DOCUMENT RESUME

ED 417 579 EF 005 008

TITLE	Making a World of Difference: Elementary Schools. Impact on Education Series.
INSTITUTION	Fanning/Howey Associates, Inc., Celina, OH.
PUB DATE	1997-00-00
NOTE	135p.; Contains numerous photographs that may not reproduce clearly.
AVAILABLE FROM	Fanning/Howey Associates, Inc., 540 East Market St., Celina, OH 45822-0071; ($37.50).
PUB TYPE	Books (010) -- Information Analyses (070)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Architecture; Building Design; Classroom Design; Educational Environment; *Educational Facilities Design; Elementary Education; *Elementary Schools; Models; *School Buildings; School Construction

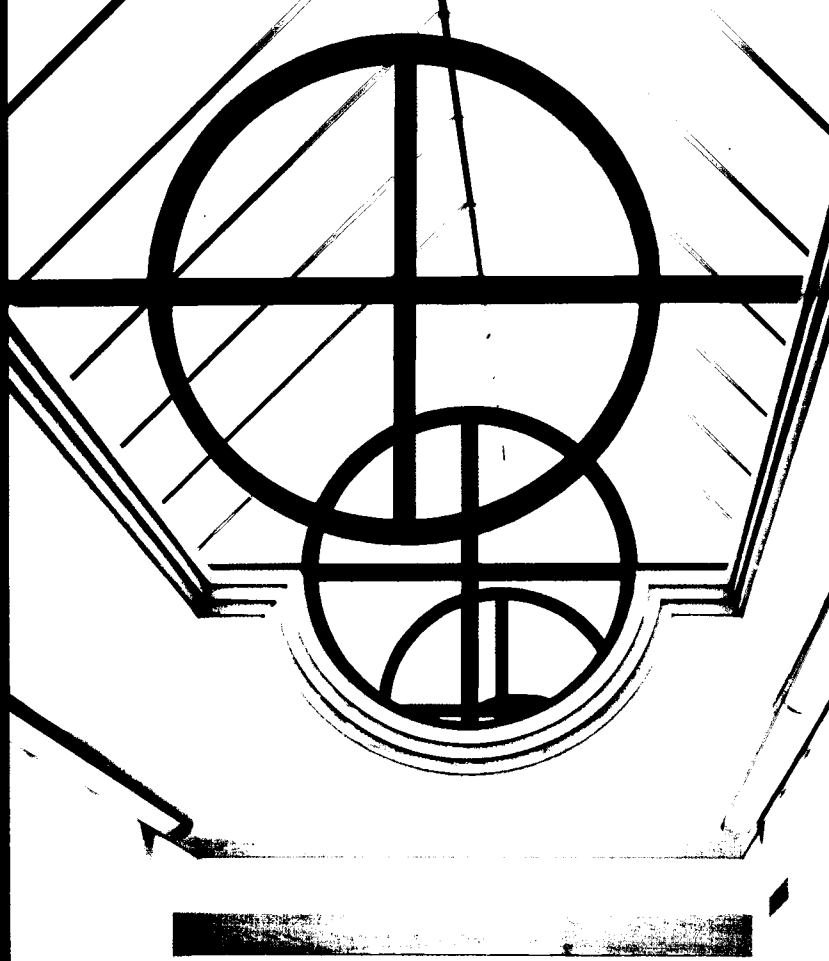
ABSTRACT

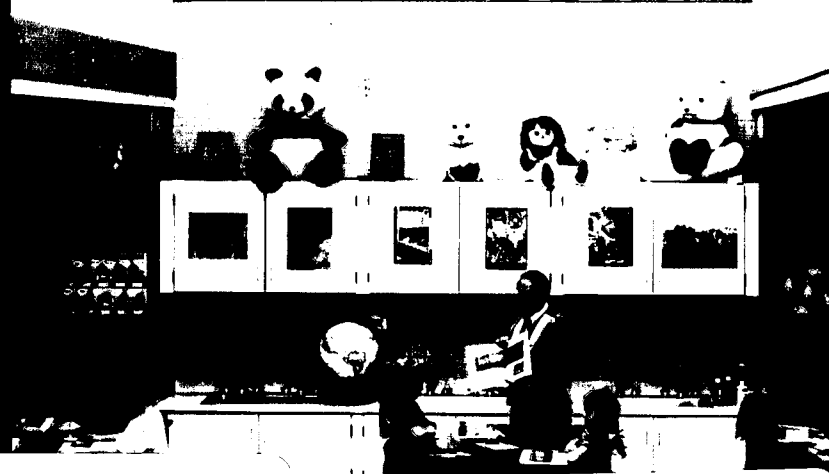
To demonstrate the impact facilities can have on learning, some exemplary elementary schools that made the decision to provide a good educational environment are presented. To assess the impact of these facilities, students, teachers, parents, superintendents, and other administrators were interviewed. The book opens with a discussion of whether the building does make a difference in education and concludes that the physical surroundings wield a profound effect on children and personnel. Discussed next are various philosophies that influence structural design and how classrooms should be constructed to help children learn. The school environment should stimulate and motivate children, and it should support educational initiatives, not hinder them. Some of the specific areas that are discussed at length include communications and technology, enrichment and support space, and outdoor learning and play. The theme of the text, "a place where people want to be", is the focus of the last chapter. Each section features numerous interior and exterior photographs of school buildings. An appendix lists the schools that are featured in the text. (RJM)

MAKING A WORLD OF DIFFERENCE

ELEMENTARY SCHOOLS

IMPACT ON EDUCATION SERIES





$37.50

LIFELONG PROCESS IN OUR COMPETITIVE AND RAPIDLY CHANGING WORLD, FORMAL EDUCATION BEGINS AT AN EARLY AGE, WITH KINDERGARTEN AND OFTEN PRESCHOOL CLASSES. EARLY IMPRESSIONS OF SCHOOL LAST A LIFETIME, AND POTENTIALLY HAVE A PROFOUND EFFECT ON A CHILD'S PERCEPTIONS ABOUT EDUCATION.

MORE THAN EVER BEFORE, TEACHERS, ADMINISTRATORS, PARENTS, AND VOLUNTEERS ARE RECOGNIZING THE IMPORTANCE OF THE SCHOOL FACILITIES AS AN INTEGRAL PART OF THE LEARNING PROCESS. MANY TEACHERS AROUND THE COUNTRY STRUGGLE TO TEACH—AND STUDENTS STRUGGLE TO LEARN—IN BUILDINGS THAT ARE OUTDATED, OVERCROWDED, AND POORLY EQUIPPED; WHILE OTHERS BENEFIT FROM MODERN FACILITIES THAT ENHANCE THE EDUCATIONAL ENVIRONMENT AND INCREASE THE MOTIVATION TO LEARN.

DO FACILITIES MAKE A DIFFERENCE? FANNING/HOWEY ASSOCIATES, INC., A NATIONAL LEADER IN THE PLANNING AND DESIGN OF SCHOOLS, REVIEWED THIS CRITICAL ISSUE WITH EDUCATION PROFESSIONALS AND COMMUNITY MEMBERS AROUND THE COUNTRY. *MAKING A WORLD OF DIFFERENCE: ELEMENTARY SCHOOLS* SUMMARIZES THEIR EXPERIENCES AND IMPRESSIONS—FROM TEACHER MOTIVATION TO THE EXCITEMENT OF YOUNG SCHOOLCHILDREN—AND REVEALS THAT THE QUALITY OF THE LEARNING ENVIRONMENT DOES INDEED MATTER.

Fanning/Howey Associates, Inc.

MAKING A WORLD OF DIFFERENCE

ELEMENTARY SCHOOLS

Fanning/Howey Associates, Inc.

IMPACT ON EDUCATION SERIES

This book is dedicated to teachers,
who serve as a lifelong source of inspiration to their students;
parents, who truly make a difference in the quality of education today;
and children, who are just embarking on their educational journey.
We hope that their path to learning is fascinating and fun.

Fanning/Howey Associates, Inc.
540 East Market Street
Celina, Ohio 45822-0071
419/586-7771

During the course of our research for *Making A World of Difference: Elementary Schools,* we conducted several focus groups and interviews with school administrators, faculty members, parents, volunteers, and students. Their input was critical in helping us document the many ways a school building makes a difference in the quality of education—down to the smallest details of day-to-day planning and instruction.

In particular, we would like to thank the participants of our focus groups:

Olentangy Local School District–
Alum Creek Elementary School and Wyandot Run Elementary School; Lewis Center, Ohio
October 15, 1996

Jim Bickley, Fourth-Grade Teacher, Alum Creek
Steve Bilikam, P.E. Teacher, Wyandot Run
Carol Burley, Kindergarten Teacher, Wyandot Run
Sue Cox, Intervention Specialist, Alum Creek
Sara Keaney, First-Grade Teacher, Alum Creek
Lori Kipfer, Music Teacher, Wyandot Run
Norene Mapes, Counselor, Wyandot Run
Debbie Matix, Cafeteria, Alum Creek
Keith Richards, Superintendent
Laurie Schaefer, Fifth-Grade Teacher, Alum Creek
Dan Sipek, Principal, Wyandot Run
Colene Stump, Principal, Alum Creek

Delphi Community Schools–
Hillcrest Elementary School; Delphi, Indiana
October 9, 1996

Steven E. Carroll, Principal
Linda Jackson, Media Specialist
Wendy Kerker, Fifth-Grade Teacher
Dr. John E. Williams, Superintendent

Twin Valley Community Local School District–
Twin Valley School; West Alexandria, Ohio
October 18, 1996

Pam Coleman, Kindergarten Teacher
Paul Erslan, Superintendent
Shirleann Fahrenholz, First-Grade Teacher
Kent McIntire, Principal
Patti Precht, Fourth/Fifth-Grade Teacher
Roseann Williams, LD Teacher

Penn-Harris-Madison School Corporation–
Horizon Elementary School; Granger, Indiana
September 19, 1996

Julie Adams, Fifth-Grade Teacher
Jayson Balsley, Third-Grade Teacher
Martha Bartels, Second-Grade Teacher
Sandra Cook, Assistant Principal
Phyllis Gartner, Second-Grade Teacher
James Hendress, Principal
Laura McIntire, First-Grade Teacher
Sandy Roggeman, P.E. Teacher
Pauline Van Laere, Second-Grade Teacher
Diane Zuber, Music Teacher

School City of Hammond–
Maywood Elementary School; Hammond, Indiana
October 11, 1996

Linnette Allen, Fourth-Grade Teacher
Diane Denton, Office Manager
Jennifer Drutis, Librarian
Linda Frazier, First-Grade Teacher
Stanley Griffin, Principal
Janet Grove, Fifth-Grade Teacher
Kathy Nelson, First-Grade Teacher
Tanya Sartin, Human Services Director
Katherine Stahl, Kindergarten Teacher

Delaware City Schools–
Robert F. Schultz Elementary School/
Conger Elementary School; Delaware, Ohio
October 16, 1996

Pat Bohmer, Principal, Schultz
Sandy Harrison, Fifth-Grade Teacher, Schultz
Angie Hillier, Fourth-Grade Teacher, Schultz
Sandy Kramer, Kindergarten Teacher, Conger
Reg Main, Reading Instructor, Conger
Bonnie Ristau, Second-Grade Teacher, Conger
Jerry Steele, Third-Grade Teacher, Schultz
Jackie Washington, Fourth-Grade Teacher, Conger
Patty Womeldorf, First-Grade Teacher, Schultz

Penn-Harris-Madison School Corporation–
Elm Road Elementary School; Osceola, Indiana
October 11, 1996

Sandra Cook, Assistant Principal
Jim DuBois, Principal
Bea O'Dell, Teaching Assistant

Community Schools of Frankfort–
Suncrest Elementary School; Frankfort, Indiana
October 9, 1996

R. Joseph Dixon, Superintendent
Mary Jo Giesler, First-Grade Teacher
Chris Guffy, Media Specialist
Alan Jackson, Principal
Pattie Sherman, Fourth-Grade Teacher

Reynoldsburg City Schools–
Taylor Road Elementary School;
Reynoldsburg, Ohio
October 15, 1996

Deborah Bergeron, Principal
JoAnn Codrea, Second-Grade Teacher
Dianne Gabel, Kindergarten Teacher
Marlie Griffin, SLD Resource Teacher
Pat Heater, Guidance Counselor
Janis Smith, Librarian
Dawn Tufto, Fourth-Grade Teacher
Barbara Woodland, Third-Grade Teacher
Cindy Yost, Parent

We would also like to acknowledge the invaluable contributions and suggestions of the more than 100 elementary school students who participated in our focus groups, granted us interviews, and contributed their ideas and artwork for the development of this book.

Teachers are very adaptive in that they can teach in almost any kind of environment. All one has to do to validate this is to visit buildings where education takes place. Even in buildings that are old, in poor condition, and unsafe, teachers are dedicated to their students, but they have to make do with the condition of the classroom. After moving into a new building, one principal remarked that the teachers no longer had to "fight the environment." This is perhaps the most telling description I have ever read about the difference between a good school building and one that is outdated.

Some seem to believe that students can learn effectively regardless of the condition of the building. Very seldom do we hear community members and school boards raise the questions of how much better can a teacher teach and how much more can a student learn in a safe, modern building. True, the environment does not control all of the learning that takes place, but it does have an influence upon the amount students can learn.

Recently, several research studies have supported this. Some report a difference of as much as 11 percentile ranks between standardized test results of students in modern buildings as compared with those of students in poor buildings. At a minimum, these studies report the difference in performance as being on the order of 5 percentile ranks. This fact has been documented in a large metropolitan area, rural areas, large high schools, and in a statewide study.

The deteriorating condition of schools has also been well documented. A United States General Accounting Office report entitled *School Facilities* reveals that upwards

of 30 percent of all schools in the country are in need of extensive repairs or replacement. Approximately 14 million students attend schools in substandard condition. If school buildings are in safe and modern condition, student performance can be expected to improve. The question then becomes, why don't we spend the funds necessary to bring all school buildings up to standard, and in effect improve student learning and teacher effectiveness? The problem is perhaps more pertinent than most people realize.

The school building, as the center of the community, tells the student how society values them. Elementary school students are so very impressionable and are especially sensitive to their environment. Jonathan Kozol, author of *Savage Inequalities*, has said, "Physical squalor is a fact and it is also a metaphor. It tells a child what we think she is worth." Students in old, run-down buildings know that the community does not value education or the students. Students in modern buildings have an outlook on education that tells them the community values them as precious assets and desirable members of the community, and their behavior reflects this.

This book depicts many exemplary schools within communities that have made the decision to provide a good educational environment that will impact both student learning and behavior. What better way to influence the future of the country than by positively influencing elementary school students?

– Glen I. Earthman, Virginia Polytechnic Institute & State University, March 1997

Harold L. Hawkins, a former school superintendent and university professor, once wrote in *School Planning & Management* magazine: *"A test of a good learning environment—and a good school building—is whether people want to be there when they don't have to be."* His observation is one that we have heard echoed in the educational community repeatedly. Teachers, parents, and the students themselves often tell us how much they like being in their new or modernized schools—how they even like to come in early and stay late, or volunteer as often as possible. Many mention this desire to put in more time or stay for extra activities with surprise—as if the motivation and excitement to be at school comes as quite a revelation.

It shouldn't be so surprising. The school environment should stimulate, motivate, and at the very least, it should support educational initiatives, not hinder them. As Professor Hawkins has also pointed out, *"A school does not merely house the program of instruction; it is part of the program."* At best, a school should be a strong source of community pride, and a vigilant symbol of our faith in the future.

How much does the building itself impact the quality of learning? With so many variables in programs around our country, and in the types of facilities that house them, statistics and concrete measurements are difficult to amass. For this book, we went straight to the best sources: students, teachers, parents, superintendents, and other administrators. Many were thrilled to be in new or modernized schools; others were still struggling to teach or learn in long-outdated and ill-equipped buildings. The response to our query, *"Does the school environment matter?"* was a unanimous, emphatic, and often emotional *"Yes!"* This book recounts many of the specifics behind that resounding affirmation.

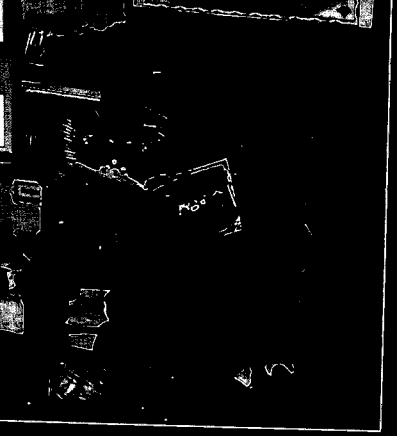
– Fanning/Howey Associates, Inc.

1

Does the Building Make a Difference?

"If every child could come to a school like this, the world would be a better place."

–Jim Bickley, Fourth-Grade Teacher, Alum Creek Elementary School, Ohio



"IF I DESIGNED A SCHOOL IT WOULD HAVE LOTS OF BOOKS, CHALKBOARDS AND MARKERBOARDS, a football field, a place for art, computers with Math Blasters and Encarta, AND IT WOULD BE A GREAT BIG BUILDING...WE WOULD HAVE MONKEY BARS EVERYWHERE ON THE INSIDE AND USE THEM TO GO TO OUR ROOMS...there would be a big curly slide to slide from the indoors to the outdoors, elevators and escalators, A GLASS ROOF ALL THE WAY ACROSS THE BUILDING, AND LOTS OF SUNLIGHT."

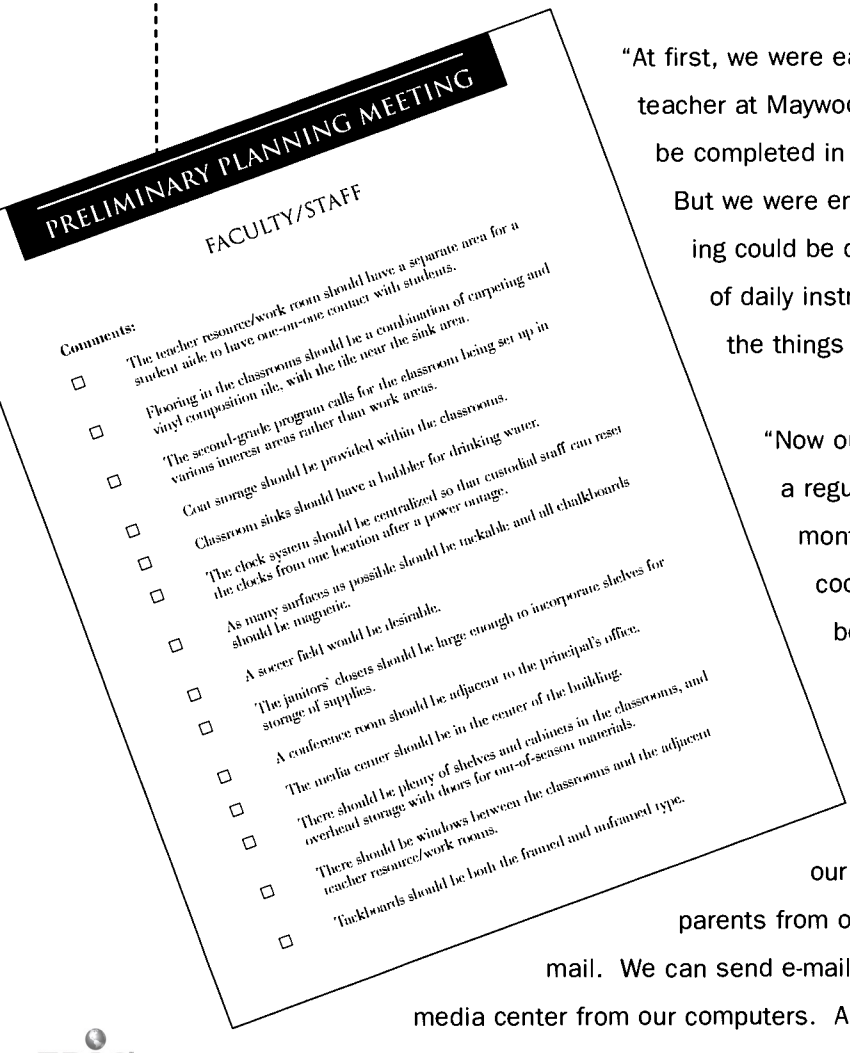
Third-graders, Sancrest Elementary School: Frankfort, Indiana

Inset photo and artwork: Mrs. Lehman's Second-Grade Class, East Elementary School: Celina, Ohio

Does The Building Make A Difference?

Surveys, small-group discussions, and planning workshops help to surface priorities of teachers, administrators, and parents prior to designing a school.

In the fall of 1990, the community of Hammond, Indiana, 25 miles east of downtown Chicago, initiated a building program for three new elementary schools to replace aging and severely overcrowded facilities. District faculty and administrative staff readily undertook the challenge of planning for the new schools: completing surveys, attending workshops, and participating in interactive discussion sessions and design charettes aimed at addressing facility needs. In particular, the group focused on how the buildings could be designed and equipped to best meet instructional objectives.



PRELIMINARY PLANNING MEETING

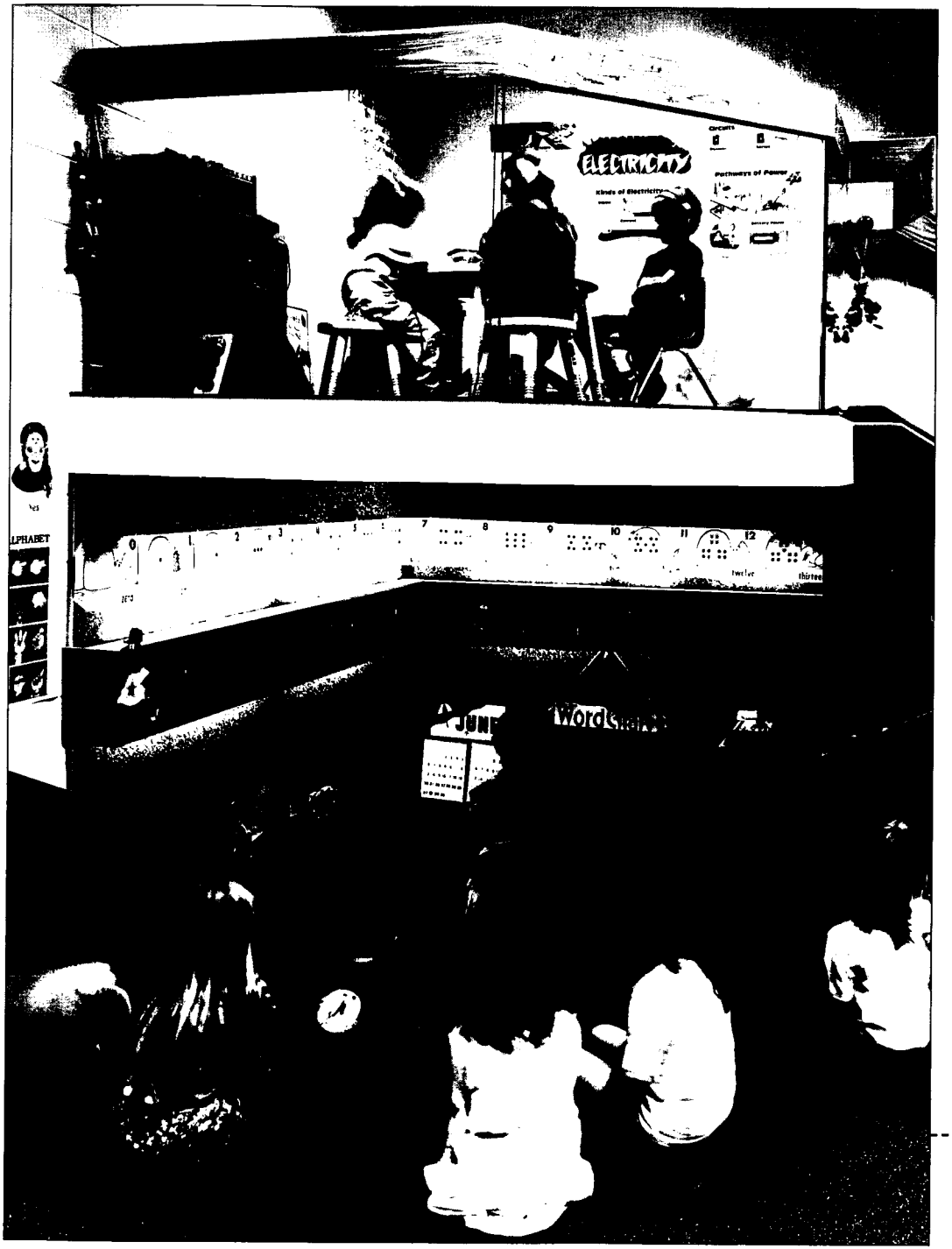
FACULTY/STAFF

Comments:

- ☐ The teacher resource/work room should have a separate area for a student aide to have one-on-one contact with students.
- ☐ Flooring in the classrooms should be a combination of carpeting and vinyl composition tile, with the tile near the sink area.
- ☐ The second-grade program calls for the classroom being set up in various interest areas rather than work areas.
- ☐ Coat storage should be provided within the classrooms.
- ☐ Classroom sinks should have a bubbler for drinking water.
- ☐ The clock system should be centralized so that custodial staff can reset the clocks from one location after a power outage.
- ☐ As many surfaces as possible should be tackable and all chalkboards should be magnetic.
- ☐ A soccer field would be desirable.
- ☐ The janitors' closets should be large enough to incorporate shelves for storage of supplies.
- ☐ A conference room should be adjacent to the principal's office.
- ☐ The media center should be in the center of the building.
- ☐ There should be plenty of shelves and cabinets in the classrooms, and overhead storage with doors for out-of-season materials.
- ☐ There should be windows between the classrooms and the adjacent teacher resource/work rooms.
- ☐ Tackboards should be both the framed and unframed type.

"At first, we were easy!" comments Katherine Stahl, a kindergarten teacher at Maywood Elementary School, the third of the schools to be completed in Hammond. "We just wanted electrical outlets. But we were encouraged to think creatively about how the building could be designed to help us teach—to think about issues of daily instructional needs, storage, circulation, layout—all the things that would make us more effective.

"Now our school is a wonderful place. We get to do on a regular basis what other teachers might have to plan months for. In an old building, you might get to do a cooking or special science project once a year, because of all the effort it took. Or if you wanted to put on a program, you had to schedule the gym months in advance because we lacked dedicated, flexible facilities. Now we have a gym and a commons. We can open up our classrooms and team teach. We can phone parents from our rooms or easily check messages with voice mail. We can send e-mail to other teachers, or check resources in the media center from our computers. All of our materials are accessible, and we have the equipment we need. We do things every day that other teachers only dream about."



Children at Morton Elementary School in Hammond, Indiana (pictured), as well as nearby Edison and Maywood, have an opportunity to learn in well-equipped, flexible classrooms. Most classrooms accommodate a variety of activities and seating arrangements, allowing for a number of "centers" of learning. "The only things that stop us in this building are time and energy," says Katherine Stahl, a kindergarten teacher at Maywood Elementary School. "We just get to the point where we finally say 'we can't do anymore today—we have to go home.'"

Does The Building Make A Difference?

Today, as educators seek to prepare children for the 21st-century workforce, many of the nation's 80,000 public schools are confronting the challenges of modernizing outdated facilities. "School facilities that can support education reform activities and communications technologies will not resemble or operate as schools built in the 1950s," notes the United States General Accounting Office (GAO) in its April 1995 report, *School Facilities: America's Schools Not Designed or Equipped for 21st Century.*

According to the GAO, more than $112 billion is currently required to repair or modernize public schools throughout the nation. Often, the most significant barrier to educational reform and fulfillment lies in utilizing contemporary technology—specifically, a lack of technology infrastructure such as conduits and raceways for computers, modems, phone lines, electrical wiring, and fiber optic cabling. While most U.S. schools report that they have adequate or more than adequate resources in computers and related equipment, administrators point to a lack of facilities infrastructure to accommodate these resources. In some schools, computers lie waiting in boxes until upgrades can occur.[1]

The Old School:

"In our old school, the kindergarten classrooms were far apart. We couldn't collaborate."

The New School:

"Today, we're teaming and doing more cooperative learning. We're able to share resources, and support each other more."

—Katherine Stahl, Kindergarten Teacher, Maywood Elementary School; Hammond, Indiana

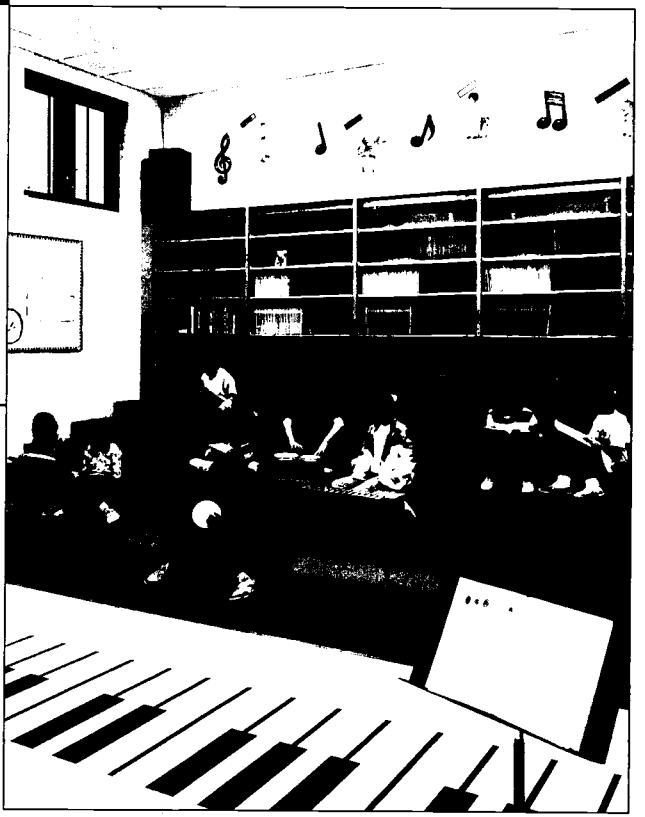
Yet in many school districts throughout the country, facility problems involve more fundamental and pressing situations: removing asbestos that still lies embedded in building materials, eliminating lead from water or paint, repairing plumbing and roofing failures, and frequently, relieving extreme overcrowding. Districts also report that they lack essential facilities, such as large- or small-group instruction areas, science labs, storage and display space, counseling offices, well-equipped media centers, or space for before- and after-school care, that are critical to instructional and support programs.[2]

Dr. Robert MacNaughton, superintendent of the Penn-Harris-Madison School Corporation in Indiana, comments that today it is more imperative than ever that educational facilities support—not hinder—the instructional program: "We need to meet the educational needs of tomorrow, or we're shortchanging the community," he says. "The real world

[1] United States General Accounting Office, "School Facilities: America's Schools Not Designed or Equipped for 21st Century," April 1995, GAO/HEHS-95-95

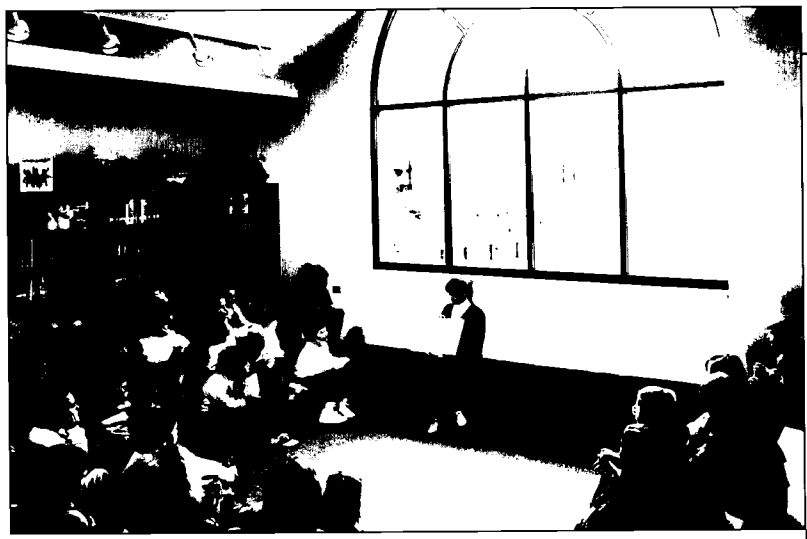
[2] Ibid.

Classrooms at Springfield Elementary School in Michigan City, Indiana, feature flexible computer learning centers.

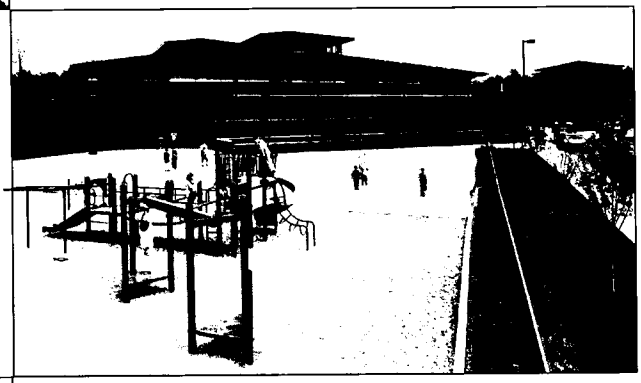


Children at Flint Lake Elementary School in Valparaiso, Indiana, enjoy a music room that offers built-in, carpeted risers; ample shelving and cabinetry; and a carpet with a keyboard inset.

Does The Building Make A Difference?



A recessed reading area at Three Creeks Elementary School in Lowell, Indiana, allows students to read quietly or enjoy a group storytime in a cozy, sunlit corner of the media center.



Outdoor playgrounds provide vitally needed space for children to exercise, socialize, and explore. The play area at Flint Lake Elementary School is easily accessible from classroom areas, and features a variety of play surfaces; challenging equipment; and secure, landscaped grounds.

"Children are unable to sit in their seats all day. They need to be able to move around, explore, try hands-on activities," comments Julie Adams, a fifth-grade teacher at Horizon Elementary School in Granger, Indiana. Here, common areas within classroom pods enable students at Flint Lake Elementary School to participate in a variety of small- or large-group activities.

works in teams, which calls for flexible space. The real world uses technology. And then there are the little things like wiring for telephones. Schools are just about the only places where you still find professionals trying to function without a computer or a telephone."

In today's global economy, education and the process of preparing students for the rigors of a competitive marketplace have become even more critical. "I've had parents come to me and say, 'Please teach my kid everything you possibly can because I can't do it,'" says Linnette Allen, a fourth-grade teacher at Maywood Elementary School. "I've taught kindergarten and even then these parents have said, 'I can't do it.' If the children go home and they don't understand an assignment, they can't get their parents to help them. They have to learn it right here in school. Now, we have the facilities, the kids are getting what they need, and we can meet that challenge."

What means the most when it comes to providing the best possible education? Nearly everyone—whether a parent, a community member, a school principal, or a third-grader will answer without hesitation, "the teachers." But do the buildings themselves make a difference? Are faculty and students more motivated in schools that are brighter, more spacious and flexible, and better equipped?

Pam Coleman, a kindergarten teacher at Twin Valley School in West Alexandria, Ohio, is certain of her response. "I'll never forget the look on my kids' faces when they saw their new school, and walked into their new classroom. I felt it too. There wasn't space for my class in the old school, so we were isolated in a church basement without windows. I felt like I had moved from a dungeon into Cinderella's castle. That new classroom made all the difference to those children—the amount of space, the light, the colors. Their attitude about school changed from that moment on."

The Old School:

"We were so overcrowded here, we had our computer lab in the hallway. There was simply no other place for kids to use the computers. We also had to use the hallways for conferences."

The Modernized School:

"Our new computer lab enables us to bring more kids in, and the time spent is much more valuable. We're also able to hold workshops there for our teachers. On a daily basis, I see my staff looking for new and better ways of doing things, because they're working in new and better facilities. There's so much pride here now."

—Steven E. Carroll, Principal, Hillcrest Elementary School: Delphi, Indiana

What Kind Of Place Is This?

"Building a school is different from building a strip mall. A school not only has to be functional and economical, it has to give a sense of self-worth to the student. It has to show the community's commitment to education."

—Tom McLelland,
Facilities Planning Specialist,
Volusia County Schools, Florida

WHAT DO YOU LIKE ABOUT YOUR NEW SCHOOL?

The computer lab is fun. **I like how every hall has a different color.** I LIKE THE WAY THE CHALKBOARDS ARE SO YOU CAN PUT COLOR MARKER ON THEM. **I LIKE THE CUBBIES.** I like the gym because it is big and there is more space to run. **I like it that the restrooms are close.** **I LIKE HOW THE LIBRARY CEILING IS DESIGNED.** I LIKE THE WINDOWS BECAUSE THEY ARE BIG. **I like how the lunchroom and the gym are separated.** I like that there aren't any lockers because then we would be hearing bang-bang-bang.

Mr. Steele's Third-Grade Class,
Robert E. Schultz Elementary School;
Delaware, Ohio

Inset photo and artwork:
Mrs. Lehman's Second-Grade Class,
East Elementary School; Celina, Ohio

THE OLD SCHOOL:

"Space was very limited in our old building. Our classroom was wall-to-wall chairs. We were always fighting to get through the chairs."

THE NEW SCHOOL:

"Just having more space is a big plus. Kids control themselves better. I can set things up in centers—the listening center, the math center. We have circle activities. It really helps with discipline."

—Dianne Gabel, Kindergarten Teacher, Taylor Road Elementary School; Reynoldsburg, Ohio

Ask a group of children to think about designing a school. Within a few minutes, their imaginations will take flight and ideas will flow about what to include: carnivals with ferris wheels, aquariums, petting zoos, candy stores, waterfalls, fast food restaurants, water slides, gymnasiums with countless basketball hoops, and giant screen TVs. Elevators and escalators inevitably top the list.

Yet before they let their imaginations run wild, children will frequently offer a wide-ranging yet practical list of what a "good" school should have. Simple details mean a lot: short hallways, a place to hang coats and backpacks where they won't tumble to the floor, clean restrooms, plenty of water fountains, and chairs that are just the right size. Many children mention wanting windows and sunlight. Media centers ("with lots of books") and computer labs ("with computers for everyone and lots of printers") are also priorities. For many children, air conditioning is the single most important feature they would have in their schools.

It is difficult to imagine a more important and far-reaching social priority than fostering a high level of safety, comfort, and motivation for children in schools. Children who feel threatened, disoriented, uncomfortable, crowded, or bored in school are certain to be more challenged in their ability to learn and pursue their potential. The irony of the condition of our nation's schools today is the degree to which children either feel daunted or uninspired by their school, or to the other extent, excited and motivated to learn and to interact with other students and adults.

Elementary schools come in a surprising variety of shapes and sizes. Grade configurations, which include kindergarten housed in one facility with grades one through five or six in another, kindergarten through grades five or six all in one facility, or combinations of K-3, K-4, and so on, impact the size and layout of a school and become a driving

factor in design early-on. A school's site also plays a critical role in how the building takes form: tight urban sites, for example, may require construction of multi-level schools; while sprawling sites allow for one-floor configurations, which are often preferable at the primary school level.

Educational approaches, such as team teaching, also influence the configuration and layout of a school. The academic areas of many schools, for example, are designed in pods or corridors that cluster grade levels and allow for more interaction among classes. Campus layouts may take a more linear form, or cluster a small group of individual buildings. These schools are more prevalent in warm climates, where schools can take advantage of exterior corridors and walkways as part of the circulation plan.

Deborah Bergeron, principal at Taylor Road Elementary School in Reynoldsburg, Ohio, emphasizes the importance of how a school is laid out: "I like the flow of this building," she says. "The noisy areas are kept together—art, music, the gym. The library is in a central location, and it's the first thing people see when they walk into the school. It's nice and airy and light. The office is right next to the entry, and it's open and accessible. I also like the width of the hallways—two classes can pass without the kids touching each other." Marlie Griffin, a teacher for learning disabled students, adds that Taylor Road "has enough flexibility to accommodate changes in our program—if the complexion of a grade level changes, or we want to have larger groups or team teaching."

Building exteriors are also an important aspect of design, as school systems seek to portray "friendly" facilities that aren't intimidating to children. With many elementary schools set in the midst of residential neighborhoods, the massing, scale, and materials of a school can be vital in successfully blending the school into the neighborhood and projecting a welcoming environment.

Color and light are also integral to the success of a school building. Both are important

THE OLD SCHOOL:

"Our building was one long hallway. We used to say we should skateboard down the hallway."

THE NEW SCHOOL:

"This school is much more organized and accessible. It's comfortable and quieter. Visitors are in awe of the layout. And everything has its place."

—Barbara Woodland, Third-Grade Teacher, Taylor Road Elementary School: Reynoldsburg, Ohio

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to offset the potential institutional feel of an educational facility: vibrant colors enliven classrooms and hallways, and sunlight brightens spirits. "The color scheme in our school is wonderful, " says Dawn Tufto, a fourth-grade teacher at Taylor Road Elementary School, where academic pods are color coded in soft, warm hues. "Our kids know how to find the blue pod," she adds. "We even ordered shirts to match the colors." Sandy Kramer, of the newly renovated Conger Elementary School in Delaware, Ohio, points out, "If I want to send a child to the office, all I need to say is 'Follow the green line all the way down the corridor, and you'll come to it.' It's a lot easier on both of us."

The details of a school's design and its furnishings can be instrumental in helping children feel comfortable and welcome. Are countertops, shelves, desks, and tables the right height for young students? Can they find their way around a building without becoming confused? Are chairs comfortable and an appropriate size? Can students reach faucets, water fountains, coat hooks, and cubby spaces? Can they sit comfortably on carpeted floors or risers?

Comparing his former school to his new environment, Clark Lacy, a fourth-grader at Alum Creek Elementary School in Lewis Center, Ohio, points out the importance of many of these distinctions. "I like the color coding on the floors here," he says. "At first, I kept going around the library in circles, until I found out the door is in the red hallway. Now I know to look for the red. The hallways here are shorter, too. I used to have to walk a long way. I also like the reading pit and the chairs in the library. The chairs are smaller and they're padded and they fit better."

The impact of the quality of school facilities extends to the faculty as well. "I'm just thrilled to be in this new school," says Jim Bickley, a fourth-grade teacher at Alum Creek. "How much better is it than my old school? Let me count the ways!" He points to the

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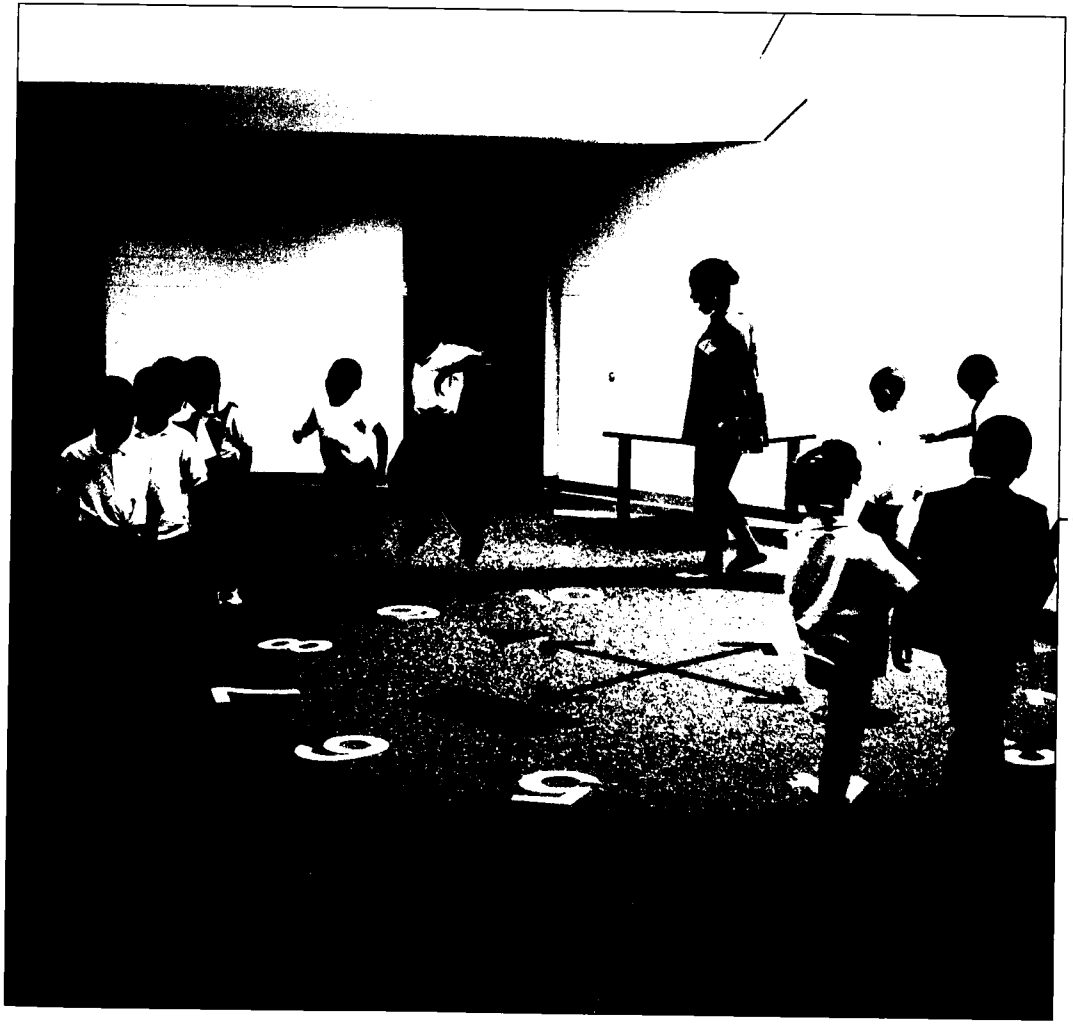
overall inviting atmosphere and spaciousness, as well as the details that facilitate daily instruction—ranging from variable lighting systems to sinks in the classrooms. "I can't help feeling good coming into my room," Bickley says. "A couple of my kids are having trouble at home, so it means a lot to me to have a school that's welcoming. If every kid in America could come to a school like this, the world would be a better place."



Children at Maywood Elementary School in Hammond, Indiana, enjoy movement-based learning activities in an extended learning area adjacent to classrooms.

Washington Irving Elementary IPS #14; Indianapolis, Indiana

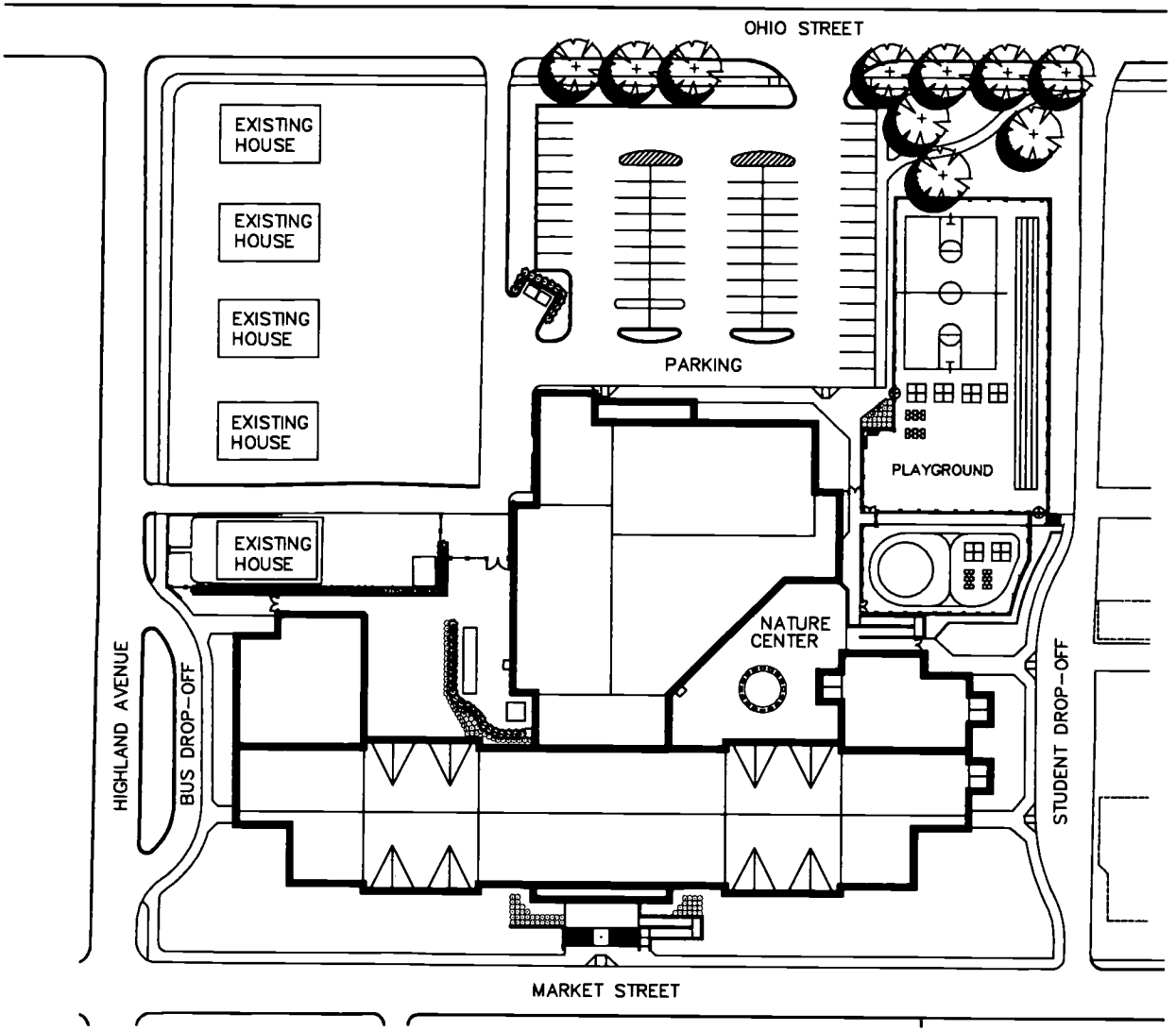
Set in the heart of an aging, urban neighborhood in downtown Indianapolis, Washington Irving Elementary IPS #14 presented many challenging site issues during its design. "We wanted the school to be respected and a focus in the community," says Principal Elizabeth Odle. "It needed to blend with the neighborhood and the houses surrounding it, yet not be on a pedestal."

Extensive use of brick and vinyl siding helped bring a residential expression to the school's exterior, set closely among a community of turn-of-the century homes. Separation of traffic was also a key issue; solutions included conversion of an adjacent alley to an avenue for the kindergarten drop-off area.

Inclusion of both a parent/PTO room, near the main office, and a community room on the public wing of the building provides ample space for parents and other volunteers. The parent room includes an area for hanging coats, a kitchenette, a restroom, and work space.

Washington Irving's educational program also encompasses preschool, which has its own classroom adjacent to the two kindergarten rooms. "This is a clean, bright environment," says Odle. "It has given everyone here a greater sense of personal respect and pride."

Vinyl composition tile allows for colorful accents throughout the school on an economical budget. Hallways are furnished with tackable display surfaces to enliven the space with children's artwork.



Massing and use of materials in the design of Washington Irving's exterior reflect sensitivity to the turn-of-the-century homes in the urban neighborhood.

Site development for Washington Irving Elementary IPS #14 provided separate bus and parent drop-off areas. Ample parking in the rear of the school provides community access to the public realm of the building, including the gymnasium and the community room.

What Do We Do With The Coats?

A perennial dilemma in schools everywhere, coat and backpack storage is certain to create confusion for students and headaches for teachers if appropriate space is not included in or near classrooms. Many elementary schools shun the use of metal lockers, because of the noise they create and the potential for pinched fingers. Instead, primary schools are turning to a variety of "cubby" options, including rows of cubbies within a classroom or larger cubby stations, or "mud rooms," within classroom wings or pods.

New elementary schools in Hammond, Indiana, such as Maywood Elementary School, feature large "mud rooms" in each of the pods. Located next to the exits, the spaces provide double rows of hooks for backpacks and coats; as well as shelves for shoes, hats, and lunchboxes. Use of the vertical space is maximized through the installation of cabinetry for supplemental classroom storage. While teachers point to the need for supervision of these areas, mud rooms provide an efficient storage solution without taking up valuable classroom space.

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Grades one through five at Anna Elementary School in Anna, Ohio, feature storage areas and cubbies separated from the classroom by a partial wall. Classrooms for kindergarten students (below) include cubbies within the classrooms.

Rows of wooden pegs adjacent to the cafeteria at New Britton Elementary School near Fishers, Indiana, allow students to exit the cafeteria and head straight for the playground. Exposed hooks or pegs should always be positioned to avoid eye-level contact with children.

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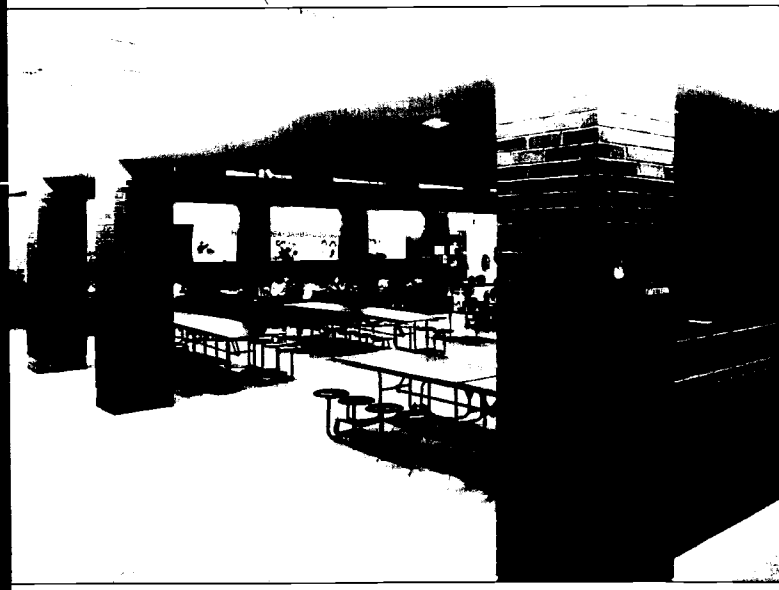
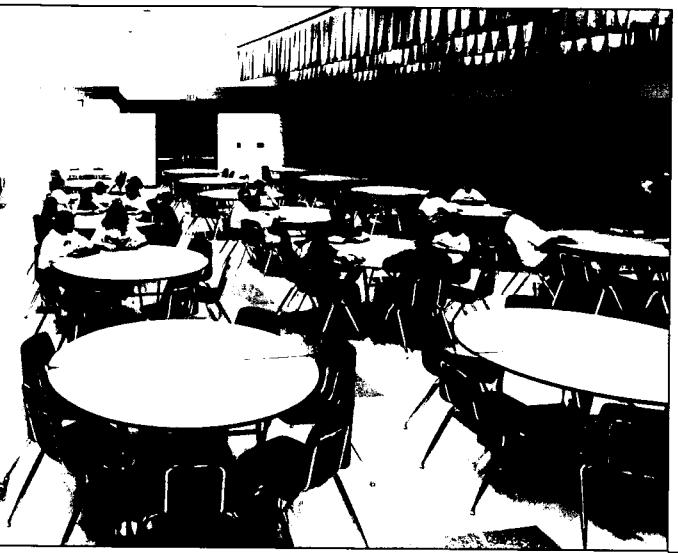
"Let's Eat!"

Lunchtime gatherings mark a daily highlight for many young children, as cafeterias, like playgrounds, present unstructured and open settings for social interaction. At the elementary school level, many cafeterias also serve as multi-purpose rooms that house school assemblies and small-scale productions. Adjacent storage rooms and portable furnishings make rearranging the cafeteria space easier, enabling staff to set up for a variety of programs and meetings. Circulation and flow are also critical factors in designing cafeteria spaces. Logical queuing pattern options help prevent children from gathering in crowds or jostling each other as they go through the cafeteria line and keep the lunch hour moving smoothly.

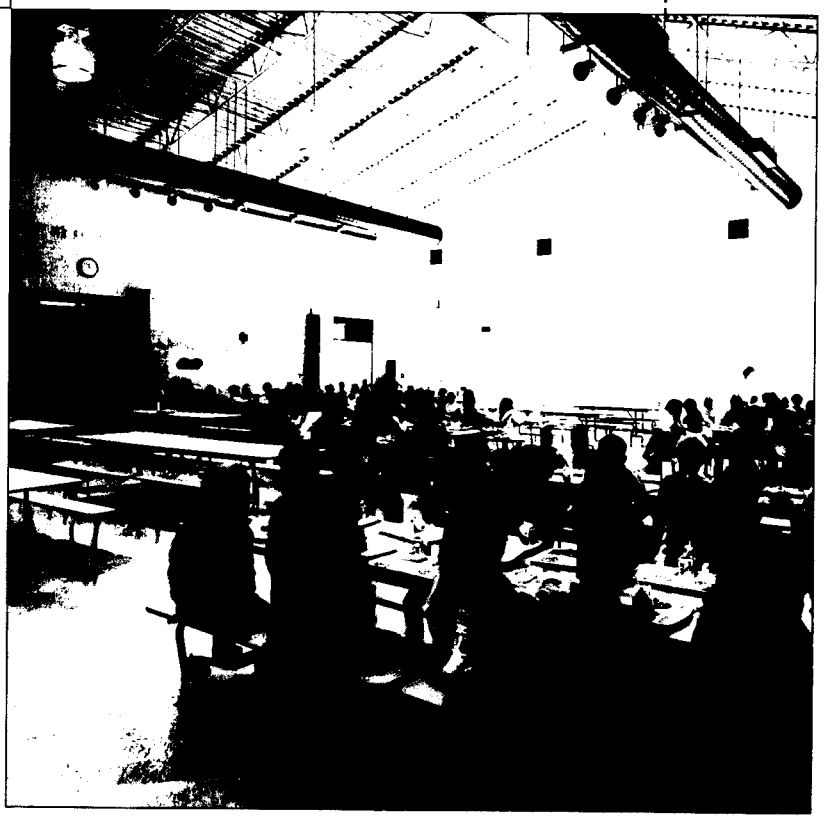
Many schools, such as Horizon Elementary School in Granger, Indiana, are now opting for round tables in cafeteria settings. The tables feature legs with castors and can be folded in the middle, facilitating transport and storage. The round tables offer a less institutional seating arrangement, and can help with noise control: "An interesting feature of our new cafeteria has been the change in the seating," says Steven E. Carroll, principal at Hillcrest Elementary School in Delphi, Indiana. "With the circular dining tables, instead of the long ones, the noise level is much better—it's more conversational."



Children at New Britton Elementary School gather at long tables with attached stools. Stool seating, as opposed to benches, can help prevent children from pushing into each other by creating small distances between them. Typically available in lengths of 12 or 16 feet, the tables fold in the middle for storage. Special units without stools are available to meet accessibility requirements. Acoustical wall treatment (here in a bright striped pattern) helps with noise control, and is an essential design element in large spaces with vinyl or porcelain tile or other hard-surfaced flooring options common in cafeterias.



Weston Elementary School, in Imlay City, Michigan, features bench seating with long tables in the cafeteria. Custodial staff often show a preference for the fixed benches, as the streamlined design simplifies the chore of cleaning floors each day.



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Timmons Elementary School; Chagrin Falls, Ohio

"Parents want to make sure their children are in a safe environment—a warm and nurturing environment," says Dr. Craig Phillips, former principal of Timmons Elementary School in Chagrin Falls, Ohio. "This building catches your breath the moment you walk in—it welcomes you."

Designed for 750 students in grades 3-5, Timmons Elementary School features three separate classroom pods to accommodate each grade level. Each pod contains its own group activity area, restrooms, and teacher workroom and office. A library/media center is located in the middle of the academic wing facing the wooded area. Noisier areas, including a gymnasium that seats 700 people, are segregated from the classroom wings.

Each pod is color coded in bright blue, red, or green; and each features a different shape as an accent: circle, square, or hexagon. Colors are repeated in the school's carpeting, tackboards, and signage. Even the warm beige paint features a multi-color "speckled" effect, diminishing the institutional feel of masonry block walls. "We love the interior of this building," Phillips says. "It's not a Taj Mahal in terms of expensive materials. We used basic building products—nothing unusual—and translated those into a very exciting environment."

The three primary colors that carry throughout the school are introduced in the spacious lobby.

The school's mu
reflects the rib
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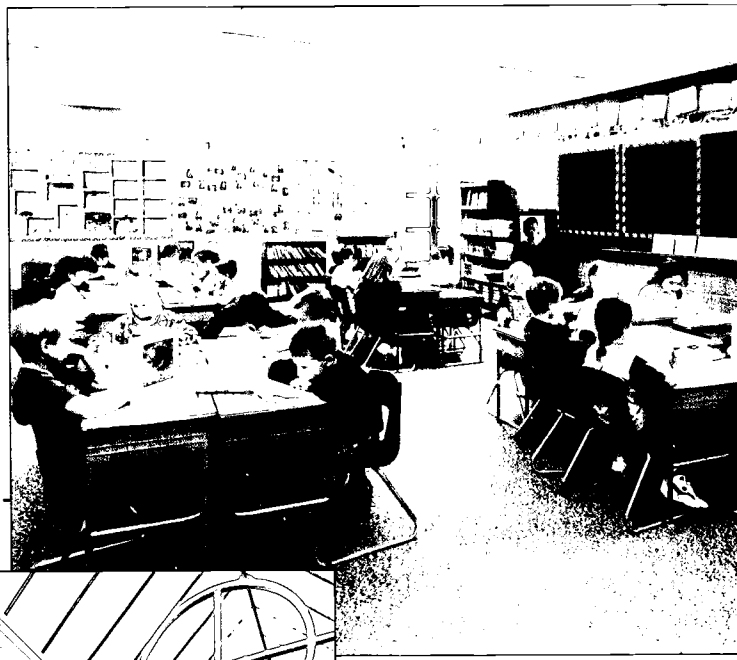
Each academic pod at Timmons features its own color scheme (red, blue, or green) and geometric pattern in the ceiling grid system layout.

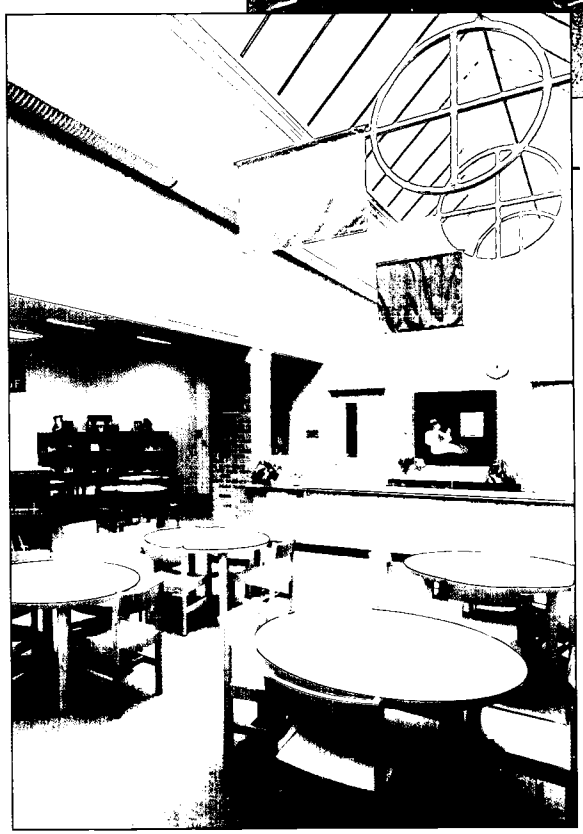
Timmons Elementary School houses three grade levels of students in three separate pods. Public areas, such as the gymnasium and the dining/commons area, are located in a fourth wing. Each academic pod has its own activity area, teacher workroom, and office.

Glass-enclosed display cases, which reflect the color schemes of the pods, contain student artwork and exhibits.

CARPET

Carpeting in classrooms at Borland Elementary School in Imlay City, Michigan, helps with noise control. Sled-based chairs glide easily over carpeted surfaces and work well in a classroom setting. "Carpeting is an educational tool," says Tom Smith, principal at North Harrison Elementary School in Ramsey, Indiana. "It's quieter. Our children also spend a great deal of time on the floor—carpeting greatly expands the kind of work they can do."





The media center at New Britton Elementary School features light oak furniture and finishes, setting a warm, inviting tone for the space. The media center has a multi-color loop nylon carpet with cut pile circles that create color accents and mark the location of additional tables (upper left).

Cut pile carpet insets provide a decorative yet functional accent within this classroom at Suncrest Elementary School in Frankfort, Indiana. Students are seated at "flower"-shaped tables.

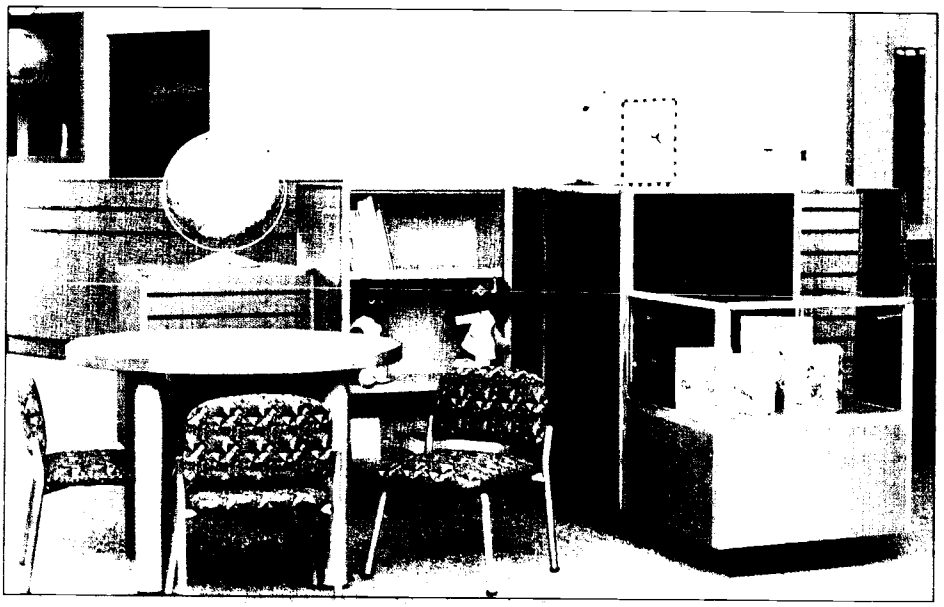
Solid-color carpet insets provide a dynamic accent to the entry space at Suncrest Elementary School.

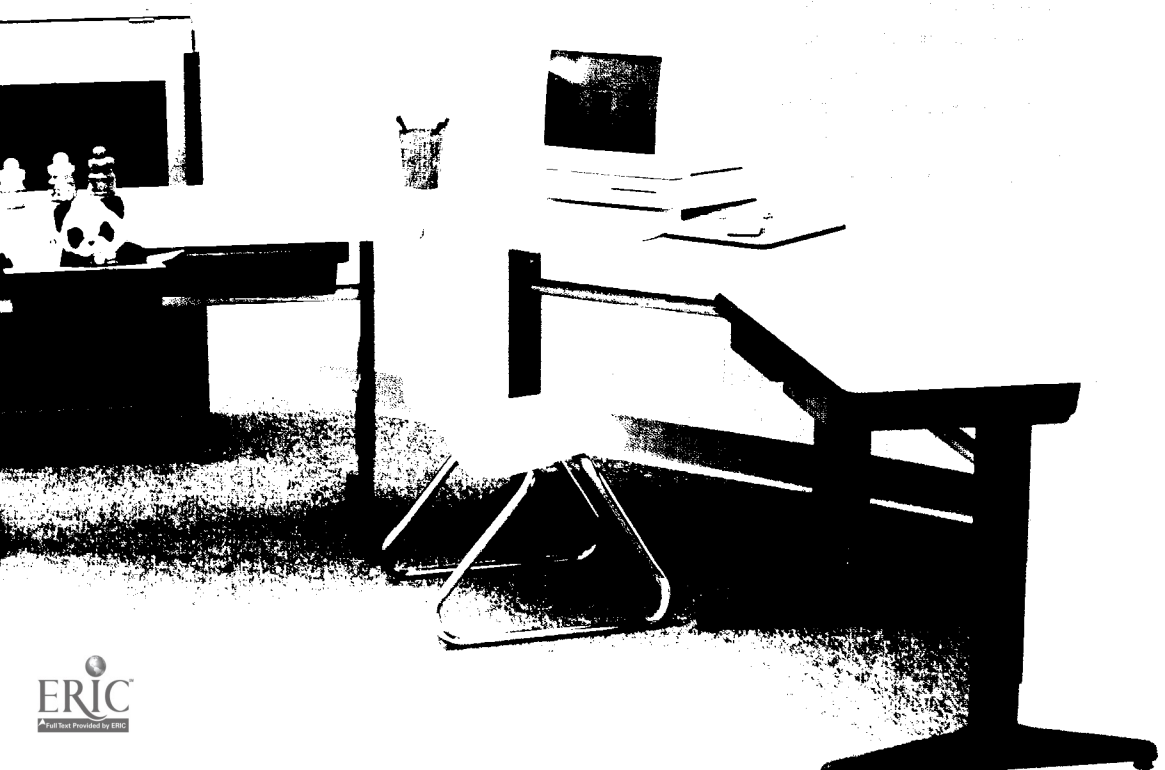
FUTURE

Flexible workstation furniture allows for a variety of room arrangements in this computer lab at Springfield Elementary School in Michigan City, Indiana.

Light oak carrels provide comfortable workstations within the media center at Woodbrook Elementary School in Carmel, Indiana.

Flexible display units designed for media centers in the Hammond, Indiana, elementary schools are portable modules in primary colors. The units offer storage and visual interest at an appropriate height for young children, and also serve as partitions for subdividing larger spaces.



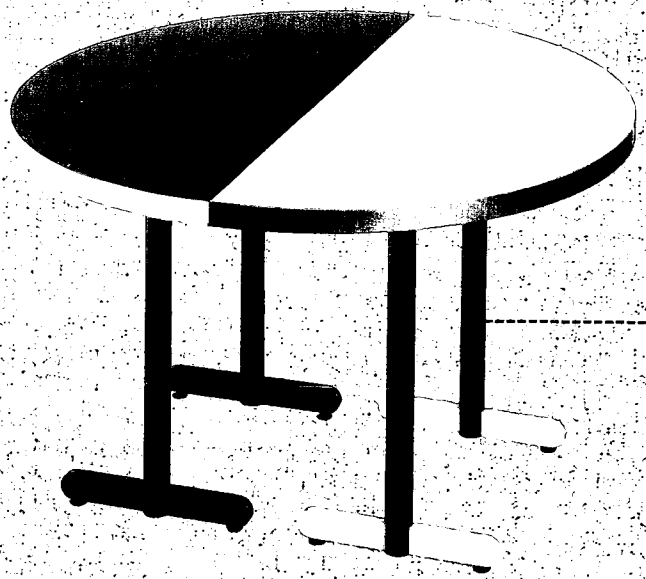


Custom-designed furniture solutions for elementary schools include components such as adjustable height workstations with storage bins. The mobile teaching cart at left features a chalkboard on one side and a markerboard on the inside of the lid. The cart's other side includes storage for books.

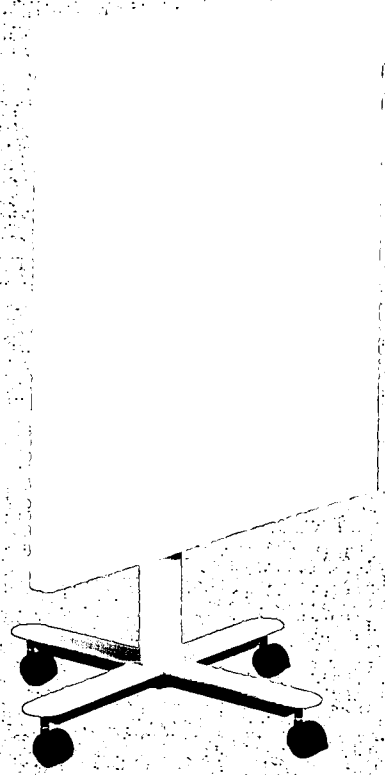
What Kind of Place is This?

Durable chairs are available in a variety of heights, ensuring that children will be comfortable in classrooms and media centers.

Many school systems opt for vinyl instead of fabric upholstery in elementary school chairs in media centers and other support areas. Vinyl holds up well to moisture and spills, and cleans easily. The quality has improved over the years: many vinyl options are nearly as soft as fabric, extremely durable, and available in a wide array of colors and patterns.

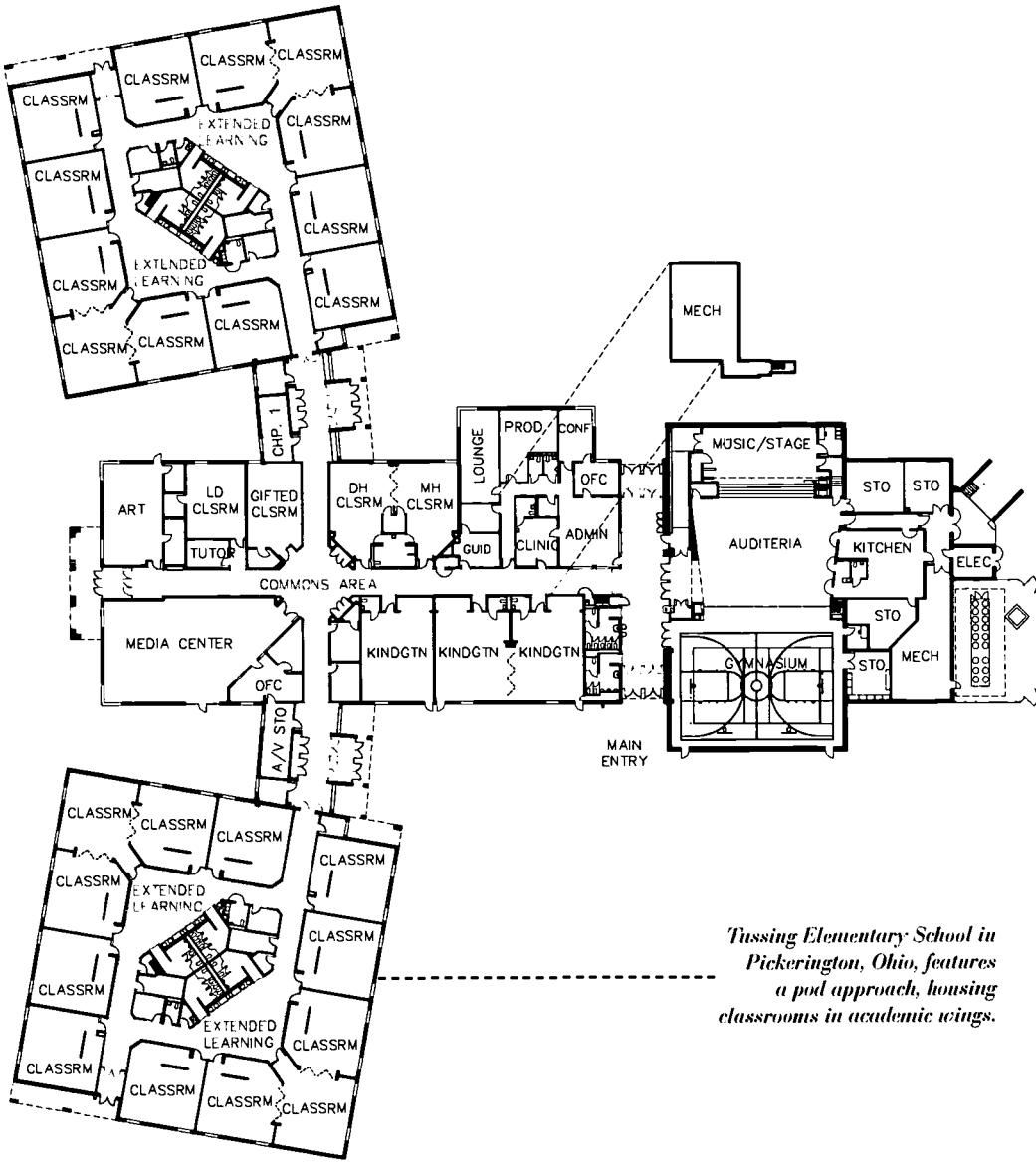


Tables with folding mechanisms, as opposed to a fixed base, are available in round, square, and rectangular options. The durable tables also come in folding or tilt-top options, and can be ordered with castors. The tables also feature a hydraulic lift mechanism that enables the height to be adjusted.

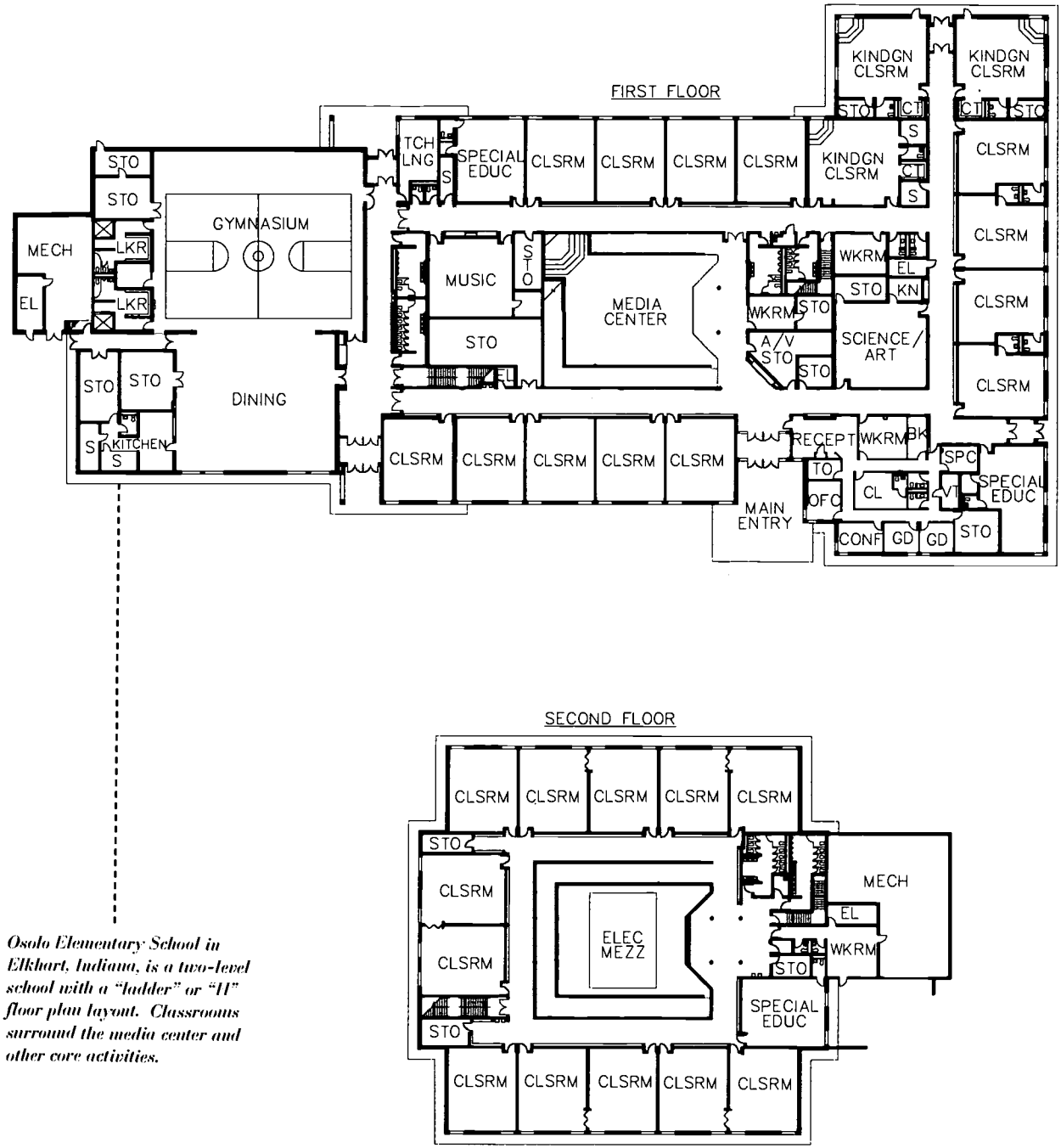


A portable cart on casters enables teachers to move computer workstations from room to room on castors. With the doors open, a teacher can draw up a stool to sit at the unit.

FLOOR PLANS

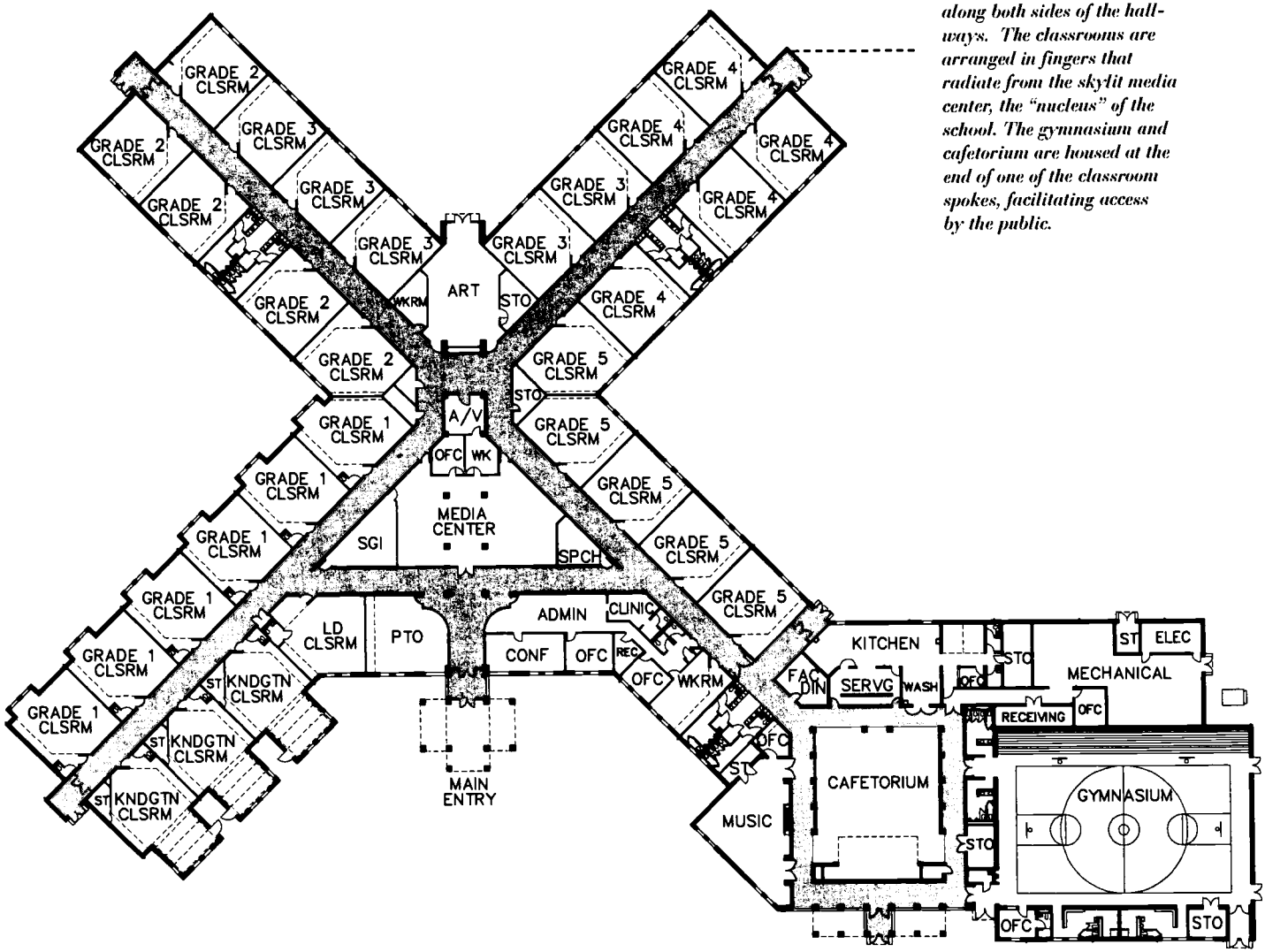


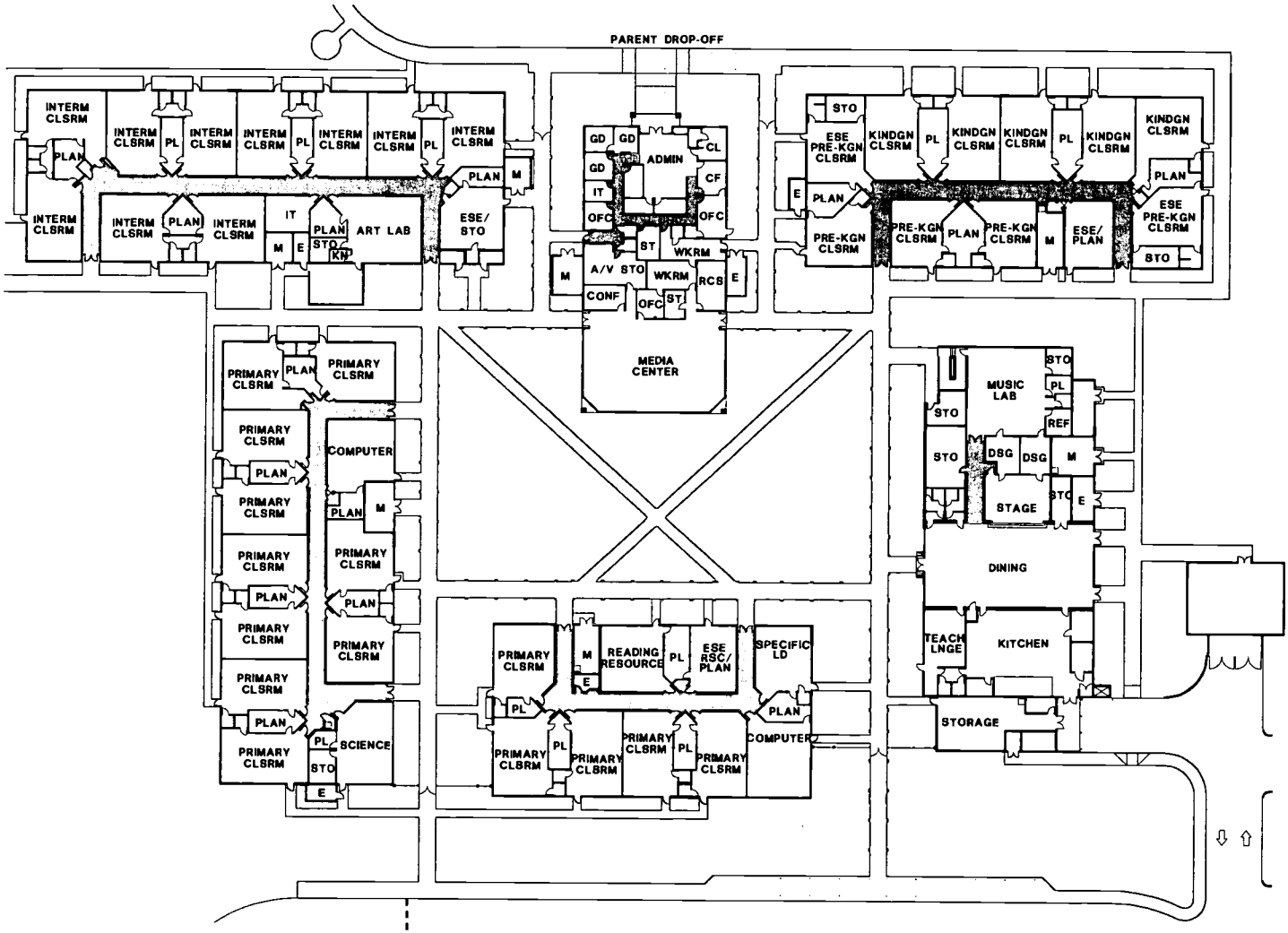
Tussing Elementary School in Pickerington, Ohio, features a pod approach, housing classrooms in academic wings.



Osolo Elementary School in Elkhart, Indiana, is a two-level school with a "ladder" or "H" floor plan layout. Classrooms surround the media center and other core activities.

New Britton Elementary School near Fishers, Indiana, features "double-loaded" corridors; classrooms run along both sides of the hallways. The classrooms are arranged in fingers that radiate from the skylit media center, the "nucleus" of the school. The gymnasium and cafetorium are housed at the end of one of the classroom spokes, facilitating access by the public.





Organized as a small campus, St. Lucie Elementary School in Fort Pierce, Florida, accommodates nearly 900 students in a series of independent buildings that enclose a central courtyard.

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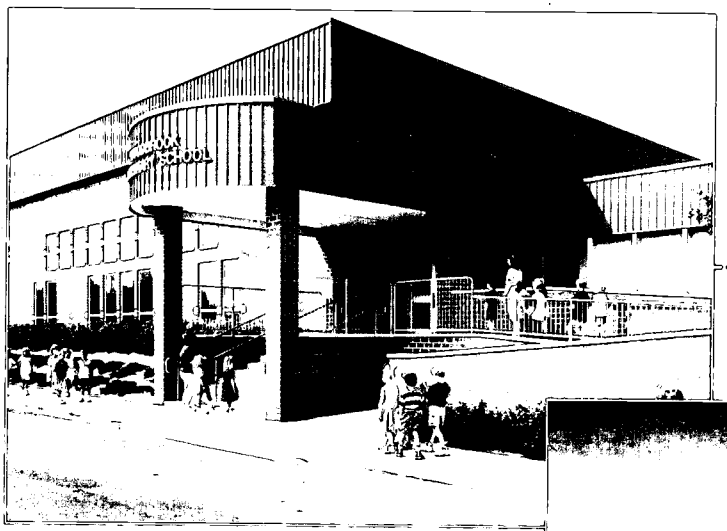
EXTERIORS

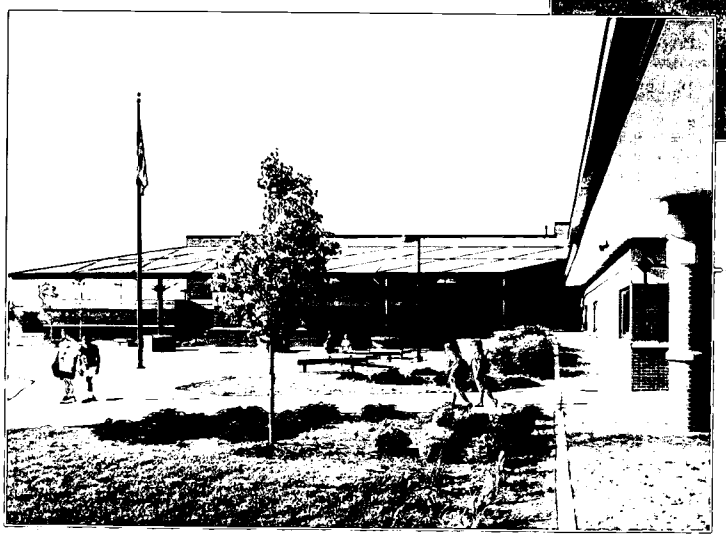
Design of North Harrison Elementary School in Ramsey, Indiana, takes advantage of the school's sloped site. The energy-efficient building is set into the hillside, offering an optimal shelter in the event of tornadoes and intriguing young students with its design year in and year out.

Many southern schools, such as McNab Elementary School in Pompano Beach, Florida, take advantage of the warm climate by incorporating exterior "corridors" or walkways as a part of the overall circulation plan.



Modernization of Woodbrook Elementary School included relocation of its main entry to a safer, more accessible location on the east side of the school—away from a busy street.

The gentle massing and residential nature of the exterior design of Cherry Tree Elementary School appeals to residents of Carmel, Indiana.



Children have the open plaza and welcoming entryway at Harrison Elementary School in Granger, Indiana.

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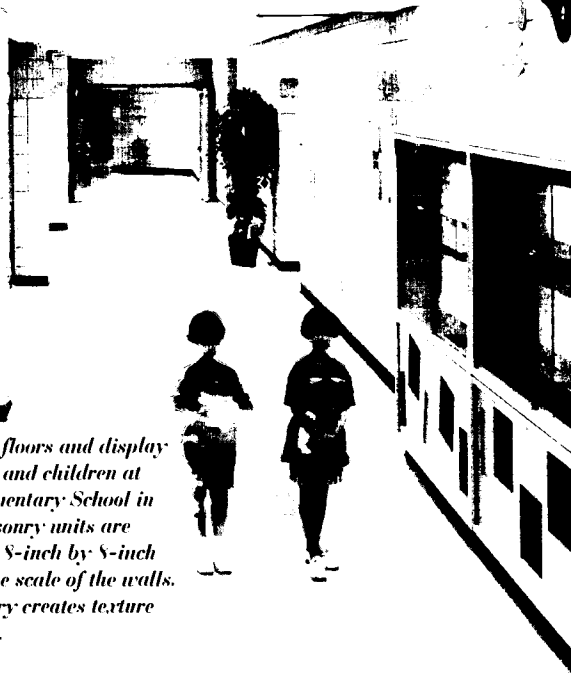
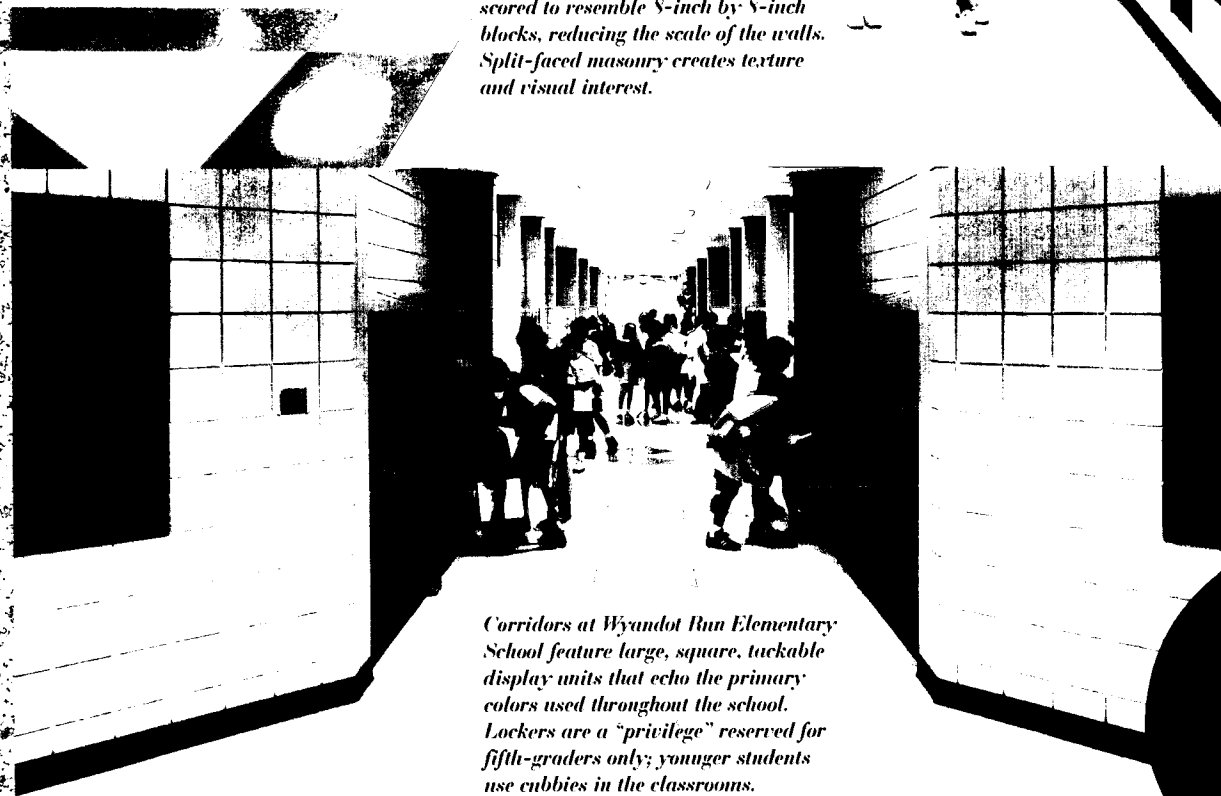
What Kind of Place is This?



Brightly patterned floors and display units greet visitors and children at Wyandot Run Elementary School in Powell, Ohio. Masonry units are scored to resemble 8-inch by 8-inch blocks, reducing the scale of the walls. Split-faced masonry creates texture and visual interest.



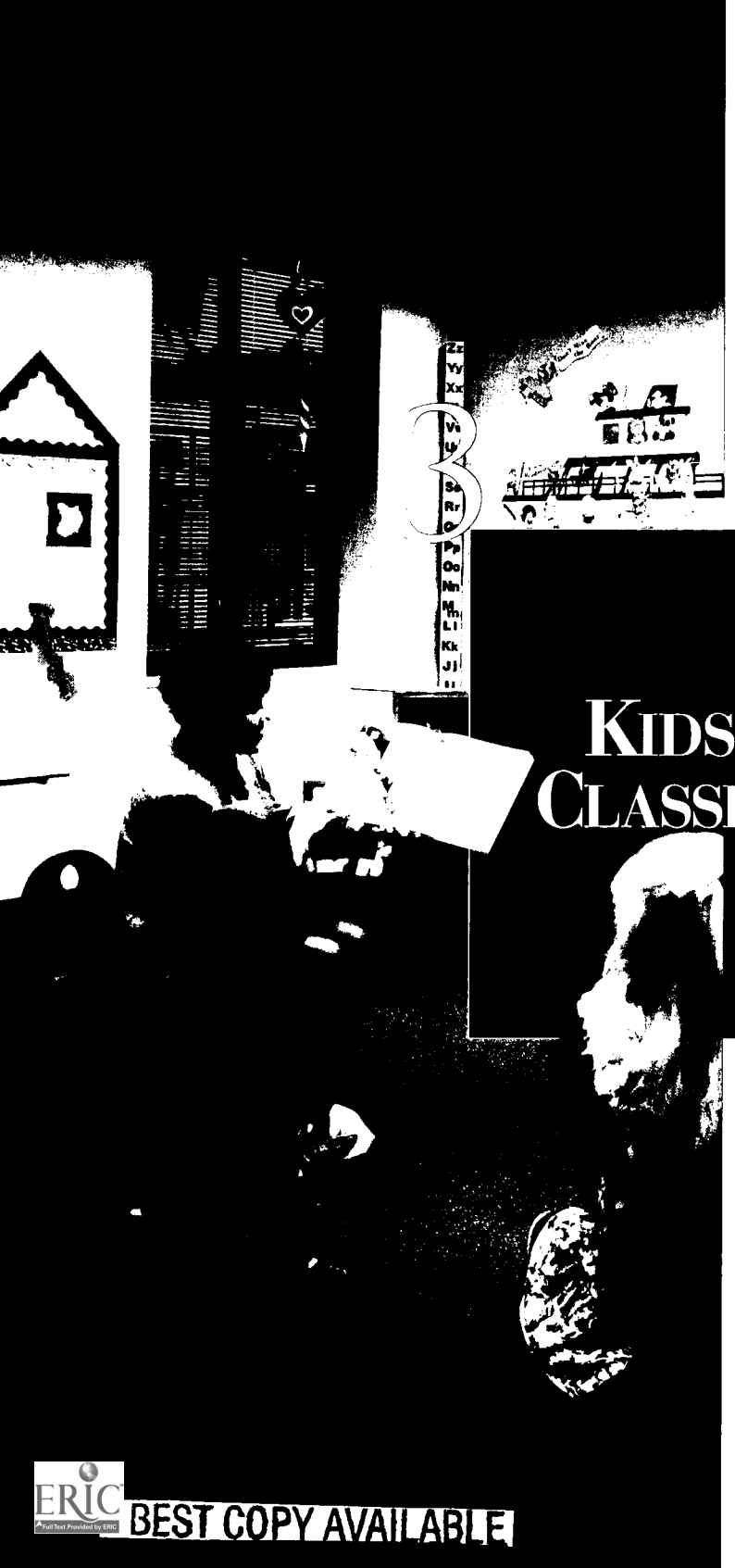
Corridors at Wyandot Run Elementary School feature large, square, tackable display units that echo the primary colors used throughout the school. Lockers are a "privilege" reserved for fifth-graders only; younger students use cubbies in the classrooms.

School mascots and logos can be silk screened onto plastic laminate on tables or used in signage details.

Many schools, such as Prairie Vista Elementary School in Harris Township, Indiana, opt for restroom facilities that feature shared, open sink areas for boys and girls, reducing the temptation to linger or play while visiting the restroom.

A bright, open lobby at Anna Elementary School in Anna, Ohio, welcomes students, parents, and community members. An electronic information kiosk offers highlights of the school's activities as well as a floor plan to guide visitors.

Children at St. Lucie Elementary School enjoy comfortable cushions in the media center. A brightly colored map of the United States is featured on a small accent rug.



KIDS AND CLASSROOMS

"I'LL NEVER FORGET THE LOOK ON MY KIDS' FACES WHEN THEY WALKED INTO THEIR NEW CLASSROOM... THEIR ATTITUDE ABOUT SCHOOL CHANGED FROM THAT MOMENT ON."

— Pam Coleman, Kindergarten Teacher, Twin Valley School, Ohio

"IF I DESIGNED A SCHOOL, IT WOULD HAVE ESCALATORS...so you could have five stories...**and a ramp and an elevator for the disabled...** HUMONGO CLASSROOMS...COMPUTERS IN YOUR ROOM...a big commons...**bumper cars...** AN INDOOR PLAYGROUND SO IF IT RAINS YOU CAN STILL PLAY...more play areas for the first-graders because the first-graders have more energy than anyone...BIG WOODEN FENCES TO KEEP THE SOCCER BALLS FROM GOING OUT...**a built-in fair with a ferris wheel and rides so if you were quiet all day, the next day you could go to the fair."**

—Fourth- and Fifth-Graders,
Alum Creek Elementary School:
Lewis Center, Ohio

Inset photo and artwork: Mr. Inhulsen's
Fourth and Fifth-Grade Art Class,
Patterson Elementary School:
Patterson, Michigan

THE OLD SCHOOL:

"In our old building, we had regular closets for storage, and everything was stacked in boxes. So you hoped you could remember to get whatever you needed out after school—dig out that one thing you needed and then use it with the kids. You didn't have any accessibility or organization."

THE NEW SCHOOL:

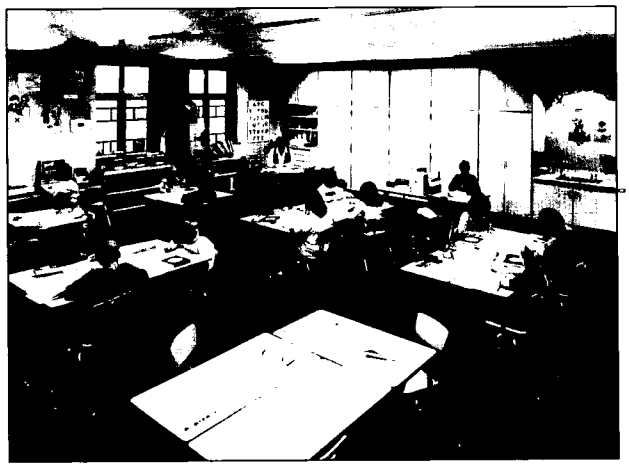
"The storage in and near our rooms makes such a difference. You know, teachers all want to teach the moment—sometimes something crops up, and you'd like to be able to reach right there and get what you need. Now you can just reach for it; it's not packed away in a stack of boxes."

—Katherine Stahl, Kindergarten Teacher, Maywood Elementary School; Hammond, Indiana

In a competitive, high-tech working world, lifelong learning has become imperative. Colleges and universities are welcoming students of all ages to pursue degrees, post-graduate work, and continuing education courses. Many communities offer their own public education programs for adults; and U.S. businesses, industries, and government agencies are investing billions in professional development curricula for employees through educational institutions and internal training initiatives.

Perhaps the most important, broad-reaching, and vital instruction of all, however, takes place day after day, year in and year out, in elementary school classrooms. As children begin formal education for the first time in their lives, the world of the primary school classroom holds tremendous power and promise. In many ways, the classroom environment impacts what and how much young students learn in those early, critical years; and helps to shape their views of education, society, and what their own futures might hold.

Decades ago, the rooms and related spaces that housed these potent learning activities consisted of little more than four walls and a tile floor. Furnishings typically included wooden desks, chairs, and bookcases; from there, imaginative and industrious teachers saw to it that the rooms functioned as smoothly as possible—energetically supplying their own brand of classroom personality and efficiency to bring barren classrooms to life.



Teachers agree that sinks in classrooms, such as this one at New Britton Elementary School near Fishers, Indiana, are a big time-saver. Teacher workstations, computers, and important files are kept away from the sinks.

Today, in new or modernized facilities, teachers find that they can rechannel that energy into more vibrant, meaningful instruction and interaction with their students and other teachers. Where time and effort were once spent in rearranging and setting up rooms to accommodate a special project or group activity, teachers are now able to move easily through a number of activities—storytelling, artwork, computer lessons, and science projects—all within the same classroom and without the disruption of moving heavy furniture, searching for supplies, or setting up and dismantling equipment. Classrooms are flexibly designed to accommodate simultaneous activities, and to embrace both small- and large-group activities.

Children at St. Lucie Elementary School in Fort Pierce, Florida, enjoy a variety of learning centers in their classrooms.

Flexibly designed classrooms at Washington Irving Elementary IPS #14 in Indianapolis, Indiana, feature a mix of floor surfaces and a variety of cabinetry and shelving. Many teachers use low-rise book shelves and display units as dividers to partition rooms and create cozier spaces.

THE OLD SCHOOL:

"The acoustics were terrible in our old classrooms. We had high ceilings and wood floors."

THE NEW SCHOOL:

"With the carpeting and the acoustics we have now, teaching is much easier. It's less tiring—we don't have to teach by yelling. I think it really changes how children perceive our teachers."

— Alan Jackson, Principal, Suncrest Elementary School; Frankfort, Indiana

In many ways, contemporary classrooms differ dramatically from those in schools built years ago. Some of the differences stem from federal and state guidelines and regulations that stipulate, for example, larger classrooms, classrooms that are fully accessible, and minimum requirements for natural light. Classroom design has also evolved in response to technological demands, including use of computers and multi-media instructional tools.

Many significant changes have also emerged over time as a result of teachers participating in the planning and design process, and coming forward with practical ideas for improving the basic structure, layout, finishes, and furnishings of a classroom. These concepts and suggestions often lead to greater flexibility, productivity, and efficiency within each room. Cabinetry, shelving, flat files, and other storage spaces; sinks; cubbies for coats and backpacks; flexibly designed furniture; display areas; variable lighting; and a variety of floor treatments now support a broader array of learning activities.

"I was in a modular classroom last year," says Sara Keaney, a first-grade teacher at Alum Creek Elementary School in Lewis Center, Ohio. "I'm thrilled to be in my new classroom. I can arrange the furniture just the way I need it; I have more storage; I can display all kinds of things on the walls. There's an opportunity to be so much more creative."

"Good facilities are an 'enabler,'" emphasizes Monty Schneider, superintendent of the North Harrison Community School Corporation in Ramsey, Indiana. "They enable teachers to do so much more—and it's not just what they do, but how they're able to do it. We have a 'semi-open' classroom concept at North Harrison Elementary School. With movable walls between the classrooms, teachers are able to bring classes together and share resources and expertise."

Two kindergarten classroom additions at Woodbrook Elementary School in Carmel, Indiana, feature well-lit "story stairs." The connected classrooms allow kindergarteners from both classes to share computers and other resources. Kindergarten classrooms are typically larger than rooms for other elementary school classes, with the average size running 1,100 square feet. Classrooms for grades one through six are usually closer to 900 square feet.

Operable walls at the newly renovated Woodbrook Elementary School offer the flexibility to open up or close off classrooms from one another. "Before the renovation, our classrooms were completely open, and it called for a lot of compromises," says Principal DeWayne Akin. "If one teacher were doing a 'fun activity,' the next teacher had to do it as well. Everyone had to do a quiet activity or a noisy activity together. Now there are options to work independently as a class or as a larger group."

THE OLD SCHOOL:

"Parents used to write notes to us asking, 'Why are my kids coming home from school so dirty?'"

THE NEW SCHOOL:

"Everything is much cleaner here. Teachers actually feel that they can dress up a little more. The kids stay cleaner, even when they're sitting on the floors. And they seem to have taken ownership—they try not to track in mud or put their hands and feet on the walls. I've really noticed a change in their attitudes—I think there's a lot of peer pressure to keep the school looking nice."

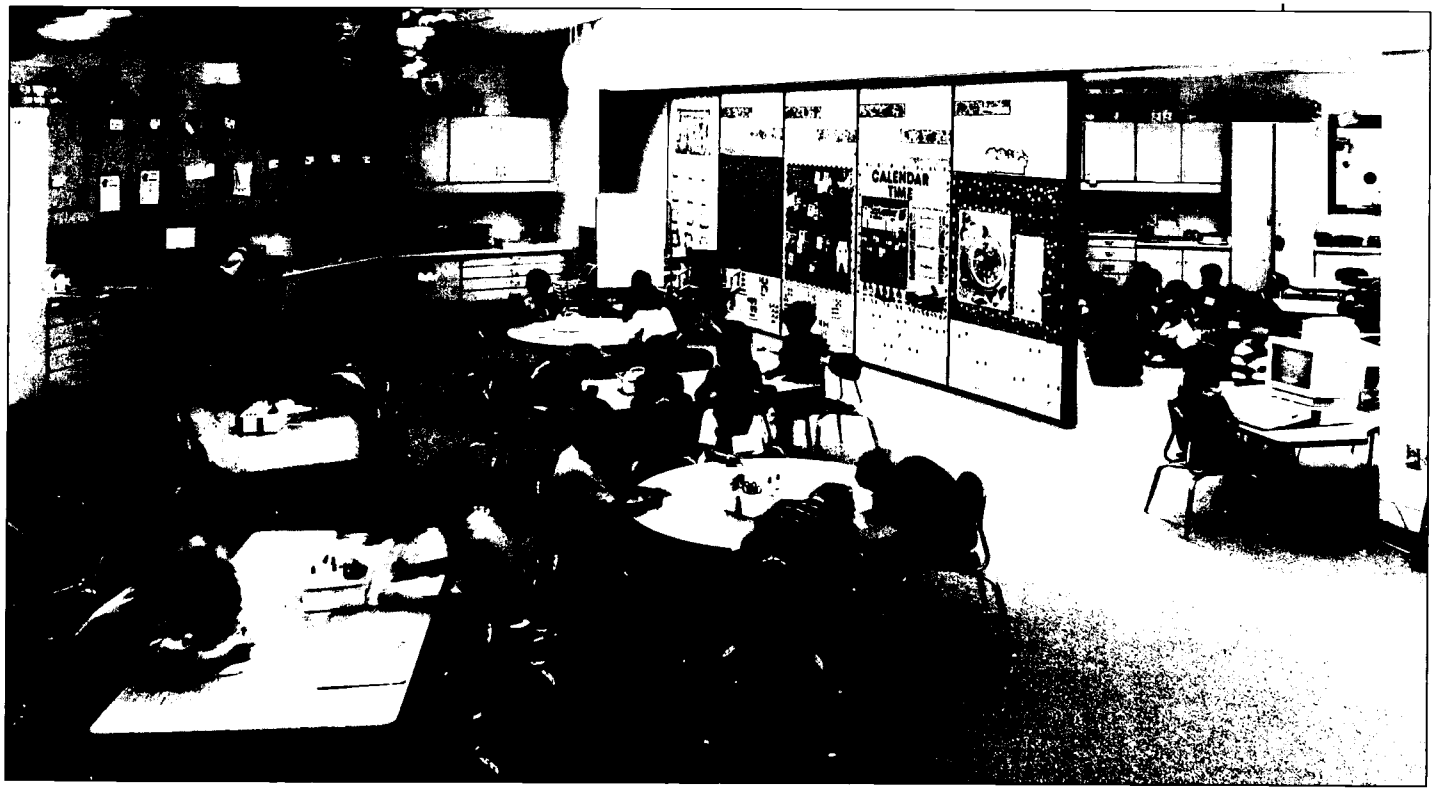
—Mary Jo Giesler, First-Grade Teacher, Sunerest Elementary School; Frankfort, Indiana

Tom Smith, principal at North Harrison Elementary School, elaborates on the team teaching approach: "We found that our teachers tended to be isolated," he says. "There was very little cooperation. Since building this school, our pod structure for clustering grade levels and the movable walls in the classes have really changed that. The teachers have come to rely upon one another, and take responsibility for more children. Discipline has improved. Where two classrooms are open to each other, the students are able to get the best of both teachers."

"Our operable walls are the biggest bonus we have," says Shirleann Fahrenholz, a first-grade teacher at Twin Valley School in West Alexandria, Ohio. "By opening up our rooms, we can take advantage of so much more space. The teacher in the next classroom and I partially open up the wall between us for special project days. She sets up a couple of stations and I set up a couple of stations, and then the kids rotate around to different activities. We recently had a fall theme, where we did finger-painting and seasonal crafts. Instead of trying to set up four stations in each room, we only needed to set up two each. There are more kids involved, but it's still quieter and less hectic. They move around so easily."

Kent McIntire, principal at Twin Valley, points out that the options of opening the walls partially or fully, or merely opening a built-in "pass door" in between, provide teachers with the flexibility to try a number of approaches. "But it's quiet when the wall and door are all the way shut—I'm amazed at that," he says. Fahrenholz adds that the pass door is a plus when one teacher needs to leave his or her classroom briefly: "It may not seem like a big issue when we need to go to the office or the restroom for a few minutes, but when you have 24 children in a classroom, it does make a difference. Now we can just open up the pass door and give a quick wave to the other teacher, and she'll know to keep an eye on the kids. You don't have to pace the hall between two classrooms any more."

Jim DuBois, principal at Elm Road Elementary School in Osceola, Indiana, also believes that the design of a school can help prevent "teacher isolation" and facilitate collaboration. During a comprehensive modernization and expansion, Elm Road transitioned from a cramped, circa 1950s layout with segregated classrooms to a facility that embraces educational flexibility. Academic activities are organized into learning "teams" of four or five classes, often involving group learning activities that bring several classes together. Each grouping of five classrooms is organized around an extended learning center, with operable walls between classrooms that allow restructuring of the space as needed.



Computer resources are shared between two classrooms at Joan Martin Elementary School in Hobart, Indiana. The operable walls also provide extensive display space.

THE OLD SCHOOL:

"In our old school, we used to get so hot. We didn't have air conditioning."

THE NEW SCHOOL:

"It's easier to work now because it's not as hot!"

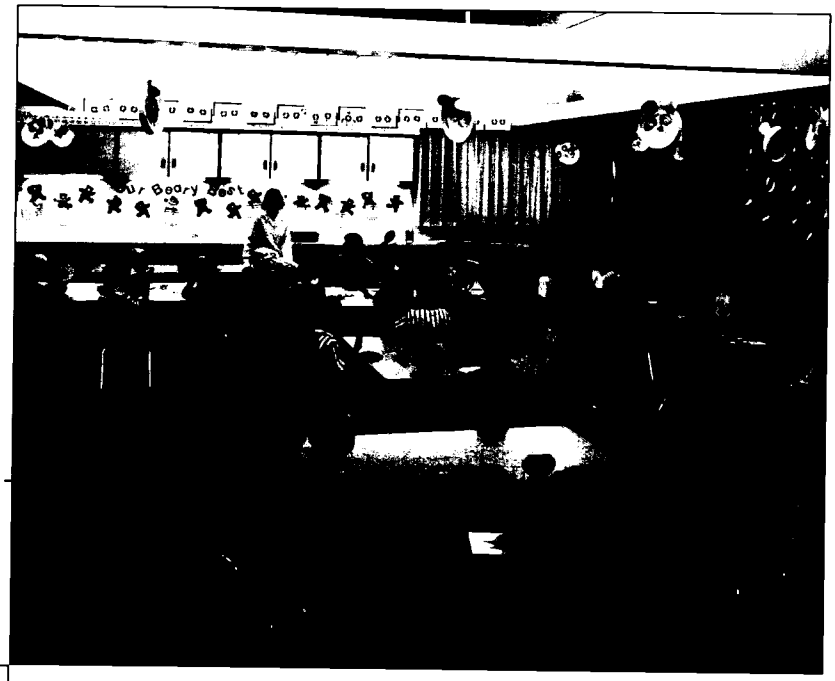
— Deanna Hoy, Fifth-Grade Student, Twin Valley School; West Alexandria, Ohio

"We have more of a sense of 'connectedness' in this school," says DuBois. "The pod concept and the extended learning areas have worked well for us. It facilitates hands-on learning." Sandra Cook, assistant principal at Elm Road as well as nearby Horizon Elementary School, points out a variety of activities as she walks through each of the pods, which together form a seamless loop from grade level to grade level. "The walls between classrooms are often open," she says, and points to the numbers of children who spill out into the extended learning centers as well. "The kids can work independently or in groups on math or science projects, computer programs, reports... we also have parent volunteers in here on a regular basis working with the children, typically in the extended learning spaces."

Many teachers and administrators note, as Cook does, that open, flexible learning spaces are not only more conducive to active learning, they're attractive to the community and in particular, parents and other volunteers. "Our school is very parent-friendly, and community-friendly," she says. Jim DuBois adds, "One of our goals for student enrichment has been enhanced involvement of parents. We want to reach out to the community, and we want to be sure that parents feel welcome here."

"I didn't realize what an impact a classroom could have on children until we moved into our new school," says Roseann Williams, a teacher of learning disabled children at Twin Valley School. "Our kids are doing better and they're much more attentive. It's so much more pleasant. In the old classrooms, they were easily distracted with the clutter and the problems with heating and no air conditioning. If something were happening outside—a siren, for example—they were much more interested in that. Or it would get so hot, they'd fall asleep in the afternoon. Now, they stay focused. They're comfortable. They're comfortable in their homes—why shouldn't they feel the same way at school? And they're proud of their classrooms, their desks, their work on display—they feel much more valued here."

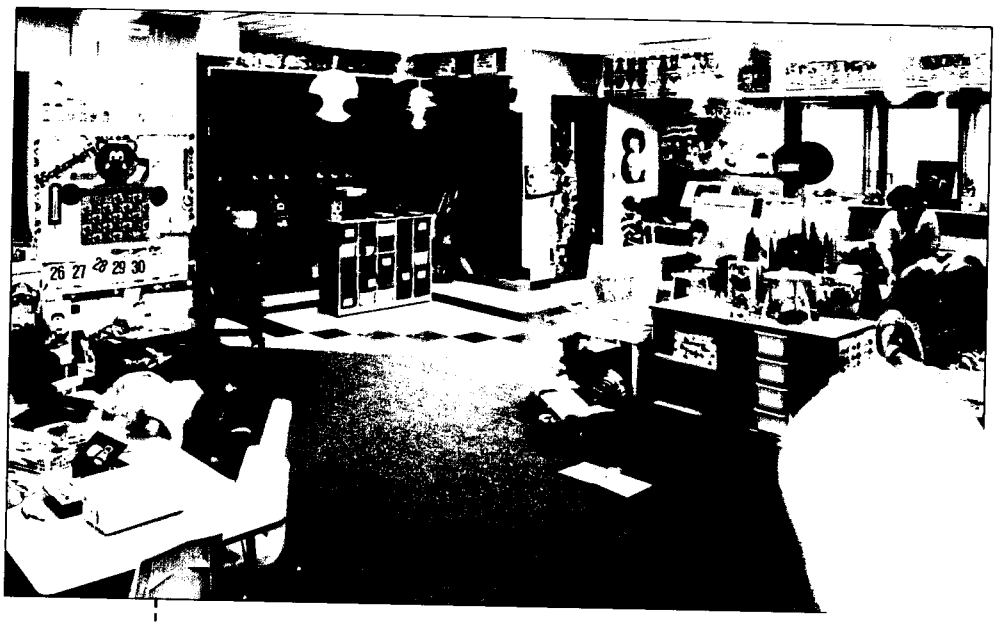
Extensive renovations at Elm Road Elementary School in Osceola, Indiana, created larger, more flexible classrooms.



Brightly lighted extended learning areas in each pod at Maywood Elementary School in Hammond, Indiana, allow for a variety of instructional and play activities. The school has also set up recycling stations in each of the pods.

Lofts and story pits are increasingly popular in kindergarten and many first-grade classrooms. Much like climbing a tree, the lofts enable children to explore and view their classrooms from different perspectives. Glass walls surrounding the loft, such as this one at Three Creeks Elementary School in Lowell, Indiana, allow teachers to watch over children as they play. Many teachers reward good behavior by allowing independent play or reading time in these special areas.

Teachers at Wyandot Run Elementary School in Powell, Ohio, as well as nearby Alum Creek Elementary School, find that a colorful alphabet circle is a built-in instructional tool. Created as carpet or tile insets, the circles allow for movement-based learning, while also facilitating "circle time," a favorite daily activity in many classrooms. Children at Wyandot Run also enjoy bright, primary colors in classrooms and corridors.



Many teachers take every opportunity to create display space, as shown above at the Whiting Athletic Complex in Whiting, Indiana, where the community's three kindergarten classes are located. A combination of tile and carpet supports a variety of activities.

Suncrest Elementary School; Frankfort, Indiana

"This building absorbs children," says Alan Jackson, principal of the new Suncrest Elementary School in Frankfort, Indiana. "Our previous facilities were overwhelmed by the children—with noise, dirt, and crowded hallways. Now children and teachers can really be at their best."

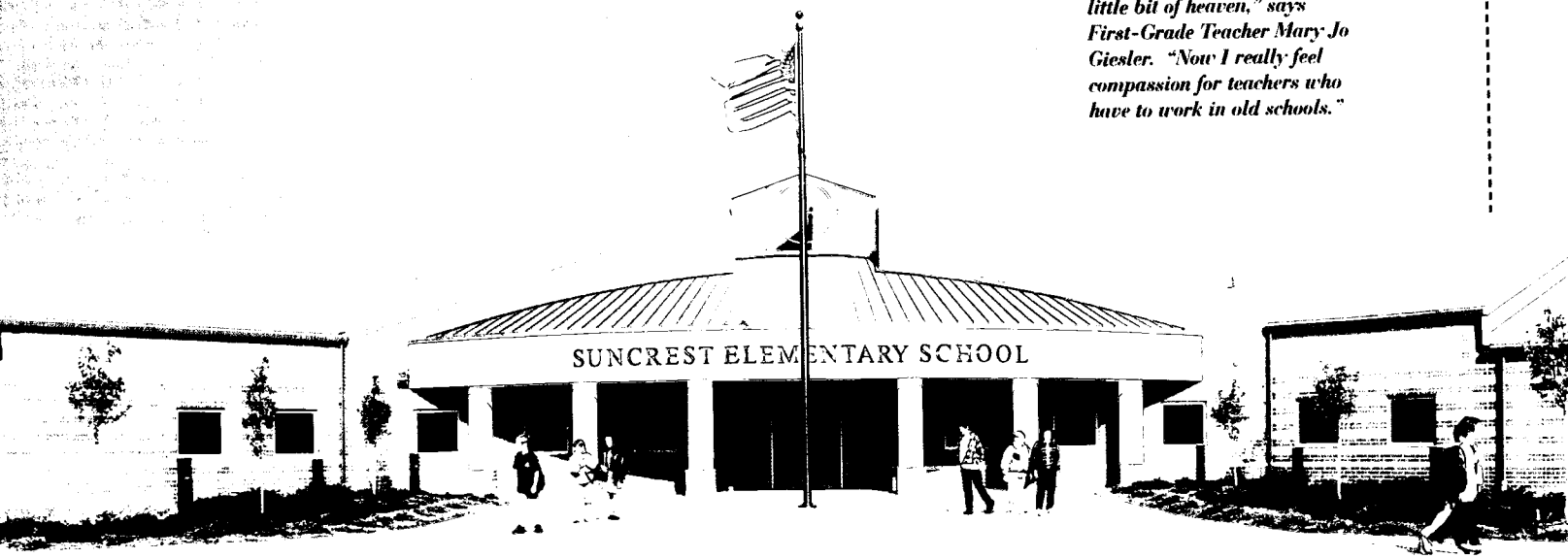
Large enough to house 700 students, Suncrest Elementary School was completed in 1996 to replace two aging facilities—one school built in 1898 and another in 1921. The new school is designed in three wings, clustering kindergarten and grade one, second and third grade, and fourth and fifth grade. Facilities include a large media center at the heart of the school, an art room, a computer lab, a community room, a gym and cafeteria with a shared stage, and a full-service kitchen.

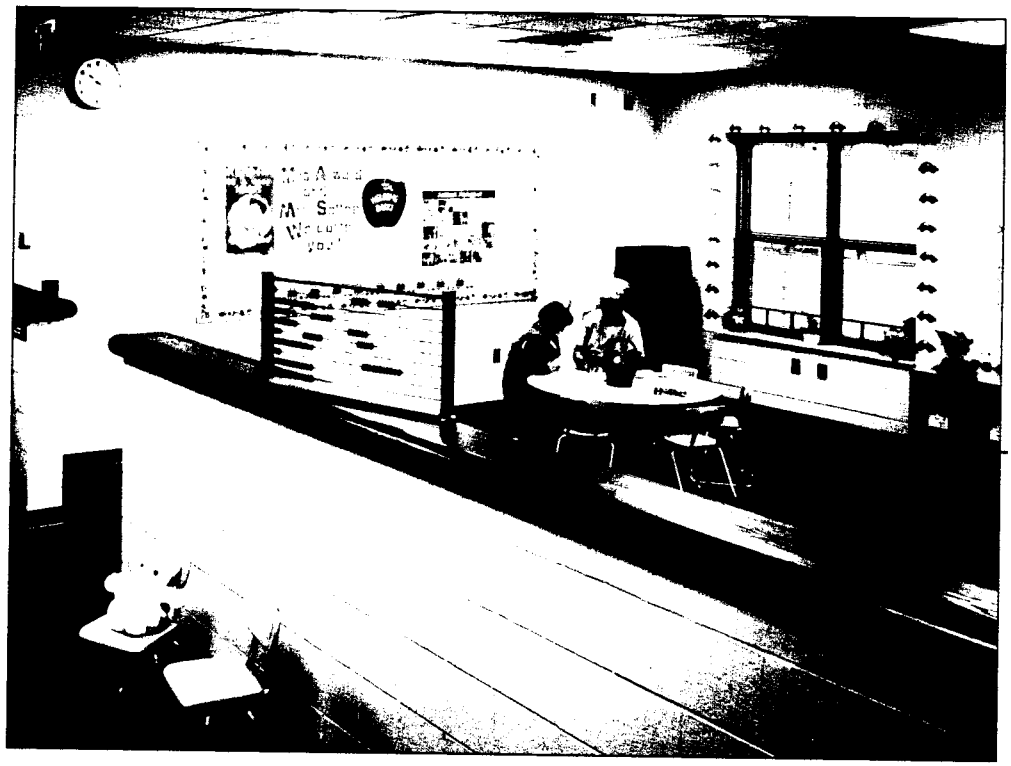
Teachers and administrators involved in the planning process for Suncrest presented many suggestions for enhancing the building's functionality and streamlining time spent on day-to-day responsibilities. Large storage areas in each wing are also used as work-rooms for class preparation. A conference room in the main office facilitates staff meetings. Small-group instruction spaces are located at the ends of corridors, permitting instructors and volunteers to work one-on-one or in small groups.

Joe Dixon, superintendent of the Community Schools of Frankfort, points out that many of these details have made a big difference in the school's environment and to the reception it has received in the community.

"It's exciting to come here," he says. "I just like to walk in and see all the children's work displayed up and down the hallways, which is so important in an elementary school. We made decisions to have a lot of display space; to create the SGI (small-group instruction) areas that would help to bring in volunteers; and to welcome the community by setting aside space for scouting, the PTA, and special classes. Our first open house was packed with people, and that excitement has continued through the year."

Faculty and administrators at Suncrest Elementary School find the facility much more accommodating and flexible than the circa-1898 and 1921 schools where they previously worked. "I feel like I'm in a little bit of heaven," says First-Grade Teacher Mary Jo Giesler. "Now I really feel compassion for teachers who have to work in old schools."





Small-group instruction areas were placed at the ends of hallways in each wing, permitting teachers and volunteers to work one-on-one with students as needed. Suncrest welcomes a number of volunteers from the community, including senior citizens and representatives from local businesses. The SGI space is open and accessible, yet a partial wall defines the space and provides a sense of formality. Large windows offer plenty of natural light. "Setting up the SGI spaces here was one of the best decisions we made," says Principal Alan Jackson.

Classrooms at Suncrest support a variety of simultaneous activities—including independent desk work and computer learning—through flexible furniture arrangements, a mix of carpet and tile, and ample storage space that permits easy access to instructional tools and resources. While some teachers still prefer traditional chalkboards, many schools are incorporating white markerboards (shown at far left under flag), which minimize dust and allow for the use of multiple colors and as a projection surface. Either surface is typically magnetic; appropriate classroom lighting helps reduce glare. Many manufacturers now have ... marker/chalkboards available.

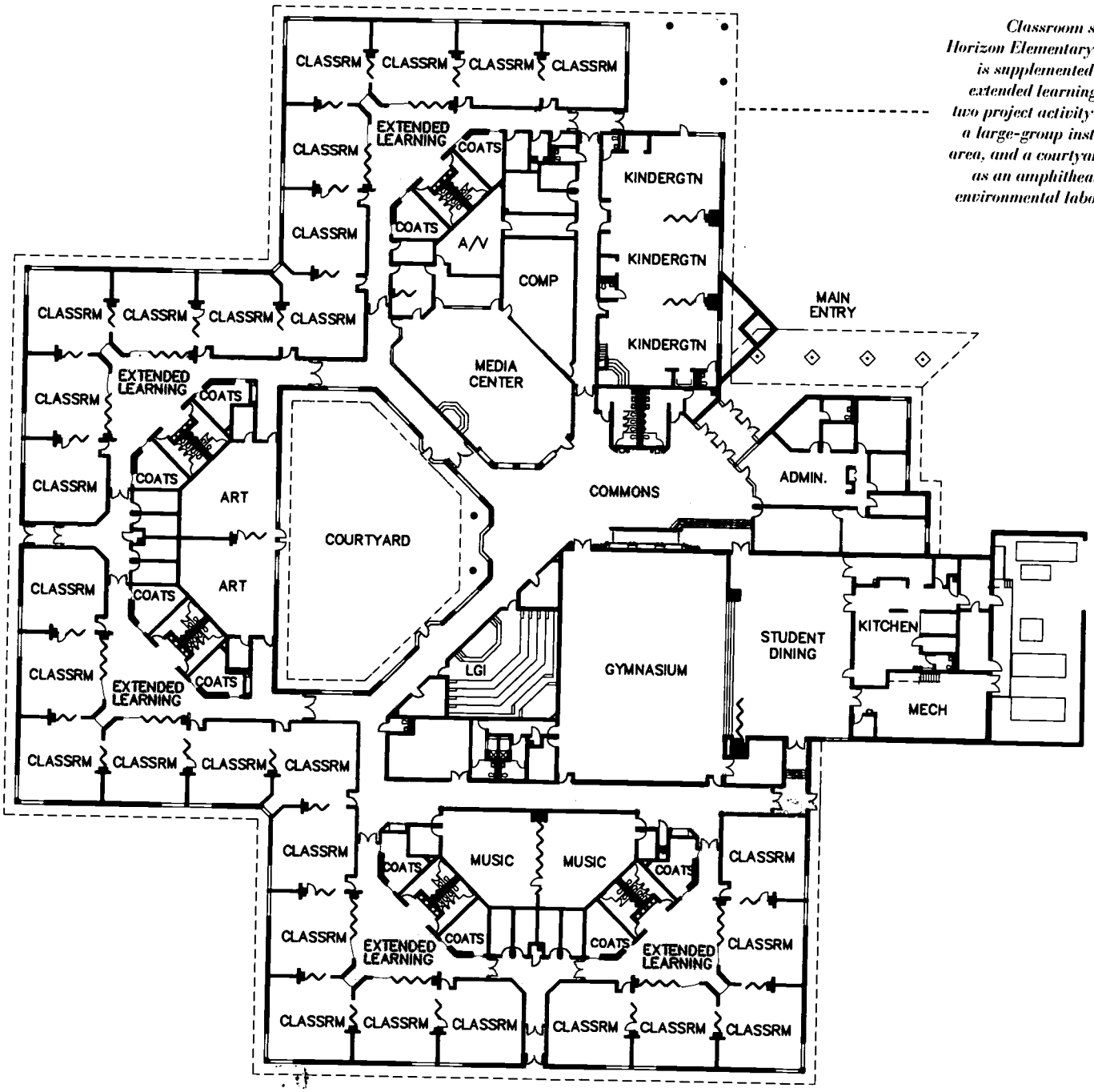
Horizon Elementary School; Granger, Indiana

Set in the midst of the rapidly growing community of Granger, near South Bend, Indiana, Horizon Elementary School opened its doors in the fall of 1996 to nearly 700 K-5 students. The 90,000-square-foot facility features clusters of up to five grade-level classrooms in a larger loop, as opposed to self-contained pods, allowing for flexibility in the number of classrooms assigned to a grade level from year to year.

Classroom flexibility also includes operable walls that support team teaching and large-group activities. "We often do large groups," says Julie Adams, a fifth-grade teacher. "Sometimes it looks like one big room in our area, because we open everything up to the extended learning center and move everything back. Whenever we need to talk to all the fifth-graders, we use the extended learning center instead of marching them all to another area."

"Our students get the best instruction from both of us," says second-grade teacher Phyllis Gartner, who team teaches with classroom "neighbor" Martha Bartels. "Each teacher can take the lead on the part they are strongest on, and the other teacher can assist or add comments. We isolate our groups for skill teaching, and do projects in smaller groups as well."

One of the three 1,200-square-foot kindergarten classrooms at Horizon features a loft and recessed seating area for reading and quiet play. Storage in the classroom includes cubbies for coats, backpacks, and gym shoes; an assortment of cabinets; and areas for children's homework and special projects. Another kindergarten room is designed with more tile flooring for "wet" activities, such as painting.



Classroom space at Horizon Elementary School is supplemented by five extended learning areas, two project activity rooms, a large-group instruction area, and a courtyard used as an amphitheater and environmental laboratory.

Horizon Elementary School; Granger, Indiana

"I feel that a school should be like your home," says Jayson Balsley, a third-grade teacher at Horizon. "The kids are here seven hours a day. The teachers are here at least eight hours a day. It should be a living environment. Our school is inviting and comfortable. The lighting, colors, and temperature in each classroom are very important."

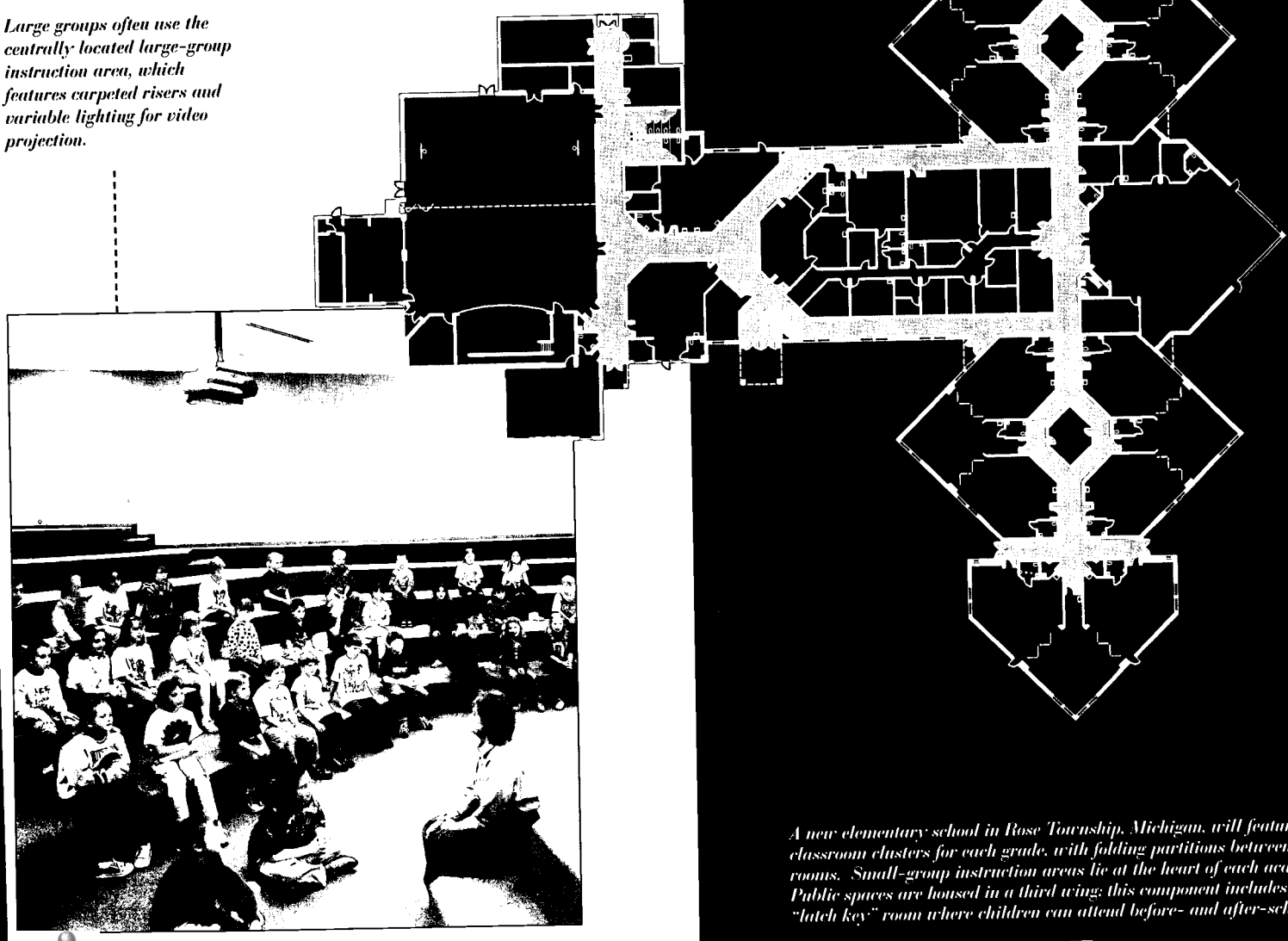
"Our youngsters' basic needs are being met here," adds Principal Jim Hendress. "You've got to deal with basic needs. We have a chance to teach school every day in a comfortable environment. Our kids don't fight here. It really helps with the temperament of the students and the teachers—this building is calming in a sense. The building allows things to happen—it takes down barriers.

Monitors mounted in each classroom facilitate multimedia instruction without consuming a lot of floor space.

A spacious duplex of project activity rooms provides a functional area for special activities. Tile floors, sinks, and countertop and cabinet space facilitate science, art, or cooking assignments; as well as nature projects linked to the school's outdoor ...ntal laboratory.

Rose Pioneer Elementary School; Rose Township, Michigan

"If kids think that school is a wonderful place to go, that removes the biggest barrier of all. After all, this is school! But you should see these kids coming in at 8:40 in the morning—they're excited, talking, laughing...and in the afternoon, they don't want to leave."



Large groups often use the centrally located large-group instruction area, which features carpeted risers and variable lighting for video projection.

A new elementary school in Rose Township, Michigan, will feature L-shaped classroom clusters for each grade, with folding partitions between the classrooms. Small-group instruction areas lie at the heart of each academic wing. Public spaces are housed in a third wing; this component includes a community/"latch key" room where children can attend before- and after-school care.

4

COMMUNICATIONS AND TECHNOLOGY

"WE ARE MOVING INTO AN ERA WHERE MOST PEOPLE WILL BE WORKING WITH THEIR MINDS FAR MORE THAN THEIR HANDS, AND MANY OF THEM WILL BE WORKING IN BUSINESSES AND INDUSTRIES THAT HAVE NOT EVEN BEEN INVENTED YET."

—President Clinton, Blue Ribbon Schools Awards Ceremony, May 29, 1996

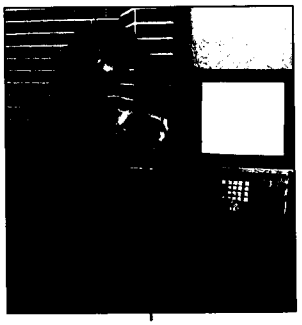
What part of your school helps you learn the most?

"The library and my classroom...I LIKE THE COMPUTERS BECAUSE THEY ARE EASY...THE BOOKS IN THE LIBRARY...videos and having the monitors in the classrooms...**the computer lab is the best part because the way kids are growing up today, kids need computers...**math games on computers but I would have a 32-foot-tall TV in the lunch room so we could do the math games there and watch videos...**I THINK THERE SHOULD ALWAYS BE LOTS OF BOOKS BECAUSE ALL KIDS IN SCHOOLS LIKE TO READ."**

—First- Through Fifth-Graders, Horizon Elementary School; Granger, Indiana

Inset photo: Mrs. Lehman's Second-Grade Class, East Elementary School; Celina, Ohio

Artwork: Mr. Inhulsen's Art Class, Patterson Elementary School; Patterson, Michigan



"Nothing—*nothing*—is as important as preparing the American people and our young people for the 21st century world in which they will live," stated President Clinton in a May 1996 press conference addressing the future of America's schools. Championing the technology initiative in public education, Clinton called for a $2 billion, five-year Technology Literacy Challenge to ensure that every student has access to computers and other forms of technology, as well as the training needed to harness that technology in daily learning.

A computer kiosk at Prairie Vista Elementary School in Harris Township, Indiana (above), is a popular stop with young students. The computer lab at McNab Elementary School in Pompano Beach, Florida (right), is housed in a well-lighted room with access [illegible]wer.

The national mission to improve technological literacy in our schoolchildren encompasses four basic objectives:

1) PROVIDE ALL TEACHERS TRAINING AND SUPPORT TO HELP STUDENTS LEARN THROUGH COMPUTERS AND THE INFORMATION SUPERHIGHWAY;

2) DEVELOP EFFECTIVE AND ENGAGING SOFTWARE AND ON-LINE LEARNING RESOURCES AS AN INTEGRAL PART OF THE SCHOOL CURRICULUM;

3) PROVIDE ACCESS TO MODERN COMPUTERS FOR ALL TEACHERS AND STUDENTS; AND

4) CONNECT EVERY SCHOOL AND CLASSROOM IN AMERICA TO THE INFORMATION SUPERHIGHWAY.

In response, a consortium of leading organizations, including the National Education Association, the American Federation of Teachers, the Parent Teachers Association, and the National School Boards Association, has endorsed the national initiative to help train and prepare teachers for the challenge ahead. Known as *21st Century Teachers*, the consortium will help ensure that "America's teachers are as comfortable with computers as they are with chalkboards," according to Clinton. "Teachers will have new and exciting ways to teach traditional subjects. They'll be able to exchange lesson plans with other teachers, communicate more frequently with parents, help students unfamiliar with computers, and keep up with students who already are."

If teachers don't begin to use technology in their classrooms, they will be living in an artificial world," says Dr. David O. Dickson, superintendent of the School City of Hammond in Indiana. "Teachers will be out of touch with their students. The time-honored textbook still has a front-row seat, but it is sharing that seat with technology. Technology today is not just a resource—it's mandated survival equipment. You just can't compete without it."

Modernization and expansion of McNab Elementary School included construction of a new media center. The center features a large processing area and work room for the media specialists.

The well-equipped computer lab at New Britton Elementary School near Fishers, Indiana. (background) allows an entire class to take computer-based instruction simultaneously. Here, students are using a popular math software program.

Multimedia instruction encompasses audio, video, still photography, animation, text, and graphics, allowing children to see, hear, and interact during the instructional process. Computer-based learning tools include instructional games, research databases, electronic encyclopedias, multimedia libraries, simulations, and interactive lectures and discussion groups. The technology allows for self-instruction or one-on-one tutoring; working in small groups; and communicating and collaborating throughout a school, a school district, a community, and even internationally. Distance learning through interactive television services or on-line lectures enables students to access expert instruction, including college and university programs, from a remote location.

The computer lab at Anna Elementary School, in Anna, Ohio, is accessible not only to students but to community members as well. Grandparents are invited in for lessons from their young grandchildren.

As technology and advanced communications take center stage in contemporary education, teachers and administrators find that the benefits lie not only in their students' unquenchable appetites for high-tech, multimedia instruction—but in the powerful results. New York City's Computer Pilot Program, focusing on remedial and low-achieving students, netted improvements of 80 percent for reading and 90 percent for math when computers were used as part of the instruction program.[1] A 1995 study of more than 130 academic programs found that using technology to support instruction improved student outcomes in language arts, math, social studies, and science.[2]

During another recent study, mandated by Congress, multimedia instruction compared favorably to conventional approaches to instruction: the study documented time savings of 30 percent, improved achievement, cost savings of 30 to 40 percent, and a direct positive link between the amount of interactivity provided and instructional effectiveness.[3] Computer-based instruction was also found to be the least expensive instructional approach for raising mathematics scores by a given amount, according to another study. Approaches that were proven to be more expensive included peer tutoring, adult tutoring, reducing class size, and increasing the length of the school day.[4]

[1] Guerrero, J.F., M. Mitrani, J. Schoener, and Swan. Summer 1990. "Honing in on the Target: Who Among The Educationally Disadvantaged Benefits Most From What CBI?" *Journal of Research on Computing in Education*. pp. 381-403.

[2] Bailo, Ellen R., and Jay Sivin-Kachla. 1995. *Effectiveness of Technology in Schools. 1990-1994.* Washington, D.C.: Software Publishers Association.

[3] Fletcher, J.D. 1991. "Effectiveness and Cost of Interactive Videodisc Instruction." *Machine Mediated Learning*, 3, pp. 361-385.

Many educators also cite technology as a vital tool in working with children with special needs. A study on the use of technology for children with disabilities showed that "almost three-quarters of school-age children were able to remain in a classroom, and 45 percent were able to reduce school-related services" when computer-assisted learning techniques were employed.[5] "Technology really captures students," says Dickson. "We find it extremely useful in working with children with attention-deficit disorders and other special needs. We also have 32 different languages spoken in our district; today's software helps them to learn English at a rapid pace."

"If I were to give one piece of advice to administrators involved in constructing a new school, I'd say 'Build it for the future,'" says DeWayne Akin, principal of Woodbrook Elementary School in Carmel, Indiana. Following an extensive modernization, Woodbrook now stands ready to accommodate the school's technology "wish list." "We have the ability to begin using fiber optic cabling," says Akin. "We want to have a mini-lab in each classroom—networked computer labs at every grade level. The building modernization plan and the technology plan need to be coordinated from the start."

In spite of the overwhelming advantages that technology offers to the learning process, many schools are still unable to tap into the benefits of the information age—lacking the facilities and the infrastructure to accommodate computer-based instruction. "Unfortunately, schools have not kept pace with this information revolution," notes a special report of the National School Boards Association. "While the military, business, medicine, and science have undergone a technological metamorphosis, most of education is still mired in 19th-century curriculum and instruction patterns...In short, few school buildings are 'wired' and few educators are 'plugged in' to the Information Age."[6]

A classroom at Three Creeks Elementary School in Lowell, Indiana, is set up as a computer lab, with workstations positioned around the perimeter of the room.

[4] Fletcher, J.D., D.E. Hawley, and P.K. Piele. 1990. "Costs, Effects, and Utility of Microcomputer Assisted Instruction in the Classroom." *American Educational Research Journal*, 27, pp. 783-806.

[5] U.S. Department of Commerce, National Telecommunications and Information Administration, June 1995

[6] Bailey, Gerald D., Lumley, Dan, Dunbar, Deborah. 1995. *Leadership & Technology: What School Board Members Need to Know*, National School Boards Association, p.2.

THE OLD SCHOOL:

"Last year, we only had two CD-ROMs. And all the printers got jammed because too many people were trying to use them."

THE NEW SCHOOL:

"Now all the computers have CD-ROMs, and there's a printer for every two people... They're trying to hook it up so our class can talk to a class in Germany. That's really neat."

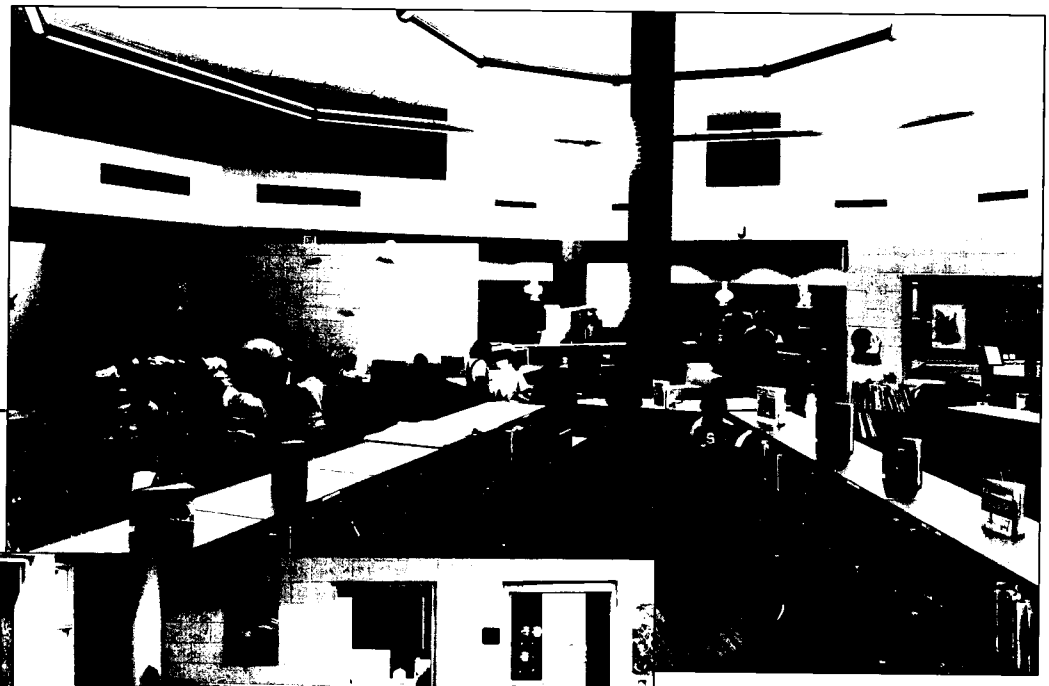
Clark Lacy and Jacqueline Jacobus, Fourth-Graders, Alum Creek Elementary School; Lewis Center, Ohio

Incredibly, many educators still struggle with a lack of electrical outlets to support classroom activities, including the use of computers and VCRs. "It sounds like such a simple thing," says Kathy Nelson, a first-grade teacher at Maywood Elementary School in Hammond, Indiana. "After all, electricity has been around for a long time. But we just didn't have access to it in our old school. Most rooms there started with one outlet—that's not an exaggeration. It dictated how we taught, because we'd have to say, 'We can have the listening center today, or the overhead projector today, or maybe we can use the record player today.' It dictated how you set up your room and what you could do at certain times. And we certainly couldn't have computers."

In addition to outlets and access to electric power, the infrastructure "basics" necessary to meet typical technology and communications requirements in schools include good lighting, flexible furniture, adequate cabling, cable trays, phone lines, a climate control system, security, and storage. Once the infrastructure and hardware/software are operational, where does technology-based instruction take place? Just about anywhere. Today, many new and modernized schools feature fully equipped computer labs, allowing instruction for a large number of students at once, as well as staff development and community seminars. Other schools opt for smaller, classroom-based computer centers, typically supplemented by additional workstations in media centers.

Flexible computer carts also enable teachers to set up portable labs, moving computer workstations to small-group instruction areas, offices, and conference rooms. Children and parents can link up to school networks from home or other remote locations, connecting to classroom assignments, the media center, or school web site; as well as other schools, public libraries, museums, colleges and universities, and sites around the world. School systems are also turning their attention to other aspects of modern communications, finding that more accessible telephone and electronic communication has become vital to a productive workday. New schools frequently feature telephones in

The large media center at Twin Valley School, a K-12 school in West Alexandria, Ohio, accommodates both elementary and middle school children (foreground), as well as high school students. The circulation desk and adjacent partial walls divide the grade level areas.



The media center at South Ripley Elementary School in Versailles, Indiana, features a small story pit, a favorite with primary school students.

THE OLD SCHOOL:

"Our former facility had a media center on wheels. We set up a cart in the gym/multi-purpose room."

THE NEW SCHOOL:

"Our media center is set up for modern technology. We want to encourage hands-on activities, and use of our LAN [local area network] and the Internet. We're linked to our community library. The kids have a completely different attitude about going to the library—it's a place where access to technology can happen."

Paul L. Erslan, Superintendent, Twin Valley Community Local School District; West Alexandria, Ohio

every classroom, enabling teachers to confer easily with parents and school administrators, and to set up "homework hotlines." Schools find that e-mail also improves parent-teacher dialogue, and facilitates interaction and collaboration with other teachers.

"I don't know how we did without e-mail," says Pattie Sherman, a fourth-grade teacher at Suncrest Elementary School in Frankfort, Indiana. She and Chris Guffy, the school's media specialist, cite numerous benefits, including automated access to Suncrest's media center. "Right now we're studying deserts," says Sherman. "We can access the resources of our library from our classrooms." "Our circulation has increased amazingly," adds Guffy. "We're finding books that we didn't realize were there." The two also point to greater efficiency and saving on instructional time as benefits of being networked throughout the school. Less time is needed for staff meetings and the faculty is constantly discovering more expedient means of sending out or receiving information, such as transmitting the daily lunch count for each class to the cafeteria via e-mail.

Telephones within classrooms have greatly fostered parent-teacher communications in many schools. "If a teacher needs to talk with a child's family about a student—perhaps about a special need or concern—he or she can call at any point during the day while the students are working," says Superintendent Dickson of Hammond. "But the teacher might not be able to make that call if it means a long walk to the office." Janet Grove, a fifth-grade teacher at Maywood Elementary School in Hammond, agrees: "In our old school, my room was upstairs, and it seemed as if I had to walk half a mile to get to the phone. And then when I got there to make a call, someone would already be using it, or the line would be busy. Phones in the classrooms make us much more efficient, and they help us to develop better relationships with our students' families. It also helps with discipline—now we can say to a child, 'Do we need to call home?'"

"Isn't it odd that today—given how long telephones have been around—some people are still wondering why they're necessary in the classroom?" says Dickson. "It's reinforcing

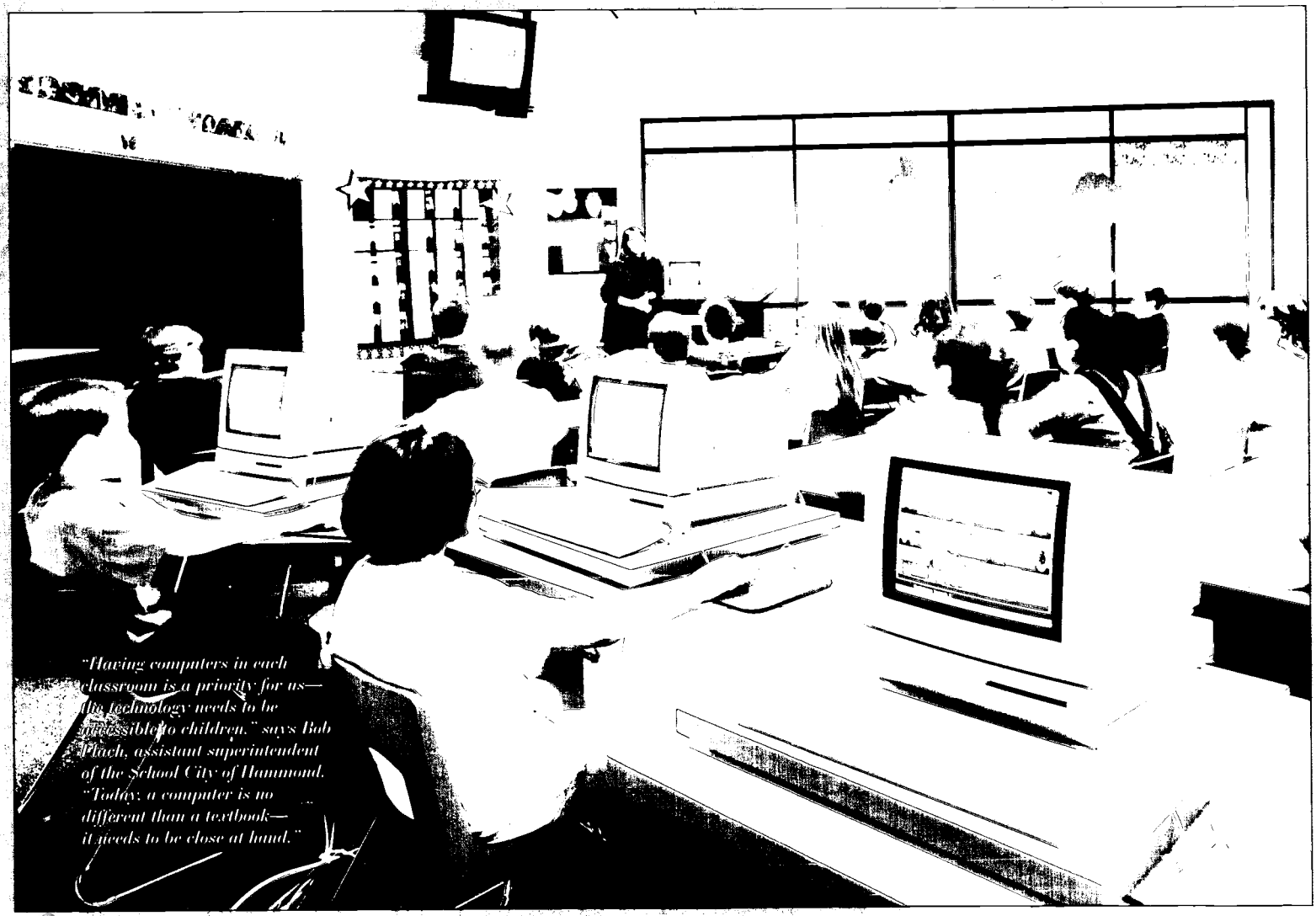
that old idea that the teacher's sole job is to stand up in front of the classroom and talk all day long. Communication is so important today, especially when many children have different problems and needs. We need to do everything we can to share ideas and information. In the past, if our teachers were ill-equipped, they felt like second-class citizens. Now, with access to telephones and electronic communications, they are revitalized—they feel that they're professionals, and part of an important national and international profession."

A large, open media center at Cherry Tree Elementary School in Carmel, Indiana, reflects the school's emphasis on reading and accessing information. The ample space and support areas, including an adjacent large-group instruction center, facilitate class scheduling.

Maywood, Morton, and Edison Elementary Schools; Hammond, Indiana

"I come to school at 6:30 in the morning and the phones are ringing," says Stanley Griffin, principal of Maywood Elementary School. One of three new elementary schools in the School City of Hammond, Indiana, Maywood is among many schools that have found that advanced communications technology, including voice mail and e-mail, has greatly improved outreach to parents and the community.

"Parent communication with the teacher is much better," says Diane Denton, the school's office manager. "Parents and students can call in and listen to the Homework Hotline to find out about homework and special activities. Or we can dial out to the homes about a special event. Parents can also easily reach a teacher or leave a voice mail message."



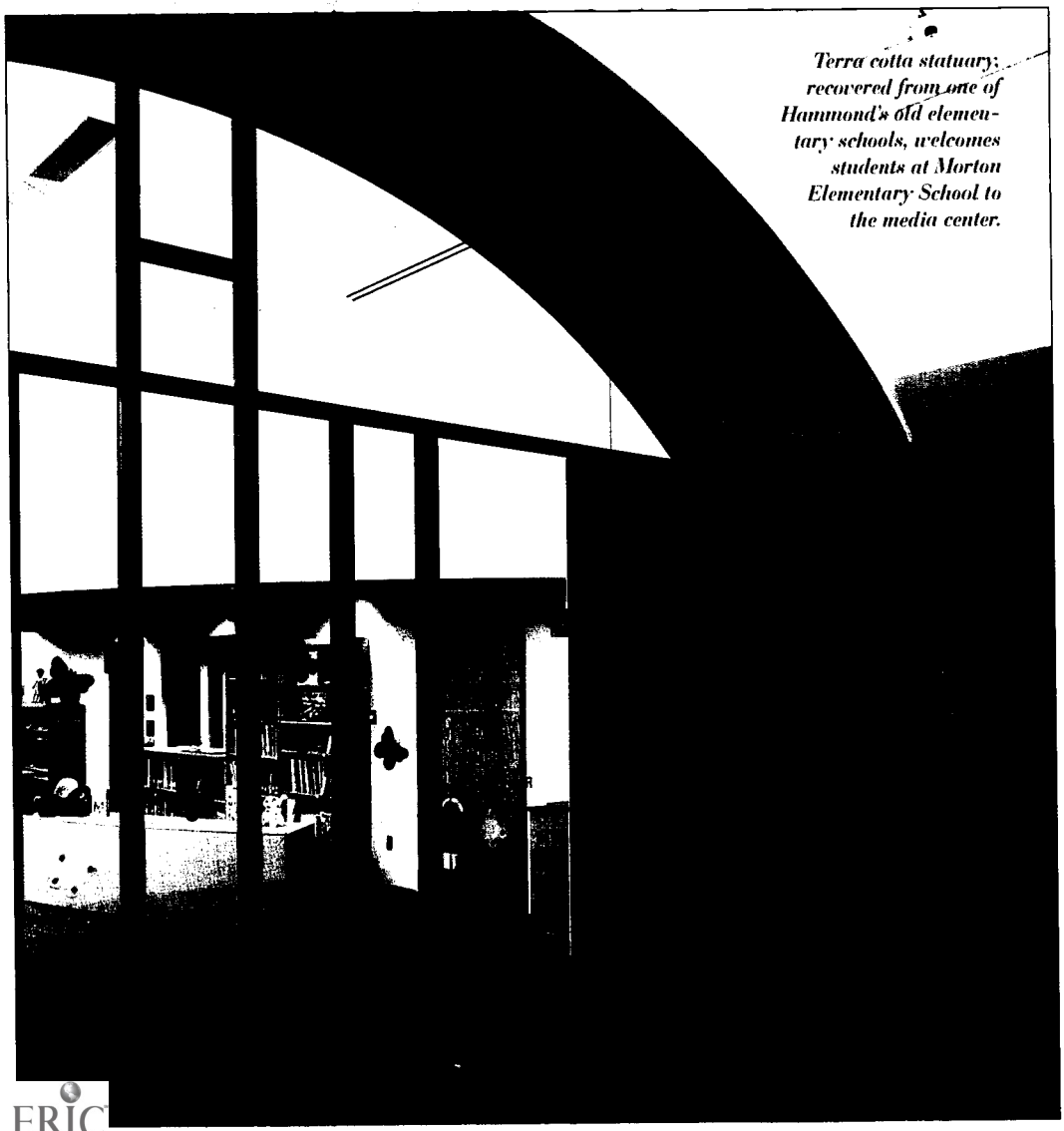
"Having computers in each classroom is a priority for us—the technology needs to be accessible to children," says Bob Plach, assistant superintendent of the School City of Hammond. "Today, a computer is no different than a textbook—it needs to be close at hand."

The media center at Maywood Elementary School offers video programming, a number of computer workstations and research terminals, and a recessed reading pit. "Students can access so much more information today than I ever could as a child—getting on a bus and spending all day in the public library," says Dr. David O. Dickson, superintendent.

Maywood, Morton, and Edison Elementary Schools; Hammond, Indiana

The three schools were designed with technology and flexibility in mind. Classrooms feature flexible walls and furniture arrangements that allow for learning centers, including computer-instruction areas. Convenient and accessible floor boxes provide all the necessary power and telephone connections. Computers are located in every classroom as well as in the media centers. Video broadcasting, distance learning, and computer access to the media center and remote sites are all in a day's work.

Each of the three schools is arranged in pods with operable walls between classrooms and extended learning centers at the heart of each pod. Each "duplex" of classrooms shares a glassed-in office or conference area, which can be used for independent instruction, tutoring, and parent conferences. Storage rooms are also located within each pod. "I like the convenience of each pod,"



Terra cotta statuary, recovered from one of Hammond's old elementary schools, welcomes students at Morton Elementary School to the media center.

Students at Edison Elementary School (shown here) and nearby Maywood and Morton, can perform a variety of search functions on the computers located in the school's media center. Students also enjoy instructional computer games and videos. The comfortable, well-lighted space is located centrally within the school.

Operable walls allow teachers to team up on instructional programs and special activities. Floor boxes throughout the classrooms provide easily accessible power for computers, networking, and phone lines for modems. The two classrooms share a small conference area in the back, used for tutoring and meetings. "I see fewer kids coming to the principal's office for discipline reasons," says Principal Stanley Griffin. "The office serves more as a pleasant place where individuals, small groups, and classes come and interact positively. The conference rooms between classrooms are used for small-group instruction and parent conferences. The window ensures that students are being supervised and monitored at all times. It is great for classroom management."

says Kathy Nelson, a first-grade teacher at Maywood. "Before, you had to go through so many channels just to get a sheet of paper—not a ream—just a sheet. Now, we can access supplies, and we can interact with each other. I'm here early now. I stay late. I am truly enjoying this building."

THE BENEFITS OF EDUCATIONAL TECHNOLOGY

- *Brings the world to the classroom.* No matter what their socioeconomic or ethnic background, and no matter where they live, the learning field for all students can be leveled. Students are introduced to people, places, and ideas they might otherwise not be exposed to:
- *Enables students to learn by doing.* Studies have confirmed what many instinctively knew—that children who are actively engaged in learning, learn more. The effects are particularly noticeable among students who were not high achievers under more traditional methods. Networked projects, where students work with others and conduct their own research and analysis, can transform students into committed and exhilarated learners:
- *Encourages students and parents with limited or no English skills to learn English,* by engaging them in interactive learning:
- *Makes parents partners in their children's education by connecting the school with homes, libraries, or other access ports:*
- *Makes it possible for educators to teach at more than one location simultaneously:* Vastly expands opportunities for students in small, remote areas, linking them to students in more diversely populated, urban and suburban areas:
- *Enables educators to accommodate the varied learning styles and paces of learning within the classroom.* This makes available individualized instruction techniques that are a proven factor in student achievement:
- *Encourages students to become lifelong learners,* who can access, analyze, and synthesize information from a variety of sources:
- *Enables administrators and educators to reduce time spent on administration and recordkeeping,* increasing efficiency so they can spend more time with students:
- *Makes students proficient in the basic technological skills needed to take their places in society:* whether they enter the working world directly after high school or pursue further formal education.

Source: KickStart Initiative, U.S. Advisory Council on the National Information Infrastructure

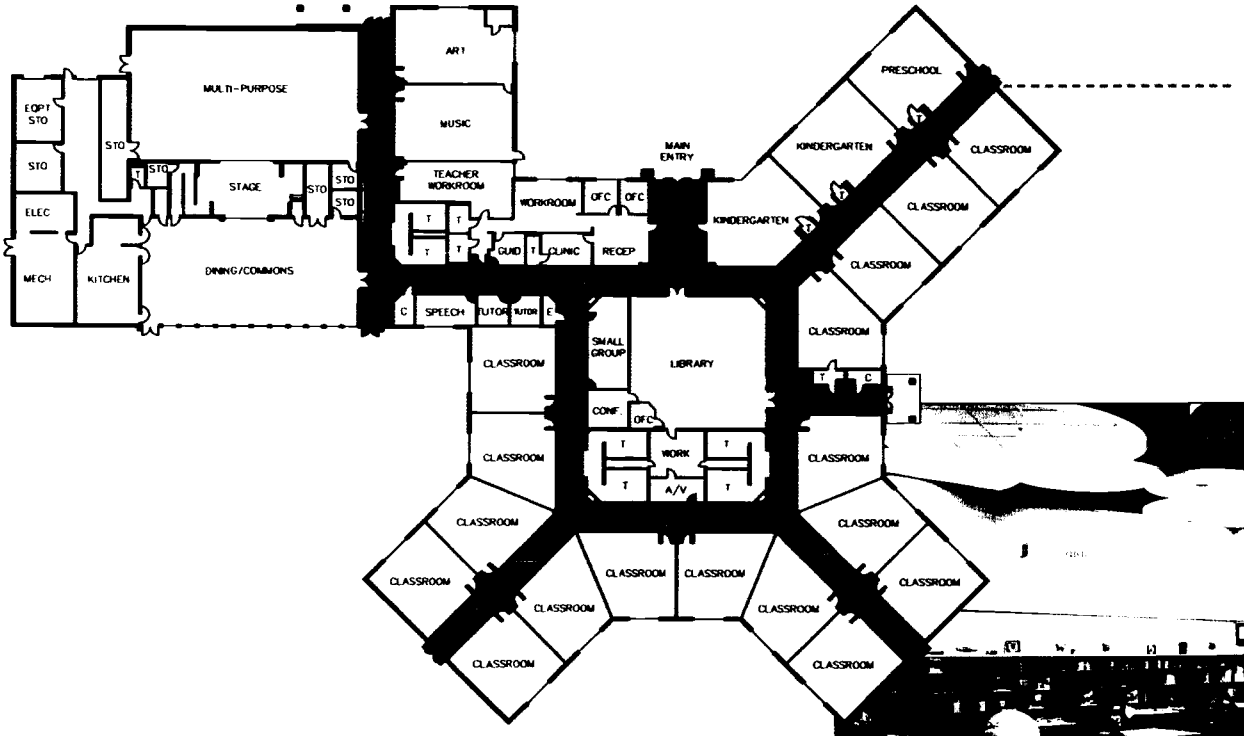
Robert F. Schultz/Conger Elementary Schools; Delaware, Ohio

Teachers at the new Robert F. Schultz Elementary School in Delaware, Ohio, have seen a significant increase in access to technology since the school opened in 1995. Telephones are located in each classroom, computers are networked, and the school features a sophisticated intercom system. "Answering the telephones is a job for students in my classroom," says Angie Hillier, a fourth-grade teacher. "We teach them how to answer the phone appropriately and to take messages."

Telephones are viewed as a timesaver at Schultz, and also enable teachers in different academic wings to communicate easily with one another. Teachers at Schultz and nearby Conger Elementary are also strong advocates of the large workrooms available in each of the schools. "The work areas make us so much more efficient," says Reg Main, a reading instructor at Conger. "We have access to materials, and it's a good place for interaction with other teachers."

Not to be outdone by the construction of Schultz, Conger Elementary School simultaneously underwent a major renovation and construction of an addition. Much of the original building, constructed in 1913, was razed; and a new wing houses classrooms, offices, a gymnasium, the media center, and a cafeteria. The "new" Conger is an "A-plus," says fifth-grader Seth Blair.[7]

[7] Riepenhoff, Jill. "Remodeled School Gets Rave Reviews," *Delaware Dispatch.*



Classroom wings, or "neighborhoods," radiate off of the media center location at Robert F. Schultz Elementary School. The media center is also directly accessible from the school's main entrance and lobby.

The media center at Schultz features acoustical "clouds," a practical but unique design [illegible] that is popular with the young students.

The lobby and main entrance at Schultz reflect the brightly colored tile patterns and extensive natural light that are infused throughout the school.

Shirley Newell, librarian at the remodeled Conger Elementary School, helped design the school's new media center. Her office, painted bright red and blue, resembles a train station ticket booth.

5

ENRICHMENT AND SUPPORT SPACE

"OUR MISSION IS TO ENRICH THE LIVES OF OUR STUDENTS."

—Dr. Jayne Hartman, Principal, St. Lucie Elementary School, Florida

WHAT DO YOU LIKE ABOUT YOUR NEW SCHOOL?

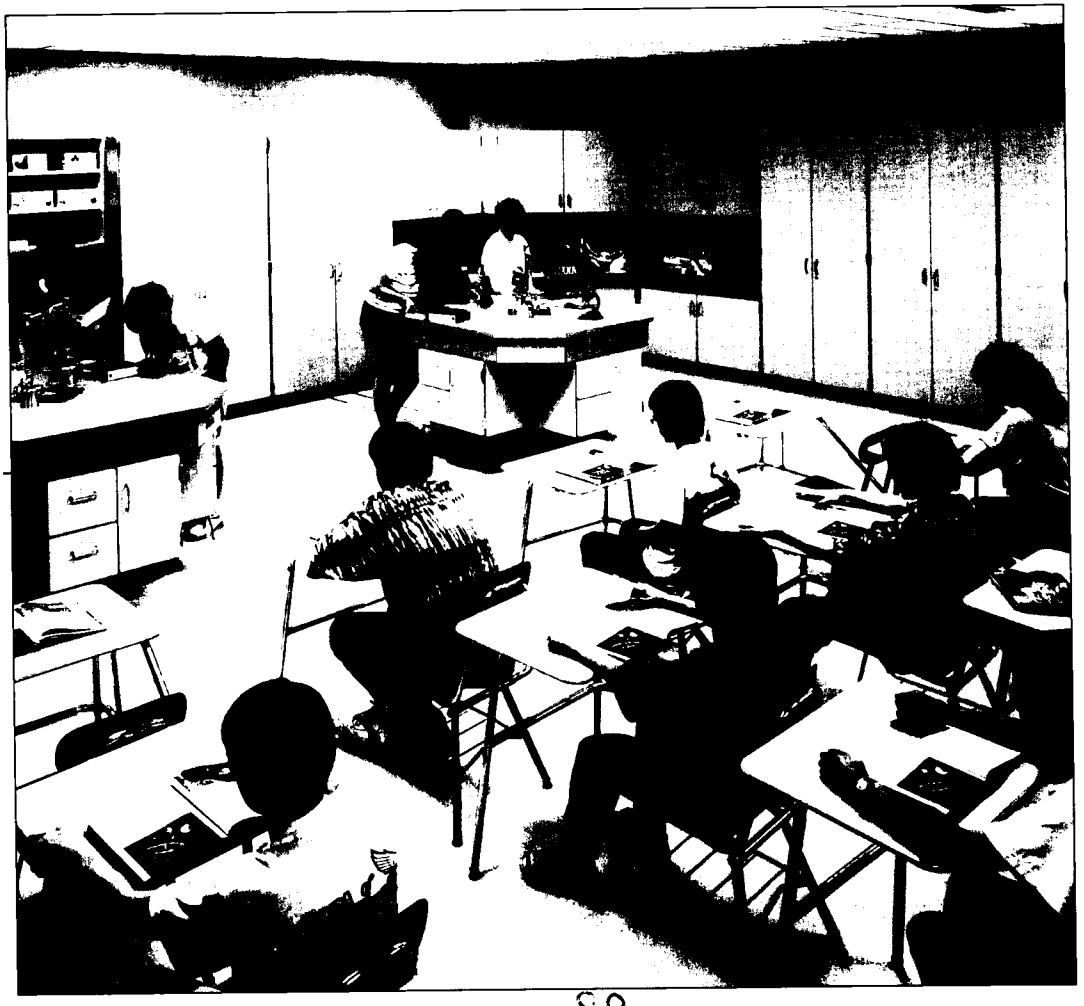
"We have an art room now...WE DON'T HAVE TO BRING OUR OWN STUFF FOR ART ANYMORE...**now we have a kiln,** more paper, **BIGGER ERASERS,** BOTTLES OF GLUE, **left-handed scissors...**we can make leaf prints, **AND USE THE PASTELS...**AND WE HAVE A MUSIC ROOM...**we can go around the room in circles...** the teacher can use the piano...**MY FAVORITE PART IS LEARNING HOW TO SING."**

— Fourth- and Fifth-Grade Students, Twin Valley School: West Alexandria, Ohio

Inset photo and artwork: Mr. Lee's Third-Grade Art Class, New Britton Elementary School: Fishers, Indiana

Enrichment and Support Space

While school systems across the country strive to keep pace with current technology trends, other broad-reaching demands provide yet another set of challenges: addressing multi-cultural issues and needs, opening schools to community members of all ages, and offering an expanded array of educational and social services to students. Schools that lack specific facilities for many of these activities—ranging from food service to independent counseling—find their program efforts inhibited, even in meeting fundamental curriculum requirements.



The science lab at South Ripley Elementary School in Versailles, Indiana, combines traditional classroom seating with flexible "island" tables that provide work surfaces large enough to accommodate several students at once. The tables also feature sinks, electrical outlets, and drawers and cabinets underneath.

89

According to a 1995 report of the U.S. General Accounting Office, millions of students attend schools that have indicated a lack of facilities to carry out essential instructional and support activities, such as laboratory science, small- and large-group instruction, counseling and testing, teacher planning, social and health care services, and before- and after-school care. More than 40 percent of the schools surveyed reported, for example, that they lacked the facilities to meet the functional requirements of laboratory science.[1]

[1] United States General Accounting Office, *School Facilities: America's Schools Not Designed or Equipped for 21st Century*. April 1995.

Small-group instruction areas, such as these rooms at Ella Canavan Elementary School in Medina, Ohio, have become a vitally needed resource in elementary school education. This flexible space enables teachers, tutors, and volunteers to work with small groups or single students on remedial reading instruction, testing, and other focused activities.

THE OLD SCHOOL:

"We used to lose the gym for as much as a day for assemblies, because the stage was in the gym. We'd have to take the P.E. classes and crowd into a classroom and watch a video."

THE NEW SCHOOL:

"Including a double-sided stage was one of the best things we did. Now, school assemblies and other programs during the day never affect the P.E. program, because the cafeteria can be used for the assemblies."

—Steve Bilikam, Physical Education Teacher, Wyandot Run Elementary School; Powell, Ohio

"All I need is a room," stated Terry Karoul, a home economics teacher for elementary school students in Atlantic City, New Jersey, when interviewed in 1996 about her educational and facility requirements within a planned new school. While many of the teachers in the Atlantic City Public Schools offered a healthy assortment of suggestions on the "wish lists" for their new classrooms, Karoul simply pointed out that, at present, she had no classroom for her program—not even a room she could share with another instructor. Instead, she was forced to teach home economics on a small, poorly lighted auditorium stage.

Karoul's situation is not unusual in many older facilities. Eliminating "art on a cart" and the need to drag music equipment from room to room; providing space for science, home economics, and industrial technology; and offering appropriate areas for guidance, tutoring, special education, and clinical care are among the many pressing reasons for modernizing or replacing older schools. "Our mission is to enrich the lives of our students," says Dr. Jayne Hartman, principal at St. Lucie Elementary School in Fort

Pierce, Florida. "The facility certainly makes a difference. To get the children into artistic thinking or scientific thinking, they should go to those types of places—where they can be creative and messier if they need to be. They can sit on stools at big tables and feel like real artists. The furnishings and finishes are better suited to these activities. Trying to use regular classrooms for art and music programs really limits what we're trying to do."

Pat Heater, a guidance counselor, appreciates the amount of space her area was given in the new Taylor Road Elementary School in Reynoldsburg, Ohio. Her office adjoins a small conference room; operable walls in between enable her to open the space into one large room if needed. "We do a lot of conferencing, and bring in a number of parents and small groups of children. Here, our guidance area is as large as the principal's office, but that shouldn't be unusual in schools, given the types of activities that counselors need to do."

"Before the renovations here, our school couldn't begin to compare to what we have now," says Principal DeWayne Akin of Woodbrook Elementary School in Carmel, Indiana, where program requirements necessitated a modernization of the 25-year-old school. "The gym is larger, and the kids are able to do so much more during P.E. The art room is larger, and has a dark room and a room for the kiln. Our music suite is soundproof, with a built-in stereo system. The kids can do all kinds of productions. Even the office has changed—before, it was small and cramped; now our administration has much more space. The kids have benefited; the teachers are more motivated; and the community is much more involved than before."

THE OLD SCHOOL:

"Kids didn't eat as much in our old school. I'd see many of them bypassing the cafeteria day after day after day, because it was crowded, they couldn't get through the line in time, and they couldn't get the food they wanted."

THE NEW SCHOOL:

"Our new kitchen has had a big impact. Kids are eating more, and coming back to classes better nourished. There's more space, and more menu choices. They want to eat in a pleasant environment."

—Roseann Williams, LD Teacher, Twin Valley School; West Alexandria, Ohio

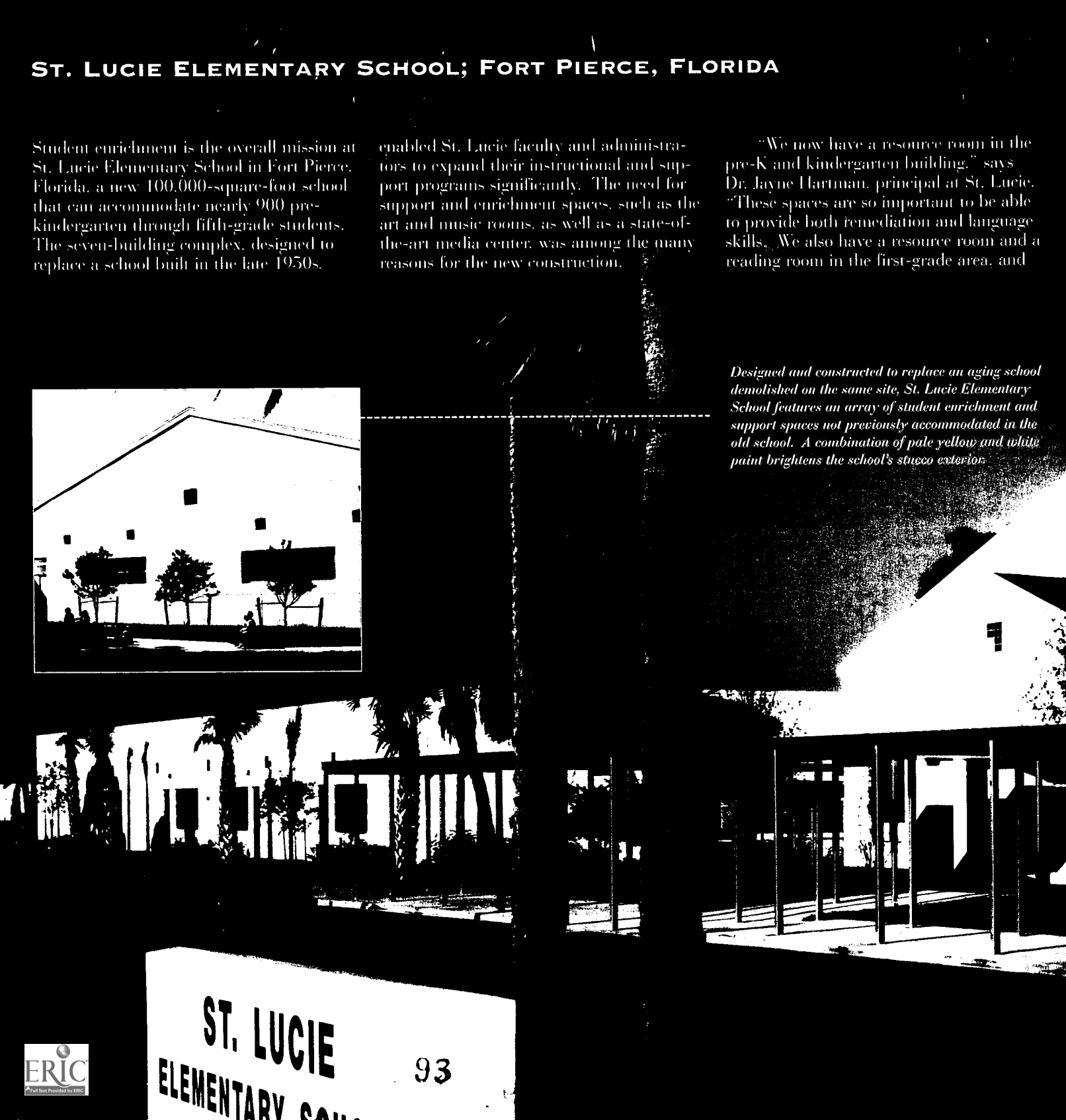
The flexible cafetorium at North Harrison Elementary School in Ramsey, Indiana, has become a popular site for both school and community programs.

St. Lucie Elementary School; Fort Pierce, Florida

Student enrichment is the overall mission at St. Lucie Elementary School in Fort Pierce, Florida, a new 100,000-square-foot school that can accommodate nearly 900 pre-kindergarten through fifth-grade students. The seven-building complex, designed to replace a school built in the late 1930s, enabled St. Lucie faculty and administrators to expand their instructional and support programs significantly. The need for support and enrichment spaces, such as the art and music rooms, as well as a state-of-the-art media center, was among the many reasons for the new construction.

"We now have a resource room in the pre-K and kindergarten building," says Dr. Jayne Hartman, principal at St. Lucie. "These spaces are so important to be able to provide both remediation and language skills. We also have a resource room and a reading room in the first-grade area, and

Designed and constructed to replace an aging school demolished on the same site, St. Lucie Elementary School features an array of student enrichment and support spaces not previously accommodated in the old school. A combination of pale yellow and white paint brightens the school's stucco exterior.



another office/consultation room in the intermediate area." Dr. Hartman adds that these rooms now provide adequate space for exceptional education students: "A lot of times, exceptional education ends up in a closet or a dressing room. We actually use our dressing room for dressing!"

Dr. Hartman points out that while the school features larger, more flexible classrooms throughout, "you can't just transform a classroom" for activities such as science or art. "The sizes of the rooms are different—the flooring, the cabinetry, and furniture." She adds that they take advantage of their campus setting as often as possible, utilizing a central courtyard and outdoor play areas: "The outdoors is an important part of our learning community—we use the outdoors for presentations, buddy reading—all sorts of activities."

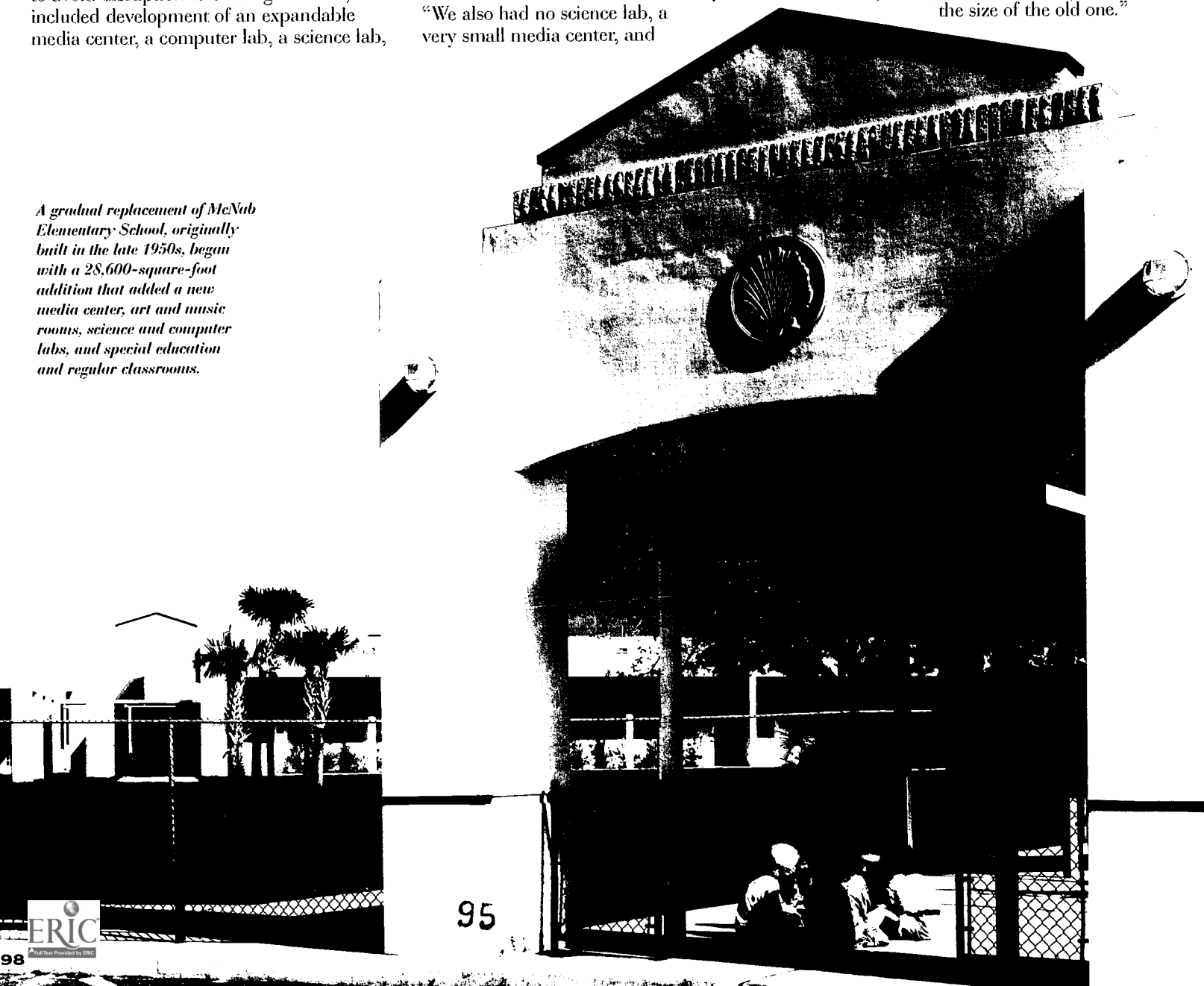
Art class at St. Lucie Elementary School is a colorful affair, combining bright yellow cabinetry with a blue vinyl composition tile floor and large red work tables. Primary colors are used throughout the school, where color coding helps students and visitors find their way around.

The music room at St. Lucie features portable furnishings, including special tables for keyboards. An adjacent dressing room connects the music room to the stage.

McNab and Norcrest Elementary Schools; Pompano Beach, Florida

Master plans developed for McNab and Norcrest Elementary Schools in Pompano Beach, Florida, call for phased construction that will ultimately replace both schools. Phase I construction, planned carefully to avoid disruption to existing facilities, included development of an expandable media center, a computer lab, a science lab, exceptional education space, art and music rooms, and classrooms in each school.

"The classrooms were very small and there was little flexibility," says Drew Lippman, manager of facilities projects for the School Board of Broward County. "We also had no science lab, a very small media center, and no art or music rooms—art and music were either 'on a cart' or held in a regular classroom. The new additions give us added capacity and an ability to handle many more activities. The media center was desperately needed, and is about triple the size of the old one."



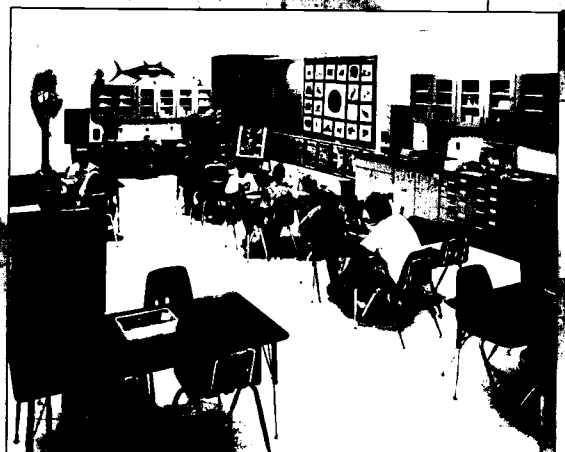
A gradual replacement of McNab Elementary School, originally built in the late 1950s, began with a 28,600-square-foot addition that added a new media center, art and music rooms, science and computer labs, and special education and regular classrooms.

A terrace adjacent to the art room at McNab enables students to set up easels and other creative activities outdoors. The terrace features a maintenance-free aluminum trellis, which provides shielding from the sun.

A well-equipped teacher workroom at McNab offers space for instructional preparation and access to equipment and supplies.

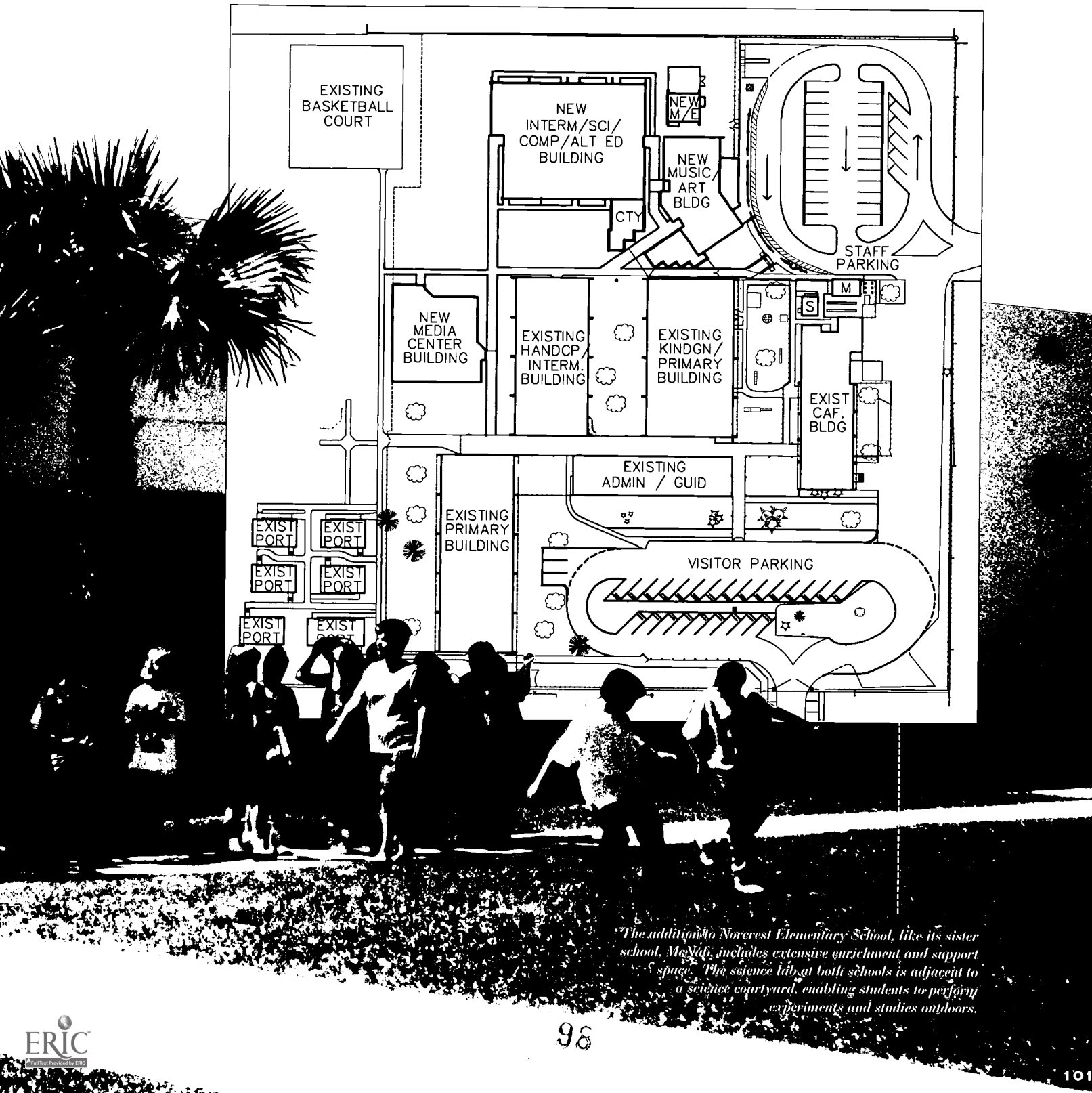
At nearly 2,500 square feet, the new art room at McNab is a spacious, brightly lighted facility that flexibly houses a variety of activities. Low casework enables children to reach supplies easily.

The science lab at McNab has acid-resistant countertops and glass fronts in the upper cabinetry for display of equipment and materials. The room also features a movable science demonstration desk.



McNab and Norcrest Elementary Schools; Pompano Beach, Florida

Children gather outside the new addition at Norcrest Elementary School, which includes an expanded media center; new classrooms; science and computer labs; and spaces for art, music, and exceptional education.

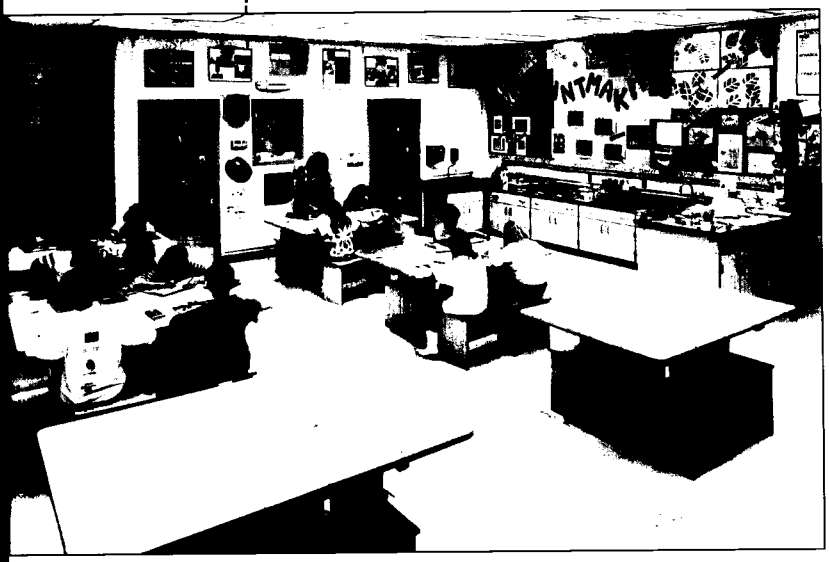


The addition to Norcrest Elementary School, like its sister school, McNab, includes extensive enrichment and support space. The science lab at both schools is adjacent to a science courtyard, enabling students to perform experiments and studies outdoors.

ART ROOMS

Enrichment and Support Space

Many contemporary art rooms, such as this facility at Palm Beach Gardens Elementary School in Palm Beach Gardens, Florida, feature tile floors, extensive display areas, and separate spaces for kilns and additional storage.



"I don't do very many 'neat' things," says Jenny Moon, art teacher at Woodbrook Elementary School in Carmel, Indiana. "The extra sinks in our new art room have made my life a lot easier." After an expansive renovation at Woodbrook, the new art room has large work tables and extensive built-in cabinetry and shelving. "Our old room had the kiln right in the room, which wasn't safe," Moon also points out. The new space features an adjacent room for the kiln, as well as a dark room.

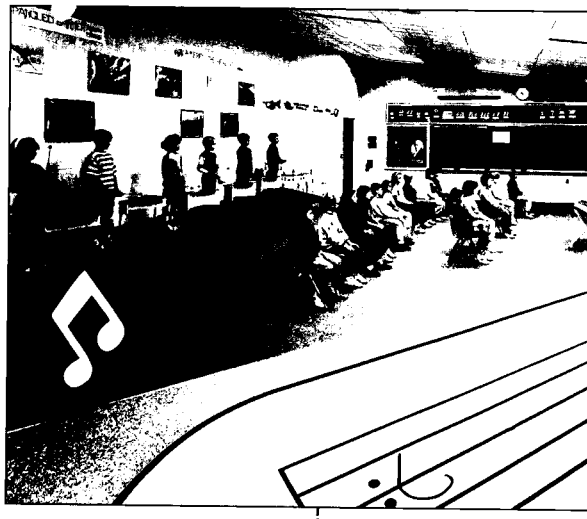
Tie-dyed banners inspired by colorful accents in the flooring and [illegible] *Medina, Ohio.*

MUSIC ROOMS

Long tables facilitate keyboard instruction at Maywood Elementary School in Hammond, Indiana. A sink with a drinking fountain bubbler in the classroom allows children to clean their instruments and get a drink of water without leaving the classroom.

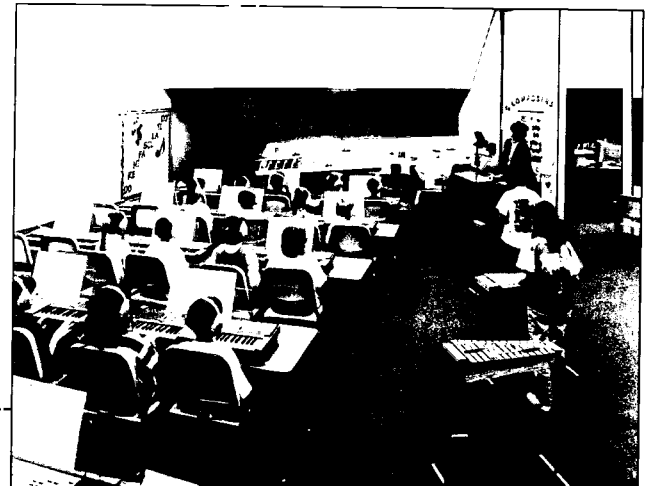
A variety of storage options allows the music teacher at Woodbrook Elementary School easy access to instruments, choral folders, decorations, and class materials. A long rack provides space for costumes, while large flat files safely hold posters and banners. Shelves for props conveniently store an assortment of items ranging from reindeer antlers, ribbons, and garlands to flags, leis, and kazoos.

Cut pile carpet insets featuring a musical staff add both visual interest and practicality to music rooms. At South Ripley Elementary School in Versailles, Indiana, the inset is used to demarcate space for flexible seating on the floor.



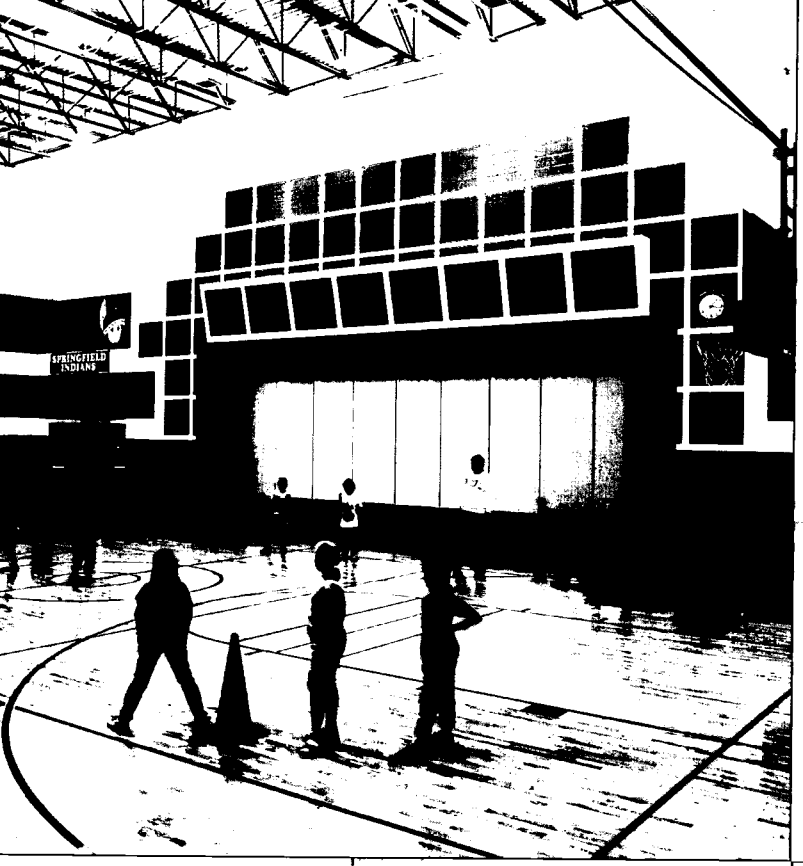
Most music rooms, such as this one at Three Creeks Elementary School in Lowell, Indiana, feature either built-in or portable risers.

A music instructor at Horizon Elementary School in Granger, Indiana, takes advantage of a sloped wall surface designed to facilitate use of overhead projectors. A portion of the room is set up as a keyboard lab.



GYMNASIUMS

The gymnasiums at Springfield Elementary School in Michigan City, Indiana, and Edison Elementary School in Hammond, Indiana, each share a two-sided stage with the school cafeterias. Performances that host larger audiences are accommodated in the gyms; wood floors are protected with a floor cover.



Safe, successful gymnasiums require high clearance, acoustical treatment, and structural columns that are integrated into perimeter walls—as opposed to freestanding columns that may be hazardous to children. Building codes require that assembly areas such as gyms have doors that open out toward corridors; although they should not interfere with the flow of circulation. Water fountains are best located in a recessed entry alcove, away from gym activities. The gymnasium at New Britton Elementary School near Fishers, Indiana, features a durable carpet surface with colorful markings for volleyball and basketball.

6

Outdoor Learning and Play

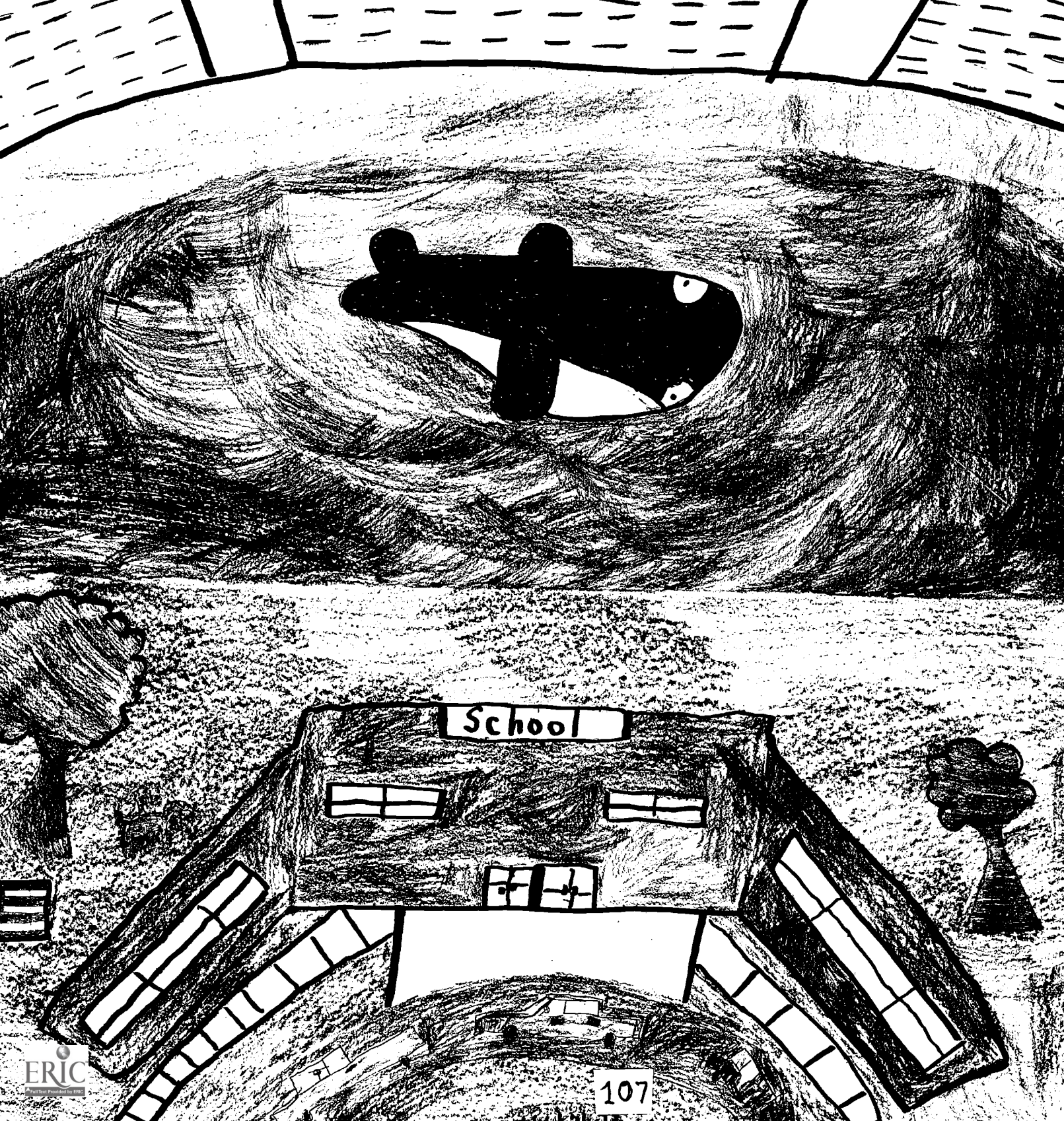
"We have to keep in mind that these are children and children need to play. They need fresh air and exercise."

—Lynn Black, Director of School Improvement, Metropolitan School District of Pike Township, Indiana

"If I could design a school, I WOULD HAVE A POOL ON THE PLAYGROUND WITH A 100-FOOT SLIDE, A WOODEN FORT WHERE WE COULD WATCH T.V. AND EAT CHIPS, a place for us to ride snowmobiles, **a race track with race cars to take you around the school,** a room for water balloon fights, A PLACE FOR AIRPLANE RIDES AT RECESS, A FOOTBALL STADIUM, **a soccer field,** a tank for whales so that we can learn about them and train them, A LAKE SO YOU CAN RIDE JET SKIS, AN INDOOR POOL WITH RAFTS TO READ BOOKS IN...everything would be made out of candy instead of wood and stuff."

—Mrs. Lehman's Second-Grade Class, East Elementary School; Celina, Ohio

Inset photo and artwork also from Mrs. Lehman's class


School

Outdoor Learning and Play

"One of the things I like best about our school is that the students are able to go outdoors frequently—the outdoors is part of our learning community," says Dr. Jayne Hartman, principal of St. Lucie Elementary School in Fort Pierce, Florida. "We were able to keep many of the existing trees on this site when the school was built, so it seems as if it is an older, landscaped campus. We have two play areas and an open courtyard. The children also go outdoors as they move from building to building. I'm out there a lot as I walk the campus, and I know what it does for my attitude. It helps to clear your head and calm you down. Classes that are held outdoors are freer and less restricted."

Children at Elm Road Elementary School in Osceola, Indiana, enjoy a variety of modular play structures. Nearby, a popular sledding hill was preserved on the site during the school's expansion and modernization.

Although the students at St. Lucie Elementary School are fortunate to attend school in an area that boasts a warm and sunny climate year-round ("there have only been two afternoons all year that we haven't been able to go outdoors," says Dr. Hartman), the importance of outdoor learning and play is a fundamentally accepted concept in schools throughout the country. Most schools offer students outdoor activities through recreational sports; playgrounds; and an assortment of learning environments such as amphitheaters, laboratories, courtyards, nature centers, and fitness areas. Outdoor environmental laboratories in particular are on the rise as school systems seek to take advantage of their sites by incorporating areas for children to participate in hands-on science and nature activities, such as gardening, raising insects and butterflies, conducting weather-related experiments, and learning about aquatic habitats.

Children at Maywood Elementary School in Hammond, Indiana, often enjoy instruction in the outdoor amphitheater, set within the school's landscaped grounds.

Outdoor Learning and Play

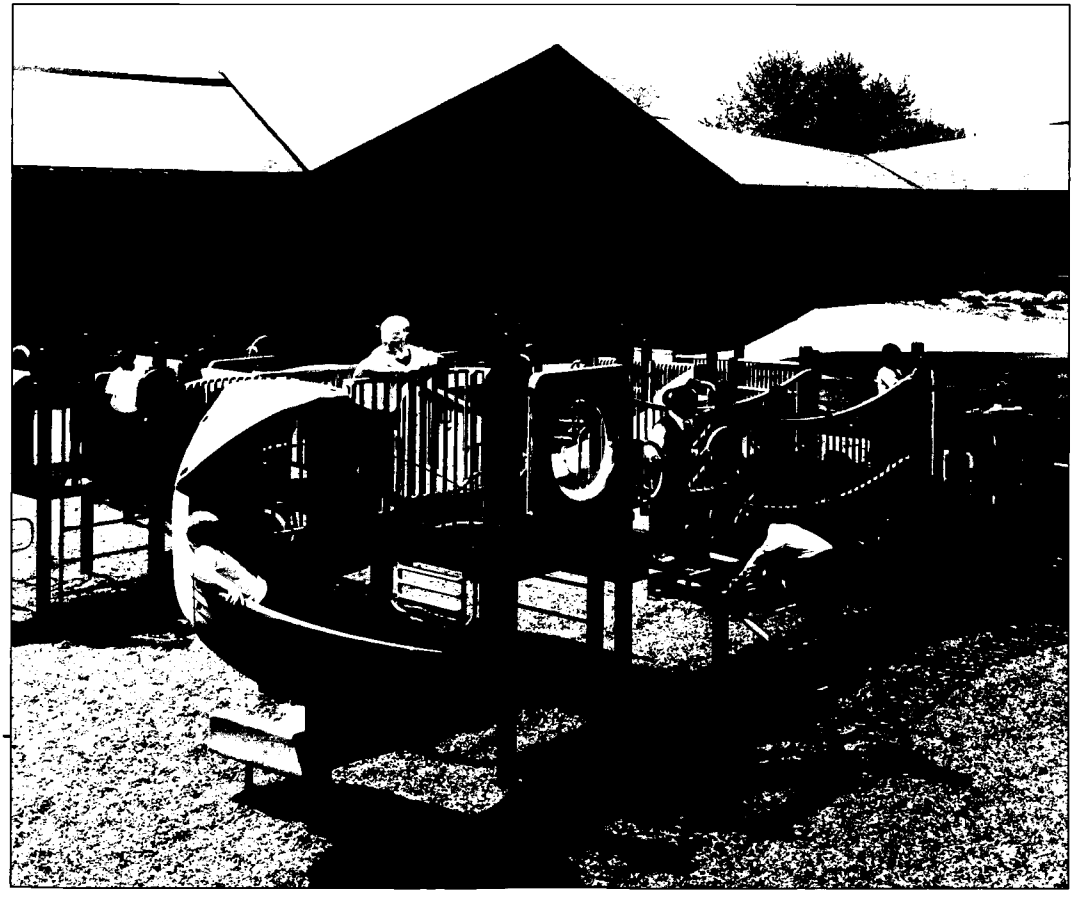
Modular structures, such as the multi-component play structure at Batesville Primary School in Batesville, Indiana, offer children a variety of climbing, swinging, sliding, and balancing experiences.

"My favorite part of school is going outdoors to the environmental lab," says Krista Parker, a third-grader at Horizon Elementary School in Granger, Indiana. "The best part is watching the fish and the turtles, and learning how water animals live. When we have class out there we get fresh air and that's the best part of the day." Clearly a favorite with Horizon students, the environmental laboratory is a source of pride for teachers and administrators as well: "It's wonderful," says second-grade teacher Martha Bartels. "The students love the turtles and the frogs—they're very concerned about them and how they live and survive. It's a living lab—in the spring we plant seeds and the kids can see things grow." Designed with extensive community input, the lab is in constant use, not only for science classes but for art and music as well. "Classes are constantly using the outdoor amphitheater," says Principal Jim Hendress. "When the parents visit, the kids do plays for them outside. It's one of the things we dreamed about as we planned this school, and still we didn't envision how much it would actually be used."

Nearby, both Prairie Vista Elementary School and Elm Road Elementary School also feature outdoor learning environments. The courtyard at Elm Road also features an amphitheater regularly used for classes, storytelling, or quiet reading activities. "We love our courtyard," says Bea O'Dell, a teaching assistant. "The kids have really enjoyed raising herb gardens out there. They plant the herbs and later they dry them. It's a great opportunity to be able to use the outdoors."

Many students at Maywood Elementary School have undertaken a five-day training course in mediation. Students work on the playgrounds in shifts to help diffuse confrontations and encourage non-physical resolution of conflicts. The school features two playgrounds, separating younger and older students.

At St. Lucie Elementary School, the grassy, open courtyard, which lies at the heart of the seven-building campus, is used for reading and social gathering, outdoor games, and a variety of community-based events such as the annual story book character day parade and the school's fall festival and spring fling. "All of the activities for the fall festival were held out in the courtyard," says Dr. Hartman. "We had arts and crafts, a moonwalk, game booths—everything worked very well." Dr. Hartman also points out that the school's intercom system contributes to outdoor activities: "We play music whenever the children are coming in and going out for their classes. In January, in celebration of Mozart's birthday, we played Mozart for them every morning and afternoon."



As the centerpiece of a primary school playground, modular play structures facilitate a compact playground design and make supervision easier. Children shown here are enjoying the playground at Joan Martin Elementary School in Hobart, Indiana.

THE OLD SCHOOL:

"We used to have to walk a long way to get to the playground. And then you'd get there and someone would have to use the restroom, and you'd have to walk back, making sure there was supervision."

Playgrounds, incorporated on public school property for both school and community use, have evolved considerably over the past several decades. Playgrounds constructed in the 1950s or 1960s typically offered metal play structures, such as swings, slides, and jungle gyms, over sand and asphalt surfaces. Many older playgrounds, including those built as recently as the early 1990s, are unlikely to meet current safety and accessibility guidelines for deck heights, buffer zones, guard rails and other protective barriers, and resilient surfacing. Today's play areas offer not only safer options for children in swinging, climbing, and sliding, but a greater sense of challenge and exploration through the installation of modular structures that feature a variety of play components, ranging from circular overhead ladders and ribbon slides to gear panels and periscopes.

THE NEW SCHOOL:

The playground for our young kids is so much more accessible. And we love having a drinking fountain out there."

— Sara Keaney, First-Grade Teacher, Alum Creek Elementary School; Lewis Center, Ohio

Most school systems today are incorporating two or three outdoor play areas for students, clustering age groups and providing separate access. Pre-kindergarten and kindergarten-level playgrounds typically feature swing sets, smaller-scale slides and climbers, and rocking or spring animals; as well as surface games such as four-square and hopscotch. Surface detailing for young children might also include "tot tracks," with sequenced shapes and colors, color circles, numbered lines, and painted clocks. Many playground features for children in this age group are designed to encourage a sense of both physical challenge and risk-taking, including balancing, exploration through changes in scale and height, climbing, and jumping; as well as social interaction through components including multi-seat spring rides and "open-ended" play materials such as sand and water.[1]

[1] See Thompson, Suzanne, *"The Role of Play in Children's Development and Implications for Public Playspace Planning,"* Play it Safe, An Anthology of Playground Safety.

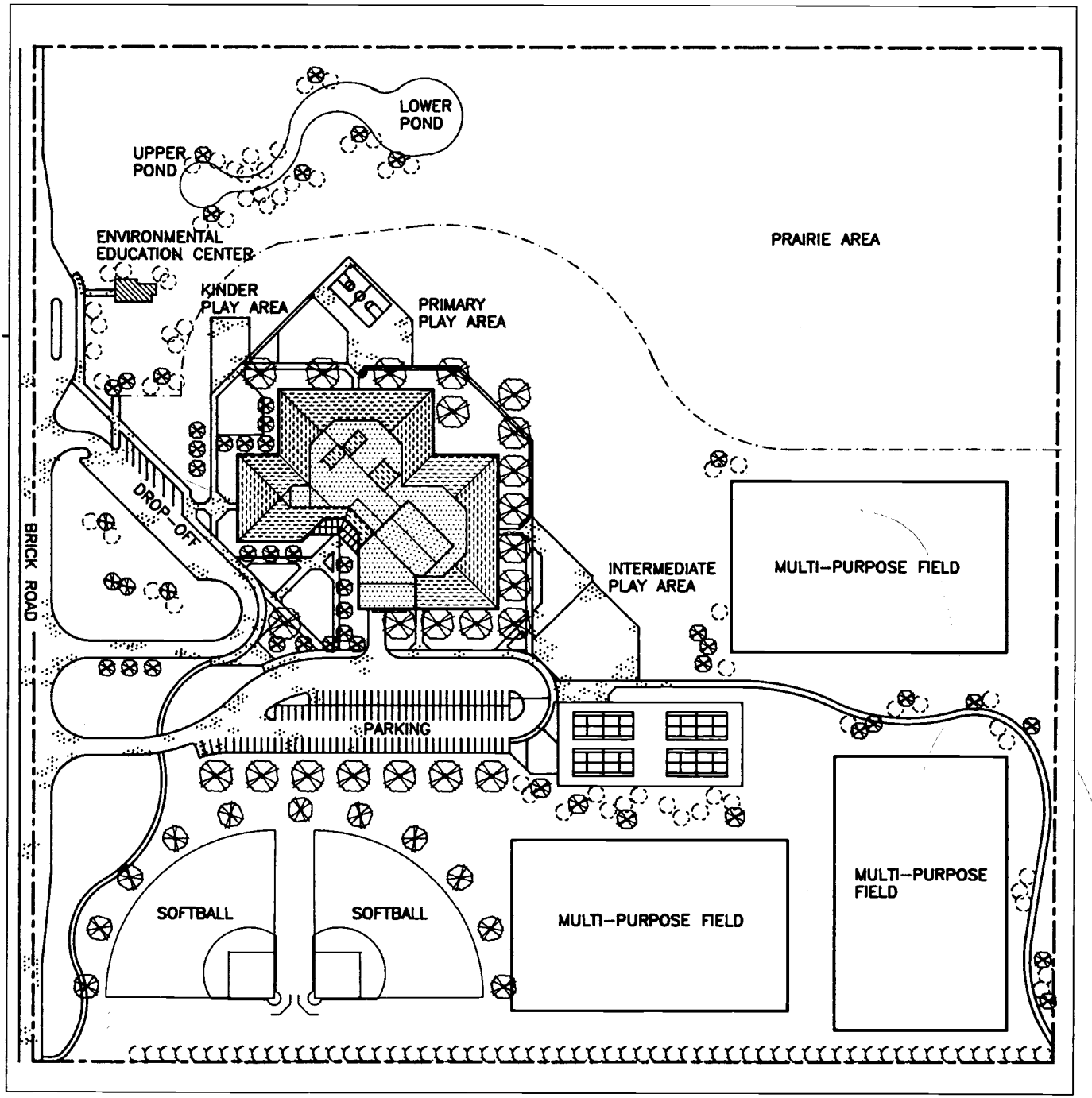
The play area for younger students at South Ripley Elementary School in Versailles, Indiana, is directly accessible from their wing of the school. Asphalt pavement, while not suitable for use as a resilient surface below play equipment, can be programmed as a "hard play surface" with painted games, which also meets accessibility guidelines. Around play structures, a combination of wood-fiber and rubber tiles represents accessible, resilient surfacing. Ramps and transfer points also help to meet accessibility requirements on modular play structures.

Primary and intermediate-grade level play areas incorporate equipment and larger structures with higher deck heights as well as components requiring more upper-body strength and endurance, such as rings and parallel or chinning bars. Fitness clusters may also be used for strengthening exercises. Play areas for older children often introduce courts and fields to encourage group game-playing that requires team interaction and rule following.[2]

[2]Ibid.

The environmental education center at Prairie Vista Elementary School in Harris Township, Indiana, features native plantings and an aquatic habitat.

Designed with extensive community input, the environmental lab at Horizon Elementary School in Granger, Indiana, is a favorite with students. The lab features native plantings, ponds, a small waterfall and bridge, and an amphitheater.


LOWER POND
UPPER POND
ENVIRONMENTAL EDUCATION CENTER
PRAIRIE AREA
KINDER PLAY AREA
PRIMARY PLAY AREA
DROP-OFF
BRICK ROAD
INTERMEDIATE PLAY AREA
MULTI-PURPOSE FIELD
PARKING
SOFTBALL
SOFTBALL
MULTI-PURPOSE FIELD
MULTI-PURPOSE FIELD

Competitive play components, such as full-court basketball, tetherball or funnelball, are also common in playgrounds for older children, as well as instructive features such as a U.S. or world map or a compass. Clustered benches and tables can be programmed as outdoor classroom areas. They also allow for socializing and informal gathering, and are often introduced in play areas for upper primary and intermediate grades. Contemporary outdoor play areas at all grade levels are also typically more compact than their predecessors of previous decades, allowing for more effective supervision and greater economy of playground surfacing.

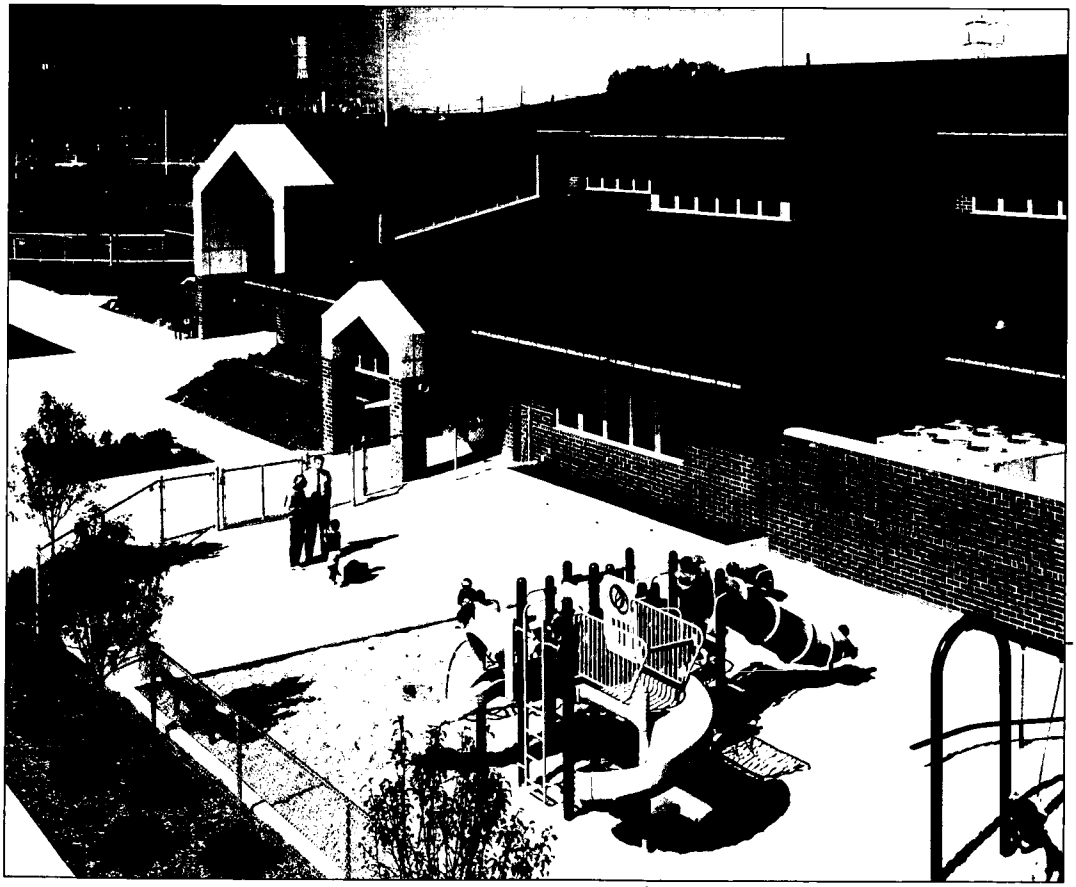
"Play is a life skill," says Director of School Improvement Lynn Black, of the Metropolitan School District of Pike Township, in Indianapolis, Indiana. "Physical health is a life skill. We've found that kids are not exercising as much as they should, and we need to provide an avenue for them to get outside and improve their physical fitness and social interaction skills."

Black spearheaded a committee specifically formed to oversee the planning of outdoor learning and play areas at the new Fishback Creek Public Academy in Pike Township. The committee, which included a physical education teacher, a special education teacher, additional faculty, and the principal, helped create the vision for use of the outdoors for play and instruction. The new school will feature two playgrounds as well as a number of fitness "stations" around the school campus. "We try to set up playgrounds to be age-appropriate for the children's development," says Black. "Our number one concern is safety; from there, we look at the equipment in terms of how it will enrich the children. We look at their interest levels; for example, older children are both more competitive and more social."

Among the committee's goals was the need to attract the community and ensure that local residents felt welcome on the school's grounds and play areas. "We want the playgrounds to have a park-like setting," says Black. "We'll include trash receptacles and a variety of flowering shrubs, evergreens, and trees. We'd like to include plantings

that attract butterflies and hummingbirds, but don't have a lot of pollen or attract bees. It's also our goal to have an outdoor environmental lab in the future, and this will give us a start. We plan to use the playgrounds to help teach our children about the importance of recycling and taking care of the environment. We'll be setting an example by showing them that much of the equipment is composed of recycled plastic and aluminum.

"Being outdoors does so much for the mental and physical well-being of children," Black adds. "We all know what being physically fit does for adults—why shouldn't we be offering that opportunity to developing children?"



Kindergartners in Whiting, Indiana, enjoy a fenced-in play area adjacent to the early-childhood classrooms at the Whiting Athletic Complex.

A Place Where People Want To Be

"In a modern facility, the teachable moment is within grasp. It can be reached."

—Sam Towarak, Assistant Superintendent, Bering Strait School District, Alaska

"IF I DESIGNED A SCHOOL IT WOULD HAVE AN AFTER-SCHOOL STUDY ROOM...more TV's to watch the Discovery Channel...**a water fountain at every desk...**a mall...A PET STORE, ELEVATORS AND ESCALATORS...COMPUTERS IN THE ART ROOM...a swimming pool and showers...A ROOM FOR WATER GUN FIGHTS...**an arcade...**a stage with a spotlight...**a museum with exhibits on the Egyptians, Black history, presidents, and dinosaurs...**AN AQUARIUM...and daycare for the mothers who want to go to work and don't have a babysitter."

—Students at Maywood Elementary School: Hammond, Indiana

Inset photo: Mrs. Lehman's Second-Grade Class, East Elementary School: Celina, Ohio

Artwork: Mrs. Willi's Kindergarten Class, North Franklin Elementary: Columbus, Ohio


I LOVE
my school

A Place Where People Want To Be

"It is not to be forgotten that children have eyes to see with, tastes to be gratified, and minds susceptible of pleasant and unpleasant associations, as well as their elders. If the parent has a taste to gratify in the location, construction, and adornment of his dwelling house, then the child has no less in those of the school house. As this taste is gratified or disregarded, it may be to him a palace or a prison."

—State Board of Education member in the mid-1800s

When asked about the differences between working in the new Washington Irving Elementary IPS #14 in urban Indianapolis and the circa-1878 school that preceded it, Principal Elizabeth Odle has no shortage of answers. "This school is in an impoverished neighborhood," she says. "When the kids come into school now, they feel great about being here. They love to show the school to other children. And the teachers don't have to fight the environment—they're more enthusiastic because it's made their job so much easier."

Odle also points out that the new building has enabled the quality of volunteerism to increase significantly. "Parents can do so much more now that we have the parent center," she says. "They have a place to work, even if they need to bring small children. They can stay longer and get more done. The parent center is right up front in the building, near our office. It demonstrates that we value our parents."

Joyce Ledell, whose son attends fifth grade at Washington Irving Elementary, has volunteered at the school since her son was in second grade, and has seen the contrast in the quality of the educational facilities since the new school opened. "The old school always brought back memories, because it was exactly the kind of school I went to," Ledell comments. "It's important for the kids to have something to look forward to. For my son, the technology has really made a difference. He loves the computers. He's very proud of the new school—it has so much more to offer."

Increased enthusiasm and energy, a greater sense of pride, improved flexibility and productivity, more efficiency and time savings, and enhanced volunteerism are among the many reasons that communities actively endorse modern facilities over outdated buildings as a learning environment. Sam Towarak, assistant superintendent of the Bering Strait School District in Alaska, points to another important difference: "In our new school in the village of Gambell, we've seen discipline problems come down. The students are able to stay focused on learning. The school is not overcrowded, as it

was before. They're also able to forget about the weather elements—the cold and the high winds—because the school is well constructed and withstands those elements. The entire school is programmed more for the kids now, and is very flexible."

Towarak also points out, as does Elizabeth Odle at Washington Irving Elementary, that the quality of community volunteerism has improved: "We enhanced our materials development center in the new school," he says. "This is where villagers come in to help prepare the materials used in the educational program, including those that address our native culture and history. Our volunteers are able to work much more effectively and quickly. Their space is now within the library, whereas before they were in a small room in a basement."

"People feel pride and respect in this school now," says Principal Elizabeth Odle of the new Washington Irving Elementary IPS #14 near downtown Indianapolis. "The design of the school dignified the neighborhood by complementing the homes. We've seen no grafitti, no vandalism, no destructive elements."

A Place Where People Want To Be

Harold L. Hawkins, professor emeritus in educational administration at Texas A&M University and a former school superintendent, points out that, "Although it need not be excessively ostentatious, a school sets a standard of excellence for the entire community. A building should attract people: students, teachers and others...A test of a good learning environment—and a good school building—is whether people want to be there when they don't have to be."[1]

Clearly, those directly involved in schools have become strong advocates for the quality of the learning environment, and point to many ways in which education is enhanced through better buildings. But are there specific results that indicate a direct tie between facilities and learning? Studies are limited, but the issue is receiving more attention than ever before. A few recent studies have shown that a correlation does indeed exist between the caliber of facilities and the quality of learning.

"The community is so proud of this school," says Shirleann Fahrenholz, a first-grade teacher. Principal Kent McIntire recalls the day the school opened: "You should have seen the kids on moving d[illegible] were as proud and e[illegible]ey could be. We'll n[illegible] their faces."

A study entitled "Building Condition and Student Achievement and Behavior," conducted by Carol S. Cash, reviewed 47 schools in rural Virginia during the 1991-1992 school year. The study concluded that, "...student achievement scores were higher in schools with better building conditions...science achievement scores were better in buildings with better science laboratory conditions. Cosmetic building condition appeared to impact student achievement and student behavior more than structural building condition. Finally, varying climate control, locker, and grafitti conditions were factors which were positively related to student achievement scale scores."[2]

[1]Hawkins, Harold L. "Building Schools That Maximize Learning." *School Planning & Management*, October 1996.

[2]Cash, Carol S., "Building Condition and Student Achievement and Behavior," 1992.

A Place Where People Want To Be

"Emerging education reforms are doomed unless we house them in environments that are conducive to learning...It is estimated that the average cost of constructing a new maximum security prison is more than $74,000 per prisoner... the average cost of constructing a new elementary, middle, or high school is less than $14,000 per student. We can clearly invest a little to save a lot in jails."

—Senator Carol Moseley-Braun. Illinois

A 1992 study reviewed the potential correlation between student achievement and building conditions in the Washington, D.C. school system. In her thesis, Maureen Edwards concluded that as a school's condition improved from one category to the next, such as from poor to fair, the students' standardized achievement scores rose an average of 5.45 percent. If a school condition improved from poor to excellent, average student achievement scores rose 10.9 percent.[3]

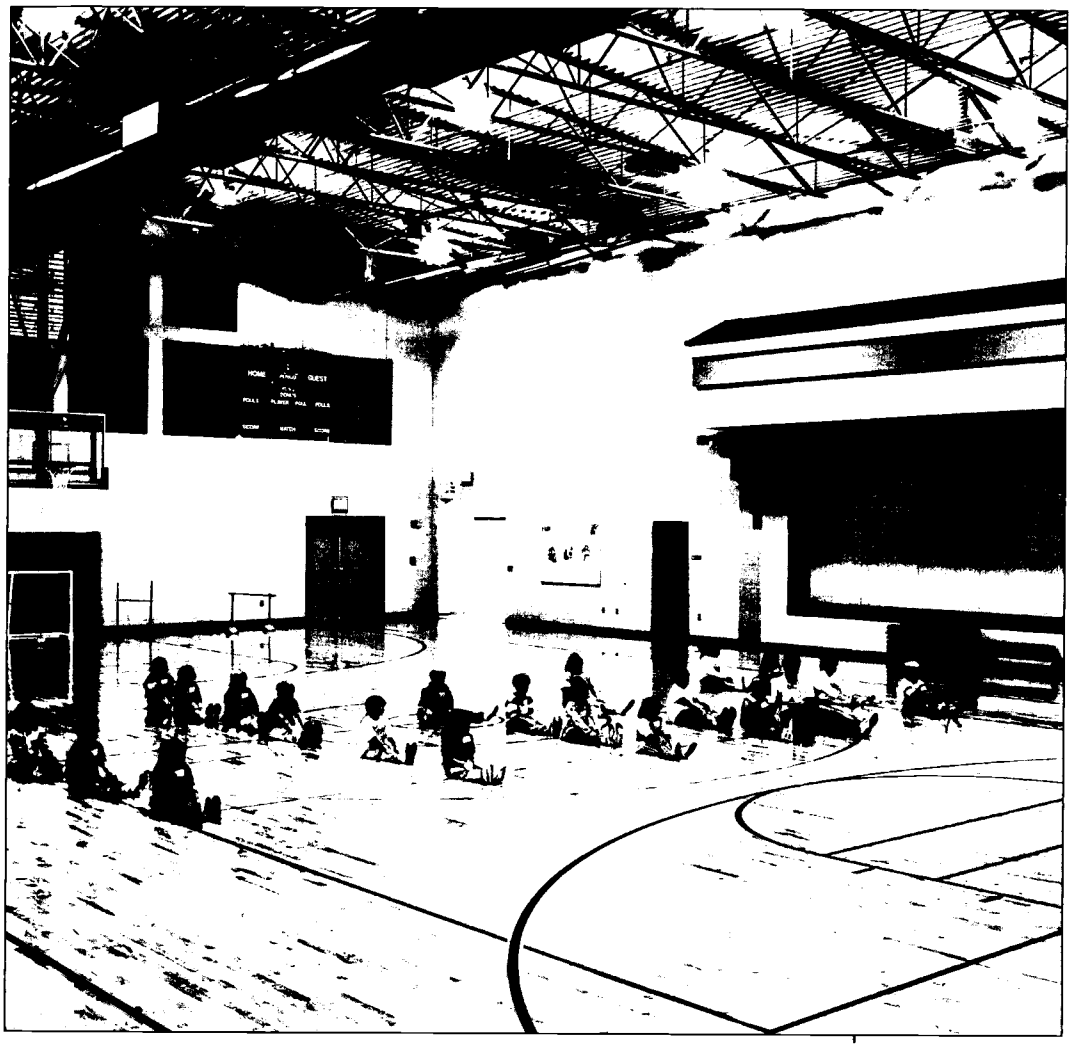
The Saginaw Schools project in Michigan involved the review of 31 schools. Staff in each school completed a School Improvement Survey that identified facility problems, more than two-thirds of which were addressed. During the five-year project, student achievement in math and reading rose in the highest achievement category and dropped in the lowest achievement category.[4]

Recently, Carol S. Cash, Glen I. Earthman, and Eric W. Hines summarized the findings of three independent studies, including the review of the rural Virginia schools, with this note: "In all three studies, students' achievement test scores were higher in the better buildings. The greatest increases were found more often in cosmetic factors. Several specific building conditions had a positive effect on performance. In all three studies, for example, students' complete composite or total scale score means were higher in buildings that had windows in the majority of the instructional classrooms. Performance also ranked higher in buildings with less graffiti, better locker conditions, and acoustical ceilings. The Virginia studies found higher scores in buildings with air conditioning and

[3] Edwards, Maureen M. "Building Conditions, Parental Involvement, and Student Achievement in the D.C. Public School System." Masters Thesis, Georgetown University, May 1991.

[4] Clans, Richard N. and Girrbach, Charmaine J. "An Assessment of the Saginaw Successful Schools Project: A Look at the Data." Paper presented at the Joint Meeting of the Evaluation Research Society and the Evaluation Network, Toronto, Canada, 1985.

[5] Cash, Carol S., Earthman, Glen I., and Hines, Eric W. "Environment Tied To Successful Learning." *School Planning & Management*, January 1997, p.12-14.



"Research shows that many people lose their jobs because they don't get along with other people, yet we tend not to teach that in our curricula. The school environment needs to allow for learning in which kids work in teams. And kids need access to technology—this isn't coming from us, it's coming from businesses and industries. Survival will be based on the students' productivity and knowledge of technology."

—Bob Flach, Assistant Superintendent, School City of Hammond; Hammond, Indiana

"Our gym is awesome," says Kala Anne Wolfe, a third-grader at Suncrest Elementary School in Frankfort, Indiana. "It has six hoops." "I like the whole school," says Tiffany Bower, also a third-grader. "It's big and pretty."

"I know from personal experience...when I was in the third grade, I was moved from a big, modern school to an old, gloomy school. It makes such a difference in how you feel about school. My biggest priority is safety. It means a lot to me that my girls enjoy going to school, and I enjoy being here to volunteer. I'm here all the time."

—Cindy Yost, Parent of Two Daughters at Taylor Road Elementary School; Reynoldsburg, Ohio

more recently painted exterior walls...Based on our research, there's no doubt that building condition affects academic performance...If administrators and board members can improve the achievement of students and choose not to take the necessary steps, one wonders what message is being sent."[5]

Fortunately, the message that schools do make a difference—and that they should be the centerpiece of a community and a strong source of pride—has begun to reach school systems and communities around the country. Dr. John E. Williams, superintendent of the Delphi Community Schools in Delphi, Indiana, points to the recent modernization

and expansion of Hillcrest Elementary School as one such success story: "This building has been very well received by our staff, the students, and the community. It symbolizes the way we were all able to work together—we took a dream and made it a reality."

Hillcrest fifth-grade teacher Wendy Kerker adds that she sees the difference every day in her students: "They're so much more excited...they look forward to so many different activities now—going out to read in the courtyard, getting up on the stage, or just being in the classroom because it's nice and airy and light. Last year, my fifth-graders told me they didn't want to leave to go on to middle school—they kept asking me, 'Can we stay?'"

Children at St. Lucie Elementary School in Fort Pierce, Florida, enjoy a number of different activities in the school's new media center, including access to computer programs. "I've read that there are over 3,000 scientific discoveries a day worldwide," says Bob Flach, assistant superintendent for the School City of Hammond, in Hammond, Indiana. "The scope of human knowledge doubles every 18 to 30 months. Technology is how we manage this information explosion—we need to bring the information of the world to the desktop."

APPENDIX

MAKING A WORLD OF DIFFERENCE
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Anna, Ohio
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Batesville Primary School pg 114
Batesville, Indiana

Borland Elementary School pg 36
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Cherry Tree Elementary School pgs 47, 81
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Contractors Association and Masonry Institute of Indiana, Excellence in Masonry '91 Award;
American Association of School Administrators, 1990 Special Citation for Architectural Design

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The Council of Educational Facility Planners, International, 1993 James D. MacConnell Award for Educational Facility Planning Excellence;
Energy User News, 1993 Certificate of Merit, Efficient Building Awards

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The Council of Educational Facility Planners, International, 1993 James D. MacConnell Award for Educational Facility Planning Excellence

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Morton Elementary School pgs 15, 82-85
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Ramsey, Indiana
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The American School Board Journal, Learning by Design,
1997 Citation of Excellence

Wyandot Run Elementary School pgs 48, 62, 94
Powell, Ohio

Photography

The majority of professional photography that appears in this book was taken by David Emery Photography of Columbus, Ohio.

Additional credits are as follows:

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Flint Lake common area - page 18: Hedrich-Blessing

Maywood children in alphabet circle - pages 21, 27: Fanning/Howey

New Britton cafeteria - page 31: Sarah Strouss

Plate of food - page 32: M. Keller, FPG International

Weston cafeteria - page 33: Jeff Garland

New Britton media center - page 36: Sarah Strouss

Borland classroom - page 36: Jeff Garland

Custom furniture - page 39: Edda Taylor Photographie

Table and chairs - page 40: KI, Green Bay, Wisconsin

Tables - page 41: Versteel, Jasper, Indiana

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Teacher and students - page 51: Sarah Strouss

Elm Road classroom - page 61: Artog

Student at computer - page 71: Sarah Strouss

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Cherry Tree media center - page 81: Artog

Girl at microscope - page 89: Debbie Lehman

North Harrison cafetorium - page 94: Bukva Photography

St. Lucie exterior (inset) - page 96: Fanning/Howey

Norcrest exterior - pages 100-101: Fanning/Howey

Woodbrook music room - page 104: Fanning/Howey

Children on playground - page 109: Roger Bell, Photographer

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Girls outdoors - page 119: David Young Wolff, Tony Stone Images/Chicago, Inc.

Boys with instruments - page 123: Arthur Tilley, FPG International

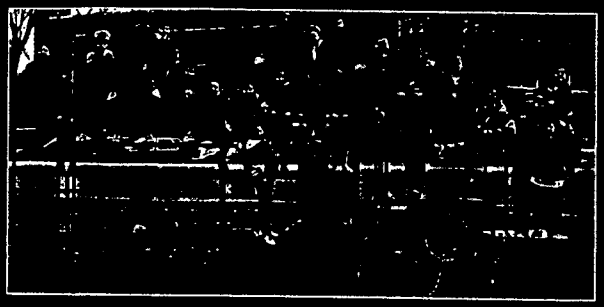
Kids on playground - inside back cover: Debbie Lehman

Inset photos of children in classrooms at the beginning of each chapter were provided by their teachers.

Text: C.L. Taylor, Capstone Communications

Design: Capital Design, Inc.

Printing: Fannon Color Printing



More than 100 children, including students in Debbie Lehman's second-grade class at East Elementary School in Celina, Ohio, participated in the development of Making A World of Difference: Elementary Schools *by sharing their ideas, suggestions, and artwork. Their input is reflected throughout this book.*

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"I DIDN'T REALIZE WHAT AN IMPACT A CLASSROOM COULD HAVE ON CHILDREN UNTIL WE MOVED INTO OUR NEW SCHOOL. OUR KIDS ARE DOING BETTER AND THEY'RE MUCH MORE ATTENTIVE. IT'S SO MUCH MORE PLEASANT. IN THE OLD CLASSROOMS THEY WERE EASILY DISTRACTED WITH THE CLUTTER AND THE PROBLEMS WITH HEATING AND NO AIR CONDITIONING...NOW, THEY STAY FOCUSED. THEY'RE COMFORTABLE...AND THEY'RE PROUD OF THEIR CLASSROOMS, THEIR DESKS, THEIR WORK ON DISPLAY—THEY FEEL MUCH MORE VALUED HERE."

—Roseann Williams, Teacher
Tivin Valley School, Ohio

"IF KIDS THINK THAT SCHOOL IS A WONDERFUL PLACE TO GO, THAT REMOVES THE BIGGEST BARRIER OF ALL. AFTER ALL, THIS IS SCHOOL! BUT YOU SHOULD SEE THESE KIDS COMING IN AT 8:40 IN THE MORNING—THEY'RE EXCITED, TALKING, LAUGHING...AND IN THE AFTERNOON, THEY DON'T WANT TO LEAVE."

—Jim Hendress, Principal
Horizon Elementary School, Indiana

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