III. For Parents of LPS Elementary Children

22. Put an X by the answer which best describes your feeling about current programs and services in the elementary schools

	excel-lent	satis-factory	needs im-provement	no opinion
art	____	____	____	____
composition skills	____	____	____	____
foreign language	____	____	____	____
handwriting	____	____	____	____
human growth & dev.	____	____	____	____
math computation	____	____	____	____
math reasoning	____	____	____	____
music	____	____	____	____
physical education	____	____	____	____
reading	____	____	____	____
research skills	____	____	____	____
science	____	____	____	____
social science	____	____	____	____
counselling services	____	____	____	____
special needs services	____	____	____	____

IV. For Parents of Junior High School Students

23. Put an X to indicate how much emphasis at the present time, you feel Lexington junior high schools place on areas below:

	too much	about right	not enough
enrichment programs	____	____	____
basic skills	____	____	____
human growth/development	____	____	____
discipline	____	____	____
vocational/career preparation	____	____	____

24. X the answer which best describes your feeling about current programs and services in the JHS your child(ren) attend(s).

	excel-lent	satis-factory	needs im provement	no opinion
art	____	____	____	____
composition skills	____	____	____	____
foreign language	____	____	____	____
handwriting	____	____	____	____
human growth/develop.	____	____	____	____

	excel-lent	satis-factory	needs im-provement	no opinion
math computation				
math reasoning				
music				
physical education				
reading				
research skills				
science				
social science				
vocational/career				
counselling services				
special needs services				
sports				

V. For Parents of Senior High School Students

25. If you have now or have had a child(ren) in the SHS during the past 3 years or feel otherwise qualified, put an X on the answer which best describes your feeling about programs and services at the Senior High School.

art				
composition skills				
foreign languages				
handwriting				
human growth/develop.				
math computation				
math reasoning				
music				
physical education				
reading				
research skills				
science				
social studies				
vocational/career				
counselling services				
special needs services				
sports				
business courses				
EWOW				
Max Ed.				

We thank you for your help. These are your schools, and your input is essential. Space is provided for any additional comments you may have. Refold, staple or tape questionnaire and drop it in the mail. Postage is affixed.

APPENDIX C

ANALYSIS OF PUPIL PERFORMANCE DATA

The following report of the subgroup of the Educational Program Study Committee which analyzed pupil performance data is divided into

Purpose of the Study

Design

Results

Limitations of the Study

Summary of Conclusions

Purpose of the Study

The committee addressed itself to the question of how well our children were performing on tests of basic skills. The studies that we performed were designed to provide answers to the following questions:

(1) Has the average level of achievement (in basic skills) of children in the Lexington Public Schools been rising, falling, or holding steady over the last ten years?

(2) Are there significant IQ-corrected differences between the achievement of children in the various Lexington elementary schools?

(3) Are our children performing up to their intellectual potential as measured by IQ scores and test scores in various basic skill areas?

National data related to the first question have been prominently reported in the public press. A variety of studies have shown that achievement scores have been dropping sharply over the last ten years. It is important to determine whether this drop has occurred in Lexington and to compare the Lexington results to national results so as to determine how well children in our schools are doing relative to children in other school systems.

The second question is one which relates rather specifically to school closings. If there are differences in IQ-corrected performance related to the particular school attended or to the size of the school attended,

so that some schools appear to show higher or lower performance scores for the same IQ levels, then this fact should certainly be known prior to any decision on closing a particular school.

The third question is perhaps the most critical of all. It is possible, for any given child, to state an expectancy of how well that child should do on achievement tests given his age at the time that he took the tests and his intelligence as measured by IQ tests. If our children are developing as they should, then, on the average, we would expect that children in the Lexington Public Schools would perform at a level consistent with their age and IQ. If children consistently fail to perform at the level predicted by their age and IQ this would be a serious cause for concern and would certainly require further investigation.

The usual way of evaluating the child who is underachieving is to analyze Achievement Test Scores and identify those children who are underachieving according to those scores. Some schools select students who score one year below their grade level, and some schools select students who score two years below grade level for special help.

Lexington uses the "Iowa minus 1" score. The Iowa Tests of Basic Skills are given.[1] Any student who is achieving at a grade level one year below his actual grade level is considered to be underachieving. In other words, if a student is in the third grade, eighth month and is achieving at the second grade eighth month or below, he or she is considered to be underachieving and receives extra help. This means of evaluation takes into account only the grade age and achievement age of the student. Many educators are concerned with the bright student who is achieving at grade level when his potential indicates that he should achieve well above grade level. Indeed this child is often more handicapped than the obvious underachiever since he is rarely identified as being in need of extra help. Conversely a child who is a slow learner may be achieving at his expectancy level at one year below grade level. Thus, in using the "Iowa minus 1" score, the bright student who really needs help may not receive it while the slow student will receive help even though he may not need it. Dr. Helmer Myklebust in Progress in Learning Disabilities[2] says that in order to obtain a more valid measure of an individual's inherent abilities we must consider intellectual potential, physiological maturity and experience as well as intellectual capacity. It is the ratio between these factors that reveals the extent to which a given child is attaining the level of which he is capable. He has worked out a formula that takes into account the chronological age, the grade age and the mental age of the individual in identifying the underachiever. The Myklebust formula has been used in this study to obtain the statistical results.

This formula calculates an Expectancy Age, that age at which a student can be expected to achieve based on his actual age in years and months,

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[1] In 1974, the Lexington schools began using the California Test of Basic Skills instead of the Iowa tests.

[2] Myklebust, Helmer, Progress in Learning Disabilities, Vols. I & II, Grune and Stratton, New York, 1968.

his grade age in years and months and his mental age in years and months. This Expectancy Age (EA) is arrived at by averaging the three ages:

$$EA = \frac{MA + CA + GA}{3}$$

(Expectancy Age equals Mental Age plus Chronological Age plus Grade Age divided by three.)

Thus the age at which a student can be expected to achieve is calculated. From this a Learning Quotient (LQ) can be derived. This is done by dividing the Achievement Age (AA) (in this case the scores on the Iowa Tests of Basic Skills) by the Expectancy Age (EA) and multiplying by 100. Dr. Myklebust says that a score of 89 or below on the Learning Quotient (LQ) may be indicative of a Learning Disabled youngster.

$$LQ = \frac{AA}{EA} \times 100$$

The advantage to using this method of predicting can best be understood through an example. The following is that of a youngster in the third grade.

Grade: 3.1 (third grade, first month) 9/15 - 10/15

Grade Age: 3.1 + 5.2 (age at which school started) = 8.3

Chronological Age (CA): 8.6 (8 years, 6 months old)

One more figure is needed to apply the Myklebust formula, that of IQ. The Expectancy Age (EA) will vary considerably according to the IQ score.

If the IQ score is	80	his expected ability is 2.5 (second grade, fifth month)
" " " " "	90	his expected " " 2.8
" " " " "	100	" " " " 3.1
" " " " "	110	" " " " 3.3
" " " " "	120	" " " " 3.6
" " " " "	130	" " " " 3.8
" " " " "	140	" " " " 4.1

The expected ability of the child with an IQ of 80 is 2.5 (second grade, fifth month), while the child with an IQ of 140 should be achieving at

4.1 (fourth grade, first month). Regardless of the IQ the "Iowa minus 1" means of identification will apply to only those achievement scores below 2.1 (one year below the actual grade level). The child with a low IQ and an achievement score of 2.1 will be identified as a child who needs extra help. Actually, extra help is not essential in this case, according to the Myklebust formula, since he is achieving at his expected ability level. On the other hand, the child with an IQ of 140 and achievement scores from 2.5 to 4.1 will not be identified as underachieving according to the "Iowa minus 1" but will be identified by the Myklebust formula since this student's expectancy grade is 4.1. In fact, only the child with the low IQ will be identified as needing help when the achievement scores are 2.1 or less. The Myklebust formula would not identify this student but would identify all students with IQ's ranging from 90 to 140+ whose achievement scores were 2.1.

Design

To answer Question 1 we examined some overall town figures on performance that were readily available. We used town-wide average achievement scores of students in each grade, three through eight, for the nine years, 1965 - 1973. We used Vocabulary Scores, Reading Comprehension, Total Arithmetic and a composite total achievement score because these were available for all grades for most years.

To answer Question 2 we examined the test data from a sample of children who had completed grades 1 - 6 in a single elementary school and who had completed all the testing normally given during that time. The sample we chose was the sample of children who began first grade in 1967.

To answer Question 3 we used the data from the sample drawn for Question 2 and subjected it to a variety of additional statistical tests and examinations.

Test Scores Used

1. IQ Tests

   (a) Each second grade child in the Lexington Public Schools is given an individual IQ test by a trained test administrator. The testor asks the questions; the child answers orally; the testor records the answers. Through 1968 the test used was the Stanford-Binet; since 1969 the WISC (Wechsler Intelligence Scale for Children) has been used.

   (b) Also in the second grade all children are given a Lorge-Thorndike Intelligence Test. This is a written test and is administered to the children in a group.

2. Performance Tests

In the third, fifth and seventh grades children were given the Iowa Tests of Basic Skills until 1974. These are paper and pencil, timed tests administered to groups of children. There are eleven subtests which are combined into five areas as follows: Vocabulary, 17 minutes; Reading Comprehension, 55 minutes; Language Skills, 67 minutes; Work-study kills, 80 minutes; and Arithmetic Skills, 60 minutes. A composite score representing over-all achievement is also generated. National norms are available for all tests and subtests.

In trying to answer Question 2 and 3 we chose to study three tests as representative of basic skills: Reading Comprehension, Spelling (a subtest of Language Skills) and Arithmetic.

Results

The results relating to Question 1 were analyzed rather informally as follows:

First, from each average achievement score for each test for each grade we subtracted the 1965 average achievement score for that test for that grade. We then graphed the results for succeeding years, expressing the 1965 value as zero. For example, suppose that in 1965 LPS fourth grade students averaged 4.2 in Reading; in 1966 they averaged 4.1. Subtracting 4.2 from 4.1 we would get -0.1 indicating a decline in performance equal to 1/10 of a year in Reading between 1965 and 1966. The third and fourth grade reading scores are shown in Figure 1.

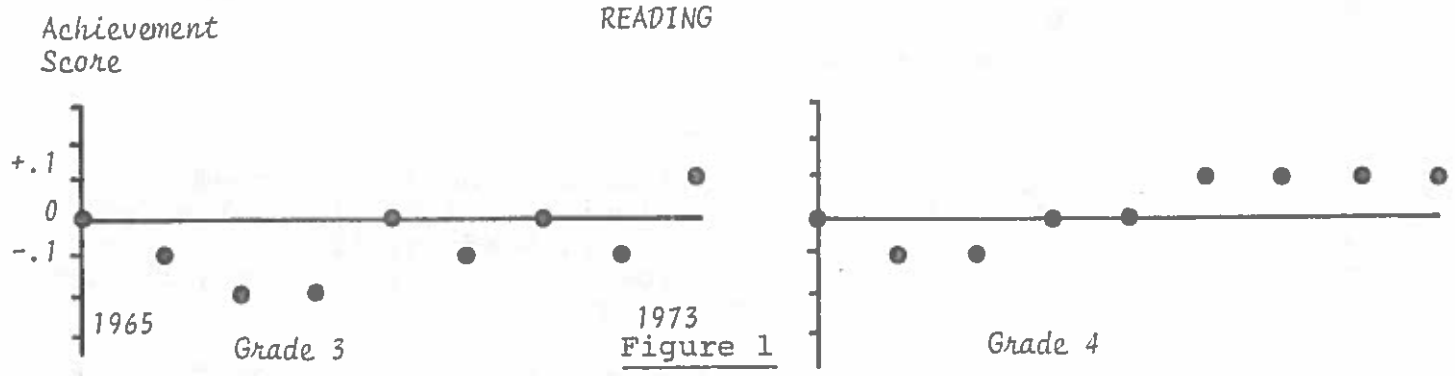


Figure 1

It appears as though there is little if any change in Reading Achievement Score of third and fourth grade children between 1965 and 1973. What slight trend is present appears to be positive. Inspection of other achievement scores in third and fourth grades showed a similar pattern.

The fifth and sixth grade reading scores are shown in Figure 2.

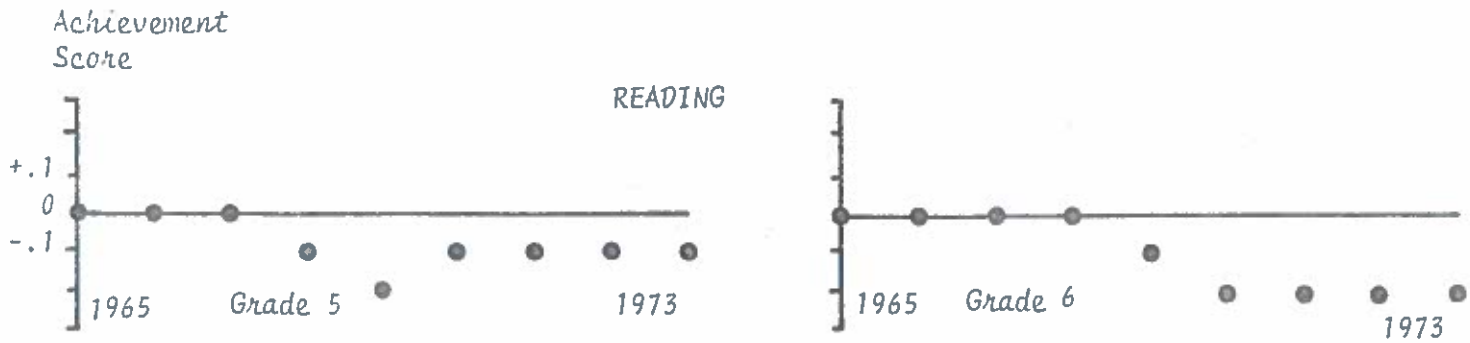


Figure 2

In the fifth and sixth grade scores there appears to be a clearer downward trend over time; beginning in 1968, forty-five of the forty-eight comparisons with 1965 scores for all achievement tests fall below zero.

The seventh and eighth grade reading scores are shown in Figure 3.

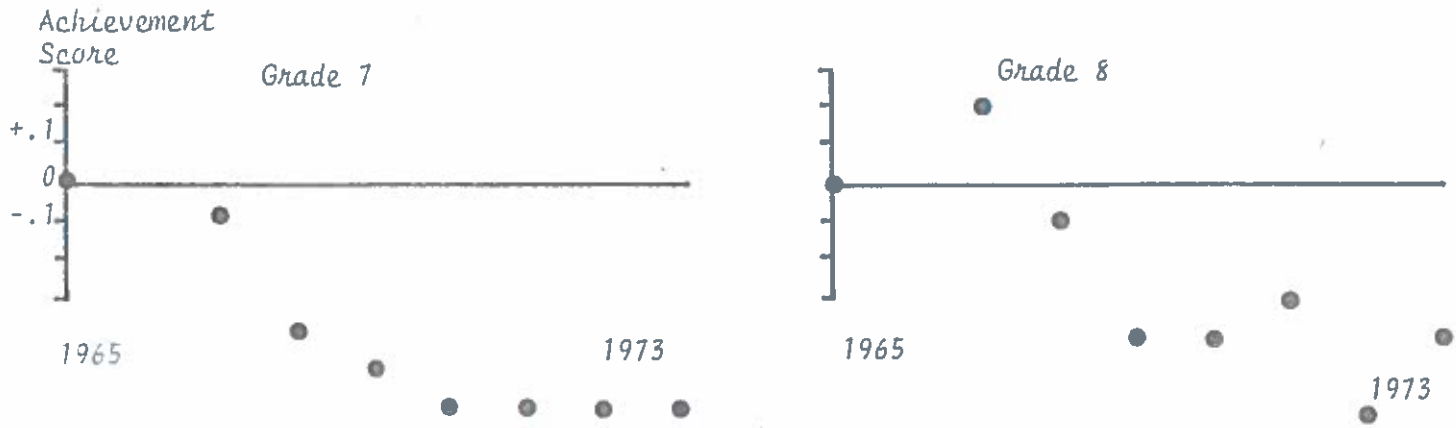
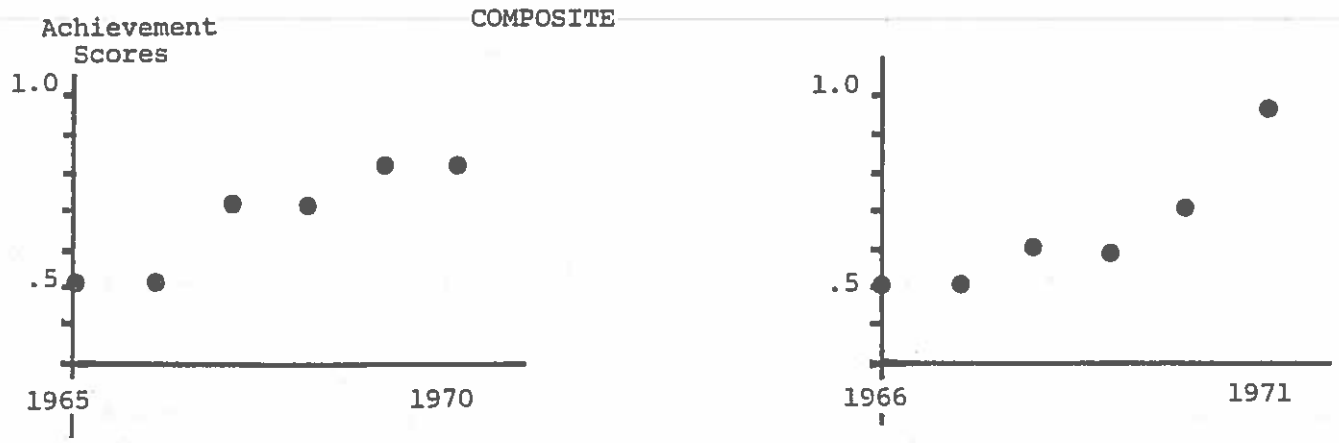


Figure 3

In seventh and eighth grade scores there is a more pronounced tendency for scores to decline over time. Beginning in 1968 all forty-eight comparison scores with 1965 in Vocabulary, Reading, Arithmetic and Composite are below zero, and some appear to be significantly further from zero than were the earlier comparisons.

If we watch the performance of a given group of students as they move through the school system, a different pattern emerges. Although we did not have complete data, we compared composite scores of two LPS cohorts, who began third grade in a given year, e.g., 1967. For each succeeding year we subtracted from the LPS score the fixed national criterion score for that grade level, and the slope of the curve appears to be positive. That is, the group of Lexington students appears to have done better with each passing year relative to fixed norms. In view of our earlier observations, this may be more of a comment on the way the tests were normalized than it is on Lexington performance.



Deviations from National Norms for two classes as they progress from 3rd to 8th grade.

Figure 4

We have similar data for each class beginning with the 1965 third grades, and, in all cases, the trend with time is for Lexington to exceed the National Norm by a larger positive amount.

These data show the following:

> Lexington students who were in the fifth to eighth grade in 1968 to 1973 did worse than Lexington students who were in the fifth to eighth grade in 1965, 1966 and 1967. This did not seem to be the case for students who were in third and fourth grades during those periods.

The data analysis for Question 2 involved eighteen separate analyses of covariance. In all cases the scores analyzed were achievement scores. Intelligence test scores were co-varied and mean differences in achievement between small, medium and large schools were tested for significance.

Analyses were performed as follows:

Variable tested	Intelligence measure co-varied
	Stanford-Binet
Reading, Grade 3	"
Reading, Grade 5	"
Reading, Grade 7	"
Spelling, Grade 3	"
Spelling, Grade 5	"
Spelling, Grade 7	"

These same six variables were tested using the Lorge-Thorndike verbal score as a co-variate, so that six additional analyses of co-variance were performed. In addition, we examined:

Variable tested	Intelligence measure co-varied Stanford-Binet
Math, Grade 3	"
Math, Grade 5	"
Math, Grade 7	"

These three variables were re-tested using Lorge-Thorndike Intelligence score as a covariate, so that three additional analyses of co-variance were performed.

The sample consisted of 19 students who completed grades one through six in one of the small schools (Hancock and Munroe); 106 students who completed the grades one through six in one of the large schools (Bridge and Bowman); and 302 students who completed grades one through six in one of the seven middle-sized schools.

The eighteen analyses of co-variance failed to yield a single case in which performance was significantly related to school size.

Comment: We found no evidence that attending a school of one size or another is associated with better or worse performance. However, this study as designed would not, in all probability, have found differences between small schools and other schools even if they did exist. The reason for this is that the sample of "small school" children is miniscule, N=19. It is also seriously biased. During the years for which we have data, the AP (Advanced Placement) students from the small schools were sent to Fiske School. Thus, the nineteen students reflect those students who either were not AP or who were AP eligible but whose parents chose not to elect AP.

When we come to examining the findings related to Question 3 it will be clear that it is the children who were in AP who would be expected to perform the best relative to their IQ. Since these children were systematically removed from the small school sample and systematically added to the medium school sample we have a situation in which small schools, even if they produced better performance for a given IQ level, were being drained of the students for whom this is most likely to be true.

However, relative to school closing and relative to equality of physical plant, we can say that we found no evidence that the new large schools produce superior performance when IQ is "held constant". The design was adequate to demonstrate differences between the large and medium schools if differences had been present.

The results of the Stanford-Binet Intelligence testing are shown in Figure 5. The figure shows that the average intelligence as tested is quite high. The national average is between 90 and 100, and only 16 of the 346 children who were tested fell in this average range. All the rest are above average, and the Lexington average score is just

over 120. However, there is considerable unreliability in the intelligence data. When we compare the scores of individual children on the two tests given, that is on the Lorge-Thorndike and the Stanford-Binet, the results appear in the lower portion of Figure 5.

Half the sample has a discrepancy of ten or more points between the two scores, demonstrating that in the individual case the test score may, or may not, represent accurately the child's ability to perform intellectually, even on tests designed for the purpose.

Bearing in mind that there is unreliability, we examined the relationship between Intelligence (MA), Chronological Age (CA), Grade Age (GA) and Performance. The measure of performance used was Achievement Age (AA), from the scores on the Iowa Tests of Basic Skills. The Myklebust formula described earlier was used, and the AA - EA (Achievement Age minus Expectancy Age) was computed. *If the child is performing at his expected level, this score should be zero.* If he is performing above his expected level the score is positive, and if he is performing below his expected level the score is negative. We examined scores of greater than 0.5 and less than -0.5, which correspond to a child performing half a year above or below what is expected. For those eighty-one students with no Stanford-Binet, we used the Lorge-Thorndike to compute the EA.

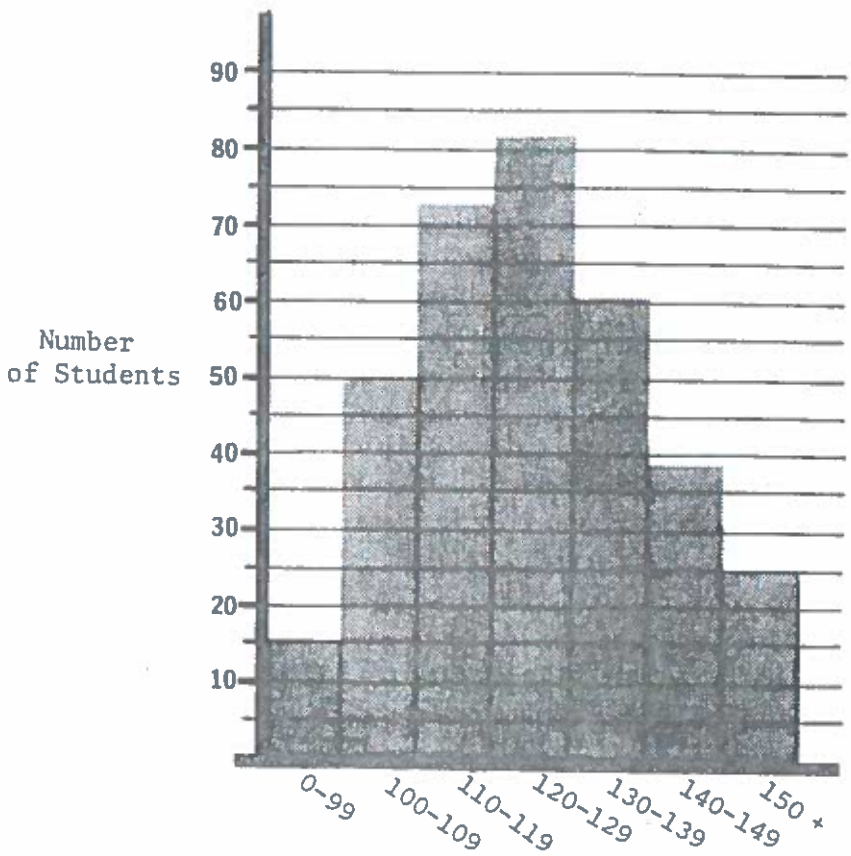
The results for reading, spelling and math are displayed in Figure 6. The graphs all show on the vertical axis the percentage of children scoring above 0.5. This is displayed separately for each IQ level along the horizontal axis.

The tests for reading show that in the third grade there is a clear relationship between IQ and high achievement, with the exception of the sixteen students scoring 0-99 who also have high achievement. There is some apparent tendency for the percentage of high achievers in reading to drop from grade three to grade five to grade seven. In spelling there appears to be very little difference in percentage of high achievers between IQ levels or grades. In math there are fewer high achievers, apparently, than in either reading or spelling, and there is a hint of a relationship between intelligence and high achievement.

Comment: These figures are included mainly for comparison with the underachiever figures reported below. The main point to note from the high achievement figures is that there are substantial numbers of children achieving at a high level in every grade, in every subject, at every IQ level.

Figure 7 shows the percentage of children scoring -0.5 or below. The data are shown by IQ score. The shaded area of each bar represents the percentage of "Iowa minus 1" scores which the School Department uses as its measure for identifying underachievers. Inspection of the figures for all subjects suggests a clear trend for the percentage of underachievement to rise from grade to grade. This visual impression was checked by analysis of variance. For each subject (Reading, Spelling, Math) scores were analyzed for differences in average AA-EA score for each student in grades three, five and seven.

IQ RANGE OF STUDENT SAMPLE



IQ	Number of Students
0-99	16
100-109	50
110-119	73
120-129	82
130-139	61
140-149	39
150 +	25

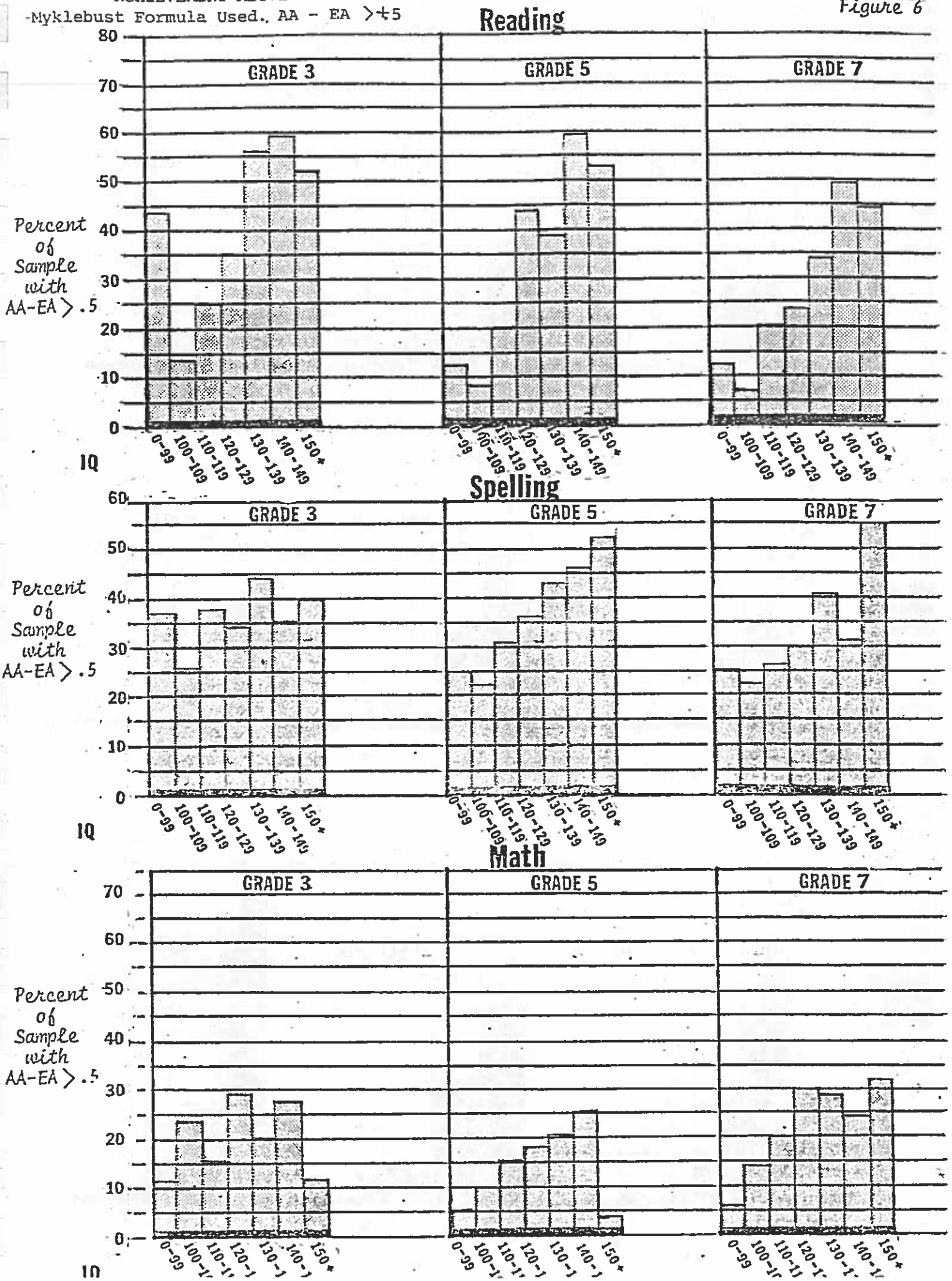
TOTAL SAMPLE = 427 students	
Number students given Stanford-Binet	346
Number students with both Stanford-Binet and Lorge-Thorndike	343

Difference	Discrepancy in IQ between Stanford-Binet & Lorge-Thorndike	
10-19 points	Stanford-Binet > Lorge-Thorndike IQ test	71
	Lorge-Thorndike > Stanford-Binet	27
20-29 points	Stanford-Binet > Lorge-Thorndike	47
	Lorge-Thorndike > Stanford-Binet	6
30 or more	Stanford-Binet > Lorge-Thorndike	20
	Lorge-Thorndike > Stanford-Binet	2
	Subtotal	173
Less than 10 points difference		170
	Total	343

Figure 5

ACHIEVEMENT ABOVE EXPECTANCY
-Myklebust Formula Used., AA - EA >+5

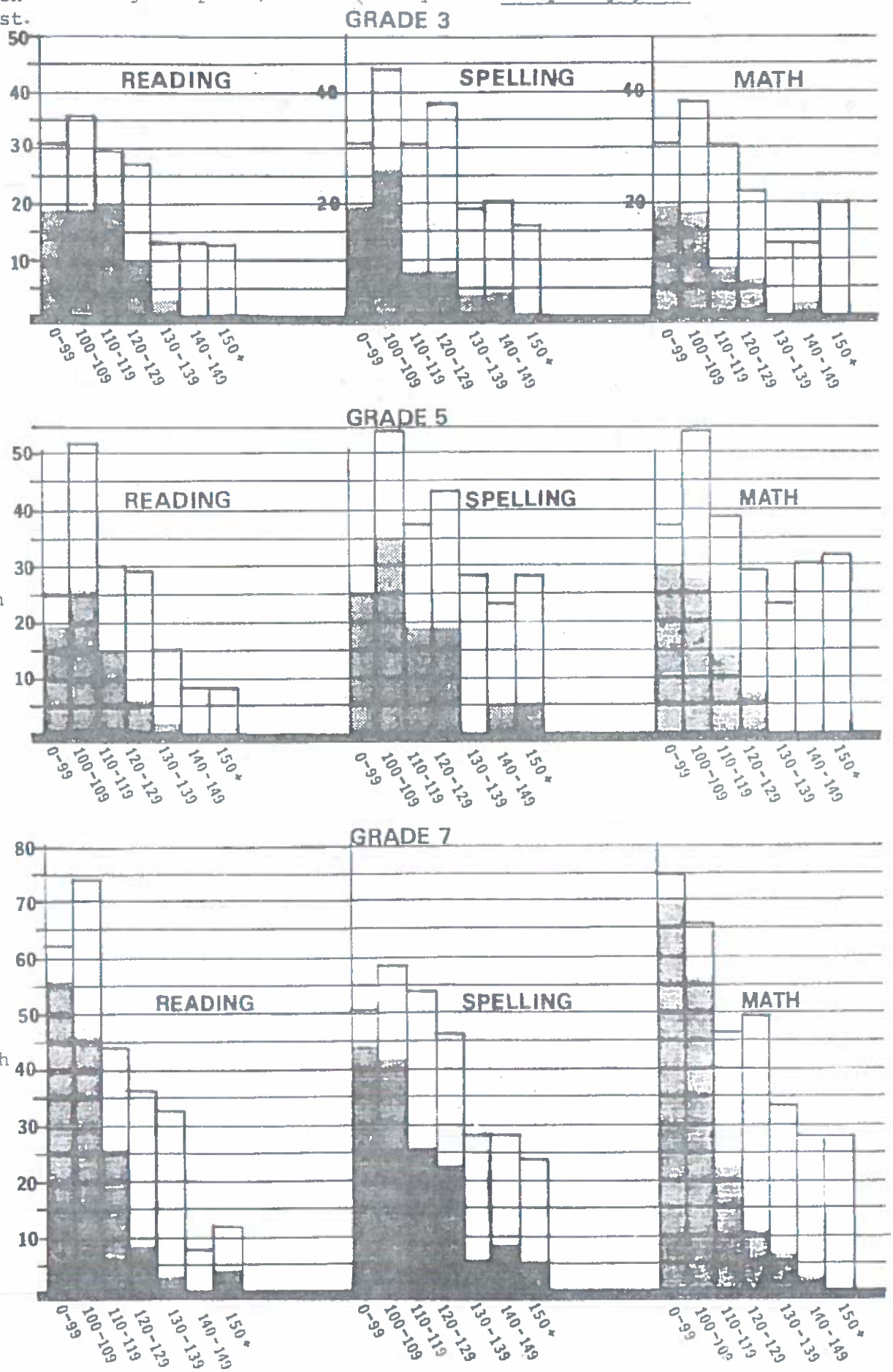
Figure 6



Shaded portion represents % on an (Iowa-1) List i.e. those one grade below on that Iowa test.

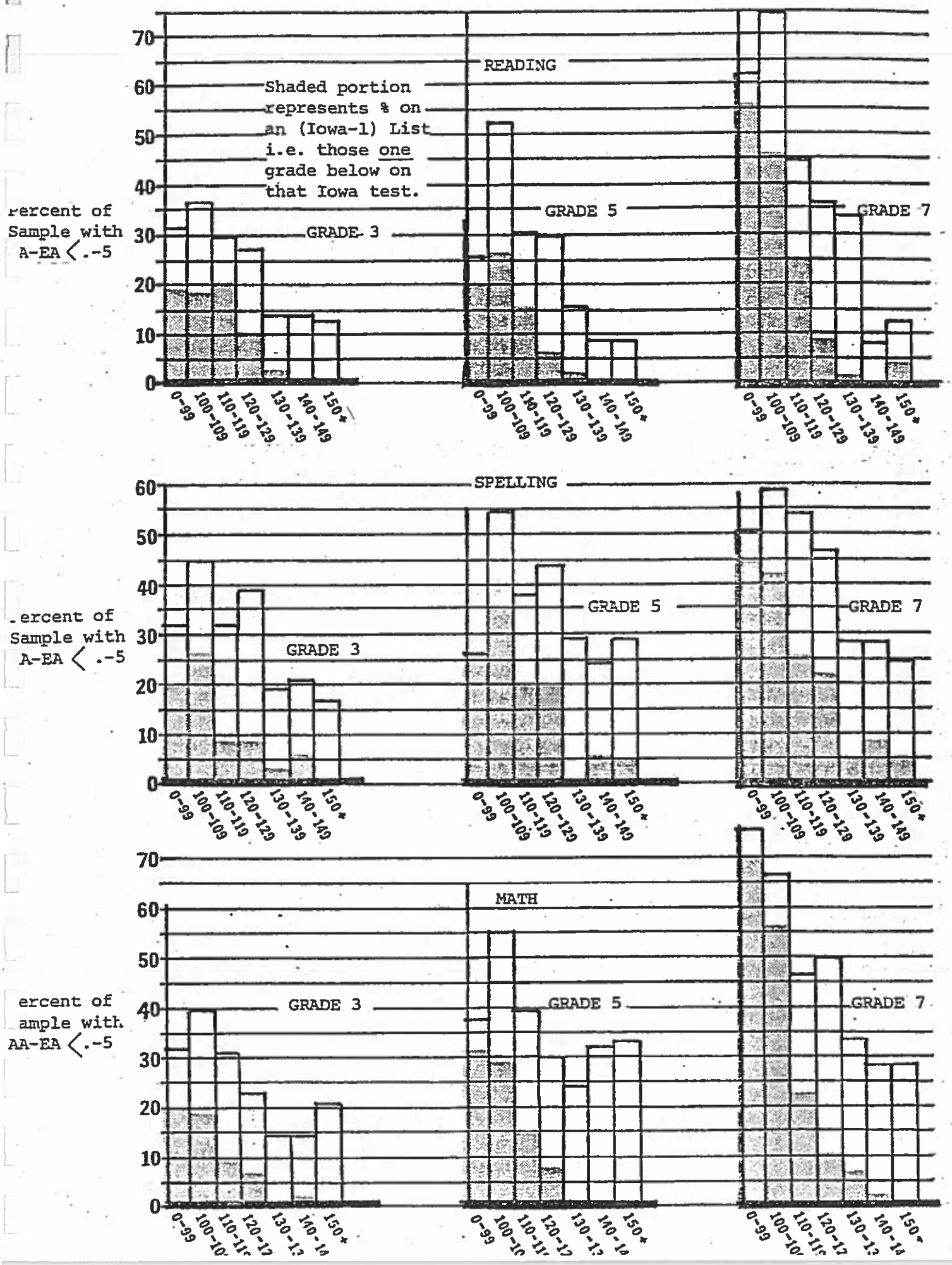
Figure 7

UNDERACHIEVEMENT vs. IQ (Stanford-Binet)
Measured by Myklebust formula. Achievement Age - Expectancy Age computed, AA-EA < -.5 years. Grouped by grade



UNDERACHIEVEMENT vs. IQ RANGE

AA-EA < -.5 Grouped by Subject



In this analysis we also examined school size to see whether or not small, medium or large school size was associated with the difference in mean AA-EA scores. In no case was there a significant difference associated with school size. In every case there was statistical significance associated with school grade. From grade three to grade five to grade seven the average AA-EA score declined in Reading, in Spelling and in Math. These declines would have occurred by chance less than one time in a thousand. (There was no significant, or near significant, grade by school interaction.) The mean AA-EA scores for the three grades and three subjects are shown below.

Mean AA-EA Score

Grade	Reading	Spelling	Math
3	0.14	0.10	-.01
5	0.06	-.02	-.22
7	-0.33	-0.43	-.43

In all three subjects the direction is the same: down. For all three subjects AA-EA is around zero in the third grade but falls to over three or four months of deficit by the seventh grade. The statistical significance of this result strongly suggests that, in spite of the unreliability of IQ testing and achievement testing, we are dealing with a real, meaningful result.

If we return now to an inspection of of Figure 8 relating underachievement to IQ we are immediately struck by a second relationship. It appears that there is more underachievement in children of lower IQ when compared to those of higher IQ. This appears to be true for all three grades in Reading and Spelling. It also appears true for Grade 7 in Math where it is quite dramatic. Possibly this is also true in Grades 3 and 5 in Math.

Limitations of the Study

There are a number of variables that must be taken into account in analyzing the results.

1. Recently the validity of IQ and Achievement Tests has been seriously questioned (See Section IIC4.)

   (a) Is intelligence measurable, and what do IQ tests actually measure? Does not the use of IQ tests increase the inequities in education? Do they not label students? Indeed, what is intelligence?

   (b) "Why" are achievement tests given and "what" do they measure? Presumably the goal is to evaluate how a child is doing as compared with others in his class, town and the nation as a whole. Do they truly measure a child's acquisition of knowledge, or do they measure his ability to function under stress? Do they give the teacher any real information as to the student's strengths and weaknesses, and do they help in setting up an educational plan?

In spite of their weaknesses, these are the present day accepted means of evaluation, and achievement information is used for a variety of seemingly vital functions. They are used as a basis for selecting students for college, major areas of study, graduate honors programs, scholarships and post-school employment, etc. Some kind of information regarding a student's academic performance relative to other students is needed. Consequently, standardized achievement and ability tests are still necessary.

2. The sample from small schools used in this study is small (19). Furthermore, at the time of the test scores, the AP (Advanced Placement) students at small schools were sent to other schools.

3. The samples used in this study were in the second grade in 1968 and are presently in the ninth grade. One must ask how much has changed since then. Certainly there is greater emphasis on the child with special needs since the advent of Chapter 766.

4. The times must be taken into consideration. National scores are down. The "creative exuberance" of the late 60's led to ignoring the basics and disciplined, systematic learning. Many of the younger teachers going through schools at that time were results of this and today do not know how to teach skills systematically. Television has certainly influenced the decline in scores, no one knows just how much.

Summary

In summarizing the results of this study there are certain facts that are worthy of repetition:

1. There are limitations to the study.

2. In comparing the scores of the Iowa Test of Basic Skills from 1965 to 1973 for Vocabulary, Reading, Arithmetic and the Composite Score for grades three through eight there is a tendency for decline over time. In grades 7 and 8, this tendency is pronounced.

3. There is no evidence that attending a school of one size or another is associated with better or worse performance.

4. The average IQ is high. The National Average is between 90 and 100. Only 16 of the 346 students tested fall into this category. The average IQ score in Lexington for this sample is 120.

5. Since the Myklebust formula takes into account the IQ score where the "Iowa minus 1" does not, there is a greater number

of underachieving students identified with the Myklebust formula, particularly among the higher IQ's.

6. There are substantial numbers of children achieving at a high level in every grade, in every subject, at every IQ level.

7. There are substantial numbers of children who are underachieving in every grade, in every subject, at every IQ level.

8. There is a clear trend of percentage of underachievement rise from grade to grade.

9. There is greater underachievement in those children with lower IQ's.

10. In spite of the unreliability of IQ testing and achievement testing the results are real and meaningful.

APPENDIX D

MATERIALS USED IN LEXINGTON ELEMENTARY SCHOOLS' READING, LANGUAGE ARTS AND MATH PROGRAMS

READING

ADAMS	Specialist-recommended materials, teacher-made games, devices, individualized reading materials.
BOWMAN	MacMillan, Houghton Mifflin, SRA, Scholastic Book Kits, Story records, Random House, teacher's collection of novels and followup questions, teacher-made games, cards and other materials.
BRIDGE	Holt, MacMillan, Instructo Springboards, Tapes, Recipe, Felt Board Materials, Dolch Bingo's Spice, Peabody Kits, Lippincott, Educator's Publishing Materials, Milton Bradley's Education Company Board Games.
ESTABROOK	Multi-text programs, variety of reading systems suggested by specialist, textbooks recommended in Lexington Guides, teacher-made materials.
FISKE	MacMillan, Ginn 360, Educators Publishing, Lippincott. A variety of other materials.
FRANKLIN	Educators Publishing - Primary Phonics, SRA, MacMillan, Merrill Reading Skill Cards, Merrill Reading Skill text, paperbacks.
HANCOCK	Lippincott, Ginn, Houghton-Mifflin, Scott-Foresman, Scholastic paperbacks with teacher work supplements, Barnell Loft, MacMillan, Addison Wesley, Cates Peardon, McCall Crabb, novels, teacher-made materials.
HASTINGS	Varied basal texts, SRA kits, Barnell Loft Kits, teacher-made individualized materials.
HARRINGTON	Varied textbooks, workbooks and reading materials, recommendations by reading specialist.
PARKER	Ginn, SRA, teacher-principal selected books, Reading Caravan, MacMillan, McCall Crabb's controlled reader, Barnell Loft, teacher-made materials.
MUNROE	MacMillan, Holt, Rinehart, Winston, SRA,Readers Digest Crossword Puzzle Cards, Dictionary Skills worksheets, Scott-Foresman, Lippincott, Durrell-Murphy, Media, Wordcraft Vocabulary Auditory Program, McCall Crabb's Speed Reading, Kottmeyer Spelling Series.

LANGUAGE ARTS

ADAMS	Teacher-made games and devices, MacMillan.
BOWMAN	Creative writing, dictionary, teacher-made materials, Kottmeyer, Spelling, Laidlaw, MacMillan, Scholastic, Webster Division Prentice Hall.
BRIDGE	Paths, MacMillan, SRA, Modern Curriculum Press, Learning Center Guide Books, teacher-made materials, Bridge school file.
ESTABROOK	Language Arts Guide bibliography, Dolch list for spelling, teacher-made materials.
FISKE	Teacher-made materials.
FRANKLIN	Teacher designed worksheets based on Language Arts Guide, Botel, Kottmeyer, Educators Publishing, MacMillan, Scott Foresman, D.C. Heath, teacher-made materials.
HANCOCK	LPS Handwriting Booklet, Webster, McGraw-Hill, SRA Kits, Barnell-Loft, Our Language Today, Daily papers, teacher-made materials.
HASTINGS	LPS Guide recommended materials, multi-texts, teacher-made individualized kits.
HARRINGTON	Holt, Rinehart, Winston; Freanot texts, teacher-made materials.
MUNROE	Imagine and Write booklets, DLM materials, Sadlier cards, teacher-made materials.
PARKER	Creative writing, games and other teacher-made materials, student writing.

MATH

ADAMS	Teacher-made games, devices, activities and materials.
BOWMAN	Silver Burdett, Addison Wesley, "teacher-authored book", teacher-made worksheets, parent help.
BRIDGE	MacMillan, LPS Math pilot program, other book series, games, audio-visual aids.
ESTABROOK	Senior teacher recommended materials, 5 texts recommended in the LPS Math Guide, teacher-made materials.

FISKE	LPS Math Program Pilot in kindergarten; LPS Math program and texts suggested therein.
FRANKLIN	Addison-Wesley, Harcourt-Brace, D.C. Heath, Houghton-Mifflin, teacher-designed worksheets based on LPS Guide.
HANCOCK	Teacher-made worksheets and materials, LPS Math Program.
HARRINGTON	LPS Math Guide, variety of textbooks, teacher-made materials, workbooks.
HASTINGS	LPS Guide and recommended materials.
MUNROE	Teacher-made games, worksheets; commercial games, problem-solving mental math and drills; Scott-Foresman masters; attribute blocks, cubes, clocks, flash cards.
PARKER	LPS Math Guide and referred books, Nuffield Math Program and games, Super-cube, pupil-made materials and teacher-made materials.