"Multi-age" class: Kathryn Poyner works with Alex Hirdler, 8, and Jasminn Waite, 9, in a 'multi-age' class at Kingsley Elementary School in Waterloo.

Schools find ways to parry kids' poverty

First of three parts.
By KATHY A. BOLTEN and JOHN McCORMICK
REGISTER STAFF WRITERS

Elementary school principal Len Hansen sees poverty's choke hold on his students nearly every day.

Pupils often come to school in light jackets and no gloves, even in the coldest weather. They show up with earaches, sore throats or fevers because their parents can't afford to take a day off from work to care for them.

"We have kindergarten students that don't know how to sit in a circle," said Hansen, the principal at Sioux City's Irving Accelerated School. "They eat with their hands because they don't know how to use a spoon or fork."

For decades, educators nationwide have searched for ways to alleviate the adverse effects of poverty on learning.

Iowa educators struggle increasingly with the same daunting task as the academic achievement gap widens between poor students and their peers in a state with a growing number of low-income
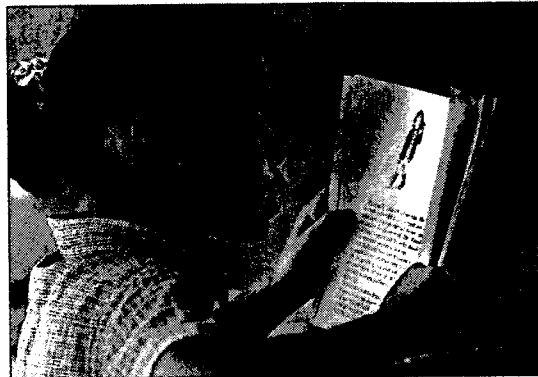
Reading: Jasmine Campbell, 8, reads at Grant Elementary School in Waterloo.

Varied ages: Jordan Schmitz, 11, and Jasmina Kovacevic, 8, are in Kathryn Poyner's class.

immigrants and families with single parents.

Eliminating the gap is difficult but not insurmountable, a Des Moines Sunday Register statistical analysis of test scores and poverty shows. The Register's analysis adjusted test scores for more than 100 elementary schools in the state by using a statistical method called regression analysis. The technique allows for the prediction of how well a school should perform based on its level of poverty.

Daily drills in Waterloo

Second-grade through fifth-grade students at Waterloo's Grant Elementary School spend 45 minutes each day in regimented drills to strengthen reading skills.

The program, called Reading Mastery, was designed for low-achieving or special-needs students. The program is heavily structured, something Grant Principal Elizabeth Crowley says is important for her school's students.

The school is among those in Iowa that are making progress in the battle of academics against poverty, based on a special analysis by the Des Moines Sunday Register.

Story on reading programs at Grant, Page 3A

Some of the findings:
● Schools with a majority of students from economically secure families often post test scores two or three times higher than those where most students

Poverty, lower scores linked, but some schools make gains

come from poor families.

● Seven Iowa schools reviewed where 75 percent or more of the students live at or near poverty did better than expected on both third- and fourth-grade tests.

● Twelve Iowa schools reviewed where 25 percent or less of the students live at or near poverty did worse than expected on both third- and fourth-grade tests.

The Register's study included elementary schools in 12 school districts — Ankeny, Des Moines, Indianola, Johnston, Southeast Polk, Urbandale, West Des Moines, Cedar Rapids, Davenport, Iowa City, Sioux City and Waterloo. Test scores from grades three and four were reviewed, except for Southeast Polk and Sioux City, where third-graders don't take the tests.

The analysis provides a snapshot of how well third- and fourth-grade students were doing in the last school year when they took the Iowa Tests of Basic Skills, a standardized achievement test used by nearly every school district in Iowa.

Although some schools with a majority of students from low-income families post test scores higher than would be expected, those scores remain well below results from top schools where most students are free from poverty.

The Register's analysis shows, though, that certain schools are making headway in eliminating the powerful and well-documented influence poverty has on student achievement.

At Willard Elementary School in Des Moines last year, third- and fourth-grade students did better than statistically expected. Four of five students at the school qualified for free or reduced-priced meals, which is considered the best indicator of poverty among schoolchildren.

The same thing happened at Waterloo's Grant Elementary school, where four of five students are from low-income families, and at Cedar Rapids' Taylor Elementary School, where three of four students qualified for free or

reduced-priced meals.

Better-than-expected test scores also were posted by fourth-graders at Sioux City's Everett Accelerated School, where four of five students qualify for the federally financed meal program.

Each of those four schools has a demanding principal who expects students to excel academically. Teachers, also with high expectations, receive strong doses of reading instruction training. And the schools are finding ways to involve parents in their children's education.

While some schools with high levels of poverty did better than expected in the analysis, other schools with a majority of students from more affluent homes did, too.

At West Des Moines' Western Hills Elementary School — where just 3 percent of students qualify for the meal program — third- and fourth-graders posted scores that averaged 10 points higher than

expected. Similarly higher than expected test scores were recorded at Waterloo's Kingsley Elementary School, where 15 percent of students are from low-income families.

Poverty's damage

Poverty is a known enemy of academic success.

Here are several ways that poverty can limit students' ability to focus on classroom activities:

● Poor nutrition. Without breakfast, youngsters are often restless and inattentive.

● Attending school ill because parents can't afford to stay home with them.

● Worrying about whether they will have a place to sleep at night.

● Parents who are uneducated or illiterate.

● Single-parent homes.

"It boils down to the raw materials we get," said Doug Buchanan, West Des Moines' associate superintendent. "Our parents provide us with very good material to work with, to mold. We take that and make a Cadillac out of it."

Most students in West Des Moines attended one or more years of preschool before starting kindergarten. Many are active in organizations outside of school. A high percentage have one parent at home during the day, able to volunteer in classrooms.

"Those parents understand the importance of education — and their children understand it, especially when they see their parent at school," Buchanan said.

For many children from poor families, kindergarten is their first experience with school. Several start school not knowing the names of most colors or shapes. Letter names and sounds are unfamiliar. Numbers also are foreign. Many youngsters don't know how to sit in a circle or stand in a line.

GARY FANDEL/THE REGISTER

Volunteer helps: Leona Sallis, 80, and Jaazania Scarbourgh at Grant Elementary in Waterloo.

Urban school test scores

School IOWA CITY	Poverty	3rd grade			4th grade		
		Actual	Expected	Difference	Actual	Expected	Difference
Coralville Central	20%	65	63	2	65	65	0
Hills	42%	55	51	4	35	53	-18
Hoover	10%	67	69	-2	84	71	13
Horn	5%	78	72	6	83	74	9
Kirkwood	34%	57	55	2	49	57	-8
Lemme	17%	52	65	-13	69	67	2
Lincoln	3%	84	73	11	88	75	13
Longfellow	24%	65	61	4	63	63	0
Lucas	21%	52	63	-11	65	64	1
Mann	34%	51	55	-4	58	57	1
Penn	24%	46	61	-15	52	63	-11
Roosevelt	35%	62	55	7	61	57	4
Skimek	4%	77	72	5	81	74	7
Twain	57%	41	42	-1	43	44	-1
Weber	24%	69	61	8	66	63	3
Wickham	10%	50	69	-19	62	71	-9
Wood	31%	65	57	8	65	59	6

School SIOUX CITY	Poverty	3rd grade			4th grade		
		Actual	Expected	Difference	Actual	Expected	Difference
Bryant	32%	-	-	-	56	58	-2
Clark	4%	-	-	-	78	74	4
Crescent Park	49%	-	-	-	65	49	16
Emerson	53%	-	-	-	40	46	-6
Everett	79%	-	-	-	48	32	16
Grant	50%	-	-	-	45	48	-3
Hunt	72%	-	-	-	43	35	8
Irving	86%	-	-	-	27	28	-1
Joy	33%	-	-	-	65	58	7
Leeds	46%	-	-	-	42	50	-8
Lincoln	14%	-	-	-	76	68	8
Longfellow	34%	-	-	-	40	57	-17
Lowell	54%	-	-	-	57	46	11
McKinley	84%	-	-	-	37	29	8
Nodland	10%	-	-	-	74	71	3
Riverview	60%	-	-	-	59	42	17
Roosevelt	48%	-	-	-	50	49	1
Smith	72%	-	-	-	39	35	4
Sunnyside	14%	-	-	-	73	68	5
Washington	20%	-	-	-	57	65	-8
Whittier	39%	-	-	-	48	54	-6

School WATERLOO	Poverty	3rd grade			4th grade		
		Actual	Expected	Difference	Actual	Expected	Difference
Black Hawk	35%	45	55	-10	46	57	-11
Edison	62%	46	39	7	41	41	0
Elk Run	56%	44	43	1	48	45	3
Grant	81%	42	28	14	36	30	6
Irving	45%	36	49	-13	52	51	1
Jewett	50%	41	46	-5	44	48	-4
Kingsley	15%	76	66	10	76	68	8
Kittrell	40%	57	52	5	48	54	-6
Lincoln	74%	32	32	0	30	34	-4
Longfellow	99%	17	18	-1	27	20	7
Lowell	82%	28	28	0	28	30	-2
McKinstry	81%	25	28	-3	20	30	-10
Orange	38%	57	53	4	56	55	1
Roosevelt	80%	47	29	18	23	31	-8

Source: Register analysis of school district data

THE REGISTER

"Our kids come with a set of baggage that naturally occurs with high-risk children," said Hansen, the Sioux City principal. "But these kids are as bright as any other kid. They just don't have the exposure to books, zoos, scouting, music lessons — you name it — that most Iowans take for granted."

Despite starting behind other students, Hansen said children from poor homes are not written off. "We believe our kids can learn and achieve," he said. "They will graduate and live quality lives."

Until recently, the dismal academic performance of poor children has been accepted by many in and out of the educational field. Children living in poverty weren't expected to become skilled readers or mathematicians. That attitude is changing.

"As long as we pretend these kids can't learn, then we'll continue to protect the poor performance of many of our nation's schools," said Samuel Casey Carter, a member of a Washington, D.C., think tank who published a book this year touting the strong performance of 21 high-poverty schools. "That means we're also protecting the performance of the people responsible for these failures."

Students who do poorly in school fail in the work force, too. They likely will wind up in low-paying jobs, continuing the cycle of poverty they lived in as children.

Iowa's schools must ensure that all students graduate with skills enabling them to be productive workers and citizens, said Ted Stilwill, director of Iowa's Department of Education. "The world is requiring higher levels of communication skills. If our schools don't do a good job of educating our students, we'll have a workforce less able to support higher performing industrial companies," he said.

Iowa educators — and others — have a lot of work to do.

The Iowa Department of Education's new Condition of Education shows that nearly half of the state's low-income fourth-grade students are below grade level in reading comprehension. Nationally, three of five low-income fourth-graders struggle to understand what they are reading.

Iowa's reading scores have been slipping for the past five or so years. During the past 10 years, the percentage of students living at or near poverty has increased. One in four students qualifies for free or reduced-priced meals.

"We've never had to face this before," said Judy Jeffrey, who oversees the Iowa Department of Education's early childhood, elementary and secondary education division. "It's new to a lot of people."

Schools where just less than half of the students qualify for the federal meal program don't get many special programs to help teachers or lower class sizes.

"Those schools are right at the bubble," said Judith Cunningham, director of Des Moines' early childhood and elementary school programs.

Some of those schools, such as Des Moines' McKee Elementary, are seeing yearly increases in the number of students who qualify for the lunch program. McKee also provides specialized programs such as one for autistic children, many of whom take the standardized tests.

"Some folks say, 'Don't make excuses for your students,'" said McKee Principal Mike Schaumburg. "I agree with that, but it still takes a lot of work to get these kids to where they need to be. The fact remains, we have a lot of kids that come to schools lacking many skills. We expect them to learn, it but it takes a lot of work."

State officials are beginning to understand the challenges facing Iowa's educators. In the past three years, more money has been put into early-childhood education and kindergarten through third-grade programs. Districts are hiring more reading teachers and adding all-day kindergarten classes.

Stilwill said still more needs to be done.

"The question is 'do we have the political will?'" Stilwill said. "There really is a question on whether we are willing to put the needs of our youngest citizens first."

Urban school test scores

The Register used a statistical method called regression analysis to predict how well students should score on standardized tests, based on the percentage of students who participate in a federal program that provides free and reduced-price breakfasts and lunches. The poverty rates and actual test scores are from last school year.

School CEDAR RAPIDS	Poverty	3rd grade			4th grade		
		Actual	Expected	Difference	Actual	Expected	Difference
Arthur	13%	69	67	2	75	69	6
Cleveland	27%	54	59	-5	55	61	-6
Coolidge	10%	77	69	8	72	71	1
Erskine	25%	56	60	-4	67	62	5
Garfield	39%	57	52	5	46	54	-8
Grant Wood	44%	58	50	8	55	51	4
Harrison	55%	31	43	-12	35	45	-10
Hiawatha	27%	46	59	-13	56	61	-5
Hoover	30%	64	57	7	66	59	7
Jackson	7%	67	71	-4	69	72	-3
Johnson	59%	43	41	2	51	43	8
Kenwood	41%	63	51	12	75	53	22
Madison	16%	68	65	3	70	67	3
Nixon	21%	53	63	-10	62	64	-2
Pierce	3%	65	73	-8	75	75	0
Polk	80%	33	29	4	54	31	23
Taylor	78%	45	30	15	36	32	4
Truman	10%	60	69	-9	57	71	-14
Van Buren	52%	43	45	-2	43	47	-4
Wilson	39%	36	52	-16	41	54	-13
Wright	27%	51	59	-8	53	61	-8

School DAVENPORT	Poverty	3rd grade			4th grade		
		Actual	Expected	Difference	Actual	Expected	Difference
Adams	17%	43	65	-22	52	67	-15
Blue Grass	9%	60	69	-9	53	71	-18
Buchanan	57%	30	42	-12	37	44	-7
Buffalo	31%	34	57	-23	43	59	-16
Eisenhower	40%	56	52	4	58	54	4
Fillmore	57%	38	42	-4	39	44	-5
Garfield	49%	45	47	-2	43	49	-6
Grant	38%	40	53	-13	47	55	-8
Harrison	22%	58	62	-4	56	64	-8
Hayes	61%	30	40	-10	30	42	-12
Jackson	58%	35	42	-7	34	43	-9
Jefferson	89%	15	24	-9	21	26	-5
Johnson	53%	38	44	-6	40	46	-6
Lincoln	59%	43	41	2	56	43	13
Madison	87%	26	25	1	29	27	2
McKinley	50%	54	46	8	49	48	1
Monroe	73%	40	33	7	36	34	-2
Perry	51%	49	46	3	20	47	-27
Truman	40%	54	52	2	48	54	-6
Walcott	23%	56	61	-5	59	63	-4
Washington	71%	37	34	3	38	36	2
Wilson	39%	63	52	11	53	54	1

School DES MOINES	Poverty	3rd grade			4th grade		
		Actual	Expected	Difference	Actual	Expected	Difference
Adams	50%	46	46	0	58	48	10
Brooks/Lucas	79%	32	30	2	32	32	0
Cattell	49%	50	47	3	50	49	1
Douglas	37%	52	54	-2	54	55	-1
Edmunds	77%	36	31	5	28	33	-5
Findley	61%	45	40	5	51	42	9
Garton	55%	30	43	-13	27	45	-18
Granger	47%	35	48	-13	49	50	-1
Greenwood	32%	80	56	24	67	58	9
Hanawalt	12%	81	68	13	79	70	9
Hillis	31%	56	57	-1	57	59	-2
Howe	50%	50	46	4	50	48	2
Hubbell	22%	55	62	-7	81	64	17
Jackson	40%	35	52	-17	45	54	-9
Jefferson	3%	76	73	3	74	75	-1
Longfellow	80%	25	29	-4	50	31	19
Lovejoy	62%	52	39	13	40	41	-1
Madison	52%	48	45	3	45	47	-2
Mann	65%	25	38	-13	32	39	-7
McKee	57%	26	42	-16	31	44	-13
McKinley	78%	32	30	2	36	32	4
Mitchell	54%	36	44	-8	46	46	0
Monroe	45%	52	49	3	53	51	2
Moore	40%	50	52	-2	53	54	-1
Moulton	83%	37	27	10	30	29	1
Oak Park	52%	49	45	4	49	47	2
Park Avenue	42%	33	51	-18	36	53	-17
Perkins	65%	40	38	2	51	39	12
Phillips	29%	54	58	-4	61	60	1
Pleasant Hill	17%	61	65	-4	68	67	1
Stowe	53%	37	44	-7	47	46	1
Studebaker	25%	56	60	-4	53	62	-9
Wallace	77%	34	31	3	24	33	-9
Watrous	39%	53	52	1	47	54	-7
Willard	84%	35	27	8	42	29	13
Windsor	32%	61	56	5	62	58	4
Woodlawn	35%	47	55	-8	59	57	2
Wright	28%	41	59	-18	60	60	0

*The Iowa Tests of Basic Skills is not administered at the Downtown School.

Source: Register analysis of school district data　　　THE REGISTER

Schools analysis has limitations

Several school officials said the regression analysis used by the Des Moines Sunday Register to analyze school test scores is a more balanced approach than just looking at raw test results without factoring a school's demographic challenges.

The analysis, though, has limitations.

Consider Kenwood and Wilson elementary schools in Cedar Rapids. Located just six miles apart, the schools have nearly identical poverty levels. That's where the similarities end.

Kenwood serves a mostly blue-collar neighborhood. The school has its share of students who qualify for the meal program, but most come from homes with two parents who live in the surrounding middle-class neighborhood.

At Wilson, many students come from a deeper level of poverty. School administrators say many students come from homes burdened by chemical dependency, domestic abuse and other problems.

"They can't see what it's like to be out of poverty because everyone around them is so close to poverty," said Paul Julius, the associate principal at Woodrow Wilson School in Cedar Rapids.

Kenwood scored 12 percentage points better than would be expected for third grade, while Wilson scored 16 percentage points worse than expected. Similar differences were found between the schools for fourth grade.

Another limitation of the analysis is that participation in the federal school breakfast and lunch program varies based on local characteristics. Parents in smaller districts may be less willing to enroll their children for fear of the stigma attached to taking government subsidies.

"We have a lot of people who won't take free and reduced out of pride," said Southeast Polk schools Superintendent Joseph Drips.

School officials discourage comparing schools based solely on the results of one set of tests. The results, they say, don't take into account all of the factors that affect the tests' outcome.

For instance, two days before the standardized test was given at Des Moines' Park Avenue Elementary School, one of the school's third-grade teachers died. Principal Gary Sheldon decided against delaying the tests.

"All of the experts tell you to try and maintain a sense of normalcy when things like that occur," he said, adding that he knows the timing hurt the school's test scores.

Park Avenue scored significantly worse than expected on both its third- and fourth-grade tests.

Waterloo school pushes reading

By KATHY A. BOLTEN
REGISTER STAFF WRITER

Waterloo, Ia. — Twenty-four sets of third-grade eyes were on Andrea Finley, who was perched on a tall stool in the front of the classroom.

She flashed a quick, approving smile, then in drill-like fashion began leading the students through 45 minutes of reading instruction.

"Touch column one. Ready," Finley said, glancing around the room, making sure books were turned to the right page. She tapped her book with her hand.

"To-*mor*-row," read the students in one clear voice.

Tap. "Sur-*prise*."

Tap."Great."

Tap. "In-*tro*-duce."

"Good. Now the fast way," Finley said.

The students sat straighter in their chairs.

Tap. "Tomorrow." Tap. "Surprise." Tap. "Great." Tap. "Introduce."

"Touch column two. Ready." Tap.

Each afternoon, second-grade through fifth-grade students at Waterloo's Grant Elementary School break into groups geared toward their individual reading levels. For 45 minutes they participate in regimented drills designed to improve reading skills.

Students are taught to sound-out unfamiliar words through phonics-based instruction. They read stories out loud and are quizzed on the information they have read. They learn how to figure out the meaning of unfamiliar words. They answer questions in workbooks.

Nothing is allowed to interrupt the sessions. "It's considered sacred time," teacher Kathi Latta said.

The program, called Reading Mastery, was designed for low-achieving or special-needs students. The program is heavily structured, something Principal Elizabeth Crowley says is important for her students. "We have a very structured environment here, not just with reading but with everything," Crowley said. "Our kids may come from environments that are not providing the best structures. We have to run a tight ship — we have to provide our kids with an environment that is conducive to learning."

Four out of five students at Grant qualified for free or reduced-priced meals, a sign of poverty among school children. About three-fourths of the students are African-American. Most live in the neighborhoods surrounding Grant in the oldest sections of Waterloo.

Last year's third-grade class did better on the Iowa Tests of Basic Skills than students at three other Waterloo schools, all with fewer low-income students. Both third and fourth graders did better on the test than their demographics would expect, a Des Moines Sunday Register analysis shows.

The reading program is one way to boost test scores. Another is the school's literacy-based preschool.

Preschoolers' parents, several of whom are teen-agers or are single, are taught to teach their children. Each month teachers go to preschoolers' homes and give parents pointers. One month teachers gave parents letter tiles and showed them simple games to play to help their children learn to spell their names.

"We have to get parents to feel comfortable that they can help their child," said Marsha Fisher, preschool teacher.

The program is working, Fisher said. Kindergartners and first graders that were in the preschool are outperforming classmates that weren't in the program.

Volunteers are plentiful at Grant. Once a week, a group called Big Mammas works individually with kindergartners and first graders. The women, most of whom are retired, listen to youngsters read and help them with school work.

Many of the staff at Grant believe the school is on the right path. Students' reading and math skills are improving. An increasing number of parents is becoming involved with the school.

"What we're doing here isn't the most exciting or glitzy program in the district," said teacher Latta. "But we're not about glitz. We're about teaching these children."

GARY FANDEL/THE REGISTER

Happy pair: Louise Walker, 86, shown with first-grader Darrelle Smith, is a volunteer at Grant Elementary in Waterloo.

Method uses poverty level to find school's 'expected score' on a test

By JOHN McCORMICK
REGISTER STAFF WRITER

Imagine a 100-meter dash where some sprinters have their starting blocks 10 meters behind the starting line and others begin with a 10-meter lead.

That's what it's like when comparing elementary school students from varying socioeconomic backgrounds.

Those from well-off families tend to have a leg up when it comes to learning.

They are read to as infants and toddlers. They have visited zoos, museums and libraries. They know how to use computers.

Students from poor families typically have few books in their homes and often no computer. Their experiences tend to be limited to their neighborhoods.

Schools with a large percentage of well-off students often score higher on standardized test scores, while those with many low-income students tend to have lower scores.

To level the playing field between schools with varying levels of student affluence, the Des Moines Sunday Register used a statistical method called regression analysis.

The method allows for the prediction of how well students should score on standardized tests, based on the school's level of student poverty.

The expected score for each school was derived from a mathematical formula based on the relationship between poverty and test scores among all the schools compared in each grade.

The newspaper's analysis looks at the difference between the actual score and the predicted score to see whether schools are meeting expectations.

Schools with the highest average test scores don't necessarily rank highest when viewed through regression analysis, after effects of wealth and poverty are factored out.

What is regression analysis?

The Register's test score analysis addressed the relationship between average test scores and poverty rates in schools. This diagram shows the strong correlation that is found between test scores and poverty among the Iowa schools reviewed. Points above the line are schools that had higher than expected test scores, while those below the line did worse than expected.

Percentage of students in free and reduced price lunch program

THE REGISTER
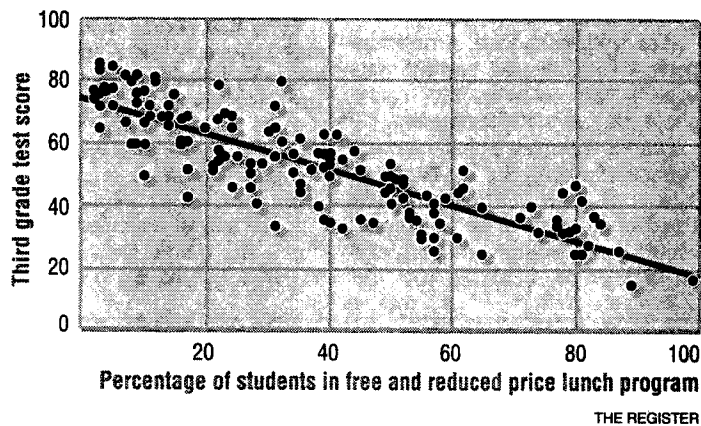
The study looked at the percentage of minority students in each school, but the poverty level was found to be a stronger indicator of test performance. With that in mind, the poverty level was the sole variable used to project an expected test score.

This kind of analysis is different from how school districts look at test scores. Teachers and administrators tend to look at whether individual students, or groups of students, achieve 12-months worth of growth each year.

The percentage of students in the federal free and reduced-price breakfast and lunch program was used as the measure of poverty in a school building.

Students qualify for a free lunch if they come from families with incomes at or below 130 percent of the poverty level ($22,165 for a family of four). They qualify for a reduced-price lunch when they come from families between 131 percent and 185 percent of the poverty level (up to $31,543 for a family of four).

The Register did separate analyses for grades three and four, using meal program participation rates and building average "core" scores from the Iowa Tests of Basic Skills, the most commonly used standardized test for elementary schools in Iowa.

The core score includes vocabulary, reading comprehension, spelling, capitalization, punctuation, usage, expression and math concepts and problems.

School officials interviewed for this series said they generally viewed the Register's analysis as being a fairer presentation of test scores than reporting raw scores with no context about a school's demographic composition. Similar test score analyses have been done by other newspapers, including the Atlanta Journal-Constitution and the St. Louis Post-Dispatch.

The Register's project was done with the assistance of Joseph Keefer, president of Des Moines-based Megastats Corp., a statistical analysis firm.