

Scott Foresman Science

A Validation Study

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Introduction

This report summarizes findings from a research project aimed at determining the effects of usage of Scott Foresman Science in school districts that adopted the program. A successful program must fulfill requirements at many levels:

1. The program must comply with State and Local Curriculum guidelines and frameworks.
2. The program must provide solid support for teachers in the classroom.
3. Most important of all, the program must enable children - all children - to learn.

Scott Foresman prepares detailed Correlation documents to assure that its textbook programs are congruent with State Curriculum Guidelines.

The Company was in constant communication with teachers, supervisors, and State education officials during the development of Scott Foresman Science. We conducted formative research at professional meetings for three years prior to actual publication. We conducted focus groups in cities across the United States, in which we sought teacher and administrator opinions about lesson content, scope and sequence, and ease of use. For many, however, the ultimate criterion of program success is an affirmative answer to the question, “does this program enable children to learn?”

This document reports the results of a Validation Study in which pretest and posttest scores from user school districts were compared to determine the extent to which Scott Foresman Science supports student success in science.

Source of the data in this report:

The current national emphasis on school accountability has resulted in a much higher level of public disclosure of student test results than was the case even a few years ago. The World Wide Web has enabled this information to be quickly disseminated to the public. Most states, and many local districts, now post on their websites student achievement for key disciplines by district, building, and (often) grade level. These scores are an ideal source of information about student achievement. They are unobtrusive, represent no increase in level of testing, and can be verified by anyone with access to the Internet.

The charts on the following pages amply demonstrate that children in districts across the United States have found success with the use of Scott Foresman Science.

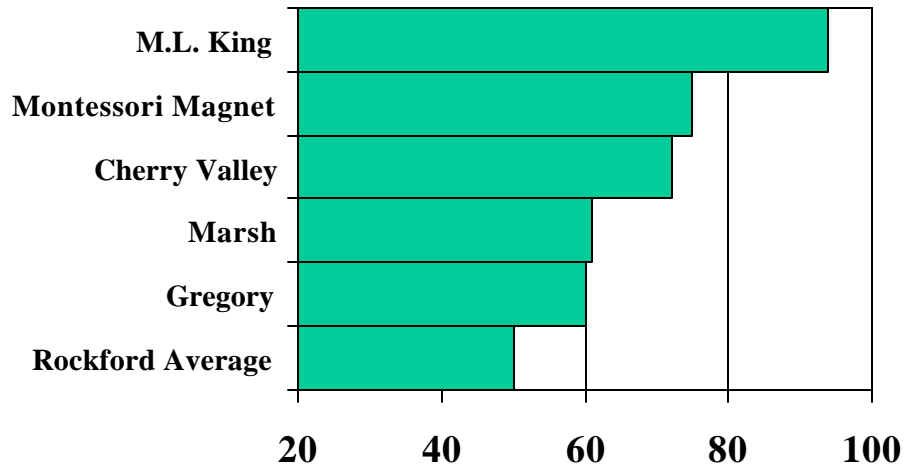
Finally, it must be stated that any textbook series, no matter how carefully constructed, is only one ingredient in the mix of factors that lead to student achievement. An excellent textbook series is important. So, too, are talented teachers, supportive communities, and wise administrative leadership.

Because Scott Foresman understands that, for many districts, sound evidence of a program's effectiveness has become one of the most important criteria in the selection of textbook series, the Company sponsors ongoing research focused on understanding the effectiveness of its programs in classrooms throughout the United States.

This report includes data from ten states: Illinois, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, Ohio, Oklahoma, South Dakota, and Wisconsin.

Scott Foresman Science Pretest-Posttest Results

Rockford, Illinois Grade 4



Percent of students meeting or exceeding State standards

- State: Illinois District: Rockford #205
- Test: ISAT
- Grade: 4
- Measure: Percent of students meeting or exceeding State standards

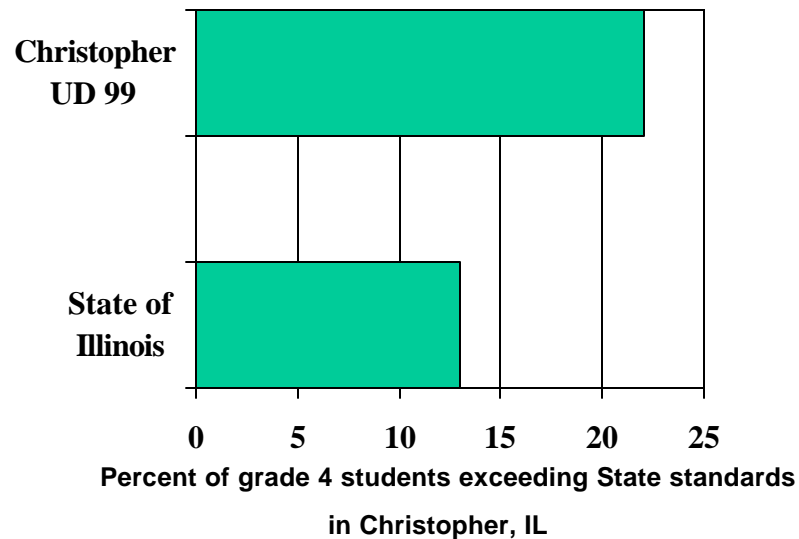
•Illinois introduced a new test, the ISAT, in spring, 2000. It is not comparable to the previous state-mandated test (the IGAP). In fact, ISAT is a much more difficult test than was the earlier IGAP. Since there is no comparable pretest with which to compare scores, this graph depicts performance in several Rockford schools on the science portion of the spring, 2000 ISAT compared with the average performance for the entire Rockford District.

- (Total N of students represented: 370)

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Scott Foresman Science Pretest-Posttest Results

Christopher, Illinois



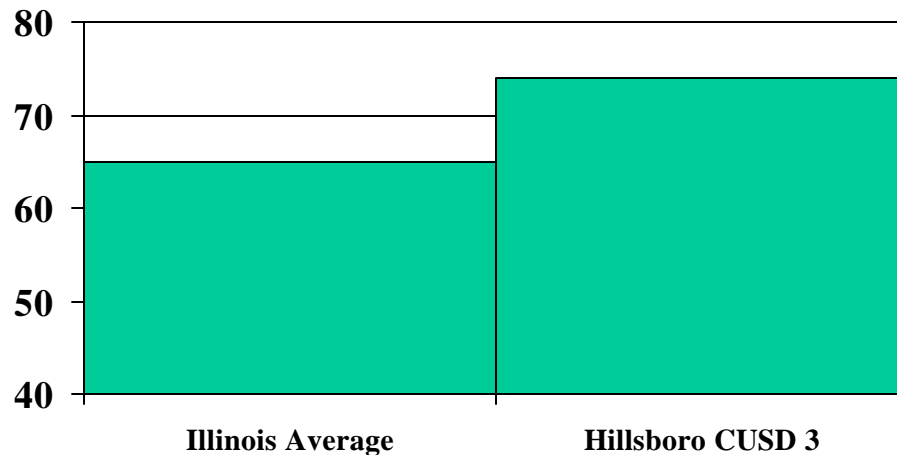
- State: Illinois District: Christopher UD 99
- Test: ISAT
- Grade: 4
- Measure: Percent of students exceeding state standards

•This graph shows the percent of fourth grade students in the Christopher who *exceeded* the state standards for science. Note that while the average for the entire state was 13% of students exceeding state standards, in the Christopher district 22% of the fourth graders achieved at this high level.

- (Approx. N of students represented: 70)

Scott Foresman Science Pretest-Posttest Results

Hillsboro, Illinois Grade 4



Percent of students meeting or exceeding State standards

- State: Illinois
- District: Hillsboro CUSD 3
- Test: ISAT
- Grade: 4
- Measure: Percent of students meeting or exceeding State standards

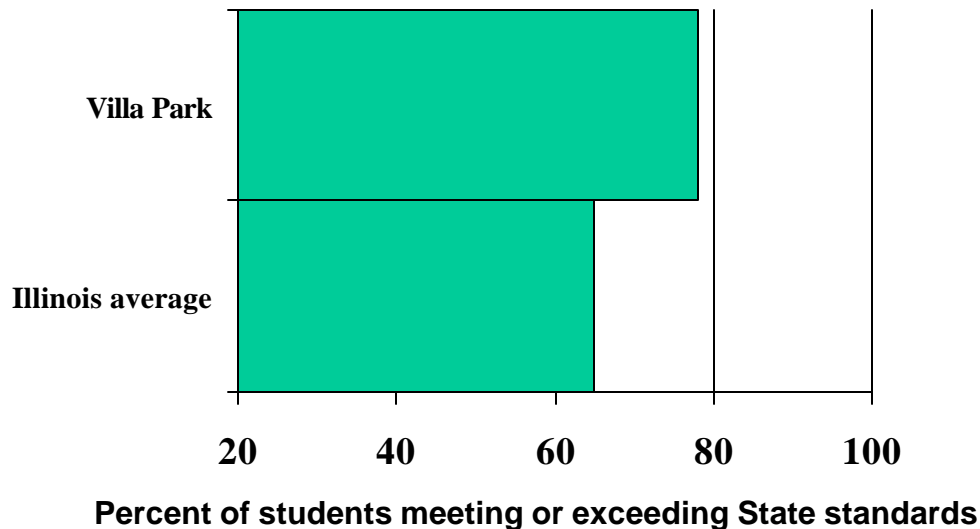
•Illinois introduced a new test, the ISAT, in spring, 2000. It is not comparable to the previous state-mandated test (the IGAP). In fact, ISAT is a much more difficult test than was the earlier IGAP. Since there is no comparable pretest with which to compare scores, this graph depicts performance Hillsboro CUSD 3 schools on the science portion of the spring, 2000 ISAT compared with the average performance for the entire state of Illinois. Hillsboro students outperformed the average for students in the entire state.

- (Approx. N of students represented: 170)

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Scott Foresman Science Pretest-Posttest Results

Villa Park, Illinois Grade 4



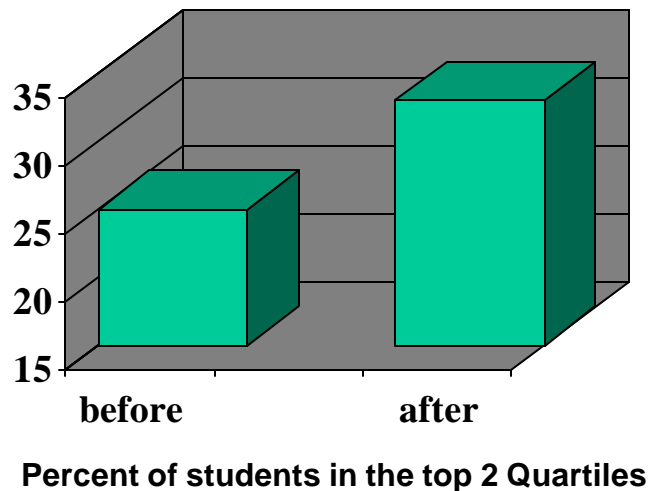
- State: Illinois
 - Test: ISAT
 - Grade: 4
 - Measure: Percent of students meeting or exceeding State standards
- District: Villa Park #45

•Illinois introduced a new test, the ISAT, in spring, 2000. It is not comparable to the previous state-mandated test (the IGAP). In fact, ISAT is a much more difficult test than was the earlier IGAP. Since there is no comparable pretest with which to compare scores, this graph depicts performance on the science portion of the spring, 2000 ISAT in Villa Park District #45, compared with the average performance for the entire state of Illinois.

- (Total N of students represented: 430)

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Scott Foresman Science Pretest-Posttest Results Lowell, Massachusetts Grade 4



State: Massachusetts

District: Lowell

Test: MCAS (Massachusetts Curriculum Assessment System)

Grade: 4

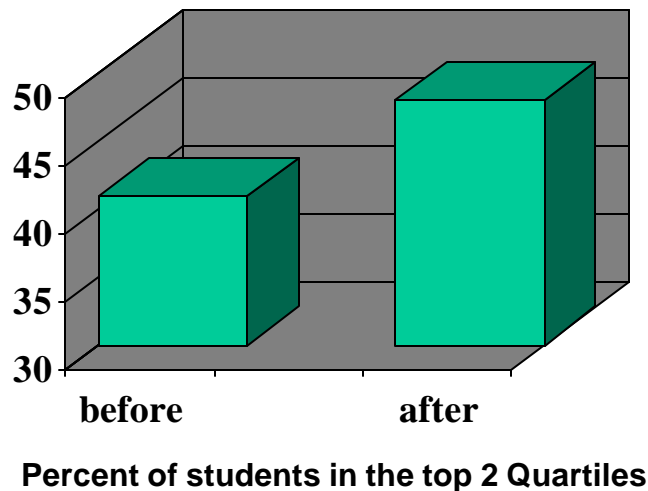
Measure: Percent of students at Proficient or Advanced levels

Following the implementation of Scott Foresman Science in fall, 1999, many more fourth graders in Lowell were able to achieve at the Proficient or Advanced levels on the MCAS science test. As this graph shows, the percent of fourth graders scoring at proficient or advanced level increased from 25% to 33%.

Approx. N of students represented: 1,300

(Note, after spring 2000, Massachusetts did not report science test scores)

Scott Foresman Science Pretest-Posttest Results Revere, Massachusetts Grade 4



State: Massachusetts

District: Revere

Test: MCAS (Massachusetts Curriculum Assessment System)

Grade: 4

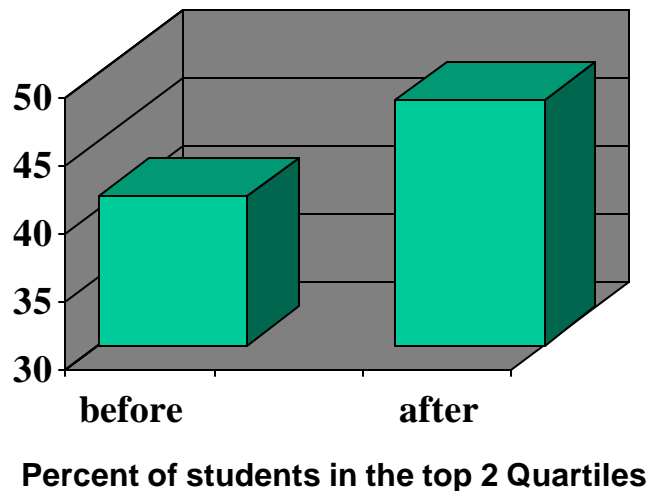
Measure: Percent of students at Proficient or Advanced levels

Following the implementation of Scott Foresman Science in fall, 1999, many more fourth graders in Revere were able to achieve at the Proficient or Advanced levels on the MCAS science test. As this graph shows, the percent of fourth graders scoring at proficient or advanced level increased from 41% to 48%.

Approx. N of students represented: 490

(Note, after spring 2000, Massachusetts did not report science test scores)

Scott Foresman Science Pretest-Posttest Results Revere, Massachusetts Grade 4



State: Massachusetts

District: Revere

Test: MCAS (Massachusetts Curriculum Assessment System)

Grade: 4

Measure: Percent of students at Proficient or Advanced levels

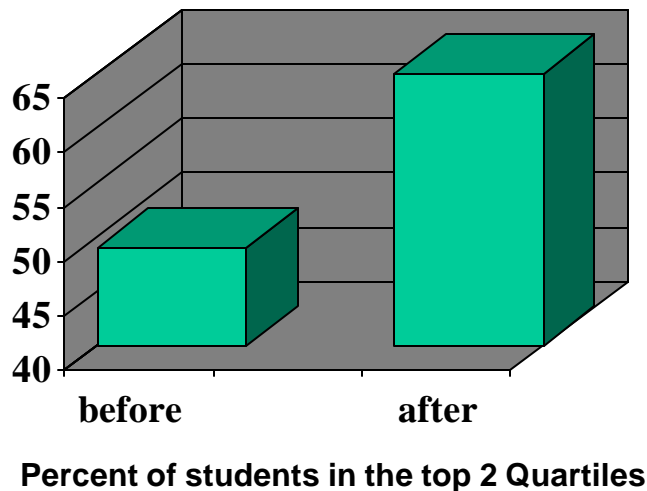
Following the implementation of Scott Foresman Science in fall, 1999, many more fourth graders in Revere were able to achieve at the Proficient or Advanced levels on the MCAS science test. As this graph shows, the percent of fourth graders scoring at proficient or advanced level increased from 41% to 48%.

Approx. N of students represented: 490

(Note, after spring 2000, Massachusetts did not report science test scores)

Scott Foresman Science Pretest-Posttest Results

Middleborough, Massachusetts Grade 4



State: Massachusetts

District: Middleborough

Test: MCAS (Massachusetts Curriculum Assessment System)

Grade: 4

Measure: Percent of students at Proficient or Advanced levels

Following the implementation of Scott Foresman Science in fall, 1999, many more fourth graders in Middleborough were able to achieve at the Proficient or Advanced levels on the MCAS science test. As this graph shows, the percent of fourth graders scoring at proficient or advanced level increased from 49% to 66%.

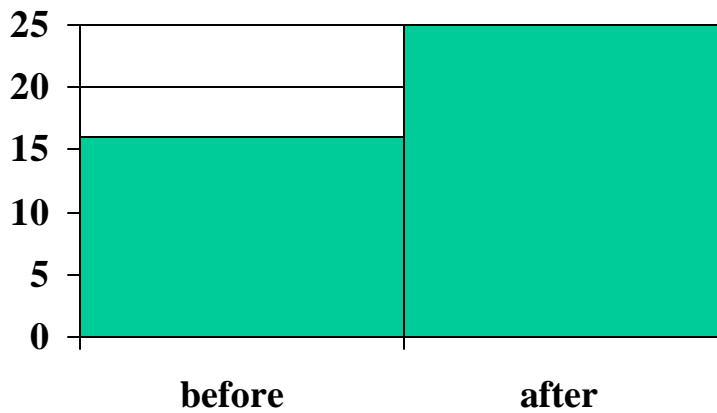
Approx. N of students represented: 300

(Note, after spring 2000, Massachusetts did not report science test scores)

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Scott Foresman Science Pretest-Posttest Results

Benton Harbor, Michigan MEAP Test Gains



State: Michigan

District: Benton Harbor

Test: MEAP (Michigan Educational Assessment Program)

Grade: 5

Measure: Percent of students at Proficient level

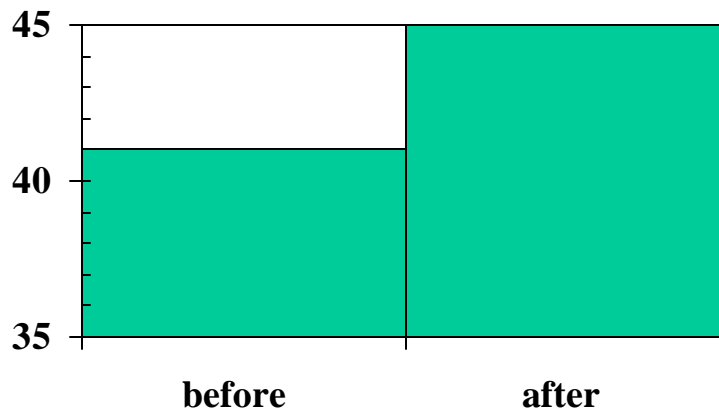
Benton Harbor adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fifth graders achieving proficiency on the MEAP test rose from 16% the year before the adoption to 25% after one year of program usage.

Approx. N of students represented: 400

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Fruitport Michigan MEAP Test Gains



State: Michigan

District: Fruitport

Test: MEAP (Michigan Educational Assessment Program)

Grade: 5

Measure: Percent of students at Proficient level

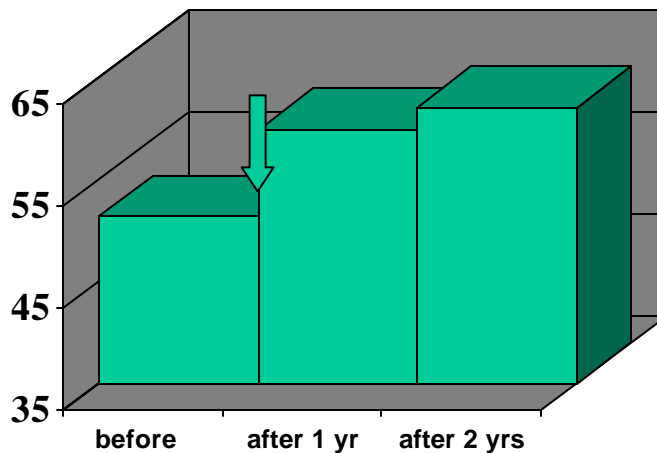
Fruitport adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fifth graders achieving proficiency on the MEAP test rose from 41% the year before the adoption to 45% after one year of program usage.

Approx. N of students represented: 240

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Rockwood, Missouri Grade 3



State: Missouri

District: Rockwood

Test: MAP (Missouri Assessment Program)

Grade: 3

Measure: Percent of students in top 2 quartiles

The third grade students in Rockwood, Missouri made notable progress in Science following the adoption of Scott Foresman Science in 1999. Prior to the installation of SF Science, just over 50% of grade 3 students scored in the top two quartiles on the MAP science test. In the year following the adoption, nearly 60% of the students tested in the top two quartiles. And by the second year of program usage, this percentage rose further, to 62%. The arrow indicates when Scott Foresman Science usage began.

(Total N of students represented: 1,615)

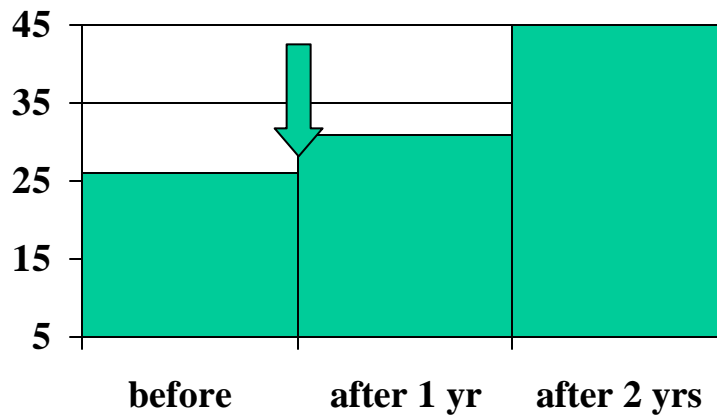
(Data updated 01/07/02)

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Scott Foresman Science Pretest-Posttest Results

Nevada, Missouri MAP Test Gains



State: Missouri

District: Nevada

Test: MAP (Missouri Assessment Program)

Grade: 3

Measure: Percent of students rated Proficient or Advanced

Nevada, Missouri adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of third graders achieving proficiency on the MAP test rose from 26% the year before the adoption to 31% after one year of program usage. By the end of the second year, this percentage rose still further, to 45%. The arrow indicates when Scott Foresman Science was adopted.

Approx. N of students represented: 210

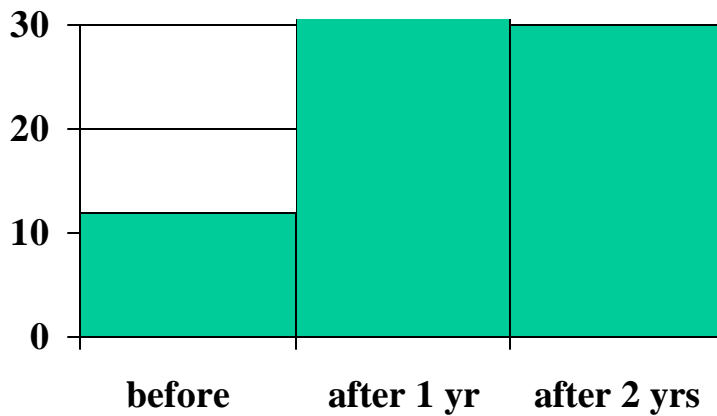
(Data updated 01/07/02)

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Scott Foresman Science Pretest-Posttest Results

Charleston, Missouri MAP Test Gains



State: Missouri

District: Charleston

Test: MAP (Missouri Assessment Program)

Grade: 3

Measure: Percent of students 'proficient' or 'advanced'

Charleston adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of third graders achieving proficiency on the MAP test rose from 12% the year before the adoption to 32% after one year of program usage. During the second year, this great gain was sustained, with 30% of grade students reaching proficient or advanced standing.

Approx. N of students represented: 100

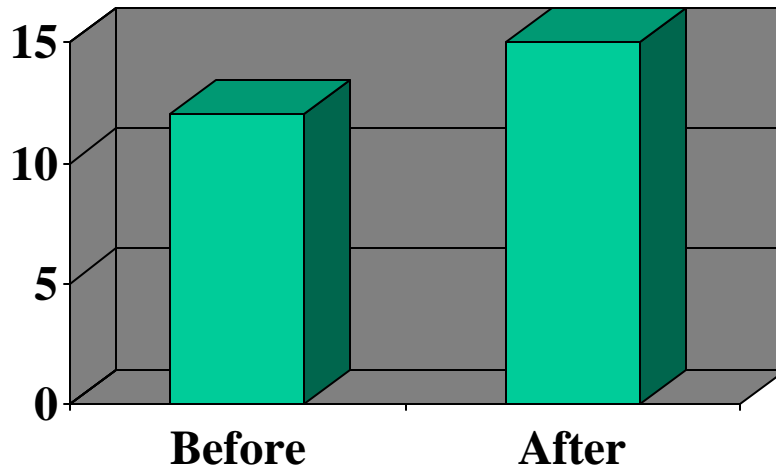
(Data updated 01/07/02)

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Scott Foresman Science Pretest-Posttest Results

Alton, New Hampshire Test Score Gains



State: New Hampshire

District: Alton

Test: NHEIAP (New Hampshire Educational Improvement & Assessment Program)

Grade: 6

Measure: Percent of students at Proficient & Advanced levels

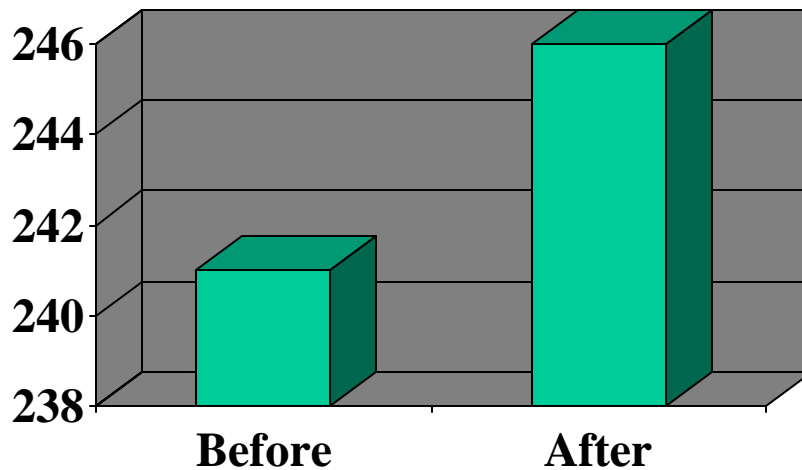
Alton adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of sixth graders achieving proficiency on the NHEIAP test rose from 12% the year before the adoption to 15% after one year of program usage.

Approx. N of students represented: 60

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Nutley, New Jersey Test Score Gains



State: New Jersey

District: Nutley

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

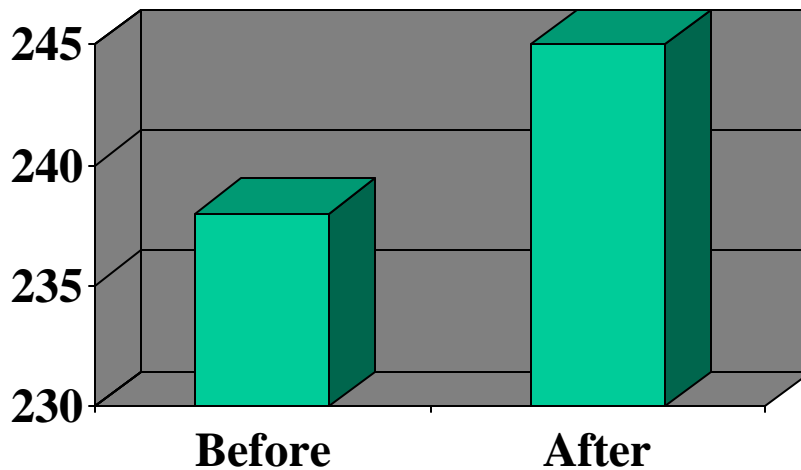
Nutley adopted Scott Foresman Science in fall, 2000. As the graph shows, the average scale score rose from 241 before the adoption to 246 after one year of program usage. In fall, 2001, 98% of Nutley fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 270

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Audubon, New Jersey Test Score Gains



State: New Jersey

District: Audubon

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

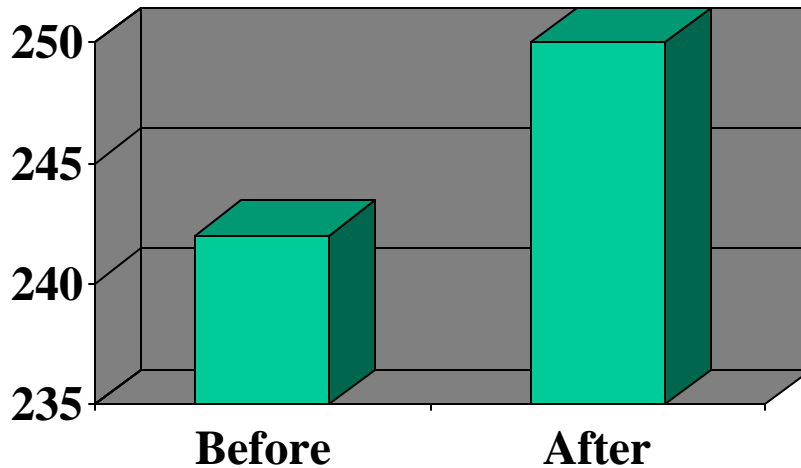
Audubon adopted Scott Foresman Science in fall, 2000. As the graph shows, the average scale score rose from 238 before the adoption to 245 after one year of program usage. In fall, 2001, 94% of Audubon fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 90

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Bergenfield, New Jersey Test Score Gains



State: New Jersey

District: Bergenfield

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

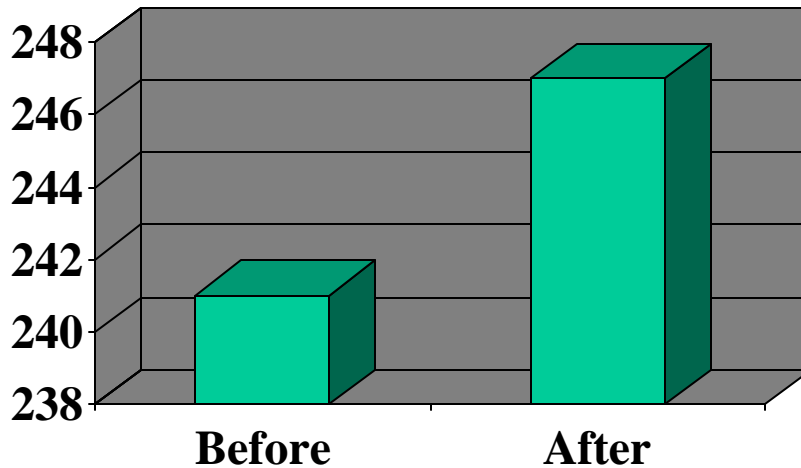
Bergenfield adopted Scott Foresman Science in fall, 2000. As the graph shows, the average scale score rose from 242 before the adoption to 250 after one year of program usage. In fall, 2001, 99% of Bergenfield fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 225

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Fort Lee, New Jersey Test Score Gains



State: New Jersey

District: Fort Lee

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

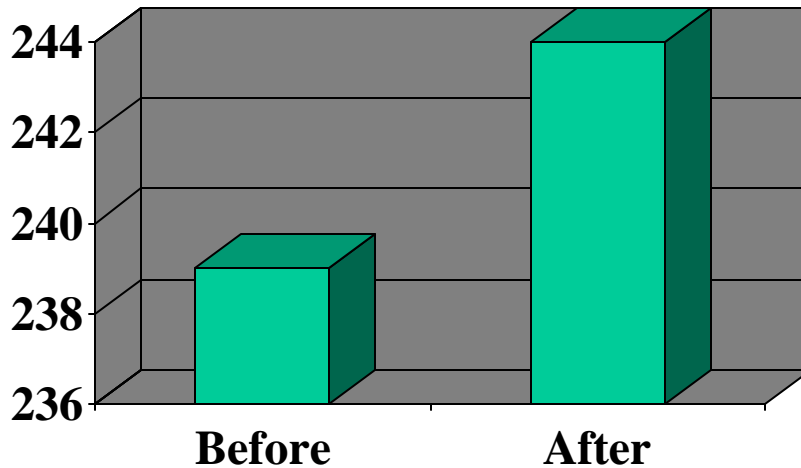
Fort Lee adopted Scott Foresman Science in fall, 2000. As the graph shows, the average scale score rose from 241 before the adoption to 247 after one year of program usage. In fall, 2001, 96% of Fort Lee fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 2,000

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Toms River, New Jersey Test Score Gains



State: New Jersey

District: Toms River

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

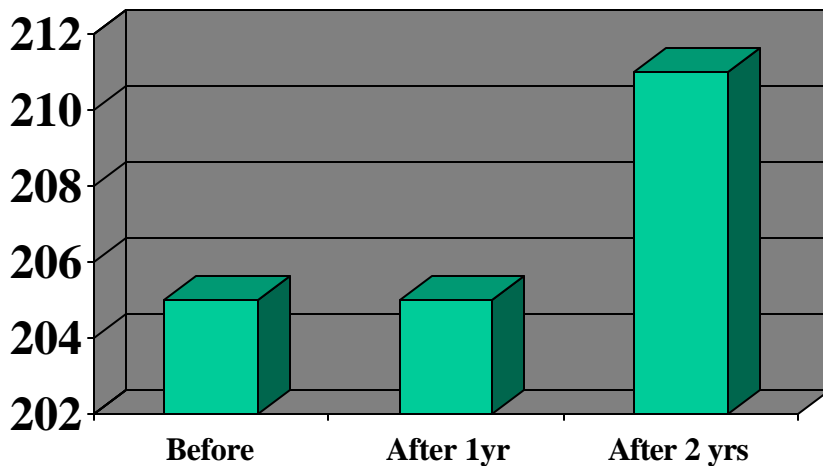
Toms River adopted Scott Foresman Science in fall, 2000. As the graph shows, the average scale score rose from 239 before the adoption to 244 after one year of program usage. In fall, 2001, 97% of Toms River fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 1,200

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Atlantic City, New Jersey Test Score Gains



State: New Jersey

District: Atlantic City

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

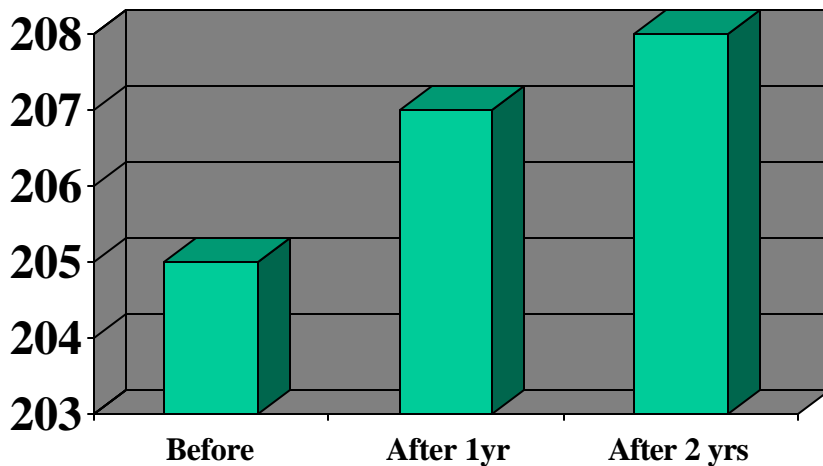
Atlantic City adopted Scott Foresman Science in fall, 1999. As the graph shows, the average scale score rose from 205 before the adoption to 211 after two years of program usage. In fall, 2001, 65% of Atlantic City fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 350

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

East Orange, New Jersey Test Score Gains



State: New Jersey

District: Atlantic City

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

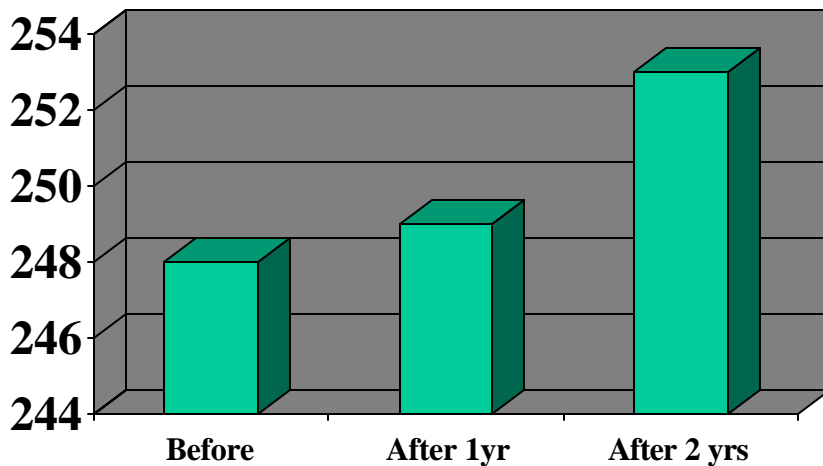
East Orange adopted Scott Foresman Science in fall, 1999. As the graph shows, the average scale score rose from 205 before the adoption to 208 after two years of program usage. In fall, 2001, 65% of East Orange fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 850

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Mount Olive, New Jersey Test Score Gains



State: New Jersey

District: Atlantic City

Test: ESPA (Elementary School Proficiency Assessment)

Grade: 4

Measure: Average scale score

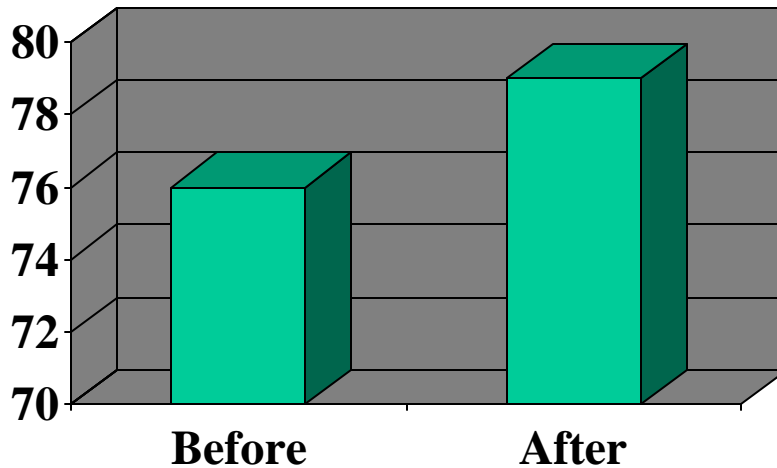
Mount Olive adopted Scott Foresman Science in fall, 1999. As the graph shows, the average scale score rose from 248 before the adoption to 253 after two years of program usage. In fall, 2001, 98% of Atlantic City fourth graders scored 'proficient' or 'advanced' on the ESPA science test.

Approx. N of students represented: 300

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Aurora, Ohio Test Score Gains



State: Ohio

District: Aurora

Test: Proficiency Test

Grade: 4

Measure: Percent of students 'Proficient'

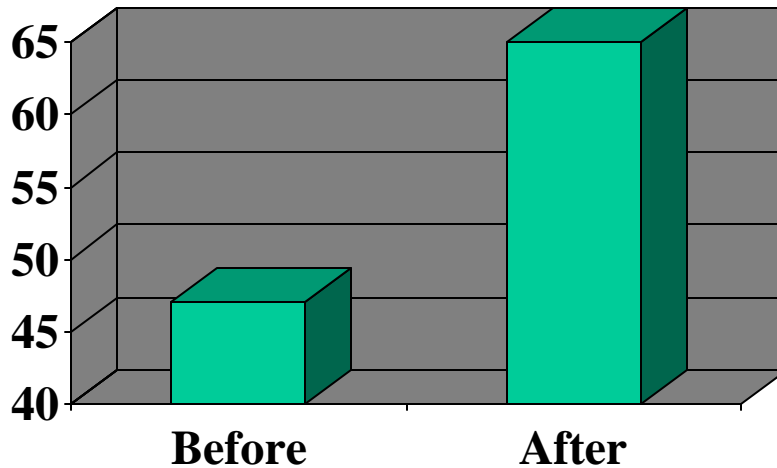
Aurora adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 76% the year before the adoption to 79% after one year of program usage.

Approx. N of students represented: 150

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Batavia, Ohio Test Score Gains



State: Ohio

District: Aurora

Test: Proficiency Test

Grade: 4

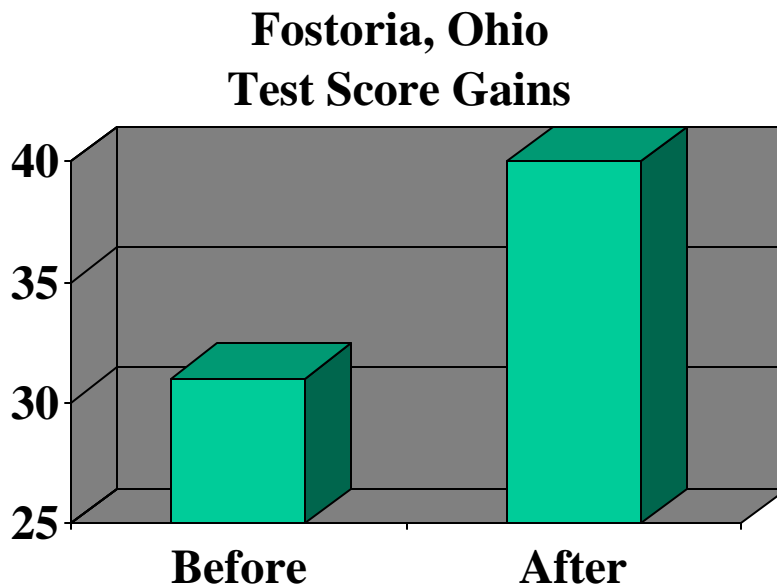
Measure: Percent of students 'Proficient'

Batavia adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 47% the year before the adoption to 65% after one year of program usage.

Approx. N of students represented: 130

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results



State: Ohio

District: Fostoria

Test: Proficiency Test

Grade: 4

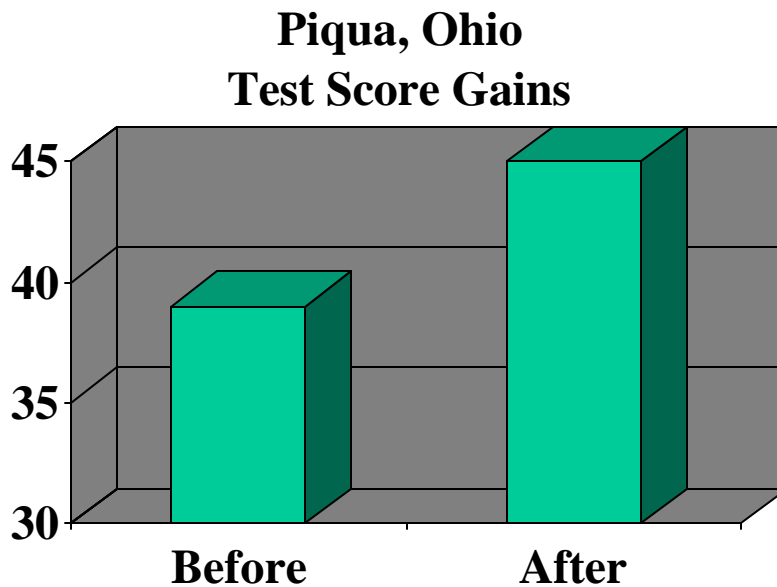
Measure: Percent of students 'Proficient'

Fostoria adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 31% the year before the adoption to 40% after one year of program usage.

Approx. N of students represented: 160

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results



State: Ohio

District: Aurora

Test: Proficiency Test

Grade: 4

Measure: Percent of students 'Proficient'

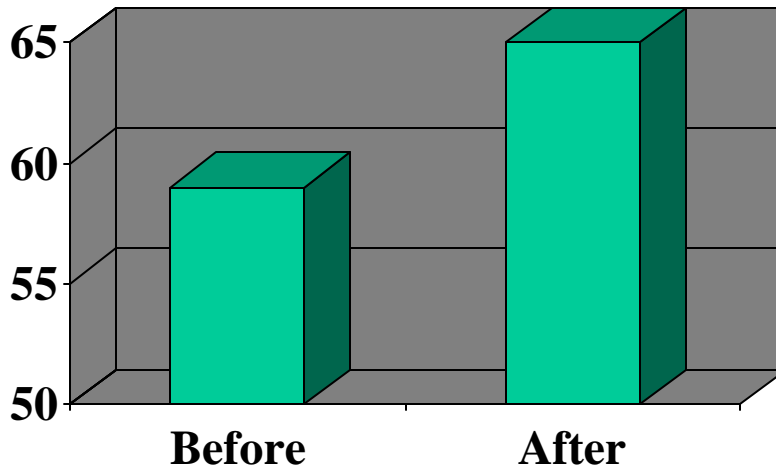
Piqua adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 39% the year before the adoption to 45% after one year of program usage.

Approx. N of students represented: 300

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Willoughby-Eastlake, Ohio Test Score Gains



State: Ohio

District: Willoughby-Eastlake

Test: Proficiency Test

Grade: 4

Measure: Percent of students 'Proficient'

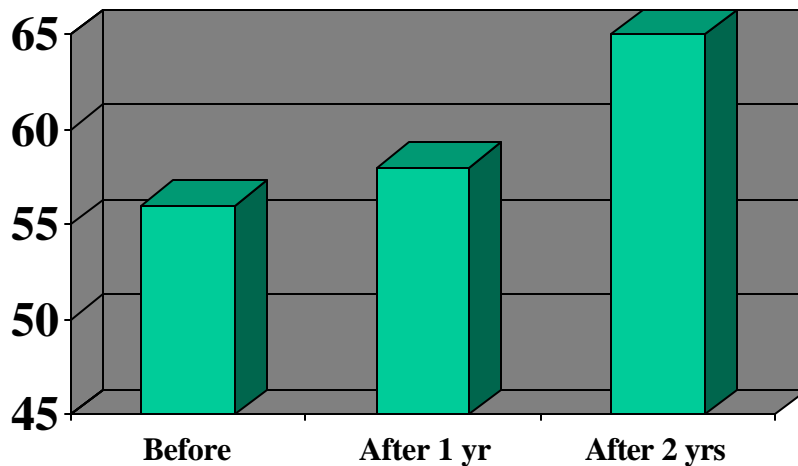
Willoughby-Eastlake adopted Scott Foresman Science in fall, 2000. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 59% the year before the adoption to 66% after one year of program usage.

Approx. N of students represented: 650

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Carrollton Exempted Village, Ohio Test Score Gains



State: Ohio

District: Carrollton Exempted Village

Test: Proficiency Test

Grade: 4

Measure: Percent of students 'Proficient'

Carrollton Exempted Village adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 56% the year before the adoption to 58% after one year of program usage. And after the second year of program implementation, the percentage rose still further, to 65%.

Approx. N of students represented:220

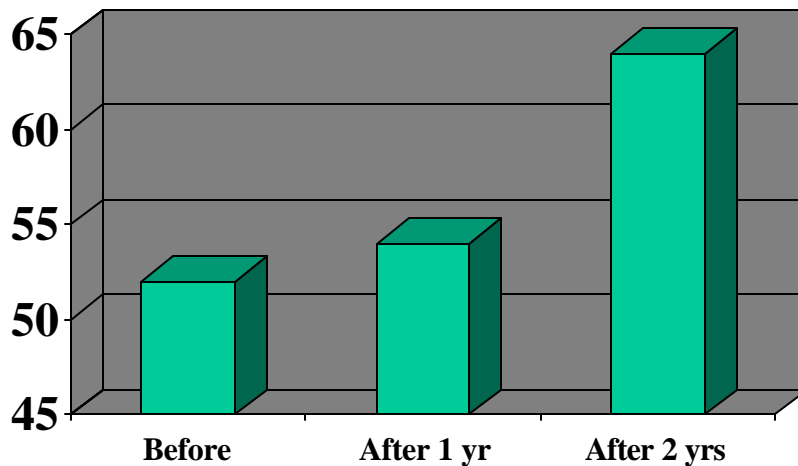
(Data updated 01/07/02)

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Scott Foresman Science Pretest-Posttest Results

Strasburg Franklin, Ohio Test Score Gains



State: Ohio

District: Strasburg Franklin Local

Test: Proficiency Test

Grade: 4

Measure: Percent of students 'Proficient'

Strasburg Franklin Local district adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of fourth graders achieving proficiency on the Science portion of the Ohio State Proficiency test rose from 52% the year before the adoption to 54% after one year of program usage. And after the second year of program implementation, the percentage rose still further, to 64%.

Approx. N of students represented:45

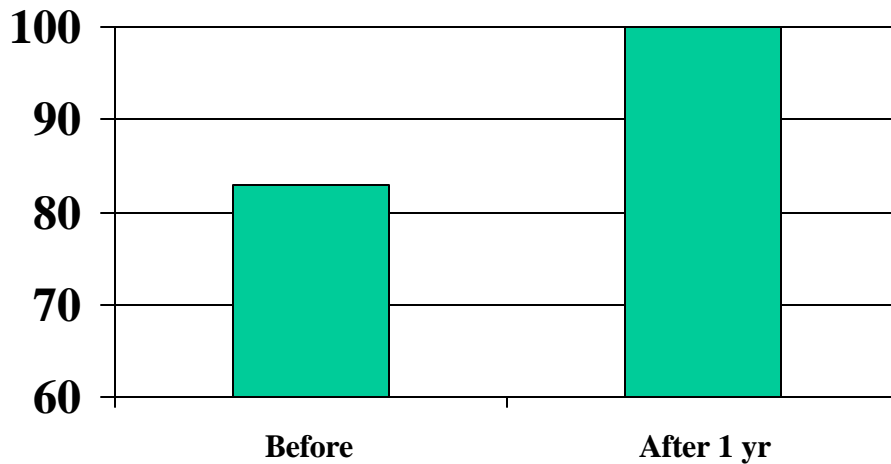
(Data updated 01/07/02)

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Scott Foresman Science Pretest-Posttest Results

Tulsa, Oklahoma: Lanier School Test Score Gains



State: Oklahoma

District: Tulsa

Test: Oklahoma Core Curriculum Test

Grade: 5

Measure: Percent of students 'Satisfactory'

Lanier school adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of fifth graders achieving a 'satisfactory' score on the Science portion of the Oklahoma Core Curriculum Test rose from 83% the year before the adoption to 100% after one year of program usage.

Approx. N of students represented 60

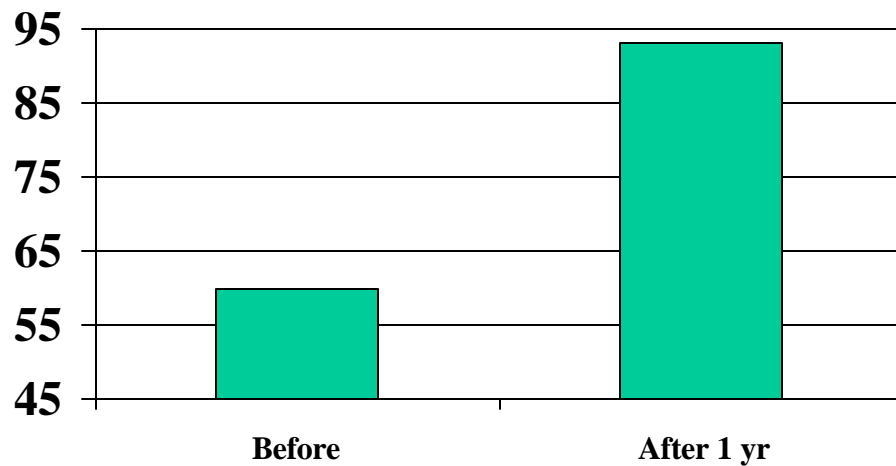
(Data updated 01/07/02)

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Scott Foresman Science Pretest-Posttest Results

Tulsa, Oklahoma: Peary School Test Score Gains



State: Oklahoma

District: Tulsa

Test: Oklahoma Core Curriculum Test

Grade: 5

Measure: Percent of students 'Satisfactory'

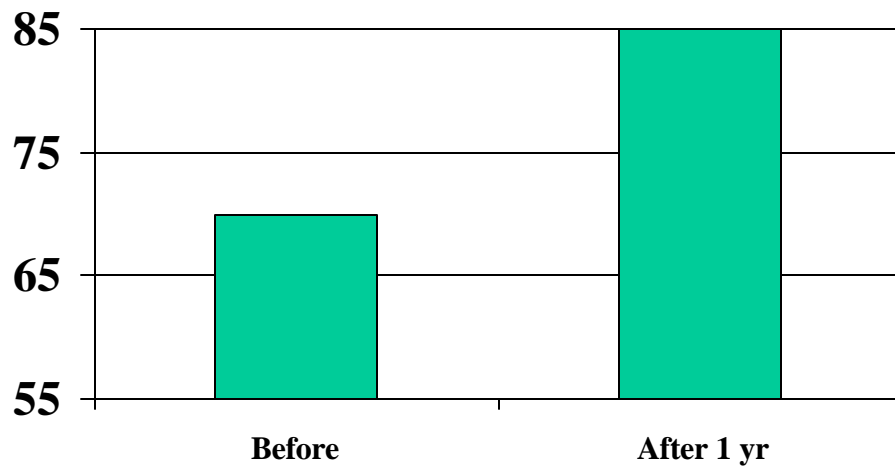
Peary school adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of fifth graders achieving a 'satisfactory' score on the Science portion of the Oklahoma Core Curriculum Test rose from 60% the year before the adoption to 93% after one year of program usage.

Approx. N of students represented 55

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Tulsa, Oklahoma: Mitchell School Test Score Gains



State: Oklahoma

District: Tulsa

Test: Oklahoma Core Curriculum Test

Grade: 5

Measure: Percent of students 'Satisfactory'

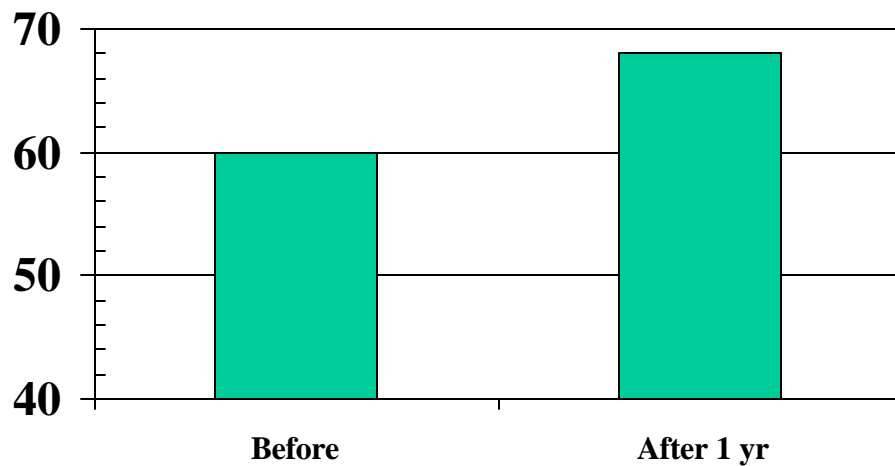
Mitchell school adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of fifth graders achieving a 'satisfactory' score on the Science portion of the Oklahoma Core Curriculum Test rose from 70% the year before the adoption to 85% after one year of program usage.

Approx. N of students represented 65

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Tulsa, Oklahoma: Marshall School Test Score Gains



State: Oklahoma

District: Tulsa

Test: Oklahoma Core Curriculum Test

Grade: 5

Measure: Percent of students 'Satisfactory'

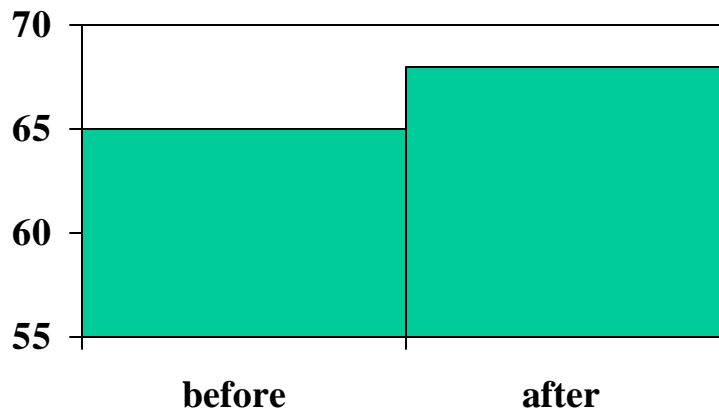
Marshall school adopted Scott Foresman Science in fall, 1999. As the graph shows, the percent of fifth graders achieving a 'satisfactory' score on the Science portion of the Oklahoma Core Curriculum Test rose from 60% the year before the adoption to 68% after one year of program usage.

Approx. N of students represented 60

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Aberdeen, South Dakota SAT-9 Test Gains



State: South Dakota

District: Aberdeen

Test: SAT-9

Grade: 4

Measure: National percentile

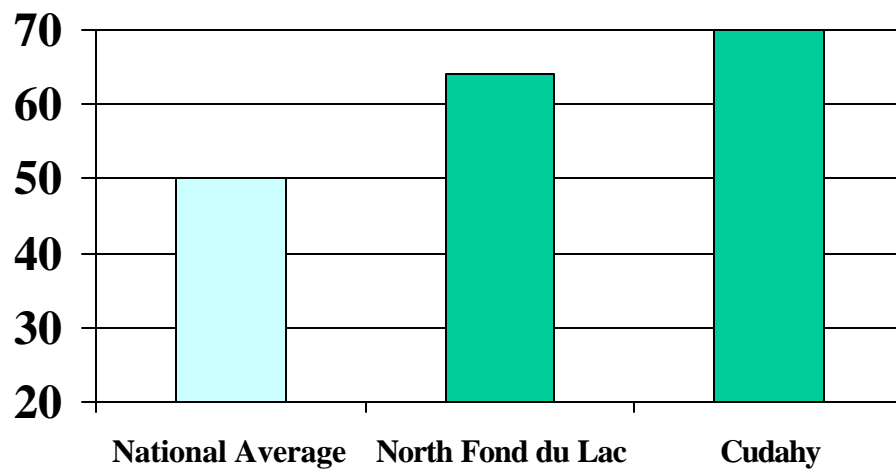
Aberdeen adopted Scott Foresman Science in fall, 2000. As the graph shows, the national percentile on the SAT-9 science test for fourth graders rose from 65 the year before the adoption to 68 after one year of program usage.

Approx. N of students represented: 310

(Data updated 01/07/02)

Scott Foresman Science Pretest-Posttest Results

Wisconsin Test Results



State: Wisconsin

Test: Wisconsin Knowledge & Concepts Examinations

(Terra Nova is the test used)

Grade: 4

Measure: National Percentile

North Fond du Lac adopted Scott Foresman Science in fall, 1999. Cudahy adopted the program in fall, 2000. In both districts, the average national percentile in Science (in the 2001 testing period) was well above the national average percentile of 50. (North Fond du Lac: 64; Cudahy: 70)

Approx. N of students represented 325

(Data updated 01/07/02)

Nan Simpson, the principal author of this study, received the PhD in Educational Psychology from Northwestern University. Her field of special study was testing and measurement. She has conducted numerous research projects for school districts and colleges in Illinois and Minnesota. Her professional career includes positions with Educational Testing Service, Institute for Educational Research, and two nationally recognized market research firms: MRCA and the NPD Group. She has ten years' experience in the textbook publishing industry. She also has conducted research as an independent consultant.

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- test construction
- community attitude surveys
- needs assessment
- formative (developmental) program research
- summative (evaluative) program research