between age group comparisons in reading, arithmetic, language, and spelling. There was no consistent tendency for any age group to be superior in any one subject throughout the years or to have highest mean in any subject.



Age group No. 2 (5 years, 6 months to 5 years, 8 months) had lowest mean in reading in every grade and in arithmetic in grades three, five, and eight. There was no consistent tendency for any age group to have lowest mean in spelling or language.

54. CARTER, CLEO DORRIS. *The Relationship Between Personality and Academic Achievement of Seven-Year-Olds*, Unpublished Ed. D. Thesis, Indiana University, 1958.

*Purpose.* To study relationship between personality and certain elements of academic achievement in 7-year-old children. Population consisted of 196 pupils in grade three in eight classes in six schools. Tests used were *California Test of Personality*, *California Achievement Test*, *California Mental Maturity Test*, and *Warner Status of Characteristics Index*. Analysis of variance and multiple regression analysis were the statistical techniques used.

*Conclusions.* There is no significant relationship between socioeconomic status or personality and reading achievement. Including personality and socioeconomic factors in multiple correlation prediction did not increase correlation significantly over that of intelligence alone.

55. COSBY, FELIX, chairman. *The Effect of Class Size Upon Reading Achievement in First Grade*, Curriculum Research Bulletin No. 7, Orange County, Florida, Board of Public Instruction, July 1961.

*Purpose.* To assess effect of class size upon first-grade reading achievement. Population consisted of 201 students enrolled in six "large classes" of more than 36 pupils, and 219 enrolled in nine "small classes" of fewer than 30 students. Tests used were *Metropolitan Readiness Test* and *Williams Primary Reading Achievement Test*. Duration of study was one year. Chi-square technique was used as well as t-statistic to compare differences between means.

*Findings.* Mean reading achievement of students in small classes was 22.58, and of students in large classes 19.21, with a statistically significant difference of 3.40 favoring students in small classes. Twenty-three percent of students in large classes and 17 percent of students in small classes were retained in the first grade at the end of the school year.

56. DIXON, W. ROBERT. "The Relationship Between Reading Achievement and the Method of Teaching Reading," *School of Education Bulletin*, University of Michigan, April 1956.

*Purpose.* To compare age of learning to read of children in University Elementary School and children in a public school. Age of learning to read is defined as that chronological age at which a reading age of 84 months is reached on the *Gates Primary Reading Tests*. Population consisted of 109 boys and 102 girls from University School and 223 boys and 211 girls from public school who had continuous records of reading achievement through the sixth grade. A reading age of 84 months at or before the chronological age of 84 months was achieved by 66.8 percent of the boys and 86.3 percent of the girls from public school, but only by 44.9 percent of the boys and 60.8 percent of the girls from the University School. Differences could not be attributed to intelligence, since average IQ of the girls in University School on the *Revised Stanford-Binet Scale* was 121 and of boys, 120. *Kuhlmann-Anderson Intelligence Test* was used in the public school with average IQ of girls, 111, and of boys, 110. In the University

School, children were introduced to reading according to their readiness for it, with instruction highly individualized and with each child advancing at his own rate of growth. Basal readers were used, but not pursued systematically. The public school employed a systematic approach to reading. To develop readiness, beginning reading classes were given a planned program of instruction lasting from 1 to 2 months. Basal readers were used systematically year by year as basis of reading instruction. It appears that the systematic approach employed by the public school enables children to learn to read early and reduces individual variation in age of learning to read. Informal practice pursued by the University School apparently delays age of beginning reading and maximizes individual variation in this connection. Initial difference between groups is not sustained indefinitely; initial delay on the part of the University School group is gradually overcome. Curves meet at age of about 132 months.

*Conclusion.* Difference in method does not have a lasting effect, reading can be taught successfully either way.

57. EDDINGS, INEZ CLARK. *Patterns of Reading Growth: A Longitudinal Study of Patterns of Reading Growth Throughout the Six Grades in Two Elementary Schools*, Unpublished Ph. D. Thesis, University of South Carolina, 1956.

*Purposes.* To identify patterns of reading growth among a group of pupils during the six grades of elementary school and, concomitantly, to identify factors that differentiate reading growth of boys and girls. Population consisted of 109 pupils in the sixth grade who had been enrolled in two elementary schools for their entire elementary experience. Data were analyzed by use of the t-test.

*Conclusions.* Patterns of reading growth among groups of elementary pupils are established early in formal reading experience of the group. There is a tendency for individuals to progress in reading in harmony with their mental ability. High mental ability, proper visual and auditory functioning, good educational background of parents, and emotional and social maturity tend to characterize successful pupils. Educational backgrounds of parents tend to be more closely related to reading growth of pupils than occupational status of parents. Among groups of normal sixth-grade pupils of comparable mental ability, reading performance of girls tends to be higher than that of boys. In general, there is little difference between patterns of reading growth of sexes within different reading level groups.

58. FAULKNER, MARY JO; KAUFMAN, EILEEN S.; LEVINE, PHYLLIS H. *Follow-up Study of One Hundred and Twenty-Nine First-Grade Children*, Unpublished M. Ed. Thesis, Boston University, 1957.

*Purpose.* To observe progress of 129 children who had not progressed in grade one in knowledge of letter names, consonants and blends, applied phonics, and reading achievement. Eighty-nine boys and 40 girls had made a score of 10 or below on the *Detroit Word Recognition Test*; other tests used were the *Boston University First Grade Success Study* and a reading achievement test constructed for the study. Duration of study was one year. Mean differences and critical ratios were computed and compared.

*Findings.* Group tested was a normal population with a chronological age mean of 74.98 and a mental age mean of 74.20. There were statistically significant gains in knowledge of capital letters (critical ratio of 5.39 from January

1956 to February 1957), in knowledge of consonants and blends (critical ratio of 12.69 from January 1956 to February 1957), in knowledge of lowercase letters (critical ratio of 9.13 from January 1956 to February 1957), and in applied phonics (critical ratio of 13.92 from January 1956 to February 1957). Reading achievement improved with the increase in knowledge of letter names, sounds, and applied phonics; on the individual reading test in January 1956, 50 percent of the children had scores of less than 30, and in February 1957, 50 percent had scores of 100 or more.

59. FRASER, MOTHER CLOTILDE ANGELA, O.S.U. *A Comparison of the Reading Achievement of Two Primary Classes*, Unpublished M.A. Thesis, Catholic University of America, 1958.

*Purpose.* To discover causes of poor achievement in reading of some children in primary grades and to provide methods that would prevent failures and reading deficiencies. Population consisted of 57 first- and second-grade pupils in an experimental group and 57 in a control group. Experimental group was divided into two classes, one meeting in the morning and the other in the afternoon. Control group met as a class with all-day sessions in first and second grades. Duration of study was 3 years. Statistical technique was not indicated.

*Conclusions.* Difference in achievement at the end of the first grade in favor of experimental group indicated value of smaller classes and individualized attention. There was no significant difference in achievement between second-grade groups.

60. GATES, ARTHUR I. "Sex Differences in Reading Ability," *Elementary School Journal*, 61: 431-434, May 1961.

*Purpose.* To study sex differences in reading ability of 13,114 pupils: 6,646 boys and 6,468 girls in grades two through eight in 12 school systems in 10 States. *Gates Reading Survey* was administered to all pupils. Population was approximately typical in intelligence or scholastic aptitude, socioeconomic level, and other pertinent respects. Differences in mean raw scores in speed, vocabulary, and comprehension were in favor of girls at all grade levels. When differences in raw scores were converted into standard scores, no consistent trend was found; averages for all grades (except grade two) and all tests showed a superiority of slightly less than 0.2 standard deviation for girls. Boys outnumbered girls in the three lowest scores in all tests by about 2 to 1 in grades three and four and by gradually decreasing proportions thereafter. Although the usual explanation for girls' superiority in reading is that they mature earlier, the explanation seems unlikely, for the superiority of girls appears to be as great in upper grades as in lower. Data in the study suggest an environmental rather than hereditary explanation. It is possible that more girls than boys pursue a kind of life in which more respect, more incentives, and more opportunities for reading appear earlier and persist longer, and that more boys than girls may find little or no early need for learning to read. These boys fall behind the girls at the beginning, and a relatively large number of them remain in the conspicuously poor reading group throughout following grades. If this thesis is valid, it explains results of the study: the boys' lower mean scores in reading ability through the grades, the greater variability of the boys' abilities, and their predominance at the bottom of each grade group without a corresponding accumulation at the top.

61. GAVEL, SYLVIA R. *Patterns of Growth in First-Grade Reading*, Ed. D. Thesis, Boston University, 1957.

*Purpose.* To investigate levels of reading achievement at the end of grade one in relation to status and growth of various word perception abilities measured earlier in the year. Duration of study was 1 year. Population consisted of 1,542 first-grade students in 64 classes in four communities. Tests administered in September, November, and February were *Boston University First Grade Success Study* and *Detroit Word Recognition Test*. Tests of word classification and of paragraph meaning were also given. Coefficients of correlation were computed. Reliability coefficients on unpublished tests were determined by use of Kuder-Richardson Formula No. 21, and ranged from .74 for identifying letters named to .97 for a combined test of silent reading.

*Findings.* Average reading achievement was above the national norm. Elimination of needless readiness practice for pupils with high September learning rates and background abilities produced an unusual proportion of children reading above third-grade level. At end of the year, 4 percent of population had slight vocabulary of fewer than 100 words. The community with no local supervision of first-grade teachers in study had the lowest reading achievement in June.

62. GILLMORE, ZELDA C. *Suggested Criteria for the Identification of Superior Readers in Grade One*, Unpublished M.S.E. Field Report, Drake University, 1958.

*Purpose.* To discover ways of identifying superior readers in first grade. Two surveys of the literature were made, one to find methods of appraising reading abilities, and the other to determine which reading abilities should be measured.

*Result.* No one measuring device is adequate to measure all reading abilities. Much of evaluation is dependent upon the teacher, who is in a position to study the child daily.

63. HARRINGTON, SISTER MARY JAMES, S.C.L., and DURRELL, DONALD D. "Mental Maturity Versus Perception Abilities in Primary Reading," *Journal of Educational Psychology*, 46: 375-380, October 1955.

*Purpose.* To determine proportionate dependence of reading success on visual discrimination of word elements, auditory discrimination of word elements, phonics, and mental age. Population included 500 second-grade children in a parochial school in Boston at end of second grade. Tests used were *Otto Quick Scoring Mental Ability Test, Alpha, Form A*. The original silent reading word classification test correlated .80 with original oral reading test (reliability .98, obtained by split-half method and corrected by Spearman-Brown Formula). The split-half, corrected reliability of other tests were visual discrimination, .80; auditory discrimination, .90; phonics discrimination, .98.

*Procedure.* Three hundred and twenty-two children were paired who were nearly equal on each of three variables, but markedly different in the variable being studied. Critical ratios of relation of various factors to reading achievement were (1) auditory: 2.7; (2) visual: 5.8; (3) phonics: 4.1, and (4) mental

age: 5. Possible explanation for lack of influence of mental age may be that the mental test used is primarily a measure of oral language comprehension, which is the major element measured in most primary-grade intelligence tests.

A partial correlation study using entire population of 500 confirmed the findings of the paired comparison study, with the minor exception that visual discrimination showed a higher correlation with reading than did phonics. Same tests and statistical procedures were used in the Midwest with a population of 1,000 paired children at end of second grade. Critical ratios of relation of various factors to reading achievement were: (1) auditory: 6.4; (2) visual: 7.4; (3) phonics: 6.1, and (4) mental age: 1.6.

*Conclusions.* Auditory and visual discrimination of word elements have high importance in success in acquiring a primary-grade reading vocabulary. Phonics instruction is clearly important, having a higher relation to reading achievement than any other factors studied. Mental age, as measured by the test used, has little influence on success in learning to read.

64. HARTSFIELD, RUBY C. *Influence of Background Music on Reading Achievement*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1960.

*Purpose.* To determine relationship between background music and reading achievement. To see whether reading survey tests indicate a significant relationship among reading rate, reading vocabulary, and comprehension when given with relaxing background music, with background music having a "beat," and without background music during testing period. Population consisted of 33 students in primary grades. Statistical techniques used were Pearson product-moment coefficient of correlation and Fisher t-test.

*Conclusions.* Rate of reading speed is very significant when tested with background music having a beat and significant when tested with relaxing music or without music. Reading vocabulary is very significant when tested with relaxing music or when tested without music and significant when tested with music with a beat. Reading comprehension is very significant when tested with relaxing music and significant when tested with background music having a beat or without music.

65. HOFFMAN, MARGARET R. *Attitudes of Thirty First-Grade Children at Nash Elementary School Toward Beginning Reading in Relation to Reading Activities of the Family*, Unpublished M.S.E. Field Report, Drake University, 1959.

*Purpose.* To compare child's reading experience in the home with his reaction to reading instruction in the classroom to determine positive or negative attitude of child toward beginning first-grade reading. Population consisted of 30 first-grade students. *Metropolitan Reading Readiness Test* was used as well as a *Survey of Reading in the Home* and a *Survey of Interest in Reading Materials in the Classroom*. Coefficients of correlation were computed.

*Results.* Correlation of .765 indicated direct relationship between number of books and reading materials in home and readiness test scores. Correlation of .930 indicated relationship between survey of interest in classroom materials and scores on readiness test scores.

66. HUGHES, BYRON O., and OLSON, WILLARD C. *The Growth and Achievement of Late-Starting Boys and Girls*. University of Michigan, Inter-Institutional Seminar in Child Development, 1960. Education Department of the Henry Ford Museum and Greenfield Village, Detroit, Mich.

*Purpose.* To analyze evidence accumulated at University Elementary School on a group of late-starting boys and girls, i.e., who have an age of beginning reading at or later than 96 months of age. Estimate of age of beginning reading is reading age of 84 months on *Gates Primary Reading Test*. Population consisted of 44 boys and 33 girls who attended the University School from grade one at least through grade six. Average IQ of late-starting boys was 108.1 and of girls, 113.8. Comparison of boys and girls within late-starting group shows boys to be significantly faster than girls in rate of achievement subsequent to beginning in reading, spelling, and educational ages.

*Conclusions.* Data on growth in school achievement show that late-starting boys and girls in University School eventually equal and exceed standards of age and potential. Late-starting children of this population were significantly less mature physically than non-late-starting children. Age of beginning achievement and level of achievement at any specified timepoint co-vary in direct proportion to variation in physical maturation.

67. JOHNSTON, KATHRYNE R. *A Study of Reading Achievement in the Primary Grades of the Rockdale Elementary School, 1956-1958*. Unpublished M. Ed. Thesis, University of Texas, 1959.

*Purpose.* To determine effect of phonics-based reading program upon learning to read. Population consisted of 337 third-grade students. Duration of study was 3 years. Tests used were *Gray-Votaw-Rogers General Achievement Tests* and *California Test of Mental Maturity*. Achievement scores after 1, 2, and 3 years of instruction were compared. Analysis of covariance was technique used to treat data.

*Findings.* Reading achievement was normal to high for all years. There was no basis for evaluating effect of grade three phonics program. Phonics programs in grades one and two did not appear to contribute anything beyond previously used reading program.

68. JONES, DONALD F. *Investigations of Some Factors That Influence Reading Achievement*. Unpublished M. Ed. Thesis, Illinois State Normal University, 1959.

*Purpose.* To determine ways of selecting children for initial reading instruction in districts unable to buy reading readiness tests. Population included all first-grade children in one district. Duration of study was 2 years, 2 months. Techniques used to treat data were Pearson product-moment coefficient of correlation and Fisher t-test.

*Conclusion.* Chronological age is a good criterion to use in selecting children for readiness. Bright children should be given reading instruction earlier than normal or below-normal children. Children of high intelligence should be expected to have better comprehension and larger vocabularies. Meaningful vocabularies and reading for meaning are skills that should both be stressed in a reading program.

69. LAUNDERVERILLE, SISTER MARY FLAVIAN. *A Study of the Effectiveness of a First-Grade Listening Test as a Predictor of Reading Achievement*, Unpublished Ph. D. Thesis, State University of Iowa, 1958.

*Purpose.* To investigate use of a measure of listening ability as a means of predicting success in a first-grade listening test. Tests included *Harrison Stroud Reading Readiness Test*, *Primary Reading Profiles*, *Reading Readiness Listening Test* constructed by investigator, and an achievement test. Population consisted of 174 first-grade pupils in 11 classrooms. Duration of study was one year. Correlation coefficients and multiple correlation coefficients were computed.

*Conclusions.* A listening test of type constructed in this study can be used to measure varying listening comprehension abilities of beginning first-grade pupils. A listening test used in this study was as effective in predicting success in reading as was a standardized reading readiness test. Performance of a listening test and reading achievement test for use in study warrants careful and costly work essential in development of all good educational measuring instruments. Rather low correlation between two readiness tests, plus fact that multiple correlation is higher than either readiness test given alone, warrants attempts to build reading readiness test that combines features of both. Correlation between reading readiness listening test and primary reading test was .53, and between reading readiness listening test and standardized reading test was .53. Multiple correlation between composite of two readiness tests and standardized reading test was .66.

70. McCracken, Robert A. "The Oral Reading Performance of a Second-Grade Class Using an Informal Reading Test," *Journal of Educational Research*, 55: 113-117, November 1961.

*Purpose.* To record oral reading performances of 36 second-grade children in reading materials below grade level and at grade level. To compare oral performances of good, average, and poor readers. Test consisted of four graded paragraphs, from 39 to 77 words in length. Taken from *Teacher's Manual of the Sheldon Basic Readers*, test was given individually. Oral reading errors included repetitions, substitutions, additions, mispronunciations, omissions, misplaced punctuation, and mumbling. Errors were counted qualitatively whenever one of these seven errors occurred, and quantitatively whenever a different error was made.

*Conclusions.* Both quantitatively and qualitatively counted errors seemed to have equal discriminatory value in determining oral reading achievement. Qualitative errors did not seem to discriminate between average and poor readers, although they may have some value in discriminating between good readers and others. Comprehension seemed to discriminate between good readers and others, but not between poor and average readers. Speed of oral reading seemed to discriminate among good, average, and poor reading groups. Wide ranges of individual performance were observed in all three groups in speed, comprehension, and errors with overlapping in all areas; there was some overlapping in comprehension and errors among the three groups; no overlapping between good and poor groups in speed. Word recognition seemed to be major problem for overaged poor readers. Comprehension seemed to be low. It seemed that free-response comprehension was difficult for these children.

71. MCGHEE, NAOMI SIMMONS. *The Relationship of Standardized Diagnosis and the Reading Achievement of a Third-Grade Class*, Unpublished M.S. Thesis, University of Tennessee, 1959.

*Purposes.* To investigate levels of silent and oral reading skills of each pupil in a third-grade class. To diagnose specific weaknesses. To investigate levels of retardation and disabilities. To investigate reading achievement, following planned program of reading instruction based on standardized diagnosis. To compare reading achievement with that of third-grade class of previous year. Duration of study was 1 year. Population consisted of 60 students in grade three. Tests used were *Large-Thorndike, California Reading Test, Gates Reading Diagnostic Tests*, and *Stanford Achievement Tests*. Data were treated by comparative analysis.

*Findings.* Standardized diagnostic testing saves time by making analyses of individual and group weaknesses apparent at the beginning of school year. Analysis of levels of retardation and disabilities gives more insight into individual needs. Diagnostic testing aided both above- and below-average groups; gains for both were significant. Pupils with high IQ's tend not to be challenged by developmental reading program.

72. MCHUGH, LORETTA M. *The Effectiveness of a Planned Kindergarten Curriculum on Primary Grade Achievement*, Unpublished Ed. D. Thesis, Boston University, 1959.

*Purpose.* To evaluate effectiveness of a planned kindergarten curriculum on scholastic achievement and social adjustment in the primary grades. Population consisted of 700 children who had attended kindergarten and 620 who had not. Duration of study was 4 years. Tests used were *S.R.A. Primary Mental Abilities Test, New York Test of Arithmetic Meanings and Computations, Level Two, Stanford Achievement Test, New Basic Reading Test Curriculum Foundation Series, McKee Inventory of Phonetic Skills* and unpublished "Boston University Adjustment Scale." Data were analyzed to discover the effect of a planned curriculum on children's scholastic achievement. Critical ratios were computed.

*Conclusions.* Planned kindergarten curriculum providing experience in reading readiness, number concepts, science, social studies, and in developing motor skills contributes significantly to successful achievement in the primary grades. Kindergarten group surpassed nonkindergarten group in verbal abilities and quantitative reasoning, and in phonetic ability. Kindergarten group was markedly superior to nonkindergarten group in third-grade total achievement and appeared to have more satisfactory school adjustment.

73. NICHOLSON, ALICE. *Background Abilities to Reading Success in First Grade*, Ed. D. Thesis, Boston University, 1957.

*Purpose.* To make extensive and precise inventory of certain perceptual, auditory, and kinesthetic abilities in relation to letters and words in order to discover retention capacities for sight words, and to relate these abilities to chronological age, mental age, and sex of first-grade entrants. Duration of study was approximately 3 weeks. Population consisted of 2,339 pupils in grade one. Tests used were *Boston University Letter Knowledge Tests, Murphy-Durrell Reading Readiness Test, Otis Quick Scoring Mental Ability Test*, and *California*



*Test of Mental Maturity.* Techniques used were measures of central tendency and variability, critical ratios, and reliability checks.

*Findings.* Girls scored significantly higher than boys in 12 of the 17 measures, including mental age. Analysis by chronological age quartiles revealed no superiority of older children. Analysis by mental age quartiles revealed significant differences in all background achievements favoring higher mental ages. Analysis by learning rate quartiles revealed that children high in learning rate were markedly higher in background skills than those who were low in learning rate; success in beginning reading rests upon prereading background skills. Coefficients of reliability for various subtests ranged from .735 to .968.

74. PETERSEN, WANDA SNOW. *A Study of the Influence of Reading to Friends on Growth in Reading Skills at the Second- and Third-Grade Levels.* Unpublished M.S. Thesis, Brigham Young University, 1960.

*Purpose.* To determine difference, if any, in rate of growth of reading skills between children who share books of their own choice with friends in a social situation and children who read independently without sharing. To determine comparative amount of reading done by children in a social situation and by those whose reading is structured by teacher. Duration of study was 6 months. Population consisted of 150 students in two second- and three third-grade classes. Tests used were *California Test of Mental Maturity* and *California Reading Achievement Tests*. Pearson product-moment correlation coefficient and t-ratio were used to treat data.

*Findings.* Experimental method of sharing books was not significantly more effective in increasing reading skills or in motivating children to read more books. Slower-developing children in experimental group made greater gains than accelerated children in the group.

75. RUDISILL, MABEL. "Interrelations of Functional Phonic Knowledge, Reading, Spelling, and Mental Age," *Elementary School Journal*, 57: 264-267, February 1957.

*Purpose.* To investigate interrelations between functional phonic knowledge, reading achievement, spelling achievement, and mental age. Population consisted of 315 pupils in 10 classrooms in grade three. Tests used were original inventory constructed to measure ability to apply phonics knowledge in pronouncing new words, *Otis Quick-Scoring Mental Ability Test, Alpha, Stanford Achievement Test (Primary Reading)*, and second- and third-grade spelling lists of the *Durrell-Sullivan Reading Achievement Test*.

*Conclusions.* Intercorrelations were as follows: reading with spelling—.72, reading with phonics knowledge—.71, spelling with phonics knowledge—.69. These intercorrelations were significantly higher than correlation of any factor with mental age, as measured by *Otis Alpha Test*; these were as follows: mental age with reading—.52, mental age with spelling—.29, mental age with phonics knowledge—.42. Partial correlations were computed, indicating that there were significant factors in common between reading achievement and spelling achievement independent of phonic knowledge and mental age, significant factors in common between reading achievement and phonic knowledge independent of spelling achievement and mental age, significant factors in common between spelling achievement and phonic knowledge independent of

reading achievement and mental age, significant factors in common between mental age and reading achievement independent of spelling achievement and phonic knowledge, and significant factors in common between mental age and phonic knowledge independent of spelling achievement.

76. SARTAIN, HARRY W. "Do Reading Workbooks Increase Achievement?" *Elementary School Journal*, 62: 157-162, December 1961.

*Purposes.* To determine whether use of workbooks produced significant differences in reading skills and abilities. To observe effect of learning environment and its interaction with the two methods. Population included 10 classes of third-grade pupils: 144 in the workbook group and 147 in the control group. Tests used were *Gates Advanced Primary Reading Tests*, *California Tests of Mental Maturity*, *Silent Reading Diagnostic Test* (sections on visual and phonetic analysis), test on new vocabulary in unit studied prepared by investigator with coefficient of reliability of .94. Duration of study was 4 weeks.

*Procedure.* Pupils in each class were divided into upper and lower strata. Half of pupils in upper stratum were chosen randomly to use workbooks, while other half engaged in extra reading enrichment. Same procedure was followed by pupils in lower stratum. Regular classroom teachers taught both workbook and control groups in their own rooms. Test results for the various classes were compared by using a 2 by 10 analysis of variance. Pretest and final test scores for workbook and control groups at each of the two levels of reading achievement in the 10 classes were compared separately by the analysis of covariance.

*Conclusions.* (1) Groups of less capable readers who used workbooks showed a significantly greater knowledge of the reading vocabulary of the unit than groups of less capable readers who did not use the workbooks. (2) In some classes the capable readers who used workbooks learned more vocabulary of the unit, but in other classes capable readers who engaged in extra reading enrichment activities learned more of the vocabulary of the unit. This contradictory situation must be considered with special caution, because test on vocabulary of the unit could not be constructed with enough top to accommodate all the most capable readers. (3) In the experimental groups neither the upper nor the lower stratum reached a level of achievement in general word recognition significantly different from that reached by control groups. (4) Some entire classes achieved mean scores in general word recognition ability that were more significant than mean scores of other classes. This result was not linked to use of workbooks by groups in these classes. Apparently unidentified factors in the learning environment were responsible; possibly pupil interest, exceptional teaching, or a favorable social-cultural climate. (5) During the 4 weeks neither the more capable nor the less capable readers in experimental groups achieved gains in reading comprehension significantly different from those of control groups. (6) In reading comprehension, unidentified differences in learning environment of the various classes had a definite effect on groups in upper stratum in achievement but no important effect on groups at lower level. (7) The few pages of exercises on word analysis in the basic-reader workbooks (six for upper and three for lower groups) did not aid children in experimental groups to achieve significantly more in word analysis techniques, visual and phonetic, than children in control groups achieved during the 4-week period. (8) Of

course, the total progress of the children during their three or four years in school could be ascertained from their final test scores without reference to pre-test scores.

77. SCHIFFMAN, GILBERT B. *The Effect of Color Blindness Upon Achievement of Elementary School Males*, Experimental Research Series, Report No. 106, Board of Education, Baltimore County, Md., 1961.

**Purposes.** To determine whether a large sample of colorblind boys differs in average school achievement from normal population. To test effect upon achievement of colorblind boys of informing first-grade teacher of fact of color blindness where identified. Population consisted of 210 colorblind boys in the first grade in Baltimore County elementary schools and 318 normal color-interpretation boys randomly selected from same population. Tests used were *Lee-Clark Reading Readiness* and *Stanford Reading Test*, given in December and June. Duration of study was 1 year. Teachers of the classes which contained the first 51 colorblind subjects identified were told of the color blindness. Level of significance of mean difference was computed.

**Conclusions.** Color blindness is not a handicap to reading in the first grade. Informing the teacher of a supposed handicap may result in increased learning.

78. SCHMIDHAMER, SISTER MARY STEPHEN, C.S.A. *A Comparative Study of the Influence of the Use of a Periodical on the Reading Achievement of Two Groups of First Graders*, Catholic University of America, Unpublished M.A. Thesis.

**Purpose.** To determine whether use of a periodical in the first grade contributes to increase in reading skill and whether content of a first-grade periodical contributes to total development of the child. Population consisted of an experimental group of 217 children and control group of 258 children in the first grade. Periodical used was *Our Little Messenger*. *California Reading Tests* were administered at outset and end of experiment. Duration of study was one year. Statistical differences between means were not indicated.

**Conclusion.** Content of periodical used was of "exceptional worth" in that it provided wide variety of material for developing religious, social, and cultural concepts, attitudes, and appreciations. Use of a periodical apparently does not contribute to increase in reading skills.

79. SCOTT, MARY FRANCES. *A Study To Determine the Effectiveness of Teaching Reading Skills to Second-Grade Children With Reading Difficulties*, Unpublished M.S. Thesis, University of Tennessee, 1959.

**Purposes.** To compile and use certain teaching procedures in reading and to determine if such procedures help children with reading difficulties to achieve better academic, social, and emotional development. Population consisted of six children in grade two. Duration of study was 1 year.

**Findings.** Children with reading difficulties improve in academic achievement by following a carefully planned and guided program geared to the individual's level of learning. There is a marked change in attitude, interest, and social development of children as their academic achievement level is raised.

80. SOWERS, WILLIE K. *The Relationship Between Personality Adjustment and Reading Achievement*, Unpublished M. Ed. Thesis, Northwestern State College, Natchitoches, La., 1958.

*Purpose.* To determine relationship between personality adjustment and reading achievements in one first-grade class. Population consisted of 25 pupils. Duration of study was 4 months. Tests used were *California Short Form Test of Mental Maturity*, *Lee-Clark Readiness Test*, *California Test of Reading*, and *California Test of Personality*. Pearson product-moment coefficient of correlation was computed.

*Conclusion.* No statistical analysis for chance was attempted. Some positive correlations were found between personality and reading.

81. SUTTON, RACHEL S. "Variations in Reading Achievement of Selected Children," *Elementary English*, 37: 97-101, February 1960.

*Purposes.* To study variations in reading achievement, over a 7-year period, of children who scored high on measures used in kindergarten to determine reading readiness. To observe uniqueness in the individual as he matures. To discover environmental influences that tend to foster individuality and independence in reading.

*Conclusions.* Various attributes in an individual tend to cluster about a center of gravity in growth; freedom to vary is restricted; achievement is an interaction between an inner growth potential in the child and the experiences, learning, or nurture he has had; consideration of the whole child becomes more vital and expectancies of a given child are modified accordingly. Precocity or slowness in reading may be detected early in the child's development. Reading achievement is a function of total growth, and the child is his own standard; underachieving is frequently due to some failure of adjustment between the child and his environment, overachieving often results from pressures and forces within the child's environment. Overachievement and underachievement are related to the individual's developmental design and describe temporary reactions; predictions of future reading achievement for a given child are likely to be better if based on his past performance rather than on a statistical chance.

82. TRONVOLD, HELEN L. *A Comparative Study in the Field of Reading of Two Groups of Children in First Grade, One in Minnesota and One in Norway*, Unpublished M.S. Thesis, Mankato (Minn.) State College, 1959.

*Purposes.* To determine whether children in a typical school in Norway read better than children in a typical Minnesota school. To determine specific factor responsible if differences in reading achievement exist. Population consisted of one first-grade class in Minnesota and one first-grade class in Norway. Tests used were *Gates Reading Test*; *Kuhlmann-Anderson Test*, which was translated for the Norwegian group; and *Prove I Stillelesning* (a Norwegian test). Norwegian group used phonetic-syllable method and Minnesota group used sentence, phrase, and word methods which emphasized comprehension. Gates and Norwegian tests were analyzed for word recognition, sentence reading, and paragraph reading.

*Findings.* The two groups did not differ greatly in total achievement. Norwegian group was superior in word recognition, and Minnesota group was superior in paragraph reading.

83. VICKERY, VERNA L. *Parent-Child Relationships and Reading Achievement*, Southeastern Louisiana College, July 1958.

*Purpose.* To explore affective factors in home environment in relation to reading achievement of child. Population included 102 children (57 girls and 45 boys) in grade one and 146 parents (102 mothers and 44 fathers). Duration of study was one year. Tests used were *Minnesota Scale of Parents' Opinions*, *Bernreuter Personality Inventory*, and *Gates Primary Reading Tests*. Coefficients of correlation were computed.

*Findings.* Reading achievement in grade one was correlated with expressed opinion of parents that children should be given freedom of choice and responsibility for their own behavior, expressed opinions of mothers that children should be active in their social relationships, with fathers' tendency toward dominance in face-to-face situations, and with parents' tendency to describe themselves as self-confident, particularly when children considered are boys. Reading achievement of boys seemed to be more closely related to affective factors measured than did achievement of girls.

84. WILSON, DUSTIN W. *The Influence of Kinesthetic Ability on Learning To Read*, Unpublished Ph. D. Thesis, University of Minnesota, 1961.

*Purpose.* To investigate effect kinesthetic ability has upon success in first-grade reading. Population consisted of 200 first-grade pupils randomly selected from entire first grade of La Crosse, Wis., public schools. Duration of study was 1 year. Tests used were *Science Research Associates Primary Mental Abilities*, *Stanford Achievement Test*, *Kinesthetic Word Learning Test*, and *Associative Learning Test*. Each group of kinesthetic ability was equated on mean and variance of IQ. Statistical technique used was analysis of variance of a randomized block design with unequal frequencies in the cells.

*Conclusion.* Level of kinesthetic ability exerted no significant effect on *Associative Learning Tests* or on success or failure in first-grade reading as taught in La Crosse.

85. WILSON, JOHN A. R. *Achievement, Intelligence, Age and Promotion Characteristics of Students Scoring at or Below the Tenth Percentile on the California Test of Personality*, University of California, Santa Barbara College, 1957. *Journal of Educational Research*, 52: 283-292, April 1959.

*Purpose.* To examine achievement, age, intelligence, and promotion characteristics of students who scored at or below 10th percentile on *California Test of Personality*. Population consisted of 1,083 third-grade students in two school systems, those of City B and City C. Tests used were *California Test of Personality*, *SRA Primary Mental Abilities*, and *California Test of Arithmetic, Language, and Reading*. Achievement of students who scored at or below 10th percentile and those who scored at 50th percentile on *California Test of Personality* was compared with achievement of entire third-grade groups of these schools. Means, standard error of difference between means, and critical ratios were computed.

*Conclusions.* There were no definite differences in achievement in spelling, arithmetic, reading, or intelligence between beginning third-grade students who

scored at or below 10th percentile on *California Test of Personality* and those who scored at 50th percentile on same test. Academic achievement 32 to 58 percent above level of national norms is associated with personalities that have less than half the expected scores at or below 10th percentile in cities studied. Insofar as this study is indicative, attention to academic achievement in first two grades of school such as to produce from 30 to 58 percent greater efficiency than is normal in these subjects may be beneficial to personality structure; there is no evidence that this attention is harmful, as harm is indicated on *California Test of Personality*.

86. WOESTEHOFF, ELLSWORTH S. *The Specific Reading Proficiencies of Pupils Having Normal and Accelerated Reading Growth*, Unpublished Ph. D. Thesis, University of Minnesota, 1958.

*Purpose.* To investigate some of the problems involved in teaching children who achieve substantially above grade placement and to define specifically the extent to which these capable readers possess certain basic reading skills. Population consisted of (1) 340 children in an experimental group selected from 1,028 children in the third grade whose reading grade scores fell within grade score range of 4.8 and 5.7 on *Reading Tests of the Stanford Achievement Tests, Intermediate Battery, Form M* and (2) a control group selected from 924 children in the fifth grade who achieved the same test scores. Tests used were *Gates Reading Survey Tests, Form I*; *Bond-Clymer-Hoyt Intermediate Grade Reading Tests*; *Bond-Clymer-Hoyt Silent Reading Diagnostic Tests*; *Iowa Tests of Basic Skills*; and *Large-Thorndike Intelligence Tests*. Duration of study was 5 months. Data were treated by use of unweighted means and analysis of variance.

*Conclusions.* There were no significant differences between the two groups in speed of reading. There was little justification for assuming that a given level of general reading ability insures equivalent level of competence in comprehension skills, work-study skills, or visual analysis skills regardless of the amount of formal reading instruction.

87. WOLFSON, BERNICE J., editor. "The Educational Scene," *Elementary English*, 39: 506-507, May 1962.

*Purpose of current study conducted by Lura Carrithers at University of Wisconsin, Milwaukee.* To discover if reading patterns and reading success during primary years of school can be anticipated from an emotional classification made during preschool years. Emotional classifications were made by school psychologist, social worker, and classroom teacher before children entered first grade. Population consisted of three groups of 25 children each, enrolled in the University Campus Elementary School. Each child read orally to a trained observer, who assessed his attitude toward reading every 2 weeks. At end of each year in primary grades, a reading achievement test was given. Progress report shows data of first group of children now in second grade. Correlations with achievement measured by *Spearman Rank Correlation* and with attitude by *Chi-square*.

*Findings.* Correlation of .62 between emotional status scores and word knowledge was significant at .01 level. Correlation of .73 between emotional status scores and word discrimination was significant at .01 level. Correlation of .77 between emotional status scores and comprehension was significant at .01 level.

There was no significant difference in attitudes toward reading between children classified as having no emotional problems and those classified in terms of "some doubt." A difference, significant at .001 level, was found between these two groups and a third group classified as having definite emotional problems beyond those which are developmental. Those without emotional difficulties showed the most positive attitudes. (Study, which is to be continued through 1962-63, will show results of the first group through the third grade, the second group through the first grade, and third group through the third grade.)

## Reading Programs

88. BESIO, ANTHONY E. *The Organization and Administration of a Program to Interpret the First-Grade Reading Program to Parents in the Modesto City Schools*, Unpublished M.A. Thesis, University of the Pacific, 1958.

*Purposes.* To survey organization and administration of program currently used in Modesto city schools in interpreting first-grade reading program to parents. To identify characteristics of an effective program for interpreting first-grade reading to parents as revealed by the literature. To determine schools' effectiveness in informing parents of first-grade pupils in area of reading. To offer recommendations for effective improvement of Modesto program. Schools selected were in key geographical areas and were representative of sociogeographic range within community. Parents were selected at random on a representative scale. Duration of study was one year. Questionnaire was sent to parents.

*Conclusion.* Framework of Modesto program followed basic principles and contained elements of a sound informative program. Most significant recommendation was that constant and continuing appraisal be achieved through use of scientific objective instruments.

89. BLAKEY, LILLIAN H. *A Free-Reading Program for First Grade*, Unpublished M.S. Ed. Field Report, Drake University, 1957.

*Purpose.* To develop free-reading program for the first grade as supplement to basic instructional reading program at Glick School, Marshalltown, Iowa, in order to give children an opportunity to use more reading materials, provide greater opportunity for individual and group situations in reading, stimulate thoughtful reading, and develop carry-over interests in reading. Duration of study was 9 months. Population consisted of 24 children in first grade. Tests used were *Metropolitan Reading Readiness Test*, *Otis Mental Maturity Test*, and *Gates Primary Reading Test*.

*Results.* Pupil interests play prominent role in motivating children to read. Program seems to offer more opportunity to provide for individual differences. Children read more extensively under such a program. There was more opportunity to develop all phases of language arts program. Program offers gifted and fast learners a better opportunity to make use of potential and many opportunities to develop good habits of social living. Slow learners seemed to progress more satisfactorily under systematic instruction. Program gives children opportunity to do easy research and to develop ability to make their own reading choices.

90. BROWN, DARLINE M. *A Planned Recreational Reading Program in a Third-Grade Classroom*, Unpublished M.S. Ed. Field Report, Drake University, 1957.

*Purpose.* To determine whether a program of planned recreational reading would result in greater interest in reading and/or increased reading ability. Duration of study was one semester. Population consisted of 29 pupils in grade three. *California Reading Test* was administered. Program included following activities: radio station, newspaper, and poetry projects; individual interest reading project; visit to a public library; and visit by a librarian to classroom. Program plan based on recommendations of authorities in fields of children's literature and the teaching of reading.

*Result.* Children read twice as many books during time the special program was in progress. Results of test indicated that participating group advanced from average low fourth-grade reading level to average high fourth-grade level, while another group of third-grade students advanced from average low to only average middle fourth-grade level.

91. CASEY, RITA McVEIGH. *A Study in Adapting the Reading Program To Meet the Individual Needs of a Group of Third-Grade Children*, Unpublished M. Ed. Thesis, Chicago Teachers College, 1957.

*Purposes.* To adapt a basal reading program to provide for individual differences among a group of third-grade children. To determine effectiveness of use of individualized reading material as type of sequential reading instruction. Population consisted of a third-grade class divided into two groups: 25 in experimental group and 18 in control group. Classroom tests were used. Duration of study was 6 months. Two groups were compared on basis of units of words completed and test performance.

*Conclusions.* Sufficient progress was indicated in program to justify its method. Growth was evidenced in daily reading instruction. Pupils achieved greater mastery of vocabulary. They displayed increased interest in reading and read with greater understanding. Preparation of similar "units" was recommended for further study.

92. SANDERS, FLORENCE P. *A Concerted Effort To Improve Reading in a Primary School*, Unpublished M.A. Thesis, University of California, Los Angeles, 1955.

*Purposes.* To determine causes of reading retardation. To prevent retardation by improving beginning reading program. Program was developed through inservice teacher training. Intelligence tests were given to all primary-grade pupils. Reading readiness tests were given to first grades, and primary reading tests were given to the second and third grades. Tests were administered in September and May. Duration of study was 1 year. In teaching reading, emphasis was placed on developmental reading, environments conducive to learning, abundance of reading materials, various levels of reading materials, and use of manuals for developing readiness and for developmental process.

*Conclusions.* Progress was considerably greater than that of previous year. Pupils with higher IQ's tended to make more progress in reading. Causes of retardation were chronic absence, low mental ages, negative attitudes, and visual and auditory impairments.



93. SENSOR, FRANCES DOWNS. *Essentials of a Reading Program for Mentally Retarded Children in the Elementary School*, Unpublished M. Ed. Project, Indiana (Pa.) State College, 1961.

*Purposes.* To focus attention upon educational needs of the mentally retarded in elementary school. To present essentials of a reading program planned to meet those needs. Educational needs can best be met by providing experiences that contribute directly to (1) development of physical efficiency, (2) maintenance of mental health, (3) achievement of academic proficiency by pupils with aptitudes, (4) acceptance of responsibility to family, school, and community, (5) training in useful manual skills, and (6) building of socially acceptable personal habits and attitudes.

*Conclusions.* Mentally retarded children have particular needs and purposes which they strive to satisfy. The nature of mentally retarded children limits both amount and kind of reading matter they can profit from. Every fundamental skill of reading should be taught through many and varied experiences. Criterion for evaluation of reading program for mentally retarded should be same as for normal child, i.e., how much it contributes toward his happiness in childhood and effectiveness in adulthood.

94. UZMACK, JOSEPH. *An Evaluation of Two Reading Programs*, Unpublished M. Ed. Project, Indiana (Pa.) State College, 1961.

*Purpose.* To determine which of two reading programs produced greater improvement in reading scores over a 5-month period: a homogeneous grouping method or a self-contained classroom method. Population consisted of 400 children divided into two groups. For 5-month period each group was taught under one of the methods. Standardized reading tests were given at beginning and end of experiment. Average reading increases were computed and compared.

*Conclusion.* In 82 percent of the comparisons homogeneous grouping methods produced from 1 to 3 months' greater improvement. Four of the few instances in which self-contained method produced better results were at the extreme ends of ranges.

## Reading Interests

95. GRIFFIN, SISTER PATRICK MARIE. *Factors Influencing Reading Interests in Elementary School Children*, Unpublished M. Ed. Thesis, De Paul University, 1960.

*Purpose.* To show numerous factors which influence reading interests of children. Survey was made of historical background of literature regarding interest and other factors influencing children's reading.

*Recommendations.* Parents should become familiar with these interests and stages. Panels and discussions should be held for parents. Special periods for enjoyment of stories and verse should be established in classrooms. Teachers should become more familiar with students' interests.

96. HARRIS, JAMES M. *The Expressed Reading Interests of First-Grade Boys and Girls, and the Adequacy of Current Basic Readers in*

*Meeting These Interests*, Unpublished Ph. D. Thesis, Cornell University, 1955.

*Purposes.* To ascertain relative degree of interest of first-grade pupils in content of basic readers and in other types of content. To locate major interests of first-grade pupils, especially in relation to reading. Population consisted of 248 first-grade students in 10 classes in two city and two rural schools. Tests used were *California Test of Mental Maturity*, *Gates Primary Reading Tests*, and an interest index constructed by the writer.

*Conclusions.* Significant differences were found between the sexes in degree of interest in basic readers. No significant differences in interest in basic reading materials were found between pupils of high intelligence and those of low intelligence. Findings provide evidence for believing that reading ability is a factor influencing interest or lack of interest in basic readers. Analysis of responses to questions in individual interviews indicated consistent patterns of interest from one medium to another. Responses of boys and of girls to questions in interview were generally very similar.

97. LAMB, ELIZABETH NOEL. *A Study of the Reading Interests of Poor Reading Achievers at the Second-Grade Level*. Unpublished M.A. Thesis, San Diego State College, 1955.

*Purposes.* To survey interests revealed by children who have met with little reading success in the second grade. To determine whether basic readers, supplementary readers, and second-grade classroom library books meet expressed interests of children. To develop bibliography of materials that would meet expressed interests of poor achievers. Population consisted of 36 of the poorest readers in the first grade of one elementary school.

*Conclusions.* Eighty-six percent of the children were interested chiefly in animals, cowboys, things that go, and make-believe. Libraries contained only 5 percent of the books that could be read by children of this age. Need exists for interesting reading materials at primer level.

98. WILSBURG, MARY E. *Reading Interests of Second Graders*, Ohio State University, 1961.

*Purpose.* To determine interests of second-grade pupils, as demonstrated when children select their own books. Population consisted of 23 pupils in grade two. Duration of study was 3 months. Questionnaires administered in private interviews were analyzed.

*Conclusions.* Of the categories—Folk, Information, Adventure, and Humor—the most frequently preferred was Information. Humor, especially slapstick humor, was second choice with more boys than girls. More books were read by all children in the group in self-selection program than were read by previous groups taught by same teacher in a basal reading program.

## Reading Materials

99. BERG, NATALIE H. *An Analysis of Reading Workbooks for Grades One, Two, and Three*, Unpublished M. Ed. Thesis, Boston University, 1958.

**Purpose.** To analyze reading workbooks for grades one, two, and three in relation to contents of workbooks accompanying Scott, Foresman and Co.'s basal reading series for the three grades. Thirty-one workbooks from the following publishers were compared with Scott, Foresman workbooks: American Book Co., Ginn and Co., Houghton Mifflin, and Row, Peterson and Co. Each page of each workbook was analyzed to determine type of skills presented, similarity of materials to those issued by Scott, Foresman, and amount of practice given for each skill.

**Conclusions.** Many types of exercises were included in the practice materials. Most publishers include diversified schedule of skills practice, making concentration on certain phases difficult. Practices for many different skills were given on a single page. Skills which received largest number of practices in workbooks were interpreting main idea, interpreting ideas in sequence, noting or recalling specific details and perceiving their relationship, forming sensory images, exercising judgment and drawing conclusions, perceiving relationships, following directions, using context clues as aid to word, phrase, and sentence meaning, developing and applying phonetic-analysis skills, perceiving vowels and consonants visually and aurally, and recognizing prefixes, suffixes, and inflectional derived forms.

100. BRADLEY, MARY A. *The Construction and Evaluation of Exercises for Providing Meaningful Practice in Second-Grade Reading*, Unpublished Ed. D. Thesis, Boston University, 1957.

**Purpose.** To construct and evaluate materials which provide meaningful practice in teaching reading vocabulary in grade two. Population consisted of three groups: Experimental Group A, with 102 children working in pairs; Experimental Group B, with 101 children working as a unit under teacher direction; and Control Group, with 187 children. Duration of study was 3 months. Tests used were *Otis Quick-Scoring Mental Ability*, *Metropolitan Achievement Tests*, and *Boston University Test of Hearing Sounds in Words*. Mean differences and critical ratios were computed to determine significant gains from February to May. A

**Findings.** Experimental groups A and B improved in reading achievement, with critical ratios of 4.03 and 3.86 significantly more than the Control Group, with gains of approximately 6 months as compared to 3 months for the Control Group. All groups made statistically significant gains on individual phonics inventory, with critical ratios of 3.33, 3.96, and 5.01. Experimental Group B, with critical ratio of 3.96, and Control Group, with critical ratio of 3.80, made statistically significant gains on hearing sounds in words. All groups made gains in applied phonics; critical ratio of Control Group (3.80) was statistically significant.

101. CANADA, IDA W. *An Analysis of the Various Audiovisual Aid Methods Used in the Teaching of First-Grade Reading*, Unpublished M. Ed. Thesis, De Paul University, 1960.

**Purpose.** To show how and why audiovisual aid methods can be used to develop background experiences necessary for a successful beginning in reading in the first grade. Survey was made of the historical background of the use of audiovisual materials in promoting learning experiences.

**Conclusion.** As supplement to classroom text, materials and aids are valuable in promoting growth, but they should not be used in lieu of basic text.

102. CHILCOTT, JOHN H. *An Analysis of the Enculturation of Values as Illustrated in Primary Readers, 1879-1960*, University of California, Santa Barbara, 1961. (Paper presented at California Educational Research Association Meeting, March 1961.)

*Purpose.* To examine a variety of illustrations and accompanying text in several basic reader series for evidences of values with which authors and publishers are attempting to enculturate children and teachers. Previous investigators have substantiated fact that values can be presented through symbolic representation. Basic reader series analyzed were those published by Ginn and Co., Allyn and Bacon, and Lyons and Carnahan in 1959, and McGuffey readers published in 1879.

*Conclusions.* McGuffey readers emphasize Protestant, puritan, work-success, character-building theme, whereas modern readers emphasize materialistic, status-seeking, pleasure-dominated theme. McGuffey readers were concerned with adult ideals, stated from adult viewpoint in adult language, whereas modern readers were concerned with objects and persons that bring pleasure into life of the child, spoken of as one child would speak to another. McGuffey readers emphasized ideals of all social strata, whereas modern readers emphasize ideals of upper-middle class.

103. CHRISTENSEN, LILLIAN. *A Study of the Frequency of Use and the Manner of Usage of Teachers' Guides to Basal Readers in Relation to Teachers' Years of Experience and Their Rating by Their Principals*, Unpublished M.S. Thesis, Brigham Young University, 1961.

*Purpose.* To determine practice in reading instruction. Responses of teachers to questionnaires were tabulated. Duration of study was 3 months. Thirty-two teachers were included in study.

*Findings.* Principals' evaluation of usefulness of reading manuals greatly influenced their use. Way in which manuals were used depended on individual differences in teachers more than on their years of experience.

104. DIGGS, JOAN ELIZABETH. *A Comparative Study of Primary Grade Reading in Eight Reading Series Published Between 1950-1955*, Unpublished M.A. Thesis, Catholic University of America, 1957.

*Purpose.* To examine and compare eight reading series published during 1950-55, currently used in primary grades, and to determine, on basis of mechanical features, content, and illustrations, how effectively modern writers have applied theory expounded by researchers that reading materials should be compatible with child's interests, ability, responses, and moods. Series analyzed were Faith and Freedom Readers Series, Macmillan Readers Series, Curriculum Foundation Series, Easy Growth in Reading Series, Language Arts Series, New Cathedral Basic Readers Series, Alice and Jerry Readers Series, and Ginn Basic Readers Series.

*Conclusions.* Authors have effectively utilized available research findings in primary textbook production. There is still room for research, however, regarding certain aspects of physical makeup, textual content, and illustrations of primary readers to meet interest, ability, and needs of modern child.

105. DOCTER, ROBERT L. *An Investigation of the Effectiveness of Reading Workbooks at the Elementary Level*, Unpublished Ed. D. Thesis, University of Southern California, 1960.

*Purpose.* To measure relative effectiveness and cost of workbook and non-workbook methods of carrying on followup activities in reading. Analysis was made of pretest and posttest scores of mathematically matched groups of workbook and nonworkbook classes in each of the six elementary grades.

*Findings.* Workbook usage has its peak of efficiency in grades two, three, and four. Nonworkbook materials are superior for purpose of initiating reading program during grade one. Neither type of material demonstrates clear superiority in grades five and six. Majority of teachers of all grades favor use of reading workbooks in reading programs. Reading workbooks tend to receive consistently high ratings when evaluated by specific criteria, but readiness and primer workbooks for first-grade level tend to be rated somewhat lower than those of other grades. Workbook type of followup materials cost more money, but are more economical in terms of teacher preparation time.

106. FELTON, WILMA. "The Value of Workbooks in a First-Grade Reading Program," *Elementary English*, 34: 377-382, October 1957.

*Purposes during first year of study.* To evaluate content of certain first-grade reading workbooks. To determine progress of three classes using workbooks, especially in comprehension, vocabulary, and auditory skills activities found in most workbooks. During second year, study followed same plan but included two average classes using no workbooks and an experimental class that was taught to read without a primer, preprimer, or first-grade workbooks. Population the first year consisted of 76 pupils in three classes and the second year, of 75 pupils in three classes. Tests used were *Detroit Intelligence Test for Beginning First Grade* (given at beginning of both years), *Gates Primary Reading Tests*, Types I and III, and *Gates Auditory Tests* for initial consonants and rhyming. Mental age for first year was 6.2; mean for second year for the two regular classes was 6.5, and for the experimental class, 6.4.

*Results.* Mean reading grades on *Gates Primary Reading Test*: (1) word recognition section for first year, 1.95; for second year, two average classes, 2.10, experimental class, 2.05; (2) paragraph recognition section for first year, 2.00; for second year, two average classes, 1.90; experimental class, 1.95.

107. FENNEMA, ELIZABETH H. "Mental Imagery and the Reading Process," *Elementary School Journal*, 59: 286-289, February 1959.

*Purpose.* To investigate mental imagery. Mental images can be perceived only by individual who visualizes them, in this case, the reader. Because children's vocabularies are limited, it is difficult for adults to know precisely the source and nature of children's mental images.

*Procedures.* Children were asked to tell what pictures they would draw for a particular story. Two groups were studied: Group I children, who had completed the third grade and were attending summer laboratory school at the University of Wisconsin, and Group II children, who were just beginning the fourth grade in public school in Madison. The interviewer spent about half an hour with each child. The child read the story, then was asked to describe pictures he would draw for it. Responses were taped and studied. Mental image scores were determined for each child. The total mental-image score was the

number of mental images of all kinds described by the children. Two groups evolved: one showed no action, and the other showed action. The total mental-image score was divided to show action mental-image score and nonaction mental-image score. Color mental-image score: number of color or descriptive words used. Place mental-image score: number of times child referred to location of an object. Number of mental images ranged from 1 to 33. Study explored relationship between the amount and type of mental imagery, reading ability, and intelligence. Correlations were determined between various mental-image scores and scores on reading ability and intelligence.

*Conclusions.* Group I: negative correlations between reading ability and various mental-image scores. *Gates Advanced Primary Reading Test*, Form I, was used with Group I. This test seems to evaluate same type of ability that study explored, consequently similar correlations might be expected. Group II: correlations between reading ability and mental-image scores close to zero. *Durrell-Sullivan Reading Achievement Test*, Intermediate Level, Form A, was used. Basically, it is a test of word recognition and places major emphasis on precise recall of exact meaning of words. This ability seems to have no relationship to amount and type of mental images that children form. Findings suggest that the two reading tests measure different aspects of the reading process. Correlations between each mental-image score and intelligence scores were significantly negative.

*Results* indicate that children with lower intelligence formed more mental images than brighter children. Three explanations may account for these negative correlations: (1) much teaching of reading stresses only literal meanings, (2) since the reading teacher often requires only direct recall, a bright child learns to report only what is in the story, (3) perhaps the slower child has more need of mental images to understand reading material. The slower child may use mental images of concrete things as a way of making reading material less abstract and more realistic.

108. INSKEEP, JAMES EDWARD, JR. *A Comparison of Several Methods of Estimating Readability of Elementary School Reading Material*, Unpublished Ph. D. Thesis, University of Minnesota, 1960.

*Purposes.* To compare results of three methods of estimating readability, each validated against measured comprehension of children. To investigate value of a specially prepared readability scale. Population consisted of 497 third-, fourth-, and fifth-grade pupils in 18 classes. Tests used were *Gates Reading Survey* and tests constructed for each of 10 reading selections. Spache and Dale-Chall readability formulas were used. Statistical techniques used were two-way analysis of variance, Fisher t-test of variance, one sample t-test, and nonparametric Spearman rank-order correlation.

*Conclusions.* Readability scale did not seem to contribute to accuracy of teacher estimates of the reading level. None of the three methods of estimating readability corresponded very closely to children's comprehension, as measured in this study. Teacher estimates were more in agreement with formula's estimate than with children's comprehension.

109. KERCHENFAUT, S. M. *Readability Study of Some Primary Reading Books*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1958.

**Purposes.** To determine whether there were primary reading books that could be used as aids to character development. To discover whether there was a significant correlation in grade placement of these books when two readability formulas were employed. One hundred and sixteen primary books were analyzed according to the Wheeler and Spache readability formulas. Pearson product-moment coefficient of correlation and t-test of significance were computed.

**Conclusion.** Correlation was significant at 1 percent level of confidence.

110. MCKEEVER, MARGARET ANN. *An Analysis of the Utilization of Phonics in Three Basal Reading Series in Grades One and Two*, Unpublished M.S. Thesis, Bowling Green State University, 1955.

**Purpose.** To investigate phonic sections of manuals and textbooks of three basal reading series. Series used as sources were *Dick and Jane Basic Readers*, *Alice and Jerry Basic Readers*, and *Jack and Janet Basic Readers*.

**Conclusions.** Systematic program of phonics instruction was used in all three series. Phonics was used as part of reading class period and not as separate area. All three introduced approximately same phonetic skills, but not at the same time. There was wide variation in presentation of phonetic skills. Phonics was part of total reading program. Whole words were presented, then were isolated into letters and phonograms. Twenty-two phonetic skills were introduced. Program used auditory perception first, followed by visual perception. Phonetic skills presented varied with reading level.

111. PLOGHOFT, MILTON H. "Do Reading Readiness Workbooks Promote Readiness?" *Elementary English*, 36: 424-6, October 1959.

**Purpose.** To determine whether reading readiness workbooks promote readiness. Population consisted of two groups of kindergarten pupils. Group A, consisting of 13 girls and 15 boys, used readiness workbooks during last 9 weeks of the year; Group B, consisting of 12 boys and 15 girls, did not use them. When both groups entered the first grade the following September, a standardized readiness test was given. Same teacher had Groups A and B. Tests were *Pintner-Cunningham Primary Test of General Ability* and *Metropolitan Readiness Test*. There was no significant difference between groups in chronological age, mental age, and IQ; t-ratios were computed. In group performance on readiness test the mean raw scores were as follows: Group A—52.32 and Group B—47.85. The t-ratio indicates that Group A was not significantly higher than B, not significant at .01 level.

**Conclusions.** Results of readiness test seem to indicate that Group A was not any more ready to read than Group B. Summer vacation may have been a factor which tended to lessen effectiveness of readiness books. Teachers should consider carefully purposes for which commercial readiness materials are used. It is necessary to evaluate continuously use made of readiness programs.

112. RUDISILL, MABEL F. *An Approach to Reading Through New Materials*, Durham, North Carolina: Reading Improvement Publications, June 1961.

**Purposes.** To measure reading and spelling skills achieved by first-grade children taught to read through approach based on new materials. To compare

reading and spelling skills of these children with reading and spelling skills of children taught in usual way. To determine mental age at which children learn to read with new materials. Duration of study was seven months. New materials used were "Picture Cards for Phonic Problems," "Picture-Story Word Study Charts," and "Action Sentences." Population consisted of 305 first-grade children. Tests used were *Otis Quick Scoring Mental Ability Test*, *California Test of Mental Maturity*, *Gates Primary Reading Tests*, and *Metropolitan Achievement Tests*. Critical ratios of differences in means were computed.

*Findings.* Children achieved reading and spelling abilities after 7 months of teaching with new materials that required 13 months of teaching under usual approach. After 7 months in school all children with mental ages as high as 6 years, 6 months were reading from the norm for their grade (1.7) to fourth-grade level; children with mental ages as low as 4 years, 6 months were reading at second-grade level and above; all children with mental ages as high as 7 years read from second-grade level to fourth-grade level.

113. SARTAIN, HARRY WENDELL. *The Effect of Workbook Use on Reading Growth of Third-Grade Groups at Two Levels of Ability*. Ph. D. Thesis, University of Minnesota, 1957.

*Purpose.* To investigate whether there were significant differences in learning of certain reading skills between third-grade groups who used workbooks as part of their basic reading program and children who participated in extra reading enrichment activities without workbooks. Population consisted of 291 third-grade pupils divided into upper and lower levels of reading ability. Tests used were *Gates Advanced Primary Reading Tests*, *Silent Reading Diagnostic Tests*, and *California Test of Mental Maturity*, Non-Language Section. Duration of the study was one month. Teacher efficiency was controlled by splitting each class into a workbook group and a control group. Statistical techniques used were analysis of variance and covariance.

*Conclusion.* Learning environment of classroom rather than use or nonuse of workbooks appeared to be the significant factor in growth of reading skills considered.

114. SHERROD, JANE. *The Reliability of Five Readability Formulas When Applied to Four Series of Primary Readers*, Unpublished M.A. Thesis, University of California, Berkeley, 1955.

*Purpose.* To study factors contributing to ease and difficulty of primary materials in terms of five methods or formulas for determining readability. Five formulas were applied to four basal reader series: *Dolch Graded Reading Difficulty*, *Lewerenz Vocabulary Grade Placement Formula*, *Spache Readability Formula*, *Washburne-Morphett Winnetka Chart for Determining Grade Placement of Children's Books*, and *Yoakam Technique for Grading Books*.

*Findings.* Spache readability formula appears to assay reading level of primary books most accurately and consistently. Lewerenz formula appears to be accurate in assaying primary books that are more advanced than primers. There appears to be little difference among series of basic readers in those elements tested by the five formulas.



115. SIMPKINS, KATHERINE W. *A Comparative Study of the Vocabulary of Four Basal Reading Series*, Unpublished M.S. Thesis, Bowling Green State University, 1956.

*Purpose.* To compare vocabularies of four basal reading series published between 1949 and 1955 to find total number of different words used by all four series in grades one and two, number of words common to the four series, and number of new words pupil would meet if changed from one series to another. Series used were those of Ginn and Co.; Houghton, Mifflin; Row, Peterson, and Co.; and Scott, Foresman and Co. Vocabulary was compared at seven levels, from first preprimer through second reader, level two.

*Conclusions.* There was wide variation in number of different words used at all levels. In the first grade 667 different words were used, with range of 314 to 375. In the second grade 1,551 different words were used, with range of 762 to 879. Percentage of common words varied from 4 percent in first preprimers to 23 percent in second readers. Number of new words pupil would meet if changed from one series to another ranged from approximately 8 new words in 10 in the first grade to 4 new words in 10 in the second grade.

116. SMITH, EDGAR KELLY. *The Vocabularies of Selected Reading Texts Used in Elementary Schools*, Unpublished Ed. D. Thesis, University of Southern California, 1960.

*Purpose.* To examine vocabulary in 11 basal reading series, grades one through six, to determine actual vocabulary used, extent of agreement among current reading series, and grade levels at which various words first appear. Vocabularies in readers were compared with those in two series of spelling books and with first 4,000 words in Thorndike-Lorge wordlist.

*Conclusions.* There was little uniformity in vocabulary found in either selected series or in grade level at which words are introduced. There was little correlation between vocabulary of reading series and words in Thorndike-Lorge wordlist. In view of role of reading in social development, a socially significant vocabulary is of great importance to children.

117. STANCHFIELD, JO MARTHA. *A Study of Selected Types of Independent Reading Games Designed To Extend and Strengthen Reading Skills at the Elementary School Level*, Unpublished M.A. Thesis, University of California, Los Angeles, 1958.

*Purpose.* To present selected types of reading games and aids designed to extend and strengthen reading skills, attitudes, and understanding. Materials were planned for use without direct teacher supervision during free-choice period of reading hour. Materials included different games emphasizing reading readiness, content, or vocabulary.

*Conclusions.* Effective use of games strengthens and extends reading skills. Value of technique or device depends upon way it is used. Three principles for use of reading games are that they should be designed to develop a particular reading skill, they should provide maximum opportunities for emotional and social growth, and they should require a minimum of teacher supervision and effort.

118. TROUSDALE, ALICE LOUIS. *A Selective Bibliography of About 300 Literary and Informational Books for a Primary Library*, M.A. Thesis, Sacramento State College, 1957.

*Purpose.* To determine outstanding trade books available for school libraries at primary level. Selective criteria were set up and books most frequently recommended in standard booklists were evaluated.

*Conclusions.* Basic criteria for selecting children's books can be established by analyzing and summarizing authoritative statements. Such criteria, when applied to individual books, yield dependable results. Books very highly recommended in reviews and standard lists and most frequently recommended as being best are likely to be the best and should be the same ones as those arrived at by above criteria.

119. TUCKER, MARJORIE P. *An Evaluation of Selected Commercial Workbooks for Primary Grade Reading*, Unpublished M. Ed. Thesis, University of Southern California, 1958.

*Purposes.* To establish criteria of excellence for reading workbooks. To evaluate several commercial workbooks according to the established criteria. Fifty-six workbooks, from preprimer through third reader, of eight series were evaluated. Checklist, based upon the literature, was used.

*Conclusions.* Systematic procedure of evaluating workbooks is more trustworthy than reliance upon subjective judgment. Since systematic extension of skills makes practical the use of a workbook designed to accompany a reader, careful means of evaluating the workbook should not be overlooked.

120. WALES, VIRGINIA. *A Study of Directed Supplementary Reading Activities for the Reading Programs in the Primary Grades at the Paul Revere School*, Unpublished M.A. Thesis, San Francisco State College, 1955.

*Purpose.* To assemble supplementary reading materials to help teachers of primary-grade reading. Outline of skills from professional literature on reading was used to determine what to place into file. Eleven primary teachers contributed dittoed sheets to a school file of aids. File was classified as to grade and purpose.

*Conclusion.* After 1 year of use, teachers and administrators expressed favorable opinion of materials.

121. WILLIAMS, GERTRUDE. "Provisions for Critical Reading in Basic Readers." *Elementary English*, 36: 323-331, May 1959.

*Purpose.* To determine extent to which pupils in elementary schools are being provided with experiences in critical thinking when using basic readers for instructional purposes. Ten basic reading series were analyzed from preprimer through sixth grade; results revealed that 186 critical reading skills with range of 11 to 24 were presented in various series.

*Conclusions.* Only three of the skills were listed in all 10 sets of basic readers. Only 21 skills are developed on all levels from preprimer through grade six. Systematic gradual development of skills is provided in several recent basic reading materials. Critical thinking was listed in only one basic series. Some disagreement exists among educators concerning critical reading skills that

should be taught at elementary level. Some important thinking skills are neglected or treated lightly in basic series. Several series encourage use of thinking skills in content fields. Nonuse and misuse of teachers' manuals are responsible for unfavorable practices that nurture inaccurate and purposeless reading skills. Provisions are made in all 10 series for developing fundamental reasoning abilities.

122. YATES, HILMA P. *A Study of High Interest Reading Material for Low Achievers*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1960.

*Purposes.* To provide interesting material, written with primary vocabulary, that would encourage low achiever to read independently. To ascertain readability and interest level of 12 stories about childhood of famous people in fields of sports, science, government, and U.S. history. Spache and Wheeler Readability formulas and Flesch Human Interest formula were used.

*Conclusions.* Either Spache or Wheeler Readability formulas may be used to find grade placement of primary reading material. It is possible to write material of high interest with primary vocabulary.

123. YOUNG, JAMES DOUGLAS. *Children's Literature in California Colleges and Universities*, Orange County State College, 1960. *California Journal of Elementary Education*, February 1961.

*Purposes.* To survey teaching of children's literature in the then 35 accredited teacher-preparation institutions in California. To discover nature of courses taught as they relate to literature and storytelling. Seventy-five percent of the institutions solicited responded. Duration of study was 10 months.

*Results.* Of students proposing to teach in elementary schools, 16.2 percent have no course in any area of literature. Literature is required in only a few of the programs. Library budgets do not include money for children's books.

## Comprehension

124. CONLON, SISTER THERÈSE E. *An Experimental Study of the Effects of Training in Listening Comprehension Skills on Reading Comprehension with Retarded Readers in the Third Grade*. Unpublished M.A. Thesis. De Paul University. 1959.

*Purpose.* To determine experimentally the effect, on retarded readers in the third grade, of direct training in specific skills of listening comprehension. Eighty third-grade students scoring 3.4 or below on the *Metropolitan Achievement Test* were divided into 2 groups and matched for similar IQ's. Tests included *Metropolitan Achievement Test*, *California Test of Mental Maturity*, *California Test of Personality*, and *Durrell-Sullivan Reading Capacity Test*. Correlation coefficients were determined. Duration of study was 6 months.

*Conclusions.* There was no significant difference in correlation coefficients of intelligence and reading. There was no significant correlation between reading comprehension and either initial or final listening score, and no significant correlation for personality scores and listening. Most students in both groups increased their listening ability.

125. COX, BARBARA; LEONARD, SARA A.; LUCEY, MARY E.; MANNION, RUTH E.; RAMSDALL, CLARA H.; and SHELDON, NELLIE F. *The Development and Evaluation of Exercises in Meaningful Word Practices in Grade One*. Unpublished Ed. M. Thesis, Boston University, 1956.

*Purpose.* To develop and evaluate series of oral and written exercises designed to provide many experiences in responding to meaning. Population consisted of 333 first-grade pupils in 12 classes in 5 communities, with 172 in experimental group and 161 in control group. Duration of study was 30 days. Test was *Detroit Word Recognition Test*. Critical ratios were computed and compared.

*Findings.* Both groups made statistically significant gains in reading achievement; critical ratio of 4.45 was statistically significant: mean gain for control group was 5.47 and for experimental group 11.25. Girls, with a mean gain of 12.81, made greater gain than boys, with a mean gain of 10.77, but critical ratio of 1.15 was not statistically significant.

126. DUGGINS, LYDIA A. *A Sequential Program for the Development of Skills in Spatial Relationships and Closure as a Basis for Reading Comprehension*. Southeastern Louisiana College, October 1958.

*Purpose.* To help children develop skills in spatial relationships and closure. Population consisted of 43 children who remained in program for 4 years and 55 fourth-grade children in a control group. The two groups were similar in background, mental abilities, and chronological age. Tests used were *Primary Mental Abilities Test* and *Durrell Reading Achievement Test*.

*Findings.* Experimental group exhibited reading skills superior to those of control group in every area of reading achievement. Experimental group, with predicted reading age on PMA of 10-2, achieved a reading age of 10-5 in word meanings, 10-11 in paragraph meaning, and total reading age of 10-8. Control group, with predicted reading age of 10-0, had word meaning age of 9-9, paragraph meaning age of 9-5, and total reading age of 9-8.

127. HAYES, MARY T. *Construction and Evaluation of Comparable Measures of English Language Comprehension in Reading and in Listening*. Unpublished Ed. D. Thesis, Boston University, 1957.

*Purpose.* To construct and evaluate comparable measures of English language comprehension equated both ways to show direct comparison between reading and listening abilities of children at primary-school level. Population consisted of 415 students in grades two and three. Duration of study was two weeks. Split-half plan of test rotation was followed; each student took one form as listening test and other form as reading measure. Test used was *A Measure of English Comprehension*, Experimental Edition, Listening Forms A and B, and Reading Forms A and B. Critical ratios were computed and item analysis of test forms made.

*Findings.* Tests, when standardized for grades one to three, should help to determine significance of difference between individual child's listening and reading comprehension in terms of instructional planning, significance of corre-

spondence between child's listening and reading comprehension in terms of guidance practices, and possibilities indicated by comparison of test scores for increased use of oral learning experiences during initial period of reading instruction.

128. HECK, FRANK V. *A Three-Year Study of Reading Comprehension in the New Ulm Public Schools*. Unpublished M.S. Thesis. Mankato (Minn.) State College. 1957.

*Purposes.* To determine effectiveness of program in New Ulm public schools in area of reading comprehension, as measured by standardized tests. To set up a cooperatively planned instructional program in various aspects of reading. To determine effects of this planned program on reading comprehension. To determine effects, if any, that pupils, transferred into system at various grade levels, exert on average performance in reading comprehension for each group tested. Population consisted of 316 students from grades two through eight. Duration of study was three years. Tests used were *Gates Advanced Primary Reading Test* and *Gates Reading Survey*.

*Conclusions.* Reading program in New Ulm public schools is effective in preparing pupils to comprehend what they read. Cooperatively planned instructional program set up in reading proved to be effective means to improve comprehension. Pupils transferred into New Ulm schools in elementary grades performed at levels almost identical to those of New Ulm students. Pupils transferred into New Ulm schools at seventh-grade level achieved levels one-half to one grade level below that of pupils who had had all their training in New Ulm.

129. McCULLOUGH, CONSTANCE M. "Responses of Elementary School Children to Common Types of Reading Comprehension Questions," *Journal of Educational Research*. 51: 65-70. September 1957.

*Purpose.* To determine whether essentially different factors are examined when different types of comprehension among young children are tested. *Ginn Pre-reading Tests, Second Grade Readiness Tests and Fourth Grade Readiness Tests of Ginn Basic Reading Tests* were given to first-, second-, and fourth-grade students. Population consisted of 34 first-grade students, 110 second-grade students, and 114 fourth-grade students.

*Conclusions.* When mean scores were considered against difficulty of the passages in tests, average second-grade student was found able to do first-reader level work in all the skills and advanced first-reader work in reading for details. Fourth-grade students averaged high third-reader in comprehension of main ideas but were at fourth-grade level in other skills. Data indicate that children at all levels examined in a particular city are able to think about story material in the four ways examined. Data also show positive and perhaps substantial relationship among these comprehension types, suggesting possibility of a common factor, arising perhaps from reader's fact-getting ability. Correlation coefficients reflecting relationships among children's scores on different types of comprehension questions are affected by teaching emphases and by common elements in the thought processes required to answer the questions.

130. NAEGELIN, MARGARET WILKINS. *Developing Early Comprehension Skills in Beginning Reading*. Unpublished M.A. Thesis, Southwest Texas State Teachers College, 1957.

*Purpose.* To investigate ways and means of developing thinking skills as applied to reading, starting with readiness period and continuing through beginning reading and beyond limits of basal reading series of materials. Population consisted of 25 first-grade students, 10 from Spanish-speaking homes. Duration of study was 1 year. *Harrison-Stroud Reading Readiness Test* was given.

*Findings.* Slightly more than 76 percent of the children were not ready for formal reading instruction. Classroom provisions were made for reading readiness program that would develop comprehension skills and adequately prepare each child for beginning formal reading.

131. WALTRIP, ELIZABETH NEWELL. *An Investigation of the Use of the Sound-Film Medium in Teaching Reading to Spanish-Speaking Children*. Unpublished Ed. D. Thesis, Texas Technological College, 1955.

*Purpose.* To evaluate effectiveness of a teaching technique utilizing a sound-film and reading material developed from this film, in helping Spanish-speaking children gain reading comprehension. Population consisted of 27 third-grade pupils of an all-Mexican public school in a low socioeconomic district of El Paso. Duration of study was 16 months. Tests used were *California Achievement Test* and *Stanford Achievement Test*. Certain factors in reading for meaning were analyzed under three major categories: perception of word meaning, comprehension of material read, and reaction to material read.

*Conclusions.* Programs which develop common experiences and provide reading material based on these experiences offer much promise in helping Spanish-speaking children, with meager backgrounds of experience, learn to read. Certain data obtained from this investigation suggest effectiveness of similar programs in total language development.

132. WEINTRAUB, SAM. *The Effect of Pictures on the Comprehension of a Second-Grade Basal Reader*. Unpublished Ed. D. Thesis, University of Illinois, 1960.

*Purpose.* To investigate effects, on selected reading-comprehension abilities, of stories from basal readers presented to second-grade children without pictures, with pictures but without text, and with both pictures and text. Population consisted chiefly of 62 students in three classes. Another 42 students in two classes were interviewed, but data on them were not extensively treated. Tests used were a reading achievement test, group intelligence test, and tests based on stories read by subjects. Analysis of variance and Duncan's *Multiple Range Test* were used.

*Findings.* When whole group was involved, comprehension was greatest (significant at .05 level) when text only was visible and pictures were covered. Both sexes did as well with text alone as with both text and pictures. There were no significant differences in treatments with regard to children of high intelligence and low reading ability. Poor readers did better with text only than with either text and pictures or pictures alone. Good readers did equally well with

text or text and pictures. Analysis of recall of relevant ideas and facts revealed that group which had seen text related almost twice as many major points as group which had seen pictures only.

133. YOWAISKI, SISTER FRANCES LORETTO. *Supplementary Reading as a Factor in Promoting Comprehension Reading Skills*. Unpublished M.A. Thesis, Catholic University of America, 1957.

*Purpose.* To determine extent of use of supplementary reading as an aid in improving comprehension reading skills. Population consisted of second-grade pupils. (Size of sample was not indicated.) In use of supplementary reading material, teachers applied techniques of conversation, discussion, instruction, explanation, report, storytelling, and dramatization.

*Conclusions.* Use of supplementary reading does aid improvement of comprehension reading skills. Pupils of average ability profited more from instruction than above- or below-average pupils. Experimental groups showed more improvement than control group. Below-average groups had not progressed sufficiently to be aided by specific supplementary material that was used. Of the supplementary materials used, the magazine *Our Little Messenger* was superior to *Mine Two Magazine*.

## Vocabulary

134. ARNDT, HELEN C. *A Comparative Study of Vocabulary as Found in Twenty Selected Children's Books and in Two Basic First-Grade Reading Series*, Unpublished M.S. Thesis, Mankato, Minn., State College, 1957.

*Purpose.* To determine which books on a selected list might be read successfully by "typical children" by end of first year of reading instruction. Population consisted of 35 pupils in grade one. Tests used were: Stroud, Hieronymus, McKee and Stone, Gates, and Dolch Word Lists. Pupils' ranks in intelligence and reading ability were correlated. Supplementary books selected on basis of needs common to all children and of lasting significance.

*Findings.* Most books have too large a vocabulary for first-grade pupils. Writers of children's stories should use a vocabulary of basic texts together with standard wordlists. More books with smaller vocabulary are needed for children of low and average intelligence. Appropriate booklists sent home with children might help to guide home reading.

135. BAILEY, MILDRED H. *An Investigation of Vocabulary Load of Second-Grade Textbooks Adopted by the State of Louisiana*, Unpublished M.A. Thesis, Northwestern State College, Natchitoches, La., 1960.

*Purposes.* To determine total number of different words used in each textbook and find total number of times each word was tabulated in all the books. To make comparison of vocabulary content between each basic reader and other textbooks used in primary grades on basis of words that did or did not appear in each. Data were tabulated.

*Conclusions.* Total number of different words used by various textbooks at primary level shows great amount of variation. Repetition of words is frequently very low in several textbooks. Although there is close control of vocabularies of readers, there appears to be no control exercised over textbooks in subject areas, even among textbooks published by the same companies.

136. BARRY, HELEN; SIMON, ANITA; WADE, ALTA M.; and WRIGHT, LORRAINE. *Meaningful Vocabulary Practice in Third-Grade Reading*. Unpublished M. Ed. Thesis, Boston University, 1956.

*Purpose.* To evaluate effect planned program in meaningful practice would have on reading vocabulary of third-grade children. Population consisted of 163 students, with 82 in experimental group and 81 in control group. *Detroit Word Recognition Test* was used. Duration of the study was 1 month. Critical ratios were computed.

*Findings.* Material appeared to be effective in improving reading achievement; gain for experimental group was 3.19 and for control group was 0.64. There was little difference (0.14) in achievement between sexes.

137. BAUMANN, ADALIN L. *Vocabulary of Four Primary Basal Readers*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1959.

*Purpose.* To analyze four series of primary basal readers to determine common vocabulary, initial consonants used most frequently, and two sets of readers with greatest percentage of similar words at primary level. Duration of study was 1 year.

*Conclusions.* As vocabulary load increased, list of common words in series decreased. Frequency of use of initial consonants varied. Scott, Foresman and Bobbs-Merrill had greatest percentage of similar words at preprimer level. Ginn and Scott, Foresman had greatest percentage of similar words at primer, first-, second-, and third-grade levels.

138. BEHN, HELEN. *Words Appearing in the First, Second, and Third Preprimers of Eight Reader Series*, Study conducted at San Francisco State College, 1961.

*Purpose.* To determine feasibility of transfer from one preprimer to another in eight basal reader series currently used. Series analyzed were Betts, Bond, Burton, Gray, McKee, Russell, Sheldon, and Gates. Words were tabulated by alphabetical order and series, percentage of common words between series, and words common to all.

*Conclusions.* There is wide variation in vocabulary from one series to another, with different words totaling 129. Percentage of overlap was roughly 60 percent and below from one series to another. It would probably be safer to stay with one series as basal and read others as supplementary material.

139. BERGER, RUTH E.; DAY, LOIS E.; GODDARD, FRANCES C.; LANGLOIS, CLAIRE D.; MAPES, SARAH A.; SMITH, JANET M.; and SULLIVAN, RUTH F. *The Development and Evaluation of Exercises in Meaningful Word Practice in First Grade*, Unpublished M. Ed. Thesis, Boston University, 1956.



*Purpose.* To evaluate a planned program of exercise designed to improve growth of reading vocabulary in grade one. Population consisted of 377 students in 14 classes, with 188 in the experimental group and 189 in the control. Tests used were *California Short Form-Primary*, *Kuhlmann-Anderson*, *Pitner-Cunningham Primary Test*, and *Detroit Word Recognition Test*. Duration of study was 30 days. Critical ratios were computed as well as standard error of means and differences.

*Findings.* There was a statistically significant gain in vocabulary, with a critical ratio of 2.74. Achievement of girls was greater than that of boys on both the January and February tests, with critical ratio of 1.52 and 2.22, respectively.

140. BOHANNON, GEORGIA T. *Supplementary Reading: Original Stories Based on Currently Used First-Grade Basal Series Vocabulary List*, Unpublished M. Ed. Thesis, University of Texas, 1957.

*Purpose.* To provide supplementary reading materials in form of original stories for children at, or in process of attaining, first-grade reading level, regardless of chronological age or grade assignment. Population consisted of 10 groups of "on-level" readers totaling 106 students and 14 groups of retarded readers totaling 117 children. An informal test was administered. Duration of study varied according to time required to complete stories. No statistical technique was indicated.

*Findings.* Study led to no conclusions except that pupils read, enjoyed, and understood some stories more than others. Teachers reported that children seemed to gain self-confidence.

141. CARTER, MARTHA M. *A Comparison of the Vocabulary Section of a Standardized Reading Test as a Measure of Growth in Vocabulary with the Vocabulary Section Accompanying the Basal Reading Test*, Unpublished M.S. Thesis, Bowling Green State University, 1955.

*Purpose.* To determine relationship between growth in vocabulary as measured (1) by vocabulary section of standardized reading test and (2) by test accompanying basal reader. Population consisted of 103 students in grade one and 98 in grade two. Pearson product-coefficient of correlation was computed and applied to ranked scores on both tests.

*Conclusions.* There was a positive correlation between ranks of scores on the two tests in both grades one and two. Correlation between rank of scores on standardized tests and on basal reading test was .64 for grade one and .73 for grade two. There was a higher degree of correlation between two tests in grade two than in grade one.

142. DAWSON, MARTHA E. *A Study of Vocabulary Size of Third-Grade Pupils in Relation to Home-Environmental Factors*, Unpublished Ed. D. Thesis, Indiana University, 1956.

*Purposes.* To determine vocabulary level of select group of third-grade pupils and whether significant differences existed between vocabulary and home-environmental factors. Population consisted of 131 third-grade students of lower socioeconomic status and 69 mothers of these pupils. Duration of study was 3 months. *English Recognition Vocabulary Test* was used. At 1 percent level, t-test was used to test hypotheses.

*Conclusions.* Vocabulary size of lower socioeconomic level third-grade pupils is comparatively low. Mothers' understanding vocabularies are superior to children's, but 30 percent had vocabulary scores within pupils' range. Educational level of mother possibly contributes to individual's language pattern. Since more favorable home-environmental experiences led to better vocabulary development, these children probably have greater success in language arts curriculum experiences. Children with meager home-environmental experiences probably will have difficulties in extracting meaning from the printed page, especially in the middle grades and beyond, unless special instruction is given.

143. DOVE, HELEN HILL S. *A Comparative Study of the Vocabularies in the First Readers of Seven Series Used in East Tennessee*, Unpublished Master's Thesis, East Tennessee State College, 1956.

*Purposes.* To help first-grade teachers become aware of words which should be studied intensively in first grade; to see relationship between vocabularies in different series so that basic first reader may be followed by most suitable supplementary first readers; and to note opportunities for teaching structural analysis of words in each of the series studied. Vocabulary of each first reader of seven series was compared with three wordlists compiled by Dolch.

*Conclusions.* Approximately 718 new words were introduced in 7 first readers. Number of new words in first readers ranged from 115 to 194. One hundred twenty-nine of the words appear most useful for first grade. Four of the readers were easy to use as supplementary readers with each other. Each of the series included some provision for teaching structural analysis.

144. FABIANO, FRANK ROY. *A Study for the Franklin School Reading Plan*, Field Study, San Francisco State College, 1956.

*Purpose.* To determine whether vocabulary "overlap" of various series of readers is sufficient to warrant ease in transfer from one series to another. Vocabulary was analyzed in preprimers, primers, and first readers of four basal reader series: Russell, Gray, Bond, and Burton. After trial program in Franklin School, Oakland, teacher opinion was recorded. Information was tabulated.

*Conclusion.* Consensus of teachers was that the best course is to use one series as basal and to use stories from other series as supplements when feasible.

145. FLAMAND, RUTH K. *The Relationship Between Various Measures of Vocabulary and Performance in Beginning Reading*, Unpublished Ed. D. Thesis, Temple University, 1961.

*Purposes.* To investigate relationship between vocabulary, as measured by different tests, and performance in beginning reading at first-grade level. To search, within these limitations, for more reliable predictive measure for beginning reading success. Population consisted of the 60 boys and 54 girls in the 6 kindergarten classes in one school in Levittown, Pa. IQ range on Wechsler Intelligence Scale for Children was from 77 to 125. Tests used included *Metropolitan Readiness Test*, *Wechsler Intelligence Scale for Children*, *Van Wageningen Reading Readiness Scales*, *Detroit Test of Learning*, *Bucks County Word Opposites*, *Sentence Usage Test*, and *Gates Primary Reading Test*. Duration of study was 2 years. Techniques used were product-moment correlation and Wherry-Doolittle multiple-correlation technique.

*Conclusions.* Moderately significant correlations between performance in beginning reading and various tests were found: two tests of word opposites, two

tests of concept verbalization, numbers subtest of *Metropolitan Readiness Test*. Similar studies should be made at succeeding grade levels.

146. GATES, ARTHUR J. "Vocabulary Control in Basal Reading Material," *Reading Teacher*, 15: 81-85, November 1961.

*Purpose.* To compare ability of pupils to work out recognition and meaning of word previously introduced in a basal series with their ability to handle "new" words introduced in later books in same series. Two studies were conducted.

*First study (1958)*—Population: 310 pupils near the end of the third grade in 12 classes in New York City who had used Macmillan readers from first grade. Test: "Reading Puzzle," 40 exercises, one-half based on words introduced in third-grade books called "old" words and one-half "new" words which first appear in fourth-grade books. Results: Third-grade pupils recognized form and meaning of almost as many of the words first introduced in fourth as those words studied in the third grade. Average third-grade child scores only a half-word less on fourth-grade than on third-grade words.

*Second Study (1959)*—*Purpose.* To see how second-grade pupils would compare with third-grade pupils on both third- and fourth-grade words. Population: 55 in third grade, 47 in second grade in New York City who had used Macmillan readers from the first grade. Results: Although third-grade children had not finished third-grade readers, more than half got substantially perfect scores on both third- and fourth-grade words. Second-grade children were, on an average, two-thirds of the way through grade two, and none of the third- and fourth-grade words had been encountered in books. Average child recognized and understood about 60 percent of the new third-grade and 57 percent of the new fourth-grade words. (Twenty percent of the children got substantially perfect scores.) Pupil's ability to recognize words not yet met in his basal reading were due to two major factors: (1) outside reading and (2) techniques of working out recognition, pronunciation, and meaning of unfamiliar words in context. "Too few data available in study to test value of conventional 'new' word control in basal third-grade readers for pupils of relatively low abilities."

147. GEREMIA, OPHELIA L. *An Evaluation of a Set of Exercises for the Improvement of Vocabulary in Grade Three*, Unpublished M. Ed. Thesis, Rhode Island College, 1957.

*Purpose.* To evaluate a set of exercises for improvement of vocabulary in grade three. Population consisted of 38 third-grade pupils divided into two groups—one experimental and one control. Duration of study was 2 months. Tests included *Metropolitan Achievement Test* and an informal test consisting of a list of 400 words incorporated in a set of 40 exercises constructed for vocabulary building. Experimental group received daily training in vocabulary building for 25-minute period. Control group received training by conventional methods. Results of tests were compared. Statistical technique was not indicated.

*Conclusions.* Difference in gains made by experimental and control groups was slight and not significant, but there was evidence of definite gain in experimental group. Training in vocabulary building improves reading comprehension. Difference in gains made by experimental and control groups in vocabulary was significant, as gain of experimental group was twice that of control group. Children who receive training in vocabulary building attain facility in using word recognition techniques and obtain more pleasure in reading.

148. HOFER, BERNADETTE. *An Investigation To Determine the Vocabulary Relationship Between a Reading and Number Series for the Primary Grades*, Unpublished M. Ed. Thesis, De Paul University, 1960.

*Purpose.* To investigate whether there is a vocabulary relationship between a reading and number series by the same company, whether some words appear in number series and not in reading series at same grade levels, and whether word frequency is similar in both reading and number series at each grade level. Analysis was made of readers and arithmetic texts published by Ginn at each primary-grade level. Duration of study was 1 year.

*Conclusions.* Study should be made of readers and numbers series published by other publishers. Classroom methods should be investigated to determine if any are used to develop number vocabulary words not introduced in reading program. Teacher should experiment using reading and number series without introducing new number vocabulary, in contrast to a classroom situation in which each word not introduced in the reading program is clarified.

149. KOLSON, CLIFFORD JOHN. *The Vocabulary of Kindergarten Children*, Unpublished Ed. D. Thesis, University of Pittsburgh, 1960.

*Purpose.* To determine vocabulary of kindergarten children as to size, nature, and possible changes since publication of International Kindergarten Union List. Population consisted of 494 kindergarten children, with 31 percent from Pittsburgh area, 24 percent from Portland, Oreg., area, and 45 percent from Washington, D.C., area. Twelve percent were nonwhite; 48 percent were girls. Words of the children were recorded during free play activities, in response to stimulation by pictures and questions, and in the home.

*Conclusions.* Kindergarten child has vocabulary of about 3,728 words. Most frequently used words, which account for approximately 20 percent of total in study, are *a, I, in, is, it, it's, mine, the, to, and you*. Children in schools in study have 97 percent of basal reading vocabulary used in schools' first-grade beginning reading books in their speaking vocabulary. Since no attempt was made to classify words recorded in study according to meaning, the list of 3,728 words should be considered a minimal vocabulary. Most significant change in vocabulary since publication of International Kindergarten Union List seems to be in replacement of natural with a mechanical vocabulary and in elimination of "baby talk" and "animal" noises. Since 80 percent of the vocabulary of International Kindergarten Union List is included in present study, it appears that there is a vocabulary of kindergarten children which tends to remain constant. The 20 percent of the vocabulary of the List which changed seems to be due to means by which child learns.

150. LAZAR, MAY; DRAPER, MARCELLA; AND SCHWIETERT, LOUISE. *A Study of the Vocabulary Content of Preprimers Through Third-Grade Readers in Eleven Basic Reading Series*, Bureau of Educational Research, Board of Education of the City of New York, 1957.

*Purpose.* To determine what publishers mean by progression of difficulty of words and whether various basic series show agreement on overlapping of words at each level. Eleven basic reader series from preprimer through third reader were analyzed; words were listed as they appeared the first time in each series.

*Conclusion.* Progression of difficulty of words seems to be based on specific criteria established by each publishing company and not by any agreement among companies. There is much greater degree of nonagreement than agreement among various series on selection and placement of words. The textbook designer's desire for control results in losing much of the material of critical thought, color, and natural vocabulary usage.

151. WEAVER, MARIAN J. *A Study of the Reader Level Placement of the Dolch Basic Sight Vocabulary*, Unpublished M.A. Thesis, State University of Iowa, 1958.

*Purpose.* To determine level of basal reader at which 220 words of Dolch Basic Sight Word List are introduced in each of six basal reader series, and to secure data on overlap of vocabulary, from preprimer through grade two. Basal series examined included those of Allyn and Bacon, American Book Co., Ginn and Co., Lyons and Carnahan, Row, Peterson and Co., and Scott, Foresman and Co.

*Conclusion.* There is considerable discrepancy in levels at which words of Dolch list are introduced.

152. WOOFEL, ROBERT L. *A Method for Increasing the Utility of Primary Reading Flash Cards as Reading Aids and Research Devices*, Unpublished M. Ed. Thesis, University of Southern California, 1956.

*Purpose.* To devise set of vocabulary word cards to represent each individual reading vocabulary word introduced in various reading books of five basal series used in primary grades. Flash cards were arranged by phonetic parts, basal reading series, alphabetical order, and final sounds.

*Findings.* Selection of single words in the file may be used in many ways as visual aids and as classroom research tools. Use of the file will reduce amount of time for filing and selecting vocabulary flash cards.

## Word Recognition

153. BARRETT, JEAN; BIBLOS, MARIE; CONNORS, MARY J.; KAHN, PHYLLIS; KENDALL, CORNELIA H.; O'NEIL, CATHERINE; SLATE, ELEANOR; THOMPSON, JANET C.; and THOMPSON, JEAN. *A Study To Ascertain What Effect the Study of Homophones Has on Spelling Achievement*, Unpublished Ed. M. Thesis, Boston University, 1959.

*Purpose.* To determine whether directed teaching of homophones would improve spelling ability. Population consisted of 170 students: 67 in grade two, 73 in grade three, and 30 in grade six. Tests used were *Standard Achievement Vocabulary Test*, *Stanford Achievement Spelling Test*, and an original, unpublished homophone test. Duration of study was 6 weeks. Statistical technique was not indicated.

*Findings.* Exercises were most beneficial to second-grade children, who made statistically significant gains in every instance. At third-grade level, gain in spelling achievement was statistically significant, which indicated that homo-

phone exercises were beneficial to primary-grade children in area of spelling ability. At sixth-grade level the material produced no marked change.

154. BERRY, EDNA JANE; CARON, DORIS KILBY; CRITIKOW, MARIE; LEVITSKY, JEANNE; OLSON, BETTY MARIE; and SHAW, JOSEPHINE MARIE. *Teaching Homophones in Grades One, Two, and Three*, Unpublished Ed. M. Thesis, Boston University, 1960.

*Purpose.* To construct and evaluate a series of lessons to teach those homophones most frequently found in basic reading vocabularies to determine effectiveness of a planned program of homophones at first-, second-, and third-grade levels. Population consisted of 39 pupils in grade one, 117 in grade two, and 71 in grade three. Original, unpublished tests were administered for each grade level. Mean scores were compared.

*Findings.* Lesson appeared to be effective in each of the three grades. Mean scores were as follows: grade one—15.07 out of a possible 20; grade two—40.90 out of a possible 46; and grade three—94.90 out of a possible 120.

155. BLOOMER, RICHARD H. "An Investigation of an Experimental First-Grade Phonics Program," *Journal of Educational Research*, 53: 188-193, January 1960.

*Purpose.* To determine whether readiness for phonics at age at which children benefit from phonics training is a function of method (which is Gates' point of view). Population included experimental and control groups with 29 children in each class. Instruction in experimental group began as modified formal phonic method, and shifted to sight vocabulary method. Exercises were varied systematically, and drill was limited to meaningful situations. A 16-week experiment followed a readiness program from a basal reader series. Control group followed regular basal reading program for entire year. Tests used were *Gates Reading Readiness Test* (no significant differences in classes), *Gates Primary Reading Tests*, Forms one and two. F-ratios for raw scores were computed.

*Findings.* Mean scores of experimental group were greater than those of control group. Mean on word recognition, raw scores, was 28.38 for experimental group and 24.00 for control group. Grade-level equivalent in word recognition was 2.53 for experimental group and 2.31 for control group. Experimental method seems to substantiate Gates' point of view that readiness for phonics at the age at which children benefit from phonics training is a function of method. Systematic reorganization of formal phonics training, given prior to reading instruction, appears to produce superior results.

156. BUCKLEY, NANCY MARIE, and GORMAN, CAROL ANNE. *Word Mastery in Oral Reading: Telling Versus Sounding of Unknown Words in Grade Two*, Unpublished Ed. M. Thesis, Boston University, 1959.

*Purpose.* To evaluate two procedures in oral reading: telling the child an unknown word immediately, or waiting for him to solve it independently. Population consisted of 82 students divided into two groups. Duration of study was 4 weeks. Original tests were used: a weekly individual word-recognition test and a group word-recognition test given one week after completion of study.

Groups were rotated using the two methods. Statistical treatment was not indicated.

*Conclusions.* There was no statistically significant difference between effectiveness of methods, as shown on delayed or weekly tests for total population. Analysis of the reading groups showed no statistically significant difference in effectiveness of method within reading groups, but a difference in achievement between groups. There was no difference between boys' and girls' achievement by either method. Some individual words were learned better by one method than by other.

157. CAMPBELL, MARGARET HELEN; GOLDBERG, SANDRA ELAINE; STROMEYER, NETTIE C.; AND TUTTLE, BETTY LORRAINE. *An Analysis of the McKee Phonetic Inventory for Grade Three*, Unpublished Ed. M. Thesis, Boston University, June 1959.

*Purpose.* To make statistical analysis of McKee Inventory of Phonetic Skills and to find relationship between pupils' phonetic scores on test and their intelligence, chronological age, and achievement in reading and in spelling. Tests which had been administered to 1,300 third-grade pupils were used for analysis of McKee Inventory, and data from school records and phonetic test results of 520 pupils in study were used for analysis of relationship between phonetic knowledge and other factors concerned in study. Item analysis and split-half reliability were computed for McKee Inventory. Test scores were analyzed by quartiles to determine relationship between scores and IQ, chronological age, and reading and spelling achievement.

*Conclusions.* Results of item analysis indicated that 129 out of 130 items discriminated between high and low scores. Coefficient of reliability was .83. Analysis by quartiles on phonetic test showed that children in fourth quartile had highest IQ's and mental ages and lowest chronological ages. Phonetic knowledge appeared to be a factor in reading and spelling achievement.

158. CHASE, NAOMI C. *A Comparative Study of the Word Recognition Abilities of Good and Poor Spellers in the Third Grade*, Unpublished Ph. D. Thesis, University of Minnesota, 1958.

*Purpose.* To investigate differences in word-recognition abilities of good and poor spellers in third grade. Population consisted of 428 pupils in grade three. Tests used included *Revised Stanford-Binet*; *Progressive Achievement Tests*, Spelling Section; *Iowa Tests of Basic Skills*, Spelling Section; and *Developmental Reading Tests*. Statistical techniques used were: F-test, Behrens-Fisher test, Chi-square, and analysis of variance.

*Conclusions.* With exception of four word-recognition abilities—those related to initial, middle, and ending parts of words, and those related to locating elements—and with these exceptions only for girls where multiple-choice type spelling as opposed to dictation type was concerned, all spelling overachievers were superior to all underachievers in the 20 word-recognition abilities measured.

159. CONNELL, FLORENCE C. *Current Trends, Methods, and Techniques in the Teaching of Phonics in the Primary Grades*, Unpublished M. Ed. Thesis, University of Southern California, 1957.

*Purposes.* To select information and materials on methods and introduction of phonics in learning experiences of children in primary grades, and to develop

a concrete and practicable program for classroom teachers faced with problems which a swing back to phonics has created.

*Findings.* Best methods are those which involve meaningful content and which lead to discovery of sounds from whole word units. Evidence reveals that greatest value of phonics is in relation to child's needs and its direct application to words which cause trouble in daily reading.

160. CURTIN, CATHERINE H. *A Program of Word Attack Skills for Use in a Third Grade*, Unpublished M. Ed. Thesis, Rhode Island College, 1957.

*Purpose.* To evaluate a series of exercises, including ear training, visual training, and provision for independent use of skills in word recognition and reading comprehension. Population consisted of 27 third-grade pupils in 1 class. Duration of study was two months. Tests included *Metropolitan Achievement Tests* and informal reading tests. Scores on initial and final tests were compared. Group received daily practice in word analysis through games, completion exercises, short stories, riddles, and rhymes. Statistical technique was not indicated.

*Conclusion.* Analysis of test scores indicated gain of 4 months in reading comprehension, although work was carried on for only 2 months.

161. CUSICK, ROSALIE F. *Word Mastery in Oral Reading: "Look On" Versus "Not Look On" in Grade One*, Unpublished Ed. M. Thesis, Boston University, 1959.

*Purpose.* To determine whether words were mastered more effectively if children "looked on" book or listened in audience situation. Population consisted of 100 students in two groups in four classes. Groups were rotated using the two methods. Original, unpublished tests were used: unit tests following end of each teaching unit, and delayed test following end of experiment. Duration of study was 20 days. Statistical technique was not indicated.

*Conclusion.* There were no significant differences between two methods on either unit or delayed tests.

162. DEE, JOAN, M.; HOOD, MARY LOUISE; O'NEIL, ELEANOR; AND RAND, JOAN. *Word Mastery in Oral Reading: Telling Versus Sounding of Unknown Words in Grade Three*, Unpublished Ed. M. Thesis, Boston University, June 1959.

*Purpose.* To determine whether children retain formally presented vocabulary better when they sound each unknown word encountered in oral reading or when they are told unknown word immediately. Eight third-grade classes with a total of 178 pupils were divided into two groups which were rotated using the two methods. Duration of study was 4 weeks. Tests used were *Kuhlmann-Finch, Pintner-Durant, California, Otis Mental Quick Scoring*, and an original word-recognition test. Test scores of groups were compared.

*Findings.* There was little difference in number of words learned by either method. Differences between reading groups were greater than differences between methods. There was no consistent pattern between scores on weekly and monthly tests. "Sound" words appeared to receive greater percentage of correct responses than "tell" words.



163. FARNHAM, MARY ELAINE. *A Survey of the Principles and Procedures of Teaching Phonics in Initial Reading Instruction as Suggested by Selected Authors*, Unpublished M.A. Thesis, San Diego State College, 1958.

*Purposes.* To present principles and techniques of teaching phonics in initial reading instruction, as discussed by selected authors. To evaluate relationship between these principles and techniques. To provide background for a handbook for teaching phonics in initial reading instruction. Tables were constructed for each author's principles and procedures.

*Conclusions.* All principles suggested by selected authors were consistent with those of good pedagogy. All suggested procedures seemed to illustrate or incorporate one or several suggested principles. Authors agreed that phonics is only one word-analysis skill and should be taught as one skill among others.

164. FARRELLY, MARY E. *The Construction and Evaluation of a Series of Lesson Plans in Phonics To Be Used With the Reluctant Readers in the Second Grade*, Unpublished M. Ed. Thesis, Rhode Island College, 1960.

*Purpose.* To evaluate series of lessons for slow readers in second grade to determine whether reading ability can be improved by systematic and intensive drills in word-attack skills. Population consisted of 24 pupils in grade two. Duration of study was 10 weeks. Tests included *Metropolitan Achievement Test* and informal phonics inventory test. Phonics lessons constructed by investigator were given to subjects. Critical ratios were computed.

*Conclusions.* Mean gain on informal phonics inventory test was 39 points, with critical ratio of 9.64. Mean gain in comprehension on standardized achievement test was 7 months, with critical ratio of 4.9. Mean gain in word-meaning test was 6 months, with critical ratio of 3.3.

165. GATES, ARTHUR I. "Results of Teaching a System of Phonics," *Reading Teacher*, 14: 248-252, March 1961.

Results of a study of reading abilities of pupils in grades three, four, and five in community where Carden system of phonics has been used for many years. Carden system begins with drills in naming and sounding consonants and naming but not sounding vowels; later, long sounds of vowels are introduced, followed by short vowel sounds; then consonant blends and an extensive array of other word parts are taught. There is a heavy program of formal phonics through the eighth grade. Tests used were *Gates Reading Survey*, mental age and IQ based on *California Mental Maturity Tests* in majority of cases, and on *S.R.A.*, *Otis*, and other tests in the remainder. Intelligence tests were given at different times over period of 4 years. Other data included number of school years during which the child had received instruction by Carden method. In all three grades pupils raised on Carden instruction are about a full year ahead of their grade in reading ability, but in all three grades the average reading grade falls below the mental grade. The accomplishment quotient is less than 100; .92 for grade three, .97 for grade four, and .98 for grade five. Intercorrelations were computed separately for entire population of 267, those in each of three grades and those in each of the 12 classes. The fact that the degree of reading ability developed in these classes was scarcely as great as that produced in pupils

of same mental age in the country at large justifies suspicion that Carden system was a handicap rather than a help to these teachers. As further check on findings, an analysis of covariance was carried out. If amount of Carden instruction had any appreciable influence in improving reading performance, when the role of intelligence and sampling errors are eliminated, this analysis would have shown it. It did not. The verdict was that the Carden method was not significant in every one of the 12 classes. Findings of this study do not suggest that teaching phonics is futile or unnecessary. They show merely that the much less complex and less rigid programs employed in most American schools during the past decade produce reading abilities equal to, or somewhat better than, the Carden system in less time and with less effort. Nothing appearing in the results of this study suggests that we should not try hard to improve instruction in developing word-recognition skills in the future, but results indicate that improvements are most unlikely to be found by searching in the direction taken by the Carden and similar elaborate systems.

166. GATES, ARTHUR I. "The Word Recognition Ability and the Reading Vocabulary of Second- and Third-Grade Children," *Reading Teacher*, 15: 443-448, May 1962.

*Purpose.* To report results of supplementary study of 108 second-grade children of approximately average intelligence in two classes in a New York City school who had just finished, or nearly finished, work with Macmillan readers for grade two. During May 1961, tests were given consisting of 42 multiple-choice exercises, 14 of which were based on words introduced in Macmillan first- or second-grade readers already studied, 14 on new words in third-grade readers, and 14 on new words in fourth-grade book. Population consisted of 52 children selected as subjects.

*Results.* (1) Thirty-six percent of the children had a perfect score (42 correct), 40 percent had 41 or all 42 correct, 47 percent had 40 or more correct; thus nearly half the children knew practically all the words; 62 percent had 13 or 14 of the 14 first- and second-grade words correct, compared to 55 percent of third-grade and 50 percent of fourth-grade words. (2) For every 100 previously studied basal reading words that the average child could read and understand, he could handle equally well 91 "new" third-grade and 88 "new" fourth-grade words. (3) The abler half of the pupils, who got substantially perfect scores on both "old" and "new" words, had either learned "new" third-grade and fourth-grade words in the course of their reading of other materials or had used their word-analysis skills to figure out pronunciation and meaning of words in exercises themselves. The fact that poorer pupils are less versatile, that they will encounter relatively more unfamiliar words in their reading and have relatively more difficulty with them, warns us not to be too hasty in discarding every form of vocabulary control in basal readers of lower grades. Vocabulary control helps author and teacher make the basal reading program a systematic and orderly progression of learning steps. It represents one type of control which recent teaching machine "programming" calls for in much greater detail and with much greater precision. Idea that sole purpose of vocabulary control is to make material easy to read is erroneous. It can serve opposite purpose equally well. Basal reading lessons comprise only a small fraction of the total reading program of a good modern school.

167. GESLER, HARRIET L. *An Analysis of the Relation Between Pitch Discrimination and Phonic Sensitivity in First-Grade Children*. Unpublished Ph. D. Thesis, University of Connecticut, 1958.

*Purpose.* To examine relationship between pitch discrimination and phonic sensitivity in first-grade children. Population consisted of all children enrolled in grade one in East Haven, Conn., in April to May 1957. Tests used were *Seashore Pitch Test*, original group test designed to measure phonic sensitivity, and original pitch test. Correlation coefficients were computed.

*Conclusions.* There was a significant relationship for boys between pitch discrimination and consonant perception, pitch and consonant blend perception, and pitch and vowel perception; for girls, a significant relationship was found between pitch and consonant perception. A small, positive relationship was found between pitch and mental age, and between phonics test scores and mental age. Partial coefficient between pitch and phonics, holding mental age constant, is significant. Analysis of upper and lower 27 percent groups of pitch test distribution shows no mean differences between boys and girls in any variables within the upper and lower groups. There was a significant relationship between pitch and phonics for the upper group. Relationship between phonics and mental age is high for both groups. Holding mental age constant, partial correlation coefficient between pitch and phonics for the upper group was weakened but remained significant.

168. HICKEY, JOAN. *Word Mastery in Oral Reading: "Look-on" Versus Audience Situation in Grade Three*, Unpublished Ed. D. Thesis, Boston University, 1959.

*Purpose.* To discover if it is more profitable for a child to follow along when someone reads orally or merely to listen without following along. Population consisted of 102 third-grade pupils divided into two groups, which were rotated using both methods. Duration of study was 4 weeks. Original, unpublished tests were used; weekly individual word recognition tests and delayed test given at close of study. Test scores were compared.

*Conclusion.* There was no significant difference for either method for total population on either weekly or delayed tests.

169. HUDAK, ELIZABETH. AND WENTZEL, MARGARET M. *The Effect of Knowledge of Letter Names on Beginning Reading*, Unpublished Ed. M. Thesis, Boston University, 1955.

*Purpose.* To build series of meaningful exercises to teach letter names and to evaluate them, particularly in relation to reading achievement. Population consisted of 155 first-grade students in experimental group and 151 first-grade students in control group. Duration of study was 3 months. Tests used were *Detroit Beginning First Grade Intelligence Test*, *Kuhlmann-Anderson Test*, *Detroit Word Recognition Test*, and *Test of Letter Names* (by Boyton et al., unpublished Ed. M. thesis, Boston University, 1954). Critical ratios were computed.

*Findings.* Prior knowledge of letters helps children attain success in beginning reading. Results of Detroit Word Recognition Test indicated that experimental group was superior to control group in reading achievement, with significant critical ratio of 10.06, and that children who knew 20 or more letters at end of

2-week period were superior in reading achievement, with significant critical ratio of 7.97.

170. HUGHES, MARY PHERIBOL. *A Study of the Effect of Phonetic Skills Upon Reading Improvement*, Unpublished M.S. Thesis, University of Tennessee, 1959.

*Purpose.* To determine whether children learn to read better if they are taught word-recognition with emphasis on phonetic skills or without such emphasis. Population consisted of 20 children in grade two. Tests used were *Stanford Achievement Test*, *Large-Thorndike Intelligence Test*, and t-test.

*Findings.* Children who were taught word-recognition with emphasis on phonetic skills did not attain significantly higher scores in paragraph meaning or word meaning.

171. JENNINGS, M. VIRGINIA. *Word Mastery in Oral Reading: Telling versus Sounding Words in Grade One*, Unpublished Ed. M. Thesis, Boston University, 1959.

*Purpose.* To evaluate two procedures in oral reading: telling child an unknown word immediately or waiting for him to sound it out. Population consisted of 112 students divided into two groups, which were rotated using both methods. Tests used were *Kuhlmann-Anderson*, *Pinner-Cunningham*, original weekly individual inventories, and group test given one week after completion of study. Duration of study was 4 weeks. Critical ratios were computed.

*Findings.* There was no statistically significant ratio in any comparisons of achievement under the two methods. Comparisons of weekly tests favored "telling" method. Comparisons of delayed test scores, which revealed greater differences than weekly comparisons, favored "sounding" method. Many words showed differences greater than 10 percent between sounding and telling methods.

172. LEIGHTON, ELIZABETH GROOT. *Study of Word Analysis Skills of Selected Reading Series*, Unpublished M. Ed. Thesis, University of Southern California, 1958.

*Purpose.* To analyze certain word-recognition skills of nine selected basal readers of grades one through three and to compare them as to placement and frequency of repetition.

*Findings.* Study revealed more differences than similarities in readers. Teacher should know philosophy of authors of series.

173. LEWIS, ALICE JUANITA. *An Inventory of the Auditory and Visual Discrimination Abilities of Beginning Kindergarten Children*. Unpublished Ph. D. Thesis, State University of Iowa, 1959.

*Purposes.* To measure ability of beginning kindergarten children to perform auditory and visual discrimination skills prior to instruction, and to determine effect of chronological age, sex, and socioeconomic status upon children's ability to perform these skills. Population included 192 beginning kindergarten children. Test consisted of 80 auditory and visual discrimination items. T-test was statistical technique used.

*Conclusions.* Beginning kindergarten children answered 14 of the 20 items concerned with ability to hear the rhyming element in words. Majority of children experienced difficulty in hearing beginning sounds in words, with a mean

score of 8.9 of 20 items. Mean score of 19.3 of 20 items in seeing likenesses and differences in geometric designs and pictures and a mean score of 17.8 of 20 items in detecting likenesses and differences in words and letters indicated that children had more difficulty in discriminating between letters and words than between designs and pictures. Chronological age and sex had no significant effect upon test performance. Socioeconomic status, however, had significant effect; mean score for children from the upper group was higher than the score from the lower group and was significant at 5 percent level of confidence.

174. LINEHAN, ELEANOR B. *Early Instruction in Letter Names and Sounds as Related to Success in Beginning Reading*. Ed. D. Thesis, Boston University, 1957, *Journal of Education*, February 1958.

*Purpose.* To discover if children learn to read more effectively when initial instruction concentrates on word-recognition by memory or by analysis of letter forms, names, sounds in words, and phonics. Duration of study was 1 year. Population consisted of 314 first-grade children in the experimental group and 300 in the control group. Tests used were *California Test of Mental Maturity*, *Boston University Letter Knowledge Test*, *Murphy-Durrell Diagnostic Reading Readiness Test*, *Detroit Word Recognition Test*, and *Boston University Group and Individual Tests*. Mean differences and critical ratios were computed.

*Findings.* In September tests control group (group that underwent straight word-recognition instruction) scored higher than experimental group in learning rate, with statistically significant difference. June achievements, however, were in favor of experimental group, with statistically significant differences in oral reading and paragraph meaning. Experimental group was also significantly superior in all tests of phonics ability.

175. LIPKIN, MARJORIE BRENNER. *Word Mastery in Oral Reading: "Look On" versus "Not Look On" in the Second Grade*. Unpublished Ed. M. Thesis, Boston University, 1959.

*Purpose.* To discover effect on vocabulary mastery of children's following text during oral reading or merely listening. A total of 101 second-grade pupils in 4 classes were divided into two groups, which were rotated using both methods. Duration of study was 4 weeks. Original, unpublished tests were used: weekly individual word recognition and delayed word recognition tests at close of study. Statistical technique used was not indicated.

*Conclusions.* There appeared to be little difference in achievement under either method.

176. MASSEY, WILLIAM FRANK. *The Development of the Modern Sequential Program of Word Perception as Revealed by the Literature*, Unpublished Ed. D. Thesis, University of Missouri, 1955.

*Purpose.* To trace development of sequential, balanced program of word perception in modern elementary schools, and to identify parallels between educational thought and new approaches to word perception from 1607 to 1955, as revealed by the literature.

*Conclusions.* Yearbooks of National Society for the Study of Education since 1925 have consistently recommended balanced program of word perception based on results of research. Historically, answer to question of method to be employed in developing word perception has been sought in synthetic and analytic

approaches. Single approach to word perception, such as alphabet, phonic, or word method, has lead to neglect of some needed word-attack skills necessary for independence in reading. On basis of historical evidence there appears to be little justification for a return to a single approach to word-perception, such as alphabet-phonetic approach currently being advocated.

177. MILLS, ROBERT EDWARD. *An Evaluation of Techniques for the Teaching of Word Recognition*, Unpublished Ed. D. Thesis, University of Florida, 1955.

*Purpose.* To determine teaching method or combination of methods most effective in teaching word recognition. Population consisted of 58 third-grade students selected in chronological order in which they were referred by teachers; all subjects were referred on basis of at least 6-month retardation in reading. Technique used was analysis of variance.

*Findings.* Different children learn to recognize words more effectively by different methods. Chronological age, intelligence, and method of teaching word recognition interact significantly in determining number of words learned in 15-minute teaching session, with intelligence a significant variable.

178. MUEHL, SIEGMAR. "The Effects of Visual Discrimination Pretraining with Word and Letter Stimuli on Learning To Read a Word List in Kindergarten Children," *Journal of Educational Psychology*, 52: 215-22, August 1961.

*Purpose.* To determine stimuli relevant to visual discrimination among words for beginning readers. Population consisted of 60 children from 3 kindergartens in Iowa City, with a mean age of 66.7 months. Children were randomly assigned to three pretraining groups. Pretraining of groups RR and IR: Nonsense word sets were designed so that either word shape or letter differences among the three words in each set could serve as relevant stimuli for discriminating among the words. LD pretraining was included to control for effect of learning to discriminate among relevant letters, as such on later word list performance. Analysis of variance was used. Two groups received discrimination pretraining with words and third group with relevant letters alone.

*Conclusions.* No significant performance difference was found between the two word-discrimination groups on either pretraining or reading task. When letter-discrimination group was compared with word-discrimination groups, there was a performance difference favoring letter-discrimination group in pretraining, but no differences on reading task between groups.

179. ODLAND, RUBY NORINE. *A Comparative Study of the Word Recognition Abilities of Good and Poor Readers in the Third Grade*, Unpublished Ph. D. Thesis, University of Minnesota, 1958.

*Purpose.* To investigate relationship of word-recognition abilities to success in reading comprehension and speed of reading of third-grade children. Population consisted of 474 pupils in grade three. Tests used included *Revised Stanford-Binet Intelligence Scale*, *Gates Reading Survey*, and *Silent Reading Diagnostic Test*. Reading expectancy was predicted by regression equation of reading test scores on intelligence. Statistical treatment included F-test and analysis of variance.

**Conclusions.** Relationship existed between word-recognition skills, as measured by the *Silent Reading Diagnostic Test*, and comprehension and speed. For boys, there was no relationship between speed of reading and initial errors, beginning sounds, and letter sounds.

180. OLSON, ARTHUR V., JR. *Growth in Word Perception as It Relates to Success in Beginning Reading*, Ed. D. Thesis, Boston University, 1957, *Journal of Education*, February 1958.

**Purposes.** To discover relationship between certain word-perception abilities and reading achievement. To measure growth in these abilities resulting from specific instruction. To identify specific difficulties in word perception. Duration of study was 6 months. Population consisted of 1,172 students in grade one. Tests used were *Boston University Letter Knowledge Tests*, *Murphy-Durrell Diagnostic Reading Readiness Test*, *Otis Quick-Scoring Mental Ability Test*, and *California Short-Form Test of Mental Maturity*. Critical ratios and coefficients of correlation were computed to determine relationship between tests given in September and February and reading achievement in February.

**Findings.** Letter knowledge has definite relationship to reading achievement. Analysis of reading achievement by chronological age quartiles revealed that younger children showed slight superiority to older children. Reliability of reading test was .97.

181. RIVKIND, HAROLD C. *The Development of a Group Technique in Teaching Word Recognition To Determine Which of Four Methods Is Most Effective With Individual Children*, Unpublished D. Ed. Thesis, University of Florida, 1958.

**Purpose.** To investigate four methods of teaching word recognition to determine most effective one for individual children or small groups. Population consisted of 183 elementary school students selected by principal. Duration of study was 9 months.

**Findings.** No significant differences were found in results obtained by five teachers under controlled conditions with the four methods: visual, phonic or auditory, kinesthetic, and combined. Group-teaching methods seem to be effective instrument for teachers in determining best method of instruction for particular children.

182. SCHUMMERS, JOHN LEWIS. *Word Pronunciation in the Oral Sight Reading of Third-Grade Children*, Unpublished Ph. D. Thesis, University of Minnesota, 1956.

**Purpose.** To determine extent of certain pronunciation errors in oral reading of third-grade children, and relationship of frequency of errors to sex, intelligence, accuracy of oral reading, and difficulty of reading material. Population consisted of 237 third-grade students randomly selected. Tests used included *Detroit Beginning First Grade Intelligence Test*, *Pintner-Cunningham Primary Test*, and an *Oral Reading Test* constructed for study. Techniques used to treat data were t-test, Chi-square, Behrens-Fisher Test, and inverse sine transformation.

**Conclusions.** Boys made significantly more errors than girls. Mean proportion of vowel errors, omission of sounds, and reversal errors increase with increase in reading difficulty level. Consistent increase in general accuracy of word pronunciation paralleled increase in IQ level, but there was no consistent

change in proportion of errors. There tends to be an increase in proportion of vowel errors and decrease in proportion of vowel-consonant errors with increase in accuracy level of readers.

183. STRAND, HELEN A. *The Differential Contribution of Specific Word Recognition Techniques to Reading Ability at Various Levels of Educational Advancement*, Unpublished Ph. D. Thesis, University of Minnesota, 1956.

*Purpose.* To study relationship between successful use of certain word-recognition techniques and reading comprehension in grades two, three, and four. Population consisted of 792 students in grades two, three, and four. Tests used were *California Test of Mental Maturity*, Non-Language Section; *Gates Primary and Advanced Primary Reading Tests*, and *Silent Reading Diagnostic Tests*. Statistical techniques used were F-test and analysis of variance.

*Conclusions.* There was a relationship between skill in recognition of words in isolation, recognition of reversible words in context, locating elements, word synthesis, beginning sounds, rhyming sounds, word elements, syllabication, locating root words, and overachieving and underachieving in reading comprehension. There was no relationship between knowledge of letter sounds and overachieving and underachieving in reading comprehension.

184. THURSTON, ERIC L. *An Investigation To Determine the Existence of An Order of Difficulty in the Association of the Initial Consonant Sounds With the Printed Lower-Case Letter Symbol in the Initial Position of Nonsense Syllables*, Unpublished Ed. D. Thesis, University of Houston, 1961.

*Purpose.* To determine whether first-grade children experience an order of difficulty in associating consonant sounds with initial letter symbols in nonsense syllables. Order of difficulty was examined on bases of school attended, sex, section membership, mental age, and "amount of schooling." Population consisted of 60 boys and 60 girls in the first grade in 3 classes in 2 schools. In January and May subjects were given phonics test which required them to pick a response starting with letter that matched initial sound of tape-recorded nonsense syllable. Coefficient of correlation was computed.

*Conclusion.* There was a higher correlation between performance of children from different schools, sections within schools, sex, and mental-age groups than between performance and first-grade basal reading programs.

185. ZAJAC, MARY H., AND ALGER, NATALIE A. *An Experiment to Determine the Effect of the Knowledge of Letter Names in Beginning Reading*, Unpublished Ed. M. Thesis, Boston University, 1957.

*Purpose.* To discover effect of knowledge of letter names on reading achievement in grade one by means of constructed exercises and to evaluate exercises in relation to reading. Duration of study was four months. Tests used were *Pintner-Cunningham Primary Test*, *Detroit Word Recognition Test*, *Test of Letter Names* (by Boyton et al. unpublished Ed. M. Thesis, Boston University, 1954). Critical ratios were computed.

*Findings.* Significant critical ratios of 26.19 and 19.65 of experimental group favored continued teaching of capital and lowercase letters, respectively. There



was significant difference of 2.51 in favor of the experimental group in mean reading score.

## Reading and Language Arts

186. CARRELL, THERESA, AND STEVENS, TRAXEL. "Leaping the Language Barrier," *Texas Outlook*, 45: 19-20, September 1961.

**Purpose.** To examine a preschool program designed to teach non-English-speaking children minimum speaking vocabulary of English so that they can progress at normal rate in first grade. Population consisted of 15,000 enrollees in summer of 1960. At end of school year 57 percent were promoted to second grade. (1) 5,874 children completed four levels of basal reading; (2) 3,330 completed three levels of basal reading; (3) 2,371 completed two levels of basal reading.

**Conclusions.** (1) Children from the fourth level and some from the third were promoted to the second grade. (2) Some schools move all children into the second-year program and then teachers begin reading instruction at whatever level the children are; in effect, an ungraded program.

187. HOFREITER, MABEL DAVIS. *Relationship of Spelling to Reading in the Primary Grades*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1960.

**Purposes.** To determine (1) relationship between spelling and three aspects of reading and (2) differences in relationship of spelling and reading achievement between boys and girls and among pupils of superior, average, and low intelligence. Population consisted of 100 pupils in primary grades. Reading and intelligence tests were administered. Duration of study was 2 years, 3 months. Pearson product-moment coefficient of correlation and test of significance were computed.

**Conclusions.** Significant relationships were found between spelling and word recognition, spelling and paragraph comprehension, spelling and reading ability, spelling and average reading, and between word recognition and paragraph comprehension.

188. JONES, DILYS M. *Pronunciation and Spelling of Second-Grade Pupils*, Unpublished D. Ed. Thesis, Temple University, 1956.

**Purpose.** To investigate various aspects of language development as shown by second-grade children's achievement in use of a core communication vocabulary. Population consisted of 50 second-grade pupils randomly selected from total population of 114. Tests used were *Stanford Achievement*, *California Test of Mental Maturity*, and *Spelling Test* constructed by author. Duration of study was 1 year. Pearson product-moment correlations, Chi-square, and contingency coefficients were computed.

**Conclusions.** Words most frequently used are 4- or 5-letter monosyllables. Second-grade pupils can handle many words in the core communication vocabulary. Second-grade children seem cautious and their errors have to do with letter placement.

189. LEMLEY, LOIS N. *Language Arts Approach to Individualized Reading*. School District of Reading, Pa., 1961.

*Purpose.* To determine whether time might not be saved through a language arts approach to free choice reading. Population consisted of 29 first-grade pupils in one classroom, whose achievement was lowest in city. Duration of study was 1 year. Tests used were *Metropolitan Readiness*, *Stanford-Binet*, *Gates Primary Reading*, and *Metropolitan Achievement*; test scores were compared. No statistical treatment was indicated.

*Conclusions.* Group which was lowest in city in September was highest in May. Interest, enthusiasm, and love for school and reading were unexcelled.

190. WEST, MINNIE B. *Children's Improvement in English Usage in a Correlated Program*, Unpublished M.A. Thesis, University of California, Berkeley, 1959.

*Purpose.* To identify and possibly to correct serious English errors made by third-grade children from environments in which low level of English was spoken. Population consisted of 32 students in grade three. Tests used were *Kuhlmann-Anderson Intelligence Tests* and English usage tests developed by West. Duration of study was 15 weeks. English usage was correlated with a social studies unit. Test scores were compared in terms of t-ratio to determine significance of difference between means.

*Findings.* Children's ability to recognize English usage errors can be developed by correlating English usage instruction with social studies units; significant gains were made by all children. Comparison of gains in subtest scores revealed significant difference between means of each initial and final subtest score. Gains achieved by highest and lowest IQ groups were not significantly different. Conclusions based on test results and improvement in oral English usage habits were not indicated.

## Reading and Intelligence

191. BURKS, HAROLD F., and BRUCE, PAUL. "The Characteristics of Poor and Good Readers as Disclosed by the Wechsler Intelligence Scale for Children," *Journal of Educational Psychology*, 46: 488-493, December 1955.

*Purpose.* To test hypothesis that poor readers may be relatively weak in those parts of intelligence tests which resemble vital characteristics inherent in written language. If a pattern of abilities for poor readers can be found, resulting profile should have implications for curriculum modification. Population consisted of 11 good readers and 31 poor readers (one or more years below grade level), who ranged in grade levels from third through eighth grade. Tests used were *Wide Range Achievement Test* and *Wechsler Intelligence Scale for Children*.

*Conclusions.* Poor readers were significantly low on Information, Arithmetic, and Coding subtests but significantly high on Picture Arrangement, Block Design, and Comprehension subtests. Good readers were significantly high on

Similarities subtest. Hypothesis was made that poor readers, as a group, approach learning situations in a more concrete manner because of inability to handle abstractions. Since the reading process inherently consists of making abstractions, these children are handicapped.

192. JONES, LUCILE Q. *Relationships of Reading, Spelling, and Intelligence*, Unpublished M. Ed. Thesis, Illinois State Normal University, 1957.

*Purpose.* To compare relationships between oral and silent reading comprehension, critical reading and intelligence, intelligence and reading achievement, instructional level of informal reading inventory and intelligence, assimilative and critical reading, reading achievement on a standardized test and instructional level of informal reading inventory, rate of oral and silent reading, and reading and spelling achievement. Population consisted of 22 students in primary grades. Tests used were intelligence tests, reading and spelling achievement tests, and an informal reading inventory. Duration of study was 2 years, 3 months. Pearson product-moment coefficient of correlation was computed.

*Conclusion.* All relationships tested were positive but not significant. Exceptions were rate of oral and silent reading, and reading and spelling achievement, both of which were significant at 1 percent level of confidence.

193. OWEN, JASON C. *A Study of the Prognostic Value of Certain Measures of Intelligence and Listening Comprehension With a Selected Group of Elementary Pupils*, Unpublished Ed. D. Thesis, University of Missouri, 1957.

*Purpose.* To determine relationship among selected measures of intelligence, listening comprehension, and reading achievement as basis for ascertaining prognostic value in estimating a pupil's present capacity for achievement in reading. Population consisted of 160 students in grades two, three, and four. Duration of study was one year. Tests used were *California Test of Mental Maturity*, *Large-Thorndike Intelligence Test*, *Durrell-Sullivan Reading Capacity Test*, *Van Wagenen Listening Vocabulary Scale*, and *California Reading Test*. Data were treated by product-moment coefficients of correlation between measure of reading achievement and each of the group measures of intelligence and listening comprehension; multiple correlations to ascertain combinations of the measure of intelligence and listening comprehension yielding highest degree of relationship to measured reading achievement; beta coefficients giving proportion of variance of reading achievement attributable to combined measures; and multiple-regression equations for predicting reading achievement with measures of intelligence and listening comprehension.

*Findings.* Child's approximate level of reading expectancy can be more accurately obtained by using combination of measures of intelligence and listening comprehension than by using a single group measure of intelligence and listening comprehension. Although such a combined measure appears to yield a more accurate prediction of reading achievement than any one of these measures used separately, the measure is not of sufficient magnitude to rule out action of many other factors that operate in determining reading achievement.

194. REED, JAMES C. *An Analysis of the Interrelationship of Certain Components of the "Primary Mental Abilities" and Reading Achievement*, Unpublished Ph. D. Thesis, University of Chicago, 1958.

*Purpose.* To analyze results of reading and intelligence tests administered to groups of children in grades one, four, and seven in an attempt to determine which components of intelligence were most closely related to reading. To investigate changes in intellectual factors which could be used to predict rate, vocabulary, and comprehension, and to estimate validity of *SRA Primary Mental Abilities* tests as predictors of reading achievement. Population consisted of 153 students in grade one, 107 in grade four, and 101 in grade seven. Tests used were *SRA Primary Mental Abilities* and *Chicago Reading* tests. For statistical procedure, dependent variables were the scores on *Chicago Reading* tests. The eight independent variables were the six PMA test scores, sex, and chronological age. First, intercorrelation coefficients were calculated among the dependent variables and between dependent and independent variables; then for each dependent variable, multiple-correlation coefficients based on predictor variables in a given multiple correlation were tested for significance by use of t-test.

*Conclusions.* Intellectual components related to reading achievement at grades one, four, and seven were different; therefore, one cannot assume that a child proficient in reading at primary-grade level will continue to be so at intermediate-grade level, nor can one employ same tests to estimate reading potential, regardless of ages of subjects. Rate of reading is relatively independent of vocabulary and comprehension, although the same factors predict it, and improvement of rate requires direct instruction; perhaps rate can be increased without regard to vocabulary and comprehension, although current consensus of experts is that to do so is undesirable. *SRA Primary Mental Abilities* tests have limited value in predicting reading potential. *Chicago Reading Test, D*, does not provide measures of critical reading skills.

### Auditory Factors

195. EDGAR, ROBERT CLAREN. *An Investigation of the Relationship Between Certain Types of Hearing Loss and the Perception and Discrimination of Initial High Frequency Phonetic Elements by Elementary School Children*, Unpublished Master's Thesis, Claremont Graduate School, 1960.

*Purpose.* To determine some relationships between two types of hearing loss and the perception and discrimination of 13 high-frequency phonetic elements. Population consisted of 31 third- and fourth-grade students; subnormal hearing Group A consisted of 15 children with binaural hearing thresholds of 20 decibels or more in frequencies above 3,000 cycles per second; subnormal hearing Group B consisted of 16 children with binaural hearing thresholds of 20 decibels or more in frequencies above 3,000 cycles per second plus losses greater than 20 decibels. Tests included *Sound Recognition Test and Production Test*.

*Conclusions.* Normal binaural low-frequency hearing combined with binaural high-frequency loss was a condition confined to males only, while both sexes were equally inclined to manifest slight to moderate binaural low-fre-

quency loss combined with binaural high-frequency loss. No relationship exists between binaural high-frequency hearing loss and the perception, visual identification, and vocal reproduction of initial high-frequency consonant sounds.

196. GOGOLEWSKI, JEAN I. *Auditory Perception of Word Elements in Beginning Reading Through Visual and Kinesthetic Speech Clues*, Unpublished Ed. D. Thesis, Boston University, 1955.

*Purpose.* To determine effectiveness of speech-correction methods for improving ability to distinguish separate sounds in spoken words. Population consisted of experimental group of 280 children in grade one, who used teaching manual written expressly for this study, and control group of 291 children in grade one, who used *Building Word Power*. Groups were equated on bases of mental age, auditory discrimination, visual discrimination, and learning rate. Duration of study was one year. Tests used were *Murphy-Durrell Diagnostic Reading Readiness Group Test*, *Kuhlmann-Finch Test for Beginning First Grade*, *Detroit Word Recognition Test*, *Mason Test of Auditory Analysis of Word Elements*, *Durrell Word Recognition Test*, and *Gates Primary Reading Test*. Mean differences and critical ratios were computed and compared. Groups were tested in October, March, and May.

*Conclusions.* There was no statistically significant difference between the two groups during any testing period in auditory discrimination, visual discrimination, or learning rate. Previous evaluation of method used by control group had indicated marked gain in these skills after presentation.

197. MOE, IVER L. *Auding as a Predictive Measure of Reading Performance in Primary Grades*, Unpublished D. Ed. Thesis, University of Florida, 1957.

*Purpose.* To compare significance of auding ability as predictive measure of reading performance, with mental age, verbal-intelligence mental age, and non-verbal-intelligence mental age. Population consisted of 27 pupils in grade one, 30 pupils in grade two, and 26 in grade three. Duration of study was eight months. Tests, given in October and March, were *California Test of Mental Maturity*, *California Reading Test*, and *Florida Reading Scales*. Zero-order, multiple, and partial correlations were computed from test scores. Certain noncorrelational analyses of auding test scores were made.

*Findings.* There was a high correlation between first and second administration of auding tests (.8838), which suggests high reliability for measure when three grades were combined. Mental age measures correlated highly (.7976) with *California Reading Test* scores when all three grades were placed in one distribution. October auding tests correlated (.7022) with those of *California Reading Test* given in March, when the 83 cases were combined in one distribution. Scores of auding test given in October correlated (.7580) with scores in *Florida Reading Scales* given in March.

198. MURRAY, LUCILLE MARY. *Auditory Discrimination and Its Influence on Reading Achievement*. Unpublished Master's Thesis, Illinois State Normal University, 1960.

*Purpose.* To determine reading achievement of children who had been given reading instruction with special emphasis on auditory-discrimination skills.

Population consisted of 25 students in primary grades. Duration of study was 2 years, 3 months. Pretest and final tests on auditory discrimination and reading achievement were given. Pearson product-moment correlation was computed.

*Conclusion.* Very significant relationship between auditory discrimination and reading achievement was indicated.

199. SMITH, LEOTA E. *Auditory Discrimination and First-Grade Reading Achievement*. Unpublished M. Ed. Thesis, Illinois State Normal University, 1957.

*Purpose.* To observe effectiveness of reading instruction when special emphasis was placed upon auditory discrimination. Population consisted of 32 first-grade pupils, divided into a control and an experimental group. Fisher t-test was used.

*Conclusions.* Relationships among instruction with emphasis on auditory discrimination, reading readiness, intelligence, and reading achievement, were significant.

## Reading and Physical Growth

200. ANDERSON, IRVING H., and HUGHES, BYRON O. "The Relationship Between Learning To Read and Growth as a Whole," *School of Education Bulletin*, University of Michigan, February 1955.

*Purpose.* To compare physical growth of two groups of first-grade boys, whose IQ's were all nearly the same, but whose age of learning to read differed widely. "Age of learning to read" is defined as the chronological age at which reading age of 84 months is attained on *Gates Primary Reading Tests*. Population consisted of 54 boys matched for IQ on *Stanford Binet* and for early v. late reading. Average chronological age of early readers was 110.9 months and of late readers 110.7 months.

*Conclusions.* Boys who begin reading late tend to be physically less mature than boys who begin reading early. The way the child matures as a whole is more important in determining reading readiness than is growth in any single attribute. Maturity is also of more importance than method is in learning to read.

201. GLEASON, GERALD T., and KLAUSMEIER, HERBERT J. "The Relationship Between Variability in Physical Growth and Academic Achievement Among Third- and Fifth-Grade Children," *Journal of Educational Research*, 51: 521-527, March 1958.

*Purpose.* To test two hypotheses related to Olson's ideas: (1) Variability in physical growth is accompanied by variability in academic achievement. (2) Variability in physical growth is accompanied by low academic achievement. Subjects were 54 third-grade students and 68 fifth-grade students. Children's mean chronological age was near mean of the carpal and dental age, but well below mean age of height, weight, strength, mental age, and achievement in reading, arithmetic, and language. Tests used were *California Short-Form Test*

of *Mental Maturity and California Achievement Tests*, and *Revised Stanford-Binet*, *Gates Advanced Primary Reading Test*, *Iowa Every-Pupil Test*. Rank order correlations, intercorrelations, and raw scores were converted to *s*-scores.

*Findings.* Uneven growth in height, weight, strength of grip, and carpal development tended to be accompanied by uneven and low achievement in reading, arithmetic, and language among third- and fifth-grade girls, by low achievement among third-grade boys, but neither by variable nor low achievement among fifth-grade boys. Dentition did not correlate consistently with height, weight, strength, or carpal age, which four measures showed consistent, positive correlations by grade and sex. Number of permanent teeth was found invalid as measure of these subjects' total physical growth.

202. KARLIN, ROBERT. "Physical Growth and Success in Undertaking Beginning Reading," *Journal of Educational Research*, 51: 191-201, November 1957.

*Purpose.* To ascertain whether certain measures of physical growth, used alone and in combinations, are related significantly to success in undertaking beginning reading in first year of public elementary school systems. Population consisted of 250 first-grade students in four elementary schools in a suburban community near New York City. Tests used were *Metropolitan Reading Readiness Tests*, given in October, and *Gates Primary Reading Test*, given in May. Height, weight, and carpal development were used as indications of physical growth. Statistical techniques used were coefficient of correlation, coefficient of alienation, index of forecasting efficiency, and coefficient of multiple correlation. Criteria were based on factors known to contribute to reading readiness: IQ of 90 or higher on *Pintner-Cunningham Primary Test*; absence of undesirable responses on *Keystone Visual Survey Test*; hearing loss of not more than 10 decibels on *Maico Pure-Tone Audiometer*; freedom from any serious speech defect, immaturity of speech, or foreign language influences; evidence of social and emotional maturity as measured by *Winnetka Scale for Rating School Behavior and Attitudes*.

*Conclusions.* Skeletal growth, height, and weight were correlated with reading readiness and reading achievement test scores. Analysis of data revealed that these aspects of growth appeared unrelated to reading readiness test scores. There was a definite relationship between skeletal development and reading achievement test score.

## Reversals

203. BENTON, ARTHUR L. *Significance of Systematic Reversal in Right-Left Discrimination*, State University of Iowa, *Acta Psychiatrica Et Neurologica* 33: 2, 1958.

*Purpose.* To determine whether children showing consistent reversal in right-left discrimination differ from an appropriate control group in respect to (1) finger localising ability, (2) handedness, (3) arithmetic achievement, and (4) reading achievement and associated language skills. Population consisted of 120 children in control group and 105 in experimental group. Age range was

six to nine years. *Wechsler Intelligence Scale for Children* was given to all children. Thirty-four children in one subgroup were given a battery of achievement tests in fourth grade. Twenty-seven made conventional scores on right-left discrimination test and seven made reversal scores. Mean performance level of control group on language skills test was 5.3 and of reversal group, 4.3. *Fisher Exact Probability Test* was used.

*Conclusions.* As compared with the control group, children showing systematic reversal were generally inferior in development of language skills; group included unduly high proportion of children with defective reading ability. Systematic reversal may be symptomatic of general language deficit, as expressed in slowness in learning conventional verbal symbols.

204. PRESTON, RALPH C. "Reversals in Reading and Writing Among German and Among American Children." *Reading Clinic, University of Pennsylvania, 1957, Elementary School Journal, 57: 330-334, March 1957.*

*Purpose.* To test hypothesis that German children commit fewer reversal errors than American children, which appeared plausible because of apparently less pressure exerted upon German children to read in grade one, and greater simplicity and consistency in various important features of the German language. One portion of reading-readiness test, *Auslaestetest für Schulanfänger*, in which 14 reversals were possible, was given to 8,000 first-grade children in first month of school in Munich. Fifty tests were randomly selected in each of four categories: boys with reading-readiness scores in the upper 27 percent; girls with reading-readiness scores in the upper 27 percent; boys with reading-readiness scores in the lower 27 percent; girls with reading-readiness scores in the lower 27 percent. Same 14 items were printed as a separate test, given to some 800 first-grade children during the first month of school in Philadelphia. Fifty tests were randomly selected from each of same four categories. However, reading readiness was determined by teachers' ratings instead of by reading readiness scores, which were not available. Chi-square was computed.

*Conclusions.* Munich pupils committed significantly greater number of reversals than Philadelphia pupils. Significantly greater number of Philadelphia than Munich pupils committed no reversals at all. In both groups, pupils judged least ready for reading committed significantly greater number of reversals than those judged most ready for reading. No significant sex differences were found in number of reversals committed in Munich or Philadelphia. Both Munich and Philadelphia children were significantly more prone to make reversals of matching than of copying type. In Germany reversals were made by 75 percent of entering first-grade pupils, who made approximately 30 percent more reversals as a group than American first-grade pupils. Of the Philadelphia children 87 to 100 percent had attended kindergarten, in contrast to about 2 percent of the Munich children. In all probability, equalized kindergarten experience of German and American groups would tend to equalize differences in frequency of reversal errors. Analysis of other differences in cultural environment of children in Germany and in the United States should throw light on role of environment in readiness for learning in general.



## Kindergarten Attendance

205. HALEY, ELIZABETH D.; DOLAN, ANN E.; KATZ, MILDRED; MACKIN, MARJORIE A. *A Comparison of Scores of Kindergarten Children and Non-Kindergarten Children in Specific Background Abilities at First-Grade Entrance*, Unpublished Ed. M. Thesis, Boston University, 1957.

*Purpose.* To determine (1) whether kindergarten training has beneficial effect on motor coordination as related to letter writing, auditory and visual perception of letters, and knowledge of letter names and sounds, and (2) whether these abilities have definite relationship to increased learning rate. Population was comprised of 636 first-grade pupils in two communities: the 628 students in Community A had had kindergarten training, whereas the 308 in Community B had not. Duration of the study was 1 month. Tests included *Otis Quick-Scoring Mental Ability Tests*, *Murphy-Durrell Diagnostic Reading Readiness Test*, and *Boston University Letter Knowledge Tests*. Mean, standard deviation, standard error of mean, standard deviation of differences, obtained differences, and critical ratio were derived and were used as bases of comparison.

*Findings.* Children who had had kindergarten experience were superior to those who had had no such training in capitals matched and named, letters written, capitals named individually, lowercase named and sounded individually, auditory discrimination, lower case shown, learning rate, and mental age factors. There was no significant difference in lowercase matched, capitals shown or sounded individually, and words shown. Of the children with kindergarten training 72.08 percent could write their names, as compared with 50.62 percent of the children with no such training.

## Language

206. CONDIE, LEROY. *An Experiment in Second Language Instruction of Beginning Indian Children in New Mexico Public Schools*. Unpublished Ph. D. Thesis, University of New Mexico, 1961.

*Purpose.* To determine whether quality of instruction of non-English speaking beginning Indian children could be improved by providing, through curriculum, wider learning experiences and by acquainting their teachers with techniques considered effective in teaching them oral English and in promoting their readiness for reading. Population consisted of 228 Indian and Spanish-American first-grade pupils in four rural and reservation public schools in New Mexico; 119 pupils were in control group and 109 in experimental group. Each group was divided into two classes. Tests included *Test of Knowledge of English for School Beginners for Whom English Is a Second Language* and *Metropolitan Readiness Tests*. Test of probability was used.

*Conclusions.* With field trips, workshops, and implementation of instructional program in English, two experimental classes in study showed highly significant gains; reservations held for other two classes. Experience seemed to upgrade quality of teaching. There was need for definition of bilingual educational

problems, courses in second-language teaching, and research in alternate approaches to second-language teaching.

207. GROFF, CHARLES DUNSETH. *A Semantic Study of Selected Supplementary Readers Used in the Primary Grades*, Unpublished Ed. D. Thesis, University of Pittsburgh, 1959.

*Purpose.* To determine variations in word meaning in selected supplementary reading books for primary grades. Spache Readability Formula was used to determine grade placement of books. Seventeen books were selected for study: *Cowboy Sam Series*, *American Adventure Series*, and six supplementary reading books paralleling basic readers published by Scott, Foresman and Co. and Macmillan Co. Normative type of research was used.

*Conclusions.* Semantics may present problem to reading teachers, as many words were used with multiple means. Readability formula alone was not adequate in determining difficulty of reading material; problem of semantics also must be considered. Additional studies should be made to determine what confusion may arise in child's mind when he encounters words with varied shades of meaning. Teachers should undertake semantic investigations of materials used in classroom to prevent confusion in minds of pupils. Teachers should familiarize themselves with research studies and articles on semantics. Studies should be made to determine what difficulty child encounters when he meets words with multiple meanings. Authors of primary-grade reading material should avoid using so many words with multiple meanings.

208. LANGMAN, MURIEL POTTER. *The Reading Process: A Descriptive Interdisciplinary Approach*, Genetic Psychology Monographs, 1960, Eastern Michigan University and Hawthorn Center.

*Purposes.* To name areas of behavior related to the acquisition of reading skills. To draw together information from psychology, particularly theories of perception and linguistics, in order to demonstrate the extreme complexity of the reading process. To show relationship between the nature of language as a generalizing and conceptualizing process and the skills involved in reading. Paper describes seven aspects of behavior, and acquisition of vocabulary, visual perception skills, auditory discrimination skills, generalizations related to letter-sound relationships necessary in word analysis, and importance of set and attention in beginning reading skills.

*Conclusions.* Individuals who function inadequately in any of these areas function inadequately in whole complex of language use. They may suffer from a learning disability, of which reading failure is only one symptom. This kind of learning disability, on which research is now in progress, is distinguishable from reading and learning problems of emotional origin.

209. PENCY, RUBY T. *An Experimental Study Showing the Effects of Semantic Variations on a Specific Group of Third-Grade Students*, Unpublished M.A. Thesis, Southwest Texas State Teachers College, 1957.

*Purpose.* To determine whether third-grade readers show extensive semantic variations and if so, whether they cause misconceptions and confusions in minds of a specific group of third-grade students. Population consisted of 60 students

in grade three. Twenty teacher-made vocabulary tests based on *Streets and Roads* by Gray were administered. Duration of study was 8 months. Statistical treatment was not indicated.

*Findings.* Many words contained in third-grade reading material denote more than one concept. Lack of understanding of language causes difficulties. Careful selection of textbooks with respect to semantic variations is needed. Daily instruction on alternate meanings of words is needed.

210. ROSENTHAL, FRED. *Some Relationships Between Sociometric Position and Language Structure of Young Children*, Unpublished Ph. D. Thesis, University of California, Berkeley, 1956.

*Purpose.* To determine relationships between sociometric status and language behavior of children. Population consisted of 20 children of high sociometric status matched with 20 children of low sociometric status, all in grade two. Language records of the groups were analyzed in terms of three general, conceptual aspects of language: structure, method, and purpose, each defined in terms of 10 language measures. Scores were converted to t-scores, and groups were compared by means of analysis of variance of language scores.

*Findings.* Language of children of high sociometric status is more active, variable, and communicative. Children of this age group of approximately "normal" IQ tended to be equally talkative regardless of sociometric status. Language of more popular children was superior in quality and social usefulness.

### Causes of Reading Difficulties

211. HANCOCK, ROSE. *An Investigation of the Causes for Reading Retardation of a Group of Third-Grade Pupils*. Unpublished M. Ed. Thesis, University of Southern California, 1957.

*Purpose.* To determine how reading is affected by IQ's, length of time spent in different schools, visual and auditory defects, and emotional and social problems. Population consisted of 62 students in grade three. Tests included *Pur-tone Audiometer Test*, *Gates Primary Reading Tests*, and *Kuhlmann-Anderson Intelligence Test*. Statistical treatment was not indicated.

*Findings.* Abnormal vision and hearing deficiencies had little effect on reading retardation; effect of speech defects was negligible. Teachers' comments on 38 pupils, together with health records of 28 pupils, indicated emotional instability. Forty-one pupils had attended same school for period of one to three years. Only 13 pupils came from unsettled or broken homes. Twenty-two pupils of normal intelligence failed to achieve better than first-grade reading ability. Only two pupils were up to grade level in achievement.

212. MCBATH, KATHRYN. *Some Causal Factors Underlying Reading Deficiencies of Second-Grade Pupils of Hale School*, Unpublished M.S. Thesis, University of Tennessee, 1957.

*Purposes.* To detect and correct causes of reading difficulties found among pupils in this study. To evaluate certain factors in relationship to reading achievement. To report case studies of students overcoming certain retarding factors and how changes occurred. To help teachers understand some factors necessary

in teaching reading. Duration of study was one year. Population consisted of students in grade two. Tests used were *Otis Quick-Scoring Group for Intelligence Scale*, *Gates Primary Word Recognition Reading Tests*, and *Gates Paragraph Reading Tests*. Statistical treatment was not indicated.

*Finding.* Mental ability is related to school achievement.

# TEACHING PRIMARY READING

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
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WASHINGTON 25, D. C.

## REPORT OF RESEARCH IN READING (1955-1960)

<p style="text-align: center;">- INSTRUCTIONS -</p> <p>Please complete one copy of this report for each carefully-conducted research study or reading completed at your institution or agency between January 1, 1955 and January 1, 1960.</p> <p>Have completed copy to the above address as soon as you can, but before December 15, 1961.</p> <p>The enclosed envelope, no postage required, is to be used to return these completed report forms.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">REPORT COMPLETED BY (Name)</td> <td style="width: 30%;">DATE</td> </tr> <tr> <td colspan="2">UNDER SUPERVISION OF (Institution's name &amp; title)</td> </tr> <tr> <td colspan="2">NAME OF INSTITUTION OR AGENCY</td> </tr> </table>	REPORT COMPLETED BY (Name)	DATE	UNDER SUPERVISION OF (Institution's name & title)		NAME OF INSTITUTION OR AGENCY	
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### I - BIBLIOGRAPHIC DATA

NAME OF RESEARCHER (Last, First, Middle Initial)		NAME OF CO-RESEARCHER (Last, First, Middle Initial)	
COMPLETE TITLE OF STUDY		NO. PAGES	PERCENT FOR WHICH COMPLETED, IF APPLICABLE
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RESEARCH IN PRIMARY READING

If you are mailing a copy of an abstract or reprint, and if all of the information requested below is covered in it, you may omit the following questions. If not, please answer all the remaining questions.

I - PROBLEM AND PURPOSES OF STUDY

(If additional space is needed, use plain sheet of paper and be sure to identify the item)

MAJOR PURPOSE OR PROBLEM

HYPOTHESES TESTED

II - DESIGN OF STUDY

Was a sample used in making this study?

YES  NO

DURATION OF STUDY

YEARS

MONTHS

IF STUDY WAS IN QUESTIONNAIRE FORM, GIVE % OF USABLE RETURNS BASED ON TOTAL NUMBER SOLICITED

1. GROUP STUDIED

GRV. NO.	GROUP
	Students
	Teachers
	Classes
	Schools
	OTHER (Specify)

2. CHECK LEVELS INCLUDED IN STUDY

LEVELS
<input checked="" type="checkbox"/> K-3
<input type="checkbox"/> 4-6
<input type="checkbox"/> 7-9
<input type="checkbox"/> 10-12
<input type="checkbox"/> Junior College
<input type="checkbox"/> Four-year College
<input type="checkbox"/> Graduate School
<input type="checkbox"/> Adult
<input type="checkbox"/> OTHER (Specify)

3. CHECK SCOPE OF STUDY

SCOPE
<input checked="" type="checkbox"/> Local
<input type="checkbox"/> Statewide
<input type="checkbox"/> Regional
<input type="checkbox"/> National
<input type="checkbox"/> International

OTHER PERTINENT INFORMATION ABOUT SAMPLE OR GROUP STUDIED DESCRIBE METHOD OF SELECTING SUBJECTS

III - RESEARCH DESIGN OF STUDY

METHOD OF COLLECTING DATA

QUESTIONNAIRE  INTERVIEW  OTHER (Specify)

OBSERVATION  TEST

IF METHOD WAS BY TEST, GIVE TEST TITLE, IN GRADE OR AGE LEVEL OF TEST

CONTROLS USED (If applicable)

METHOD OF TREATING DATA

IV - LIST MAJOR FINDINGS AND RECOMMENDATIONS

Do you desire a copy of the bibliography when it is completed?

YES  NO