PS 5, The Ellen Lurie School. Photo: Chuck Choi Photography, courtesy of Gruzen Samton LLP.
A rmed with research about how children learn—and with a strong commitment to include the community in the planning process—a growing number of schools are creating successful new learning environments that contain the seeds of promise for teaching and learning in the twenty-first century.

The following thirteen schools are examples of such creative educational projects. Together, they illustrate the six principles for designing effective learning environments:

• Enhance teaching and learning, and accommodate the needs of all learners.
• Serve as a center of the community.
• Result from a planning and design process that involves all interested parties.
• Provide for health, safety, and security.
• Make effective use of available resources.
• Allow for flexibility and adaptability to changing needs.

New schools are about more than just bricks and mortar; they are about Los Angeles' vision for its neighborhoods, communities, and our region. ... Schools shouldn't be just schools; they should be centers that spawn the civic fabric and provide ideas and places for people to meet. They should become village centers.

And the problems that everybody in a particular neighborhood sees will drive the design of that particular school.

—Connie Rice, The Advancement Project, Los Angeles, California
Built in 1996 with the community in mind, Gaylord High School serves 1,200 students in grades 9 through 12 and houses senior activities, daycare, performing arts programs, community healthcare clinics, and higher education classes.

Until this school was built, the City of Gaylord lacked an auditorium for concerts, recitals, and other functions. While planning the new school, a special auditorium committee—composed of educators and community members—identified both school and community needs, studied theater design, and considered the merits of a shared facility.

The school’s resulting performing arts center serves the entire community. Its 600-seat auditorium contains a generous stage area, an orchestra pit, ample storage space, a lighting catwalk, and a sound control booth. Adjunct spaces include a music suite with space for band, chorus, and ensemble practice; and instrument storage. Energy efficiency and indoor air quality were a primary concern, ensuring economical and healthful operation over the life of the facility.

The performing arts complex is located in the public area of the school and includes a large multifunction common space that particularly suits the variety of events held there. A large public entrance serves not only the performing arts center, but the school gymnasium, administrative offices, and dining areas. Academic areas can be secured from the public area during evening, weekend, and summer activities.

Classrooms at Gaylord High School are designed to accommodate community use too. By creating departmental offices with secure staff storage, the barriers to making classrooms open and accessible after regular school hours were largely eliminated.

School officials believe that community involvement in this project enabled passage of the school bond referendum; two previous referendums had failed. The positive results of the community engagement have extended far beyond construction. Gaylord High School’s activities have increased school and community interaction, communication, volunteerism, funding, and general support for students and their education. The entire Gaylord community has developed a strong vested interest in its school, and students interact daily with a broad range of community members.
Until this school was built, the City of Gaylord lacked an auditorium for concerts, recitals, and other functions. While planning the new school, a special auditorium committee identified both school and community needs, studied theater design, and considered the merits of a shared facility. The school’s resulting performing arts center serves the entire community. At left, the Gaylord entrance. Opposite: Gaylord Commons. Below: the auditorium of the performing arts center. Photos: Emery Photography, Inc., courtesy of Fanning/Howey Associates, Inc.
The Ellen Lurie School, known as PS 5, is a large prekindergarten through grade 5 urban elementary school that opened in 1993. Located in the northern Manhattan neighborhood of Washington Heights, the school serves a community comprised primarily of newly arrived immigrants from the Dominican Republic.

PS 5 operates in partnership with the Children’s Aid Society of New York, which offers health and family social services that are intended to remove barriers to learning (Quinn 2003).

The school’s exterior is decorated in primary colors, and passersby often refer to PS 5 as “the Lego school.” Its cheerful interior offers a stimulating environment rich with examples of student work. There are special classrooms with separate entrances and playgrounds for the school’s early childhood programs. A centrally located family room provides parents and other family members with a place to meet, socialize, and participate in workshops. Although the school principal is employed by the New York City Department of Education, and the community school director is employed by the Children’s Aid Society, the two have adjoining offices. This arrangement reinforces the formal and informal connections between the two organizations.

PS 5’s strong emphasis on early literacy...
is apparent in its physical environment. Brightly lit hallways are lined with bulletin boards; glass showcases display students’ short stories, vocabulary lessons, and other exercises. The after-school program—planned jointly by the principal and the community school director—enriches the school’s core instructional program by combining engaging literary activities with art, drama, journal writing, and role playing. Each semester, hundreds of parents participate in the school-sponsored family night, which showcases and celebrates students’ after-school work.

PS 5 considers parents and families major assets to their children’s education. The Children’s Aid Society has obtained funding for the Early Head Start and Head Start programs, which serve children up to age five. Because the programs emphasize active parent involvement, the school builds a cadre of parents who move into PTA and other leadership positions as their children progress from early childhood through elementary school.

Grade transitions are eased by the comprehensive nature of the program at PS 5 and by the school’s design. With kindergarten classrooms just down the hall from the Head Start rooms, students become familiar with the building and its staff at an early age.

The school’s family room helps make PS 5 a friendly and welcoming place for parents and the community. Operated by school and Children’s Aid Society staff, parents, and volunteers, the family room provides a space for parents to learn about the range of school activities and programs available to them and their children. These include such adult education classes as GED, ESL, and computer use; and classes on such parenting topics as adolescent sexuality, behavior management, and how to support learning at home. The family room also helps parents learn how they can obtain such key support services as emergency assistance, food, housing, legal aid, employment assistance; and help with benefits, tenant rights, and immigration questions. Apart from this, the family room serves as a meeting place for parents to socialize and network.

The Children’s Aid Society, in partnership with Mt. Sinai Hospital, operates a full-service medical, dental, and mental health clinic. Emphasizing preventive healthcare, the clinic provides annual checkups and screenings and acute care for sick children.

The integration of school activities and services is the result of extensive cooperation among staff and administrators. The Children’s Aid Society’s community school director is part of the school leadership team and the principal’s cabinet. Children’s Aid Society staff—the assistant director, social workers, and medical personnel—meet monthly with the director and participate regularly in meetings of the school’s pupil personnel committee.

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PS 5, The Ellen Lurie School
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http://www.childrensociety.org/media/general/cas-PS_5.pdf

Known locally as “the Lego school,” PS 5 operates in partnership with the Children’s Aid Society of New York. It serves a community made up largely of newly arrived immigrants from the Dominican Republic. The school’s strong emphasis on family services enables these parents to support student learning at home and offers them educational opportunities as well.

The children’s after-school program combines engaging literary activities with art, drama, and journal writing. Each semester, hundreds of parents participate in the school-sponsored family night, which showcases and celebrates students’ after-school work. Photos: Chuck Choi Photography, courtesy of Gruzen Samton LLP.
The mission of the Center for Applied Technology and Career Exploration in Rocky Mount, Virginia, is to prepare eighth- and ninth-grade students for the workforce of the twenty-first century. The center brings together curriculum development; state-of-the-art hardware and software; parent and industry involvement; and a new building designed to help instill technology in learning.

On a typical school day, students spend half of their time at their “home” school and the other half at the center. There they have an opportunity to investigate eight career tracks: arts, engineering and architectural design, environmental and natural resources, finance, health and human services, legal science, aerospace, and media. As part of their learning experience, students are immersed in solving real-world problems. Instructors act as facilitators, guiding students toward practical solutions. Through these experiences, students learn how to address problems effectively in diverse and collaborative groups; how to apply problem-solving skills using appropriate technology; and how to develop strategies that will help them adapt to change.

The center’s exterior looks more like a
corporate headquarters than a school building, consistent with its goal of exposing students in this rural Virginia community to the “outside world.” The center also serves as a community and business resource. It is available for community meetings, video-conferencing, and distance learning—thereby affording continued learning opportunities for people throughout the community and across age groups.

The center is part of a 60-acre campus that includes a YMCA and other community facilities. Its location provides students and faculty with access to an indoor competition-quality swimming pool, two gymnasiums, aerobic exercise rooms, a community meeting room, and an indoor jogging track.

The project is distinguished by its breadth of community participation, which has included civic leaders, business and industry representatives, personnel from local colleges and universities, parents and teachers—all of whom have worked together to develop the center and its curriculum.

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This school looks like a corporate headquarters, which is appropriate to its goal of preparing students for the workforce. Eighth- and ninth-grade students explore eight career tracks during half of their school day. The building is also open for community meetings, video-conferencing, and adult distance learning. Photos: Rick Alexander & Associates, Inc., courtesy of Hayes, Seay, Mattern and Mattern.
City Heights K–16 Educational Collaborative began in 1998 as pilot project targeting improvements at three San Diego schools: Rosa Parks Elementary, Monroe Clark Middle School, and Hoover High School.

The educational collaborative is part of the City Heights Initiative, a redevelopment project that is revitalizing an economically challenged section of the city. In this densely populated area, 72,000 residents speak more than 30 languages and scores of dialects. The diverse community has high rates of crime and unemployment. Nearly 60 percent of residents earn less than $25,000 a year; 30 percent live below the poverty line.

The City Heights Initiative is seeking to create an integrated “urban village” by providing a strong urban core of facilities and services. The project spans seven square blocks and covers nearly 30 acres. In addition to the three schools, the urban village has residential housing, a continuing education center, a Head Start facility, a state-of-the-art library, a swimming pool, tennis courts, a performance annex, a community service center, recreational fields, and a police station. The complex also includes office space for a local organization—funded by the City Heights Initiative—that is intended to give residents a greater voice in the community revitalization process.

Meager academic achievement has long characterized City Heights’ schools. Problems have included overcrowded classrooms, inadequate resources, and student and faculty transience. There is a high student dropout rate; only four in ten adult residents are high school graduates.

The goal of the educational collaborative is to enhance school programs, create better academic outcomes, and thus build a stronger future for the community. To do so, it has assembled an abundance of people, programs, curriculums, and community-centered opportunities for students. As one example, Rosa Parks Elementary School offers “School in the Park,” a program designed to use the unique educational opportunities of San Diego’s cultural institutions in Balboa Park (Price Charities 2003). It enables third, fourth, and fifth graders to spend up to nine weeks there, participating in week-long, hands-on education programs at 11 institutions.

Visits to museums and cultural institutions bring meaning to the students’ reading studies while engaging them in real-world affairs and concerns. Teachers, students, and museum educators are excited about this program and the added dimension it lends to learning. Students are reaping the rewards and posting 35-percent reading score increases, compared to a 12-percent increase for students outside the program.

Among the accomplishments of the City Heights Educational Collaborative:

- Attendance at all three elementary schools averaged more than 95 percent during the 1999–2000 school year.
- Between 1998 and 2001, more than 75 teachers were awarded a Masters of Education degree from San Diego State University, and approximately 175 student teachers completed an on-site teacher credential program.
- Collaborative schools have averaged 90-percent teacher retention since the effort commenced, compared to 65 percent in similar schools.
- Parent volunteers logged approximately 30,000 hours through adult education classes, community service, and school governance meetings.
- In addition to Price Charities’ support, more than $5.5 million has been secured by the collaborative’s grant development team to support activities such as the seventh-grade early college outreach program, extended-day programs, community and student health services, and summer academic camps.
- More than 25 journal publications, ten book chapters, and 17 conference presentations were generated from the City Heights Educational Collaborative experience in the first three years.
- Forty-two five-year scholarships of $5,000 per year have been awarded to Hoover High School graduates to enable them to pursue college educations at San Diego State University.

Collaborative partners include Price Charities, San Diego State University, San Diego Education Association, San Diego Unified School District, and the administrators, teachers, students, and parents of the three City Heights schools. Funding comes from the San Diego City School District, an annual $4.5 million

City Heights K–16 Educational Collaborative
San Diego, California

Case Study 4
City Heights K–16 Educational Collaborative
San Diego, California

SCHOOLS AS CENTERS OF COMMUNITY: A CITIZEN’S GUIDE FOR PLANNING AND DESIGN
22
research and development grant from Price Charities, in-kind partner contributions, and an aggressive grant development effort.

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http://www.pricecharities.com/CHI_education.shtml

The City Heights Initiative is a 30-acre “urban village” that includes three schools, housing, a community service center, a police station, and a library among other services. Photos: Joseph Martinez, courtesy of Martinez+Cutri Architects.
The Tenderloin Community School—serving 540 students prekindergarten through grade 5—incorporates a family resource center, a health center, counseling rooms, an adult education center, a parking garage, and preschool child development center.

Many of the resident families it serves are recent immigrants from Southeast Asia, and Central and South America. Two-thirds of the student population is classified as “limited-English-proficient,” with native home languages including Cantonese, Spanish, Vietnamese, Tagalog, and Russian, as well as English.

The school’s opening in 1998 ended a long period during which the Tenderloin was the only neighborhood in San Francisco without a grade school. Prior to that time, the area’s elementary school students had ridden buses to 47 different schools throughout San Francisco.

The Bay Area Women’s and Children’s Center (BAWCC), a community organization in the heart of the Tenderloin, was instrumental in solving this problem. BAWCC brought together a collection of organizations and individuals to convince the San Francisco Unified School District that a neighborhood school was needed.

BAWCC insisted that the school should be a locus of education and community activity, with space for community activities incorporated into the building. BAWCC continues its strong partnership with the school and funds programs, equipment, and services that include a librarian, computers and an instructor for the computer lab, dental clinic staff, a garden coordinator, additional pay for teachers who staff after-school clubs, and club materials and equipment.

The Tenderloin’s new neighborhood school enables parents to participate in their children’s education, particularly since the families of most of the students live within walking distance. Its downtown proximity provides opportunities for partnerships with the American Automobile Association, the McKesson Corporation, the St. Anthony Foundation, Hastings Law College, the California Department of Fair Housing and Employment, the University of San Francisco, and the agencies located in the Philip Burton Federal Building.

Students participate in visual and performing arts activities, and the school is part of the Adventures in Music program, which brings ensemble groups from the San Francisco Symphony and Ballet. To provide
the many facilities needed on the school’s compact urban site, the school roof is used for play areas, sitting terraces, and a community garden.

Jennifer Devlin, one of the architects who helped design the project, recalls attending early planning meetings. “The school district told us about the number of classrooms needed and the square footage required,” Devlin said. “But it was the neighbors—with help from translators—who told us about the value of children being able to walk to school, the parents’ desire to be more involved with their children’s education, the need for access to social services like healthcare and daycare in the same building, the benefits of a community garden on the roof, and the wish for a place that felt like home” (Devlin 2003).

The Tenderloin Community School, with its welcoming design, its diverse programs, its ongoing partnership with BAWCC—and its widespread community support—opens its doors to the innovation and learning happening within.

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627 Turk Street
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http://portal sfusd edu/template/default.cfm?page=about/about website

Serving many families that have recently immigrated from Southeast Asia, this school was planned to provide easy access to services like healthcare and daycare. Because many of the students live within walking distance of the school, parents can more easily become involved. Photos: (opposite page) Ethan Kaplan; (left) Mark C. Darley. Courtesy of EHDD Architecture.
By the early 1990s, it was clear that the overcrowded and deteriorated J.F. Oyster Bilingual Public Elementary School building in Washington, D.C., was not adequately supporting the school’s nationally acclaimed English-Spanish immersion program. Built in 1926, the school lacked appropriate space for instruction in science, physical education, special education, art, and music, and it did not comply with accessibility standards. Offices for after-school programs were squeezed into converted closet space, and neighborhood organizations had no access to the school for meetings, recreation, and other community uses.

The situation was dire. Because the city had no master or capital plan that could promise the needed building improvements, the Oyster School was placed on a list of proposed school closings. But parental concern coalesced into a determined effort to save and improve the school. An organizing group of parents and school personnel documented facility problems and presented them to the city, requesting specific repairs. When the reply came that nothing could be done, the parent group asked if the city would support a plan for replacing the school at no cost to taxpayers.

The result was the beginning of an innovative public and private development partnership among LCOR Incorporated, a national real estate development firm specializing in public and private partnerships; the District of Columbia Public Schools; and the District of Columbia government. LCOR would design and construct a new Oyster School in exchange for half of the school site. On the school’s half, it would build a new school building, and on the other half it would build a privately owned, 211-unit residential apartment building. The property taxes from the apartment building would be dedicated to repaying the tax exempt bonds issued to fund construction of the school building.

The 21st Century School Fund, which grew out of the original organizing group, initiated the public-private development partnership and saw the Oyster School project through to completion. 21CSF hired experienced professionals to advise the school system on real estate, architecture, construction, finance, and legal issues. It helped the local school community—including parents, teachers, and administrative
staff—participate in the decision-making process. The determination of the organizers and other dedicated community members enabled the project to move forward, even as the District of Columbia experienced turnover in mayors, superintendents, school boards, district governance structures, and school district project managers. The new J.F. Oyster Bilingual Elementary School opened in September 2001.

Development partnerships between public and private organizations, when part of a community planning process, can be an important—albeit limited—mechanism for generating revenue for school construction and contributing to economic growth. The Oyster development partnership provided a state-of-the-art public elementary school that will retain and attract good teachers, support a renowned dual-language education program, attract families to public schools, and allow students to learn, play, and grow in a healthy, safe, and educationally appropriate environment.

—Text adapted from Building Outside the Box: Public-Private Partnership: A Strategy For Improved Public School Buildings (21st Century School Fund 2002)

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http://www.k12.dc.us/schools/Oyster/oyster.html
21st Century School Fund
www.21csf.org

This unusual public-private partnership combines a bilingual school site with a private apartment building. Property taxes from the latter repay tax exempt bonds issues to fund school construction. Photos: Courtesy of LCOR Inc.
Serving students from the far-flung Maine towns of North Berwick, Berwick, and Lebanon, Noble High School opened in September 2001. The school district in this rural area extends so far that only one other Maine district buses children more miles to school.

Design and construction of the high school—which serves grades 9 through 12—was seen as an opportunity to unify the expansive community, making the facility a hub for the three towns and creating an educational center that enabled the district to carry out a number of education reforms. To date, these reforms have brought students from the bottom third to the top third in state achievement tests. The district is one of about a thousand in the United States belonging to the Coalition of Essential Schools, with curriculums focused on project-oriented teaching.

Noble High School’s design grew out of a yearlong planning process intended to draw input from everyone in the community. The school district held three public forums, made numerous presentations, distributed surveys and questionnaires to elicit comments, and formed a 20-member “future planning committee.” Students were invited to contribute ideas as well.

Learning units of 100 students constitute the school’s 15 academic communities. An interdisciplinary team of four teachers instructs students in math, science, English, and social studies. Each academic community has two classrooms, a large multipurpose room, a science lab, a project room, and offices for administrative and small-group use. The rooms vary in size and function and their design affords ample flexibility. Movable partitions can be rearranged to create larger spaces. In the science rooms, gas and water lines are located on outside walls to accommodate mobile lab tables. Multipurpose spaces have built-in display areas to highlight student projects for peer review, an important part of the school’s educational program. More than 2,000 data ports are located throughout the learning complex.

The students and community have equal access to the resources at Noble High School. A large library and media center, an audiovisual center, television studio, and editing room, two gymnasiums, and a fitness center are open for community use. Students enrolled in the two-year culinary arts program can practice their lessons while cooking for patrons dining at the Round Table, a 50-seat restaurant with a separate entrance and access to the town square. The restaurant—its kitchen stocked with commercial cooking equipment—is open to the community during school hours but is separate from the school cafeteria.

An adult education center also has a separate entrance and offers continuing education programs to community members. An all-day childcare center offers services to
students and teachers, as well as parents enrolled in continuing education classes. A community medical clinic, also with a separate entrance, provides healthcare for high school students and other children within the district. Through an arrangement with the local hospital, a nurse-practitioner is at the school every day. A 1,000-seat theatre is equipped to stage large community productions as well as those produced by the school. Originally designed with 500 seats, the theater was expanded on the basis of a community-wide referendum. A sophisticated lighting and sound system, and full fly gallery rigging, allow the staging of both amateur and professional community performances.

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The design of this high school was seen as an opportunity to unify the geographically far-flung community, making the facility a hub for the three towns. The students and community have equal access to the library and media center, audio-visual center, television studio, two gymnasiums, and fitness center. The school also houses an adult continuing-education center, all-day child-care, and a community medical clinic where a nurse-practitioner is on duty every day. A 1,000-seat theatre houses community as well as school productions. Photos: James R. Salomon, courtesy of Harriman Associates.
Crow Island School opened in 1940 and was named a National Historic Landmark in 1990. It currently serves 430 students in grades kindergarten through 5 in the Chicago suburb of Winnetka, Illinois. Designed by the architect and educator Eliel Saarinen and the firm of Perkins, Wheeler, and Will, Crow Island was among the first U.S. schools to incorporate concepts of progressive education in its design. Its novel architecture sparked discussion and debate when it opened, its design a distinct departure from the typical two-story square and rectangular schools of the day (Williams 1991).

The Crow Island design grew from the inside out, with children’s needs a primary force in determining individual classroom shapes and other more detailed aspects of the building. The benches in the auditorium are graduated in size, with the smallest in the front and the largest in the rear, so that the feet of every child can touch the floor. Blackboards and other fixtures are placed at the proper height for children. Door handles, light switches, and plumbing fixtures are scaled to a child’s level.

The school design also accommodates multiple instructional strategies. The L-shaped classrooms include adjacent workrooms and a private laboratory, a design that permits large group instruction while offering space for ongoing individual and team projects, science experiments, reading, and independent study. The classrooms are grouped in four separate wings according to
age level, and connected by a core of rooms for common use: the auditorium, library, gym, activities room, and administrative area. The grounds and play area extend from the classroom wings and are zoned according to age, providing increased freedom and greater safety for play activities (Winnetka 2003). Each classroom space provides access to an adjacent courtyard. Large windows offer extensive natural lighting and a strong connection between interior and exterior learning spaces. Adjacent to Crow Island School is Crow Island Woods, a virtually untouched forest abounding in wildflowers and wildlife. This wooded area provides an additional resource for teachers and students to explore and learn firsthand about the natural features of the local habitat.

Crow Island School exemplifies how learning environments can be responsive to the enduring qualities of childhood while reflecting the changing vision of school and its place in the larger community.

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Crow Island was among the first U.S. schools to incorporate concepts of progressive education in its design. It was made a National Historic Landmark in 1990. Photos: Courtesy of Perkins and Will, Inc.
Designed as an urban magnet school for the twenty-first century, Interdistrict Downtown School is situated atop a city-owned underground parking facility on busy Hennepin Avenue. Its neighbors include an historic theater, a university, a church, and a professional photo processing lab.

The $14.2 million facility serves 600 students—kindergarten through grade 12—in a 102,500-square-foot downtown building. The project is the result of a collaboration among ten school districts comprising the West Metro Education Program. These include Minneapolis, Brooklyn Center, Columbia Heights, Edina, Hopkins, Richfield, Robbinsdale, St. Anthony-New Brighton, St. Louis Park, and Wayzata.

Although the project was funded principally by a state grant, additional contributions came from a private Catholic university and the Minneapolis Community Development Authority.

In 1998, its first year of operation, the school served grades 3 through 8. Grades kindergarten through 2 and 9 were added in the second year, and the first class of twelfth graders graduated in June 2003. There are three school units: elementary, middle, and high school. Individual school teams of approximately 150 students occupy different floors of the building.

Shared and community-use spaces fill the street level. All school spaces are flexible, designed to accommodate different teaching and learning styles and help students learn while doing.

Athletic facilities and performance spaces were not built into this school; students use the YMCA and other nearby facilities. The building’s HVAC, plumbing, electrical, and communications systems are revealed on the interior to serve as teaching tools, with the principles of their operation integrated into the curriculum.

Rather than isolating students from the surrounding environment, this multicultural school uses its location to
integrate educational programs with the downtown neighborhood. It draws on local organizations as resources and uses them as external laboratories. Older students may spend as much as half of their time in these settings.

Partnerships have been formed with the Downtown YMCA, the Minneapolis Downtown Rotary Club, the University of St. Thomas, MacPhail Center for the Arts, Orchestra Hall, the Minneapolis Downtown Library, Illusion Theater, the Hennepin County Government Center, Loring Park, the historic Orpheum and State theatres, and numerous downtown Minneapolis businesses. School partnerships with downtown businesses, government agencies, and the arts community make it unique among schools in Minnesota and the nation.

The school is constructed of red brick, zinc panels, and ochre-colored precast concrete that complement the downtown architecture. Its creative design earned it the 2000 James D. MacConnell Award from the Council of Educational Facility Planners, International.

— Text adapted from Educational Facility Planner, “2001 Design Portfolio” (Council of Educational Facility Planners, International 2001)

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This multicultural school integrates educational programs with the downtown neighborhood. It draws on local organizations as resources and uses them as external laboratories. Older students may spend as much as half of their time in outside settings.
Photos: Cuningham Group Architecture, P.A.
High Tech High occupies the former Naval Training Center in San Diego. Launched in September 2000 by a coalition of industry and educational organizations, High Tech High is a small, diverse learning community with a projected enrollment of 400 students in grades 9 through 12.

The 40,000-square-foot school has 14 classroom-labs flanked by high-ceilinged open areas. The school’s size affords every student his or her own workstation and provides plenty of workspace for group projects. Other campus tenants include a culinary school, an architectural school, a community college, an artists’ colony, a micro-economic development core, and various public and private agencies. Plans call for a new wing to house international studies.

The school’s philosophy is based on three principles: personalization, adult-world connection, and common intellectual mission. Innovative features include performance-based assessments, daily shared planning time for staff, state-of-the-art technical facilities for project-oriented learning, required internships, and close links to the high tech workplace.

Each student has a personalized learning plan and a permanent advisor. Centered on a program called Habits of Mind, the curriculum is engaging and rigorous. Students create projects, solve problems, and present their work to review panels composed of advisors, mentors, parents, and community representatives. All students must complete academic internships in local business organizations during their junior and senior years.

The educational and facilities design model is being replicated in other places through a $6.4 million grant from the Bill and Melinda Gates Foundation.

— Text adapted from the website of High Tech High at http://www.hightechhigh.org/about/index.shtml
Close links to the high tech workplace are a feature of this school, where every student has a personal workstation, a personalized learning plan, and a permanent advisor. All students must complete academic internships in local business organizations during their junior and senior years. Photos: Brady Architectural Photography, courtesy of The Stichler Group, Inc.
The Henry Ford Academy, located at the Henry Ford Museum and Greenfield Village in Dearborn, Michigan, was developed through a partnership of the Henry Ford Museum, the Ford Motor Company, and the Wayne County Regional Educational Service Agency. The academy opened in the fall of 1997 with 100 ninth-grade students. By the time its first class graduated in 2001, the school had a full complement of 400 students in grades 9 through 12.

The collaborative effort of a global corporation, a prominent not-for-profit cultural organization, and the public school system has enabled an ideal integration of school and museum environments. Students at Henry Ford Academy use museum artifacts and exhibitions for analysis and inspiration. Math students examine the museum’s structure, making estimates and calculations of geometric components, such as windows, walls, ceilings, and exhibit spaces. Teachers use the school partnership with the Ford Motor Company to help students find real-world applications for their discipline-based studies.

After six years of operation, students clearly have embraced the school-at-a-museum concept, with attendance at 98 percent and test scores three times the Detroit average.

Rather than occupying a single building, the school’s grade levels are located in strategic areas of the museum site. The ninth-grade learning studio occupies the museum’s main exhibit building, giving students access to thousands of three-dimensional museum artifacts, including automobiles, trains, airplanes, and other implements and inventions.

The tenth-grade studio is located within Greenfield Village, a collection of more than 80 buildings that showcase American history. These buildings include the Wright Brothers’ bicycle shop, Thomas Edison’s laboratory, and Noah Webster’s house. The studio utilizes movable walls between major learning spaces, providing teachers and students with flexibility for team teaching and cooperative learning. The eleventh-grade studio is located nearby in a structure that once housed a nineteenth-century carousel. Here, a large gathering space is supplemented with modular learning labs to provide a variety of teaching and learning environments. With input from students, the twelfth-grade learning labs were located in
an assemblage of passenger train cars, with group meeting spaces in the adjacent railroad terminal.

By using the Henry Ford Museum as an educational facility, the total capital cost of developing Henry Ford Academy was less than a quarter of that required to build a traditional high school. Sharing auditorium, cafeteria, bathroom, and other common spaces with museum staff also provides more opportunities for students to interact with mentors. The result is a rich new learning environment.

Calling it “one of the most innovative, forward-thinking high schools in the nation,” the Council of Educational Facility Planners, International, awarded the project its 2001 James D. MacConnell Award for planning excellence (CEFPI 2001).

—Text adapted from the website of the Henry Ford Academy at http://www.hfacademy.org/

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Housed at the Henry Ford Museum and Greenfield Village, this school uses museum facilities as teaching tools. The total capital cost was less than a quarter of that required for a traditional high school. Photos: Courtesy of Concordia, LLC.
CASE STUDY 12

Met Center
PROVIDENCE, RHODE ISLAND

The Metropolitan Regional Career and Technical Center is a small grade 9 through 12 public high school open to students living in Rhode Island. Its philosophy is to educate one student at a time, with each student's curriculum reflecting his or her unique interests, background, and learning style. Instead of teachers, students have advisors who are responsible for facilitating and assessing each student's learning. An "advisory"—a group that includes a maximum of 14 students—begins in the ninth grade and remains together until graduation. The long-term relationship between advisors and students is intended to aid student motivation and learning.

According to The Big Picture Company, an education-reform organization that founded and manages Met Center, the physical design of a school helps to shape the learning within it. Co-director Elliott Washor says it is the company's vision to...

create physical spaces for Big Picture schools that support our approach to personalized, real-world education and family and community engagement. Big Picture School buildings are intended to be a home base for students learning in the real world. Our focus is on building relationships, and our physical spaces must support this effort. All aspects of our buildings play a role, from lighting to furniture and technology, to productive spaces for project and group work, to quiet, comfortable places for individual focus and reflection (Washor 2003).

Met Center's first campus opened on the Shepard Building in downtown Providence in September of 1996. In 1999, a second campus opened on Peace Street, and in 2002 four additional Met school buildings opened on a central campus in South Providence along with a fitness center, a performance space, and a state-of-the-art technology center.

As a part of their learning plan, Met Center students spend three days a week at their home base school, where overall enrollment is limited to six advisories. Students participate in extended learning experiences two days a week in an off-site location, such as a hospital, professional office, government office, or restaurant.
There, each student follows an innovative and highly personalized “learning-through-internship” model, where the student, advisor, parent, and mentor collaborate to support the student’s learning through an integrated curriculum based on real-world experiences.

With a grant from the Bill and Melinda Gates Foundation, The Big Picture Company is helping to replicate the Met Center model at 12 other locations. Besides Met Center, Big Picture schools are open in Oakland and El Dorado, California, and Federal Way, Washington. More are underway in Detroit, Denver, and Sacramento.

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The Big Picture Company, Inc.
http://www.bigpicture.org/

Personalized education is the hallmark of this school, which assigns each student to a 14-student “advisory” group that fosters long-term relationships between advisors and students. Each student may spend two days a week in an off-site location such as a hospital, office, or restaurant; this internship model provides real-world learning experiences.

Photos: Cal Wolk; all images courtesy of Concordia, LLC.
The School of Environmental Studies (SES) at the Minnesota Zoological Gardens is an “optional” high school that accommodates 400 juniors and seniors drawn from four large, comprehensive high schools in the 28,500-student Rosemount/Apple Valley/Eagan public school district in suburban Minneapolis.

SES opened in 1995. The full-day school offers a complete program of curricular opportunities, although students may elect to return to their home high schools for band, choir, specialized academic offerings, and athletics.

The 12-acre SES site gives students ready access to zoo facilities, as well as to those of the adjacent 3,000-acre Lebanon Hills Regional Park, both within a short walk. The site is being developed by SES students and staff to create a variety of environmental learning laboratories and programs.

The school is socially structured into houses, pods, and work groups. The primary unit is a house of approximately 100 students. The school has two junior and two senior houses, each with three instructors certified in English and communications, social education, and science. Within each house there are secondary-level pods of approximately ten students, as well as tertiary-level work groups. Many instructional problems or challenges are analyzed in work groups, which are sized according to the nature of the problem posed and the desired approach to solving it.

Pods are physical as well as social structures. Each pod has individual desks, two shared wardrobes, and a circular conference table. Students take both group and individual ownership of these spaces. The pods are set around a “centrum,” or great space, that forms the primary instructional area. Tables and chairs, rather than desks, make the pods highly flexible and can be
easily reorganized to suit the immediate needs of learners and instructors.

A visiting architect studying the relationship of the building to student activity noticed that the doors to the teachers’ offices always are open. Students take this as an invitation to hold discussions. The flow of traffic through these doors is constant, sometimes for questions of an academic nature, but just as often to share a personal thought or experience. Teachers eat in the same place and wait in the same lunch line as students; this fosters the idea of students and faculty working closely together.

Because SES has a relatively small student body, student-teacher relationships spanning the two-year period are common. Some occur as a result of field studies or short courses, others as the result of visiting different classes to share an area of professional expertise, monitoring a computer lab, waiting in the lunch line together, or participating in the in-house ultimate Frisbee league, all-school Socratic seminars, overnight camp-outs, and Earth Day.

Critically important to the school’s success is the willingness of local community members to act as mentors. Students working with artists, horticulturists, and architects have learned not only about the skills of these professions but have encountered adults with whom they can talk about a great variety of things. Field studies and intensive theme courses provide an additional opportunity for students and teachers to share long periods of time pursuing the same goals. An ongoing mentorship affiliation with the Lever Corporation and the National Park Service provides places for four students to intern in Yellowstone National Park each summer.

—Text adapted from the website of Independent School District 196 at http://www.ISD196.k12.mn.us/schools/sez

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The school’s social structure—houses, pods, and work groups—is reflected in its physical layout. Each pod has ten students, individual desks, shared wardrobes, and a conference table. These are set around a “centrum,” the primary instructional area. Photos: Courtesy of HGA; photo below by Don Wong Photo Inc.