

DOCUMENT RESUME

ED 395 987

TM 025 150

AUTHOR Deeter, Thomas; Prine, Don
 TITLE ITBS and ITED Assessment Results 1994-1995. Focus on Standardized Testing.
 INSTITUTION Des Moines Public Schools, Iowa.
 PUB DATE Jun 96
 NOTE 27p.
 PUB TYPE Reports - Evaluative/Feasibility (142) -- Statistical Data (110)

EDRS PRICE MF01/PC02 Plus Postage.
 DESCRIPTORS Academic Achievement; *Achievement Tests; Comparative Analysis; *Educational Assessment; Elementary Secondary Education; Minority Groups; National Norms; Norm Referenced Tests; School Districts; Sex Differences; Standardized Tests; *State Programs; *Testing Programs; *Test Results; Test Use
 IDENTIFIERS *Des Moines Public Schools IA; *Iowa Tests of Basic Skills; Iowa Tests of Educational Development

ABSTRACT

As part of its academic testing program and the evaluation of academic achievement, the Des Moines (Iowa) Public School System administers two standardized, norm-referenced achievement tests. These are the Iowa Tests of Basic Skills (ITBS) and the Iowa Tests of Educational Development (ITED). This document provides information regarding achievement on these tests in the 1994-1995 school year. The primary use of norm-referenced standardized tests is to provide general information about how the district compares with other urban districts with similar characteristics across the state and the nation. The ITBS is a test battery administered to students in grades 3, 4, 6, and 7 each year in February. The ITED is given each February to a sample of Des Moines students in grade 10. Results from both these assessments indicate that the district is achieving above most other schools nationally. While there is room for improvement, most schools are scoring at a higher percentile rank on the ITBS when compared to results from the ITBS given to similar groups in prior years. Overall, well above half of the students taking the ITED scored at or above grade level. For both tests, gender differences were minimal, but there were substantial differences between minority and nonminority students. Seven appendixes present details about test results, and a supplement contains a discussion of the norming process and norm use. (Contains eight tables, six appendix tables, and seven supplement tables.) (SLD)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

ED 395 987

**ITBS & ITED
ASSESSMENT RESULTS
1994-1995**

**Des Moines Independent Community School District
Department of School Improvement & Employee Relations
1800 Grand Avenue
Des Moines, Iowa 50309**

U.S. DEPARTMENT OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER-ERIC

- This document has been reproduced as received from the person or organization originating it.
- Minor corrections have been made to improve readability.

- Price: \$1.00 plus postage. For those organizations that have been granted a photocopy licence by the Copyright Clearance Center, Inc., a separate system of payment has been arranged. The fee code for users of the Copyright Clearance Center, Inc. is 0093-0330/95 \$1.00.

JUNE, 1995

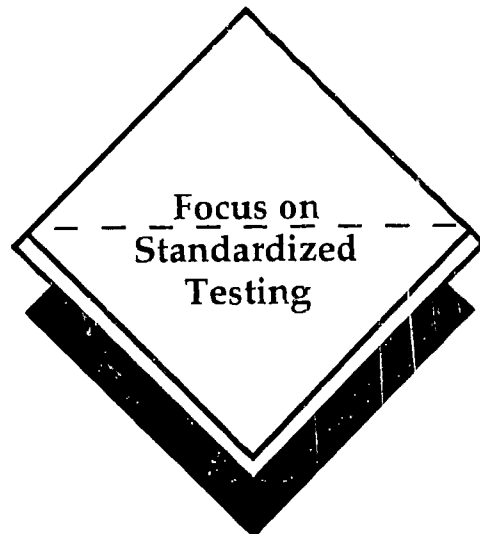
PERMISSION TO REPRODUCE THIS
COPYRIGHTED MATERIAL
MAY BE OBTAINED FROM
ERIC

THOMAS E. DEETER

THE UNIVERSITY OF IOWA
DEPARTMENT OF EDUCATION

Dr. Thomas Deeter
Program Evaluator, Testing & Research

Dr. Don Prine
Director, School Improvement
& Employee Relations



BEST COPY AVAILABLE

TIC 25150
ERIC
Full Text Provided by ERIC

The Des Moines Independent Community School District
Standardized Test Results
June, 1995

The Des Moines Public Schools continue to focus improvement efforts on the academic growth and development of our diverse urban student body. The primary goal of the academic testing program is to provide information that the district and individual schools can use to develop and implement strategies to improve teaching and increase learning. As part of the academic testing program, the district administers two standardized, norm-referenced achievement tests. These are the Iowa Tests of Basic Skills (ITBS) and the Iowa Tests of Educational Development (ITED).

The purpose of this document is to provide information regarding student achievement on the district's standardized, norm-referenced assessment program for the 1994-95 school year. It is important to keep in mind that the district's standardized testing program is only a part of the district's academic assessment of students. Other aspects of the district-wide assessment program include criterion-referenced, objectives-based tests (subject matter tests) and the district's composition assessment. Also reported in the comprehensive report, issued in the fall, are results of college entrance examinations (ACT, SAT) and advanced placement tests.

The primary use of norm-referenced, standardized assessments is to provide general information regarding how our district as a whole compares with other urban districts with similar characteristics across the state and nation. The Des Moines Public Schools use national school norms as the standard of comparison for ITBS and ITED, since the district's urban demographic characteristics are more reflective of a national standard than a composite state standard.

With our current mobile society, it is important that a district not be so focused on its own curriculum objectives that it loses sight of what is being taught in other districts across the country. Standardized assessments help to prevent this tunnel vision from developing by selecting items that test a broad range of objectives from each subject area. These standardized tests are not intended or designed to perfectly match any district's curriculum. Keeping in mind that the ITBS is an assessment of *basic skills*, it is a fair measure of student achievement in most areas. The ITED assesses a broad range of basic *and* higher order skills.

The ITBS and ITED are timed tests. This means that a specific amount of time is given to complete the items in a given section. As such, timed tests may penalize students who take their time and answer only a small number of items correctly. For this reason, the ITBS may not be a perfect match for evaluating the performance of students in schools where the philosophy is to teach students to take one's time and do a good job.

The Iowa Tests of Basic Skills (ITBS)

The Iowa Tests of Basic Skills is a norm-referenced, standardized test battery developed by the Iowa Testing Programs in Iowa City, Iowa. It is administered in February to district students in Grades 3, 4, 6, and 7. Scores are reported in percentiles, grade equivalents, and normal curve equivalents. Individual building results can be found in Appendix B and Appendix C.

The 1994 school year was the first assessment using a revised form of the ITBS. The entire battery includes tests in the areas of reading comprehension, language, mathematics, social science, science, and sources of information (maps and diagrams; reference materials). This revision includes social science and science as part of the complete battery. In earlier forms, they were supplemental tests and were not administered due to poor content matching with the district curriculum objectives.

For the 1995 administration, district students took the reading, language, and mathematics subtests. These subtests comprise the Core Total score. Similar to the old composite score, the Core Total does not include Social Studies, Science, or Sources of Information. The Sources of Information subtests, not administered in 1994, have been reviewed and judged to be appropriate and were administered. Social Studies was administered to third grade students who had completed the course by the February testing date.

The ITBS tests are designed so that each successive level of the test contains items from the upper half (approximately) of the previous level material. Considering the basic design of the ITBS (or any norm-referenced test), students performing at the 50th percentile are at the expected test and grade level average. For example, fourth grade students scoring at the 50th percentile in February also have a grade equivalent of approximately 4.5.

On tests administered at the same time of year on subsequent years, a student scoring at the 50th percentile in both years has experienced a year's growth. A student scoring at the 50th percentile in 6th grade and at the 60th percentile in 7th grade might be said to have experienced accelerated achievement growth, over and above that which might be normally expected during that period of time.

Elementary School ITBS

Grade 3. Given a third grade student mobility rate ranging from 1 percent to 32 percent in the district's elementary schools and a socioeconomic variable ranging in one school where less than 5 percent of the students received free or reduced meals to greater than 90 percent in another, students recorded above average achievement. For this group of students, the district's national Core Total score on the ITBS was the 63rd percentile.

Of the district's 39 elementary centers, 25 (64%) scored at or above the 50th percentile. Seven of these elementary centers scored at or above the 80th percentile, and twelve others equaled or surpassed the 60th percentile point. Fourteen (36%) of the elementary centers scored below the 50th percentile, with eight sites scoring below the 40th percentile.

Grade 4. Given a fourth grade student mobility rate ranging from 3 percent to 32 percent in the district's elementary schools and a socioeconomic variable ranging in one school where less than 10 percent of the students received free or reduced meals to greater than 90 percent in another, students recorded above average achievement. For this group of students, the district's national Core Total score on the ITBS was the 63rd percentile.

Of the district's 39 elementary centers, 26 (67%) scored above the 50th percentile. Nine of these elementary centers scored at or above the 80th percentile, and ten others surpassed the 60th percentile point. Thirteen (33%) of the elementary centers scored below the 50th percentile, all scoring below the 40th percentile.

Elementary School Cohort Growth

Grade 3 (1993-94) to Grade 4 (1994-95). For the similar group of students, tested in the third grade in 1994 and in the fourth grade in 1995, the district's national composite score on the ITBS remained stable at the 63rd percentile. It should be noted that the group of fourth grade students in 1994-95 are different from the group of third grade students in 1993-94 to the extent that students move into or out of the district.

Of the district's 39 elementary centers, 20 (51%) recorded an increase in composite scores varying from 1 to 19 percentile points. Seven of these elementary centers improved by at least 10 percentile points, and eight others improved by at least 5 percentile points. Three elementary centers' scores remained unchanged, with two of these sites scoring above the 50th percentile. Scores at fifteen elementary centers (38%) dropped between 1 and 15 percentile points (Appendix D).

An analysis of the ITBS subtests for the 1994-95 fourth graders compared to their 1993-94 third grade scores (Table 1) indicates improvement on Reading Total and Language Total scores, but a drop in Math Total scores. The largest increase was in Capitalization (13 percentile ranks), and the largest decrease was in Math Concepts (16 percentile ranks).

Table 1. Elementary School ITBS Subtest Score Comparisons:
Cohort Trend Percentile Ranks
National School Norms

| | Grade 3 1993-94 | Grade 4 1994-95 |
|------------------------------|--------------------|--------------------|
| Vocabulary | 51 | 43 |
| Reading Comprehension | 54 | 63 |
| Reading Total | 52 | 55 |
| Spelling | 43 | 52 |
| Capitalization | 62 | 75 |
| Punctuation | 65 | 71 |
| Usage | 66 | 62 |
| Language Total | 62 | 67 |
| Math Concepts | 73 | 57 |
| Math Problem Solving | 62 | 73 |
| Math Total | 69 | 66 |
| Core Total | 63 | 63 |
| Maps & Diagrams | NA | 71 |
| Reference Materials | NA | 59 |
| Sources of Information Total | NA | 66 |
| Social Studies | NA | 63 |

Middle School ITBS

Grade 6. Given a sixth grade student mobility rate ranging from 8 percent to 23 percent in the district's middle schools and a socioeconomic variable ranging in one school where less than 30 percent of the students received free or reduced meals to nearly 60 percent in another, students recorded slightly above average achievement. For this group of students, the district's national Core Total score on the ITBS was the 53rd percentile.

Of the district's 10 middle schools, 6 (60%) scored at or above the 50th percentile. Three schools surpassed the 60th percentile point. Four (40%) of the middle schools scored below the 50th percentile, with three sites scoring below the 40th percentile.

Grade 7. Given a seventh grade student mobility rate ranging from 5 percent to 21 percent in the district's middle schools and a socioeconomic variable ranging in one school where slightly more than 20 percent of the students received free or reduced meals to nearly 60 percent in another, students recorded above average achievement. For this group of students, the district's national Core Total score on the ITBS was the 62nd percentile.

Of the district's 10 middle schools, 7 (70%) scored at or above the 50th percentile. Six schools surpassed the 60th percentile point. Three (30%) of the middle schools scored below the 50th percentile, with one site scoring below the 40th percentile.

Middle School Cohort Growth

Grade 6 (1993-94) to Grade 7 (1994-95). For the similar group of students, tested in the sixth grade in 1994 and in the seventh grade in 1995, the district's national composite score on the ITBS increased from the 61st to the 62nd percentile.

Of the district's 10 middle schools, 5 (50%) recorded an increase in composite scores varying from 1 to 9 percentile points. Two of these middle schools improved by at least 8 percentile points. One middle school's score remained unchanged, well above the 50th percentile. Scores at four (40%) middle schools dropped between 1 (three sites) and 7 percentile points (Appendix E).

An analysis of the ITBS subtests for the 1994-95 seventh graders compared to their 1993-94 sixth grade scores (Table 2) indicates improvement on Language Total scores, but a drop in Reading Total and Math Total scores. The largest increase was in Spelling (8 percentile ranks), and the largest decrease was in Math Concepts (9 percentile ranks).

Table 2. Middle School ITBS Subtest Score Comparisons:
Cohort Trend Percentile Ranks
National School Norms

| | Grade 6 1993-94 | Grade 7 1994-95 |
|------------------------------|--------------------|--------------------|
| Vocabulary | 49 | 46 |
| Reading Comprehension | 57 | 55 |
| Reading Total | 54 | 50 |
| Spelling | 54 | 62 |
| Capitalization | 63 | 68 |
| Punctuation | 59 | 65 |
| Usage | 56 | 57 |
| Language Total | 59 | 64 |
| Math Concepts | 68 | 59 |
| Math Problem Solving | 64 | 64 |
| Math Total | 66 | 62 |
| Core Total | 61 | 62 |
| Maps & Diagrams | NA | 68 |
| Reference Materials | NA | 55 |
| Sources of Information Total | NA | 63 |

Disaggregated ITBS Scores

Disaggregated ITBS data compares minority and non-minority Core Total scores (Table 3 and Table 4) by using median percentile scores. Of primary importance is to examine if the achievement *gap* between minority and non-minority students is closing and not widening. Trend data (Table 3) show that the gap (difference) for third graders in 1993-94 has closed for fourth graders (1994-95). Historical data (Table 4) show that the gap is closing at Grades 3, 4, and 6. However, the gap begins to widen again, however slightly, at Grade 7.

Table 3. Disaggregated ITBS Core Total Scores for Minority
and Non-Minority Students Using Median Percentile Scores
National Student Norms
Trend Results

| Grade Level | Minority | Difference | Non-Minority |
|--------------------|----------|------------|--------------|
| Grade 3 1993-94 | 34 | (28) | 62 |
| Grade 4 1994-95 | 39 | (19) | 58 |
| Net Change | + 5 | | - 4 |
| Grade 6 1993-94 | 36 | (23) | 59 |
| Grade 7 1994-95 | 36 | (24) | 60 |
| Net Change | 0 | | + 1 |

Table 4. Disaggregated ITBS Core Total Scores for Minority and Non-Minority Students Using Median Percentile Scores National Student Norms Historical Results

| Grade Level | Minority | Difference | Non-Minority |
|--------------------|----------|------------|--------------|
| Grade 3 1993-94 | 34 | (28) | 62 |
| Grade 3 1994-95 | 35 | (25) | 60 |
| Grade 4 1993-94 | 42 | (21) | 63 |
| Grade 4 1994-95 | 39 | (19) | 58 |
| Grade 6 1993-94 | 36 | (23) | 59 |
| Grade 6 1994-95 | 36 | (19) | 55 |
| Grade 7 1993-94 | 40 | (21) | 61 |
| Grade 7 1994-95 | 36 | (24) | 60 |

Another way to evaluate disaggregated assessment information is to examine the percent of students in a particular grade scoring at or above a specified standard. With the ITBS, differences between disaggregated groups regarding the number or percent of students scoring at or above grade level can be examined. Tables 5 and 6 show the percent of students scoring on grade level (50th percentile) or higher on the ITBS (Core Total). Overall, more than half of the students scored at or above grade level on the ITBS. Gender differences in achievement are minimal. There are substantial differences between non-minority and minority students, and between students receiving subsidized meals and those not receiving subsidized meals. Appendices F and G show the percent of students scoring at or above grade level, by building.

Table 5. Percent of Students Scoring On Grade Level
(50th Percentile) or Higher
Core Total Scores
National Student Norms
Trend Results

| Grade | All Students | Males | Females | Non-minority Students | Minority Students | Free & Reduced | Non Free & Reduced |
|--------------------|--------------|-------|---------|-----------------------|-------------------|----------------|--------------------|
| Grade 3 1993-94 | 55.4 | 52.4 | 58.5 | 61.2 | 34.1 | 38.0 | 67.8 |
| Grade 4 1994-95 | 55.3 | 53.4 | 57.3 | 60.4 | 36.7 | 37.9 | 68.0 |
| Grade 6 1993-94 | 55.0 | 52.0 | 57.8 | 59.9 | 36.3 | 39.3 | 63.6 |
| Grade 7 1994-95 | 56.0 | 52.2 | 59.4 | 61.5 | 36.0 | 39.7 | 65.2 |

Table 6. Percent of Students Scoring On Grade Level
(50th Percentile) or Higher
Core Total Scores
National Student Norms
Historical Results

| Grade | All Students | Males | Females | Non-minority Students | Minority Students | Free & Reduced | Non Free & Reduced |
|--------------------|--------------|-------|---------|-----------------------|-------------------|----------------|--------------------|
| Grade 3 1993-94 | 55.4 | 52.4 | 58.5 | 61.2 | 34.1 | 38.0 | 67.8 |
| Grade 3 1994-95 | 55.0 | 54.0 | 55.9 | 59.9 | 35.0 | 36.8 | 68.0 |
| Grade 4 1993-94 | 57.7 | 56.8 | 58.7 | 62.1 | 40.1 | 42.3 | 67.8 |
| Grade 4 1994-95 | 55.3 | 53.4 | 57.3 | 60.4 | 36.7 | 37.9 | 68.0 |
| Grade 6 1993-94 | 55.0 | 52.0 | 57.8 | 59.9 | 36.3 | 39.3 | 63.6 |
| Grade 6 1994-95 | 51.0 | 49.8 | 52.2 | 56.4 | 28.9 | 32.6 | 62.2 |
| Grade 7 1993-94 | 57.4 | 55.2 | 59.9 | 61.7 | 37.7 | 38.1 | 66.5 |
| Grade 7 1994-95 | 56.0 | 52.2 | 59.4 | 61.5 | 36.0 | 39.7 | 65.2 |

The Iowa Tests of Educational Development (ITED)

The Iowa Tests of Educational Development is a norm-referenced, standardized test battery developed by the Iowa Testing Programs in Iowa City, Iowa. It is administered in February to a sample of district students in Grade 10. Scores are reported in percentiles.

The 1994 school year was the first assessment using a revised form of the ITED. The entire battery includes tests in the areas of vocabulary, content area reading, correctness and appropriateness of expression, quantitative thinking, interpretation of literary materials, analysis of social studies materials, analysis of science materials, and use of sources of information. Scores of 372 district 10th grade students who took the ITED in 1995 are shown in Table 7, along with scores from the 1994 assessment.

Table 7. ITED Mean Percentile Scores by Subtest
National School Norms

| Subtest | Average Percentile Score | |
|------------------------|--------------------------|---------|
| | 1993-94 | 1994-95 |
| Vocabulary | 77 | 77 |
| Content area Reading | 78 | 83 |
| Reading Total | 75 | 80 |
| Expression | 75 | 81 |
| Quantitative Thinking | 85 | 88 |
| Core Total | 80 | 87 |
| Literary Materials | 71 | 73 |
| Social Studies | 82 | 83 |
| Science | 82 | 89 |
| Sources of Information | 81 | 80 |
| Composite | 84 | 86 |

Table 8 shows the percent of students scoring on grade level (50th percentile) or higher on the February 1995 administration of the ITED for each subtest. Overall, well above half of the students scored at or above grade level on the ITBS. Gender differences in achievement are small. There are substantial differences between non-minority and minority students, and between students receiving subsidized meals and those not receiving subsidized meals.

These data should be interpreted with caution. Any sampling method is subject to error with regard to representativeness of the sample. To the extent that minority representation in the sample (19.5% in the 1995 assessment) does not reflect the district's tenth grade minority student population (approximately 23%), the gap between minority and non-minority students may be in error. This also applies to the gap between students based on participation in subsidized meal programs (18.5% in the 1995 assessment; approximately 25% district-wide for Grade 10).

Table 8. February 1995 ITED: Percent of Grade 10 Students Scoring On Grade Level (50th Percentile) or Higher National Student Norms

| Strand | All Students | Males | Females | Non-minority Students | Minority Students | Free & Reduced | Non Free & Reduced |
|------------------------|--------------|-------|---------|-----------------------|-------------------|----------------|--------------------|
| Vocabulary | 64.2 | 66.9 | 61.5 | 69.4 | 40.9 | 45.2 | 68.1 |
| Content area Reading | 69.2 | 63.9 | 74.4 | 74.5 | 45.0 | 53.6 | 72.3 |
| Reading Total | 66.6 | 64.5 | 68.7 | 71.3 | 45.0 | 48.2 | 70.3 |
| Expression | 71.8 | 64.6 | 78.9 | 74.8 | 57.8 | 51.7 | 75.7 |
| Quantitative Thinking | 77.6 | 79.8 | 75.4 | 81.4 | 59.7 | 64.9 | 80.0 |
| Core Total | 73.9 | 70.6 | 77.2 | 78.8 | 51.7 | 50.9 | 78.4 |
| Literary Materials | 66.5 | 62.1 | 70.9 | 70.2 | 49.2 | 57.4 | 68.3 |
| Social Studies | 71.1 | 70.5 | 71.7 | 74.5 | 55.0 | 49.1 | 75.4 |
| Science | 74.4 | 73.0 | 75.7 | 79.6 | 49.2 | 56.7 | 78.0 |
| Sources of Information | 68.6 | 70.6 | 66.7 | 73.7 | 46.2 | 49.1 | 72.4 |
| Composite | 71.5 | 69.0 | 74.1 | 76.4 | 50.0 | 51.9 | 75.4 |

Voluntary Saturday ITED

In order to provide an opportunity for students who wished to take the entire ITED battery, a special session is held on a Saturday during the year. On November 9, 1991, fourteen students took the ITED at Lincoln High School. Interested students included five from the 9th grade, four from the 10th grade, and five from the 11th grade. On February 13, 1993, at 1800 Grand, five students took the ITED. On February 12, 1994, at 1800 Grand, three students took the ITED. On February 11, 1995, at 1800 Grand, five students took the ITED. Although the number of students taking advantage of this opportunity is small, it is anticipated that we will continue offering it to those who wish to take the ITED.

Conclusions

Based on the results of the ITBS/ITED assessments, the district is achieving above most other schools nationally. While there is room for improvement, most of our schools are scoring at a higher percentile rank on the ITBS tests when compared to the results of the ITBS given to similar groups in prior years.

As district stakeholders continue to dialogue about the factors that influence test scores, and what to do about them, the achievement gaps among disaggregated groups will certainly come to mind. The task then becomes one of how we are addressing the specific needs of our diverse student population. Another challenge, somewhat reflected in standardized test scores, is to be able to balance instruction in order to cover all areas of the district's curriculum for a particular grade. In order to develop a more systemic focus on improvement, it is also important for schools to be able to network more effectively, to be able to communicate about what works and what doesn't.

In isolation, these standardized test results only present one view of the achievement of our students. As schools receive these results, and evaluate them along with results from the district's writing assessment, criterion-referenced assessments, and their own teacher-made instruments, they will be able to paint a more accurate picture of student achievement. The information that they gather will contribute to their ability to plan for improving the teaching-for-learning process.

DEFINITIONS

Grade Equivalent - the grade level for which a score is the real or estimated average. For example, 4.2 represents the fourth year, second month.

Iowa Tests of Basic Skills (ITBS) - a norm-referenced test published by the Iowa Testing Programs in Iowa City, Iowa. It is administered in Grades 3, 4, 6, and 7 in the Des Moines Public Schools. The test consists of the following parts:

Grades 3, 4, 6, & 7: Vocabulary, reading spelling, capitalization, punctuation, usage, visual material, references, math concepts, math problems, and math computation.

ITBS scores are reported in percentiles, grade equivalents, and normal curve equivalents.

Iowa Tests of Educational Development (ITED) - a norm-referenced test published by the Iowa Testing Programs in Iowa City, Iowa. It is administered in Grade 10 in the Des Moines Public Schools. The test consists of the following parts:

Correctness of Expression, Quantitative Expression, Social Studies, Natural Sciences, Literary Materials, Vocabulary, and Sources of Information.

ITED scores are reported in percentiles.

School Norms - Show where a school building or school system average for each grade group ranks among other averages of similar grade groups. It indicates specifically where the average score ranks among the averages of other schools (Iowa Testing Programs).

Student Norms - Show where the average student ranks among other students in the same grade. It should be interpreted as the rank of the average student among the students (Iowa Testing Programs).

Normal Curve Equivalent - an interval scale equivalent of the bell-shaped curve. The conversion process to arrive at an NCE distribution transforms the shape of the bell-shaped curve into a rectangular shape, such that the scores are distributed equally across each point in the distribution.

Norm-Referenced Test - a test that interprets individual performance by comparing a student's score to a previously established norm group, not to a performance criterion. The test is designed for one-half of the students to be above the 50th percentile and one-half below.

Percent - the proportion of a total. In testing, it is the number of questions answered correctly divided by the total number of items on the test.

Percentile - a point in the distribution below which a certain percent of the scores fall. For example, the 80th percentile is the point below which 80 percent of the scores lie. The shape of the distribution of percentiles is a bell-shaped curve.

BEST COPY AVAILABLE

Significance - an association between two variables or among a group of variables is said to be statistically significant when (in terms of quantitative measurement theory and practice) the association fulfills specific predetermined criteria. While statistical significance is largely a function of sample size, it must be weighed against a "meaningfulness" criterion. In the absence of statistical significance, results judged as having educational or practical meaning may play an important role in the evaluation of outcomes, and in some cases, may be more valid than statistical significance.

Note on Mobility Rate and Free/Reduced price meals:

Data on student mobility and qualification for free or reduced price meals (used for analysis of ITBS data) were taken from the student data files at Mid-Iowa Computer Center as of Friday, January 29, 1993 (the Friday before testing began). Since this information is available for each student, these indices were computed for each grade level within each building.

Mobility rate for each grade within each building was determined by the following formula:

$$\frac{(\text{Number of entries} + \text{Number of exits})}{\text{Average daily membership}} \times 100$$

Average daily membership was computed by taking the official student enrollment "as of" the official count date (the third Friday in September), adding all of the entries after the official count date, and subtracting all of the exits after the official count date. Number of entries and exits were counted after the official count date.

Percent of students on free or reduced price meals was determined by combining the number of students on free and on reduced, and dividing by the average daily membership for that grade.

ITBS Historical Results
Grade 3 & Grade 4 Percentile Ranks
National School Norms

| SCHOOL | Grade 3 | Grade 3 | Grade 4 | Grade 4 |
|-----------------|------------|------------|------------|------------|
| | 1993-94 | 1994-95 | 1993-94 | 1994-95 |
| | Core Total | Core Total | Core Total | Core Total |
| Adams | 67 | 47 | 49 | 52 |
| Brooks | 16 | 14 | 42 | 16 |
| Cattell | 68 | 57 | 57 | 57 |
| Douglas | 64 | 67 | 74 | 69 |
| Edmunds | 28 | 49 | 30 | 35 |
| Findley | 70 | 54 | 83 | 74 |
| Garton | 40 | 49 | 51 | 35 |
| Granger | 76 | 76 | 71 | 67 |
| Greenwood | 97 | 94 | 96 | 97 |
| Hanawalt | 97 | 97 | 97 | 99 |
| Hillis | 74 | 84 | 84 | 74 |
| Howe | 38 | 75 | 74 | 56 |
| Hubbell | 84 | 79 | 83 | 94 |
| Jackson | 64 | 50 | 77 | 75 |
| Jefferson | 93 | 97 | 97 | 94 |
| Longfellow | 14 | 21 | 31 | 24 |
| Lovejoy | 66 | 63 | 55 | 71 |
| Lucas | 18 | 10 | 20 | 23 |
| Madison | 46 | 62 | 71 | 39 |
| Mann | NA | 41 | 57 | 54 |
| Mc Kee | 42 | 19 | 43 | 35 |
| Mc Kinley | 12 | 20 | 24 | 25 |
| Mitchell | 52 | 41 | 63 | 54 |
| Monroe | 95 | 83 | 86 | 83 |
| Moore | 85 | 71 | 85 | 83 |
| Moulton | 15 | 26 | 44 | 20 |
| Oak Park | 48 | 58 | 49 | 36 |
| Park Avenue | 63 | 59 | 51 | 67 |
| Perkins | 66 | 74 | 74 | 65 |
| Phillips | 68 | 76 | 49 | 80 |
| Pleasant Hill | 83 | 85 | 82 | 77 |
| Stowe | 52 | 50 | 59 | 59 |
| Studebaker | 68 | 66 | 71 | 59 |
| Wallace | 25 | 18 | 43 | 18 |
| Watrous | 44 | 92 | 70 | 34 |
| Willard | 42 | 19 | 40 | 29 |
| Windsor | 77 | 66 | 91 | 84 |
| Woodlawn | 63 | 70 | 76 | 82 |
| Wright | 60 | 42 | 66 | 68 |
| <u>DISTRICT</u> | 63 | 63 | 68 | 63 |

ITBS Historical Results
Grade 6 & Grade 7 Percentile Ranks
National School Norms

| SCHOOL | Grade 6 1993-94 Core Total | Grade 6 1994-95 Core Total | Grade 7 1993-94 Core Total | Grade 7 1994-95 Core Total |
|-----------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Brody | 68 | 66 | 70 | 68 |
| Callanan | 80 | 79 | 77 | 79 |
| Goodrell | 50 | 53 | 47 | 52 |
| Harding | 36 | 26 | 40 | 44 |
| Hiatt | 46 | 27 | 37 | 39 |
| Hoyt | 40 | 34 | 53 | 44 |
| McCombs | 54 | 51 | 62 | 63 |
| Meredith | 61 | 56 | 73 | 60 |
| Merrill | 77 | 74 | 81 | 78 |
| Weeks | 70 | 47 | 74 | 69 |
| <u>DISTRICT</u> | 61 | 53 | 64 | 62 |

/ t,

ITBS Percentile Rank Trends
Grade 3 (1993-94) To Grade 4 (1994-95)
National School Norms

| SCHOOL | Grade 3 1993-94 Core Total | Grade 3 1993-94 % Mobility Group* | Grade 3 1993-94 % Fr/Red Group* | Grade 4 1994-95 Core Total | Grade 4 1994-95 % Mobility Group* | Grade 4 1994-95 % Fr/Red Group* | 1993-94 to 1994-95 Core Total Change |
|-----------------|----------------------------------|--|--|----------------------------------|--|--|---|
| Adams | 67 | 1 | 3 | 52 | 1 | 3 | -15 |
| Brooks | 16 | 2 | 7 | 16 | 1 | 6 | 0 |
| Cattell | 68 | 1 | 5 | 57 | 1 | 4 | -11 |
| Douglas | 64 | 1 | 3 | 69 | 0 | 3 | +5 |
| Edmunds | 28 | 0 | 5 | 35 | 1 | 5 | +7 |
| Findley | 70 | 1 | 7 | 74 | 0 | 6 | +4 |
| Garton | 40 | 3 | 6 | 35 | 1 | 5 | -5 |
| Granger | 76 | 0 | 4 | 67 | 1 | 4 | -9 |
| Greenwood | 97 | 0 | 1 | 97 | 0 | 2 | 0 |
| Hanawalt | 97 | 0 | 1 | 99 | 0 | 1 | +2 |
| Hillis | 74 | 0 | 3 | 74 | 0 | 3 | 0 |
| Howe | 38 | 0 | 4 | 56 | 0 | 3 | +18 |
| Hubbell | 84 | 1 | 2 | 94 | 0 | 2 | +10 |
| Jackson | 64 | 0 | 4 | 75 | 1 | 4 | +11 |
| Jefferson | 93 | 0 | 1 | 94 | 0 | 0 | +1 |
| Longfellow | 14 | 3 | 9 | 24 | 2 | 8 | +10 |
| Lovejoy | 66 | 2 | 4 | 71 | 2 | 5 | +5 |
| Lucas | 18 | 1 | 8 | 23 | 1 | 7 | +5 |
| Madison | 46 | 1 | 4 | 39 | 1 | 5 | -7 |
| Mann | NA | 1 | 5 | 54 | 0 | 3 | NA |
| Mc Kee | 42 | 0 | 4 | 35 | 1 | 4 | -7 |
| Mc Kinley | 12 | 1 | 7 | 25 | 1 | 6 | +13 |
| Mitchell | 52 | 1 | 3 | 54 | 0 | 4 | +2 |
| Monroe | 95 | 1 | 3 | 83 | 1 | 3 | -12 |
| Moore | 85 | 1 | 3 | 83 | 0 | 4 | -2 |
| Moulton | 15 | 4 | 9 | 20 | 2 | 9 | +5 |
| Oak Park | 48 | 1 | 5 | 36 | 0 | 5 | -12 |
| Park Avenue | 63 | 1 | 4 | 67 | 0 | 4 | +4 |
| Perkins | 66 | 1 | 5 | 65 | 1 | 4 | -1 |
| Phillips | 68 | 1 | 3 | 80 | 0 | 4 | +12 |
| Pleasant Hill | 83 | 1 | 1 | 77 | 1 | 2 | -6 |
| Stowe | 52 | 1 | 7 | 59 | 3 | 7 | +7 |
| Studebaker | 68 | 1 | 2 | 59 | 0 | 2 | -9 |
| Wallace | 25 | 1 | 6 | 18 | 2 | 7 | -7 |
| Watrous | 44 | 2 | 3 | 34 | 2 | 3 | -10 |
| Willard | 42 | 1 | 5 | 29 | 3 | 5 | -13 |
| Windsor | 77 | 1 | 2 | 84 | 0 | 3 | +7 |
| Woodlawn | 63 | 0 | 2 | 82 | 1 | 2 | +19 |
| Wright | 60 | 1 | 3 | 68 | 1 | 3 | +8 |
| <u>DISTRICT</u> | 63 | 14.08 | 45.31 | 63 | 13.06 | 44.81 | 0 |

*Group numbers represent ranges of student percentages (i.e., 0 is less than or equal to 9.99%, 1 is 10% to 19.99, etc., 9 is greater than 90%).

ITBS Percentile Rank Trends
Grade 6 (1993-94) To Grade 7 (1994-95)
National School Norms

| SCHOOL | Grade 6 1993-94 Core Total | Grade 6 1993-94 % Mobility Group* | Grade 6 1993-94 % Fr/Red Group* | Grade 7 1994-95 Core Total | Grade 7 1994-95 % Mobility Group* | Grade 7 1994-95 % Fr/Red Group* | 1993-94 to 1994-95 Core Total Change |
|-----------------|----------------------------------|--|--|----------------------------------|--|--|---|
| Brody | 68 | 0 | 2 | 68 | 0 | 2 | 0 |
| Cailanan | 80 | 0 | 3 | 79 | 1 | 3 | -1 |
| Goodrell | 50 | 1 | 4 | 52 | 1 | 4 | +2 |
| Harding | 36 | 1 | 5 | 44 | 2 | 5 | +8 |
| Hiatt | 46 | 1 | 6 | 39 | 2 | 5 | -7 |
| Hoyt | 40 | 1 | 4 | 44 | 1 | 4 | +4 |
| McCombs | 54 | 1 | 3 | 63 | 0 | 3 | +9 |
| Meredith | 61 | 0 | 3 | 60 | 0 | 3 | -1 |
| Merrill | 77 | 0 | 3 | 78 | 1 | 2 | +1 |
| Weeks | 70 | 1 | 4 | 69 | 1 | 4 | -1 |
| <u>DISTRICT</u> | 61 | 11.98 | 41.28 | 62 | 13.24 | 39.30 | +1 |

*Group numbers represent ranges of student percentages (i.e., 0 is less than or equal to 9.99%, 1 is 10% to 19.99, etc., 9 is greater than 90%).

Percent of Students Scoring on Grade Level (50th Percentile) or Higher
Grade 3 (1993-94) to Grade 4 (1994-95) ITBS Elementary School Trends

| School | Grade 3 1993-94 Percent \geq Grade Level | Grade 3 1993-94 Number Complete | Grade 3 1993-94 Number Enrolled | Grade 3 1993-94 Percent Complete | Grade 4 1994-95 Percent \geq Grade Level | Grade 4 1994-95 Number Complete | Grade 4 1994-95 Number Enrolled | Grade 4 1994-95 Percent Complete |
|-----------------|--|--|--|---|--|--|--|---|
| Adams | 60.4 | 48 | 51 | 94.1% | 52.0 | 50 | 54 | 92.6% |
| Brooks | 20.5 | 44 | 57 | 77.2% | 13.3 | 45 | 61 | 73.8% |
| Cattell | 64.0 | 50 | 68 | 73.5% | 50.9 | 55 | 64 | 85.9% |
| Douglas | 60.3 | 68 | 73 | 93.2% | 54.7 | 64 | 69 | 92.8% |
| Edmunds | 29.7 | 64 | 72 | 88.9% | 37.7 | 53 | 66 | 80.3% |
| Findley | 63.6 | 55 | 63 | 87.3% | 69.8 | 43 | 62 | 69.4% |
| Garton | 43.9 | 41 | 48 | 85.4% | 38.5 | 39 | 44 | 88.6% |
| Granger | 73.1 | 52 | 66 | 78.8% | 63.8 | 58 | 67 | 86.6% |
| Greenwood | 82.4 | 74 | 82 | 90.2% | 79.7 | 79 | 83 | 95.2% |
| Hanawalt | 87.0 | 46 | 58 | 79.3% | 93.3 | 45 | 57 | 78.9% |
| Hillis | 65.2 | 66 | 75 | 88.0% | 66.7 | 63 | 75 | 84.0% |
| Howe | 42.4 | 59 | 62 | 95.2% | 53.4 | 58 | 59 | 98.3% |
| Hubbell | 63.9 | 61 | 63 | 96.8% | 79.4 | 63 | 66 | 95.5% |
| Jackson | 67.2 | 58 | 71 | 81.7% | 66.7 | 60 | 67 | 89.6% |
| Jefferson | 78.2 | 78 | 79 | 98.7% | 73.0 | 74 | 75 | 98.7% |
| Longfellow | 21.4 | 42 | 49 | 85.7% | 28.6 | 35 | 40 | 87.5% |
| Lovejoy | 64.9 | 37 | 53 | 69.8% | 68.3 | 41 | 57 | 71.9% |
| Lucas | 25.0 | 48 | 57 | 84.2% | 31.1 | 45 | 58 | 77.6% |
| Madison | 47.1 | 34 | 43 | 79.1% | 38.2 | 34 | 48 | 70.8% |
| Mann | NA | 0 | 42 | NA | 55.9 | 34 | 36 | 94.4% |
| Mc Kee | 51.9 | 54 | 63 | 85.7% | 42.0 | 50 | 56 | 89.3% |
| Mc Kiniey | 17.8 | 45 | 49 | 91.8% | 30.2 | 43 | 51 | 84.3% |
| Mitchell | 54.8 | 42 | 42 | 100.0% | 53.5 | 43 | 50 | 86.0% |
| Monroe | 80.0 | 85 | 95 | 89.5% | 65.8 | 79 | 91 | 86.8% |
| Moore | 67.8 | 59 | 75 | 78.7% | 72.5 | 51 | 66 | 77.3% |
| Moulton | 23.1 | 39 | 58 | 67.2% | 24.4 | 45 | 69 | 65.2% |
| Oak Park | 44.8 | 67 | 70 | 95.7% | 42.6 | 54 | 59 | 91.5% |
| Park Avenue | 60.7 | 89 | 106 | 84.0% | 64.2 | 81 | 104 | 77.9% |
| Perkins | 54.0 | 113 | 116 | 97.4% | 51.0 | 100 | 110 | 90.9% |
| Phillips | 60.0 | 50 | 54 | 92.6% | 67.9 | 53 | 53 | 100.0% |
| Pleasant Hill | 73.2 | 41 | 44 | 93.2% | 69.4 | 36 | 43 | 83.7% |
| Stowe | 40.7 | 54 | 65 | 83.1% | 46.7 | 45 | 59 | 76.3% |
| Studebaker | 56.9 | 72 | 81 | 88.9% | 51.5 | 66 | 68 | 97.1% |
| Wallace | 33.3 | 45 | 55 | 81.8% | 21.7 | 46 | 57 | 80.7% |
| Watrous | 47.5 | 40 | 47 | 85.1% | 39.1 | 46 | 55 | 83.6% |
| Willard | 30.5 | 59 | 70 | 84.3% | 28.3 | 53 | 68 | 77.9% |
| Windsor | 66.2 | 65 | 72 | 90.3% | 72.4 | 58 | 67 | 86.6% |
| Woodlawn | 61.8 | 68 | 93 | 73.1% | 69.4 | 72 | 77 | 93.5% |
| Wright | 53.5 | 43 | 51 | 84.3% | 60.4 | 48 | 55 | 87.3% |
| <u>DISTRICT</u> | 55.4 | 2155 | 2536 | 85.0% | 55.3 | 2107 | 2466 | 85.4% |

NOTES: Number & Percent Complete refers to the number and percent of students completing the test to get a Core Total score.
Low percentages may result from building totals that include special populations who are not tested, in addition to students who are absent for one or more of the subtests.

Percent of Students Scoring on Grade Level (50th Percentile) or Higher
Grade 6 (1993-94) to Grade 7 (1994-95) ITBS Middle School Trends

| School | Grade 6 1993-94 Percent \geq Grade Level | Grade 6 1993-94 Number Complete | Grade 6 1993-94 Number Enrolled | Grade 6 1993-94 Percent Complete | Grade 7 1994-95 Percent \geq Grade Level | Grade 7 1994-95 Number Complete | Grade 7 1994-95 Number Enrolled | Grade 7 1994-95 Percent Complete |
|-----------------|--|--|--|---|--|--|--|---|
| Brody | 57.7 | 220 | 244 | 90.2% | 61.8 | 225 | 247 | 91.1% |
| Callanan | 67.2 | 232 | 279 | 83.2% | 66.2 | 216 | 259 | 83.4% |
| Goodrell | 52.3 | 197 | 228 | 86.4% | 54.6 | 185 | 214 | 86.4% |
| Harding | 44.4 | 205 | 283 | 72.4% | 50.3 | 181 | 273 | 66.3% |
| Hiatt | 49.3 | 148 | 196 | 75.5% | 41.7 | 144 | 186 | 77.4% |
| Hoyt | 44.7 | 170 | 211 | 80.6% | 45.3 | 139 | 171 | 81.3% |
| McCombs | 49.7 | 169 | 189 | 89.4% | 58.3 | 151 | 182 | 83.0% |
| Meredith | 54.2 | 236 | 257 | 91.8% | 51.7 | 240 | 264 | 90.9% |
| Merrill | 63.1 | 168 | 191 | 88.0% | 65.6 | 157 | 180 | 87.2% |
| Weeks | 63.8 | 174 | 226 | 77.0% | 59.5 | 173 | 230 | 75.2% |
| <u>DISTRICT</u> | 55.0 | 1919 | 2304 | 83.3% | 56.0 | 1811 | 2206 | 82.1% |

NOTES: Number & Percent Complete refers to the number and percent of students completing the test to get a Core Total score. Low percentages may result from building totals that include special populations who are not tested, in addition to students who are absent for one or more of the subtests.

Supplement

Critical to an accurate interpretation of standardized test scores is an understanding of the types of norms used, their derivation, and how they should be interpreted. Therefore, the following information is provided to assist the reader in reaching appropriate conclusions.

School norms are used to compare schools or districts within a reference group. Des Moines uses the national reference group (i.e., national norms). The school norm distribution, or curve, is derived from the pool of school average scores (see Figure 1). In other words, each school contributes one score, the school's average, to the pool of scores. This results in a curve that has less variability (a narrower range) and is more peaked when compared to a normal distribution. Because of the narrower range, the difference of a few raw score points translates into large differences in percentile rank. The farther scores are from the mean (50th percentile), the more school achievement may look inflated or deflated. Also, when examining trends, school norms tend to yield greater fluctuations over time.

Student norms are used to examine the achievement of the average student in a class, grade, school, or district, with respect to a reference group. The student norm distribution is derived from the pool of student scores, such that each student's score is included in the pool of scores from which the normal curve is derived. This results in the classic "bell-shaped" curve. When examining trends, student norms tend to be more stable than school norms. Interpreted at a school level, the student norm reflects the achievement of the average student in the school and grade, an interpretation that is not able to be made with school norms. When a parent receives test results from the Iowa Testing Programs, and wants to compare a student's achievement with that of other students in the school, the appropriate norm to use is the student norm.

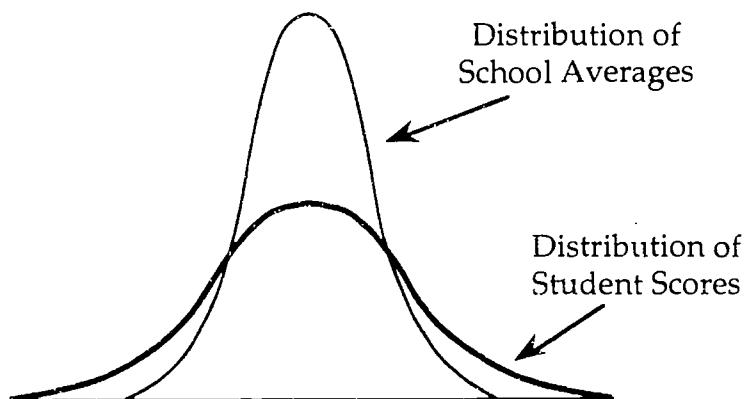


Figure 1. Comparison of School and Student Norm Distributions

Traditionally, school norms have been used in reporting to the public. However, many readers interpret school norms as the achievement of the average student at a school, which is inaccurate. When ITBS data are disaggregated for district or school improvement purposes, such as including results in school information bases, student norm data are used.

Tables S1 through S7 are tables that were presented earlier in this document, with the scores based on student norms instead of school norms. As can be seen in Tables S6 and S7, the fluctuations in scores over time are less than those found in Appendices D and E. Essentially, these tables show that *students* in lower achieving schools are not doing as poorly as their *school* norms reflect, and that *students* in higher achieving schools are not doing as well as their *school* norms reflect. Both norms are valid. It is the nature of the desired interpretation that dictates the appropriate norm that should be used.

Table S1. Elementary School ITBS Subtest Score Comparisons:
Cohort Trend Percentile Ranks
National Student Norms

| | Grade 3 1993-94 | Grade 4 1994-95 |
|------------------------------|--------------------|--------------------|
| Vocabulary | 54 | 48 |
| Reading Comprehension | 54 | 58 |
| Reading Total | 53 | 55 |
| Spelling | 48 | 52 |
| Capitalization | 59 | 67 |
| Punctuation | 63 | 64 |
| Usage | 62 | 60 |
| Language Total | 59 | 60 |
| Math Concepts | 61 | 53 |
| Math Problem Solving | 60 | 64 |
| Math Total | 61 | 60 |
| Core Total | 57 | 57 |
| Maps & Diagrams | NA | 65 |
| Reference Materials | NA | 57 |
| Sources of Information Total | NA | 60 |
| Social Studies | NA | 58 |

Table S2. Middle School ITBS Subtest Score Comparisons:
Cohort Trend Percentile Ranks
National Student Norms

| | Grade 6 1993-94 | Grade 7 1994-95 |
|------------------------------|--------------------|--------------------|
| Vocabulary | 51 | 50 |
| Reading Comprehension | 55 | 54 |
| Reading Total | 54 | 53 |
| Spelling | 54 | 57 |
| Capitalization | 58 | 60 |
| Punctuation | 56 | 58 |
| Usage | 56 | 56 |
| Language Total | 56 | 58 |
| Math Concepts | 60 | 56 |
| Math Problem Solving | 59 | 57 |
| Math Total | 59 | 57 |
| Core Total | 56 | 57 |
| Maps & Diagrams | NA | 62 |
| Reference Materials | NA | 55 |
| Sources of Information Total | NA | 59 |

Table S3. ITED Mean Percentile Scores by Subtest
National Student Norms

| Subtest | Average Percentile Score | |
|------------------------|--------------------------|---------|
| | 1993-94 | 1994-95 |
| Vocabulary | 67 | 67 |
| Content area Reading | 65 | 75 |
| Reading Total | 67 | 70 |
| Expression | 65 | 68 |
| Quantitative Thinking | 69 | 72 |
| Core Total | 69 | 73 |
| Literary Materials | 66 | 66 |
| Social Studies | 71 | 71 |
| Science | 72 | 75 |
| Sources of Information | 70 | 69 |
| Composite | 71 | 72 |

Table S4. ITBS Historical Results
Grade 3 & Grade 4 Percentile Ranks
National Student Norms

| SCHOOL | Grade 3 1993-94 Core Total | Grade 3 1994-95 Core Total | Grade 4 1993-94 Core Total | Grade 4 1994-95 Core Total |
|-----------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Adams | 60 | 49 | 50 | 52 |
| Brooks | 29 | 27 | 46 | 29 |
| Cattell | 61 | 54 | 54 | 54 |
| Douglas | 58 | 60 | 62 | 60 |
| Edmunds | 37 | 50 | 39 | 42 |
| Findley | 62 | 53 | 67 | 62 |
| Garton | 45 | 50 | 51 | 42 |
| Granger | 65 | 65 | 61 | 59 |
| Greenwood | 83 | 78 | 80 | 82 |
| Hanawalt | 86 | 86 | 84 | 88 |
| Hillis | 64 | 70 | 68 | 62 |
| Howe | 44 | 64 | 62 | 53 |
| Hubbell | 70 | 67 | 67 | 76 |
| Jackson | 58 | 51 | 64 | 63 |
| Jefferson | 75 | 84 | 83 | 76 |
| Longfellow | 27 | 33 | 40 | 36 |
| Lovejoy | 60 | 57 | 53 | 61 |
| Lucas | 31 | 23 | 33 | 35 |
| Madison | 49 | 57 | 61 | 44 |
| Mann | NA | 45 | 54 | 52 |
| Mc Kee | 46 | 31 | 47 | 42 |
| Mc Kinley | 25 | 33 | 35 | 36 |
| Mitchell | 52 | 46 | 57 | 52 |
| Monroe | 78 | 69 | 70 | 68 |
| Moore | 71 | 62 | 69 | 67 |
| Moulton | 28 | 36 | 47 | 32 |
| Oak Park | 50 | 55 | 50 | 43 |
| Park Avenue | 57 | 55 | 51 | 58 |
| Perkins | 60 | 64 | 62 | 58 |
| Phillips | 61 | 65 | 50 | 65 |
| Pleasant Hill | 69 | 70 | 66 | 64 |
| Stowe | 52 | 50 | 55 | 55 |
| Studebaker | 61 | 60 | 61 | 55 |
| Wallace | 36 | 31 | 46 | 31 |
| Watrous | 48 | 75 | 60 | 42 |
| Willard | 46 | 31 | 45 | 39 |
| Windsor | 66 | 60 | 74 | 69 |
| Woodlawn | 57 | 62 | 63 | 66 |
| Wright | 56 | 46 | 58 | 59 |
| <u>DISTRICT</u> | 57 | 57 | 60 | 57 |

Table S5. ITBS Historical Results
 Grade 6 & Grade 7 Percentile Ranks
 National Student Norms

| SCHOOL | Grade 6 1993-94 Core Total | Grade 6 1994-95 Core Total | Grade 7 1993-94 Core Total | Grade 7 1994-95 Core Total |
|-----------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Brody | 61 | 59 | 61 | 60 |
| Callanan | 67 | 66 | 65 | 66 |
| Goodrell | 52 | 53 | 50 | 53 |
| Harding | 46 | 40 | 47 | 49 |
| Hiatt | 51 | 41 | 46 | 46 |
| Hoyt | 48 | 44 | 53 | 49 |
| McComb | 53 | 52 | 57 | 57 |
| Meredith | 56 | 54 | 62 | 56 |
| Merrill | 65 | 63 | 68 | 65 |
| Weeks | 61 | 51 | 63 | 60 |
| <u>DISTRICT</u> | 56 | 53 | 58 | 57 |

Table S6. ITBS Percentile Rank Trends
Grade 3 (1993-94) To Grade 4 (1994-95)
National Student Norms

| SCHOOL | Grade 3 1993-94 Core Total | Grade 3 1993-94 % Mobility Group* | Grade 3 1993-94 % Fr/Red Group* | Grade 4 1994-95 Core Total | Grade 4 1994-95 % Mobility Group* | Grade 4 1994-95 % Fr/Red Group* | 1993-94 to 1994-95 Core Total Change |
|-----------------|----------------------------------|--|--|----------------------------------|--|--|---|
| Adams | 60 | 1 | 3 | 52 | 1 | 3 | -8 |
| Brooks | 29 | 2 | 7 | 29 | 1 | 6 | 0 |
| Cattell | 61 | 1 | 5 | 54 | 1 | 4 | -7 |
| Douglas | 58 | 1 | 3 | 60 | 0 | 3 | +2 |
| Edmunds | 37 | 0 | 5 | 42 | 1 | 5 | +5 |
| Findley | 62 | 1 | 7 | 62 | 0 | 6 | 0 |
| Garton | 45 | 3 | 6 | 42 | 1 | 5 | -3 |
| Granger | 65 | 0 | 4 | 59 | 1 | 4 | -6 |
| Greenwood | 83 | 0 | 1 | 82 | 0 | 2 | -1 |
| Hanawalt | 86 | 0 | 1 | 88 | 0 | 1 | +2 |
| Hillis | 64 | 0 | 3 | 62 | 0 | 3 | -2 |
| Howe | 44 | 0 | 4 | 53 | 0 | 3 | +9 |
| Hubbell | 70 | 1 | 2 | 76 | 0 | 2 | +6 |
| Jackson | 58 | 0 | 4 | 63 | 1 | 4 | +5 |
| Jefferson | 75 | 0 | 1 | 76 | 0 | 0 | +1 |
| Longfellow | 27 | 3 | 9 | 36 | 2 | 8 | +9 |
| Lovejoy | 60 | 2 | 4 | 61 | 2 | 5 | +1 |
| Lucas | 31 | 1 | 8 | 35 | 1 | 7 | +4 |
| Madison | 49 | 1 | 4 | 44 | 1 | 5 | -5 |
| Mann | NA | 1 | 5 | 52 | 0 | 3 | NA |
| Mc Kee | 46 | 0 | 4 | 42 | 1 | 4 | -4 |
| Mc Kinley | 25 | 1 | 7 | 36 | 1 | 6 | +11 |
| Mitchell | 52 | 1 | 3 | 52 | 0 | 4 | 0 |
| Monroe | 78 | 1 | 3 | 68 | 1 | 3 | -10 |
| Moore | 71 | 1 | 3 | 67 | 0 | 4 | -4 |
| Moulton | 28 | 4 | 9 | 32 | 2 | 9 | +4 |
| Oak Park | 50 | 1 | 5 | 43 | 0 | 5 | -7 |
| Park Avenue | 57 | 1 | 4 | 58 | 0 | 4 | +1 |
| Perkins | 60 | 1 | 5 | 58 | 1 | 4 | -2 |
| Phillips | 61 | 1 | 3 | 65 | 0 | 4 | +4 |
| Pleasant Hill | 69 | 1 | 1 | 64 | 1 | 2 | -5 |
| Stowe | 52 | 1 | 7 | 55 | 3 | 7 | +3 |
| Studebaker | 61 | 1 | 2 | 55 | 0 | 2 | -6 |
| Wallace | 36 | 1 | 6 | 31 | 2 | 7 | -5 |
| Watrous | 48 | 2 | 3 | 42 | 2 | 3 | -6 |
| Willard | 46 | 1 | 5 | 39 | 3 | 5 | -7 |
| Windsor | 66 | 1 | 2 | 69 | 0 | 3 | +3 |
| Woodlawn | 57 | 0 | 2 | 66 | 1 | 2 | +9 |
| Wright | 56 | 1 | 3 | 59 | 1 | 3 | +3 |
| <u>DISTRICT</u> | 57 | 14.08 | 45.31 | 57 | 13.06 | 44.81 | 0 |

*Group numbers represent ranges of student percentages (i.e., 0 is less than or equal to 9.99%, 1 is 10% to 19.99, etc., 9 is greater than 90%).

Table S7. ITBS Percentile Rank Trends
Grade 6 (1993-94) To Grade 7 (1994-95)
National Student Norms

| SCHOOL | Grade 6 1993-94 Core Total | Grade 6 1993-94 % Mobility Group* | Grade 6 1993-94 % Fr/Red Group* | Grade 7 1994-95 Core Total | Grade 7 1994-95 % Mobility Group* | Grade 7 1994-95 % Fr/Red Group* | 1993-94 to 1994-95 Core Total Change |
|-----------------|----------------------------------|--|--|----------------------------------|--|--|---|
| Brody | 61 | 0 | 2 | 60 | 0 | 2 | -1 |
| Callanan | 67 | 0 | 3 | 66 | 1 | 3 | -1 |
| Goodrell | 52 | 1 | 4 | 53 | 1 | 4 | +1 |
| Harding | 46 | 1 | 5 | 49 | 2 | 5 | +3 |
| Hiatt | 51 | 1 | 6 | 46 | 2 | 5 | -5 |
| Hoyt | 48 | 1 | 4 | 49 | 1 | 4 | +1 |
| McCombs | 53 | 1 | 3 | 57 | 0 | 3 | +4 |
| Meredith | 56 | 0 | 3 | 56 | 0 | 3 | 0 |
| Merrill | 65 | 0 | 3 | 65 | 1 | 2 | 0 |
| Weeks | 61 | 1 | 4 | 60 | 1 | 4 | -1 |
| <u>DISTRICT</u> | 56 | 11.98 | 41.28 | 57 | 13.24 | 39.30 | +1 |

*Group numbers represent ranges of student percentages (i.e., 0 is less than or equal to 9.99%, 1 is 10% to 19.99, etc., 9 is greater than 90%).