By Christopher Johnson

Open the Win

Design New Spaces for Learning

JAMES STEINKAMP PHOTOGRAPHY

ISTOCKPHOTO.COM/4X6

Grant Community High in Fox Lake, Illinois, (above) and Claremont Academy in Chicago (below) were both designed by Cannon Design, one of three firms that created The Third Teacher. See more photos of creative spaces at www.TheThirdTeacher.com.

JAMES STEINKAMP PHOTOGRAPHY

ISTOCKPHOTO.COM/SEBASTIAN-JULIAN   ISTOCKPHOTO.COM/NICO_BLUE

It seems obvious but is often forgotten: Teaching and learning should shape the building, not vice versa. —*The Third Teacher*

dows

The title of this article was inspired by a Facebook post that my niece, Chelsea, wrote after her last day of high school: "No more windowless prison!!!!!" Perhaps she was just expressing her joy about finally being through with school. But I've seen her school—with its solid exterior walls and slit-like windows—and it does, in fact, look like a prison. While I do not believe that schools are prisons, Chelsea's comment got me thinking about how our typical physical learning spaces—holdovers from the industrial designs of Henry Ford—might be hampering our ability to construct environments conducive to creativity and higher-order thinking.

As a technologist, I am interested in how the digital world is changing the educational landscape. As I began to research effective learning spaces, I discovered that the architecture, design, and school facilities communities are making a great deal of progress in creating better classrooms and school buildings (see "Resources on Learning Spaces," page 14). Unfortunately, many in the educational technology community are unaware of innovations in school design, and, therefore, their voices are missing from these important discussions.

This is why ISTE has launched a yearlong initiative to explore ideas put forth by school designers and architects, and invites the educational technology community to develop new models of what schools should be. As part of this initiative, ISTE, in cooperation with the University of Arizona South, has created the Designing New Spaces for Learning Project (http://learningspaces.arizona.edu). The project acknowledges that a number of individuals, organizations, businesses, and design firms are exploring what

schools of the future will look like. However, this work is often unknown in the ISTE community. Therefore, the overarching purpose of this project is to form partnerships to provide ISTE members with the most up-to-date information on principles for design, research-based best practices, and strategies for building innovative schools. We hope you will visit the project website and use the resources provided there. More important, we encourage you to become active in an exciting new conversation about how what we know about emerging technologies can inform the design of new schools and classrooms.

Why the Discussion Needs to Change

We need to be creating spaces where students can do real things in real places.
—Gavin Dykes

In *The Language of School Design: Design Patterns for 21st Century Schools*, Prakash Nair, Randall Fielding, and Jeffrey Lackney discuss the classroom as a symbol of educational philosophy.

> It is a philosophy that starts with the assumption that a predetermined number of students will all learn the same thing at the same time from the same person in the same way in the same place for several hours each day.

The traditional classroom design makes sense if this is what we want learning to be. But we know that this model of schooling, developed to match Henry Ford's ideas of efficiency, is not the best way to learn. Research from the National Academy of Sciences expressed in texts such as *How People Learn* and *How Students Learn* as well as ISTE's NETS for Teachers suggest strategies that focus on active, student-centered learning. The pages of *L&L* are filled with suggestions for creating technology-rich classrooms. However, the conversation about building 21st century classrooms rarely includes dis-

cussions about improving the physical space. It is time to not only focus on what technology can do to engender creative learning, but also talk about improving the spaces where learning takes place.

A New Way of Talking about Space

In the book *Campfires in Cyberspace,* author and futurist David Thornburg assigns metaphors to the four spaces where learning happens: the campfire, the watering hole, the cave, and life.

The campfire. This is where we have gathered throughout history to pass on the stories that represent our culture and wisdom. The campfire exemplifies our formal learning spaces. These are our classrooms, auditoriums, and libraries, where students gather with their teachers to learn their formal lessons.

The watering hole. This represents all of the informal places where people gather to share information with peers. Whereas meeting spaces around schools, such as hallways, cafeterias, and courtyards, provide students with areas to gather and share gossip, they are not purposefully designed as places where students and teachers can get together and discuss what they have learned "at the campfire." Similarly, these spaces are often overlooked as venues where more formal learning could occur.

The cave. This is where we come "in contact with ourselves," as Thornburg puts it. This can be a library, office, bedroom, kitchen, or den, where we process what we've learned.

Unfortunately, other than the library, it is often difficult to find quiet places in our schools where students can reflect on their learning. In fact, schools are often purposely designed without these potential quiet places.

Life. This is the term Thornburg uses to describe the fourth place. In life, we apply what we've learned. It can be at our jobs, in our homes during interactions

In the 1940s, pioneering Italian teacher and psychologist Loris Malaguzzi founded the Reggio Emilia approach to learning on the premise that children develop through interactions, first with the adults in their lives–parents and teachers–then with their peers, and ultimately with the environment around them. Environment, said Malaguzzi, is the third teacher. enter site

Teacher provides a number of simple but profound design principles that can guide school planning. According to the book, design principles are derived "from a mix of theory-based knowledge, experience, and common sense. They tend to be written in a prescriptive manner, suggesting to designers what to provide and what to avoid."

Thus, these principles can serve as guides in everything from making small changes in your classroom to remodeling or building facilities. They offer a pallet of ideas that can be mixed to meet the needs of your students and school environment.

The foundational principle of *The Third Teacher* is that everyone can be a designer. Look not just to architects and designers, but to teachers and students as well the staff and community, who will become partners in your journey to create transformative learning spaces. Here are a few other examples from the Third Teacher website that illustrate how the design principles might guide you as you envision future places to learn:

Unite the disciplines. "Art and science need each other. Discoveries—great and small—happen when the two

with family members, or in our relationships with others in the community.

Students need to be free to interact in all four of these spaces to hear the wisdom of the elders, share their understanding, test their assumptions with peers, retreat to a quiet place to reflect on what they have learned, and then apply that knowledge in authentic settings.

Transforming Your Classroom
In the book *The Third Teacher: 79 Ways You Can Use Design to Transform Teaching & Learning*, the authors suggest ways to meet students' basic cognitive, emotional, and physical needs as well as how to transform our ideas of instructional space. *The Third*

come together; so give students places for cross-disciplinary work, and who knows what genius will flourish."

Open the doors. "Give students places to exhibit their work as if it were in a public gallery, then invite the public to come in and have a look." A classroom that exemplifies these principles might start with a simple discussion between a science teacher and an ar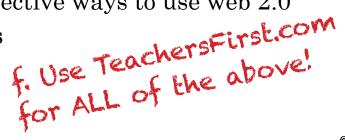t teacher who decide to develop a crosscurricular activity. The students' work could then be displayed in a public area near the front office. Or the conversation could be expanded to create spaces where scientific and artistic creativity flourish and where parents and the community at large are actively involved in student learning.

Make peace with fidgeting. "Think of it as brain development, which it is. Then think of how to make room for it in the classroom." Most school environments, especially the furniture, are designed to limit students' physical movement. This principle can be combined with the next one to easily take into account the needs of growing bodies.

Swivel to attention. "Give students furniture that lets them twist and lean safely. The movement will increase their ability to concentrate." Many of us have

memories of sitting uncomfortably in a desk that was too small or that restricted our movements. Allowing for movement could be something as simple as replacing old or damaged chairs with furniture that absorbs the movement of a fidgeting child and lets them move as necessary to match any learning activity.

Slip off your shoes. "Creating a learning space that's safe and comfortable to navigate in socked or slippered feet offers an opportunity to use a physical act—the taking off of shoes—as mental preparation for learning."

Let the sunshine in. "And the gray skies too. Increasing daylight in classrooms has been shown to cut down on absenteeism and improve test scores."

Put the fun in fundamentals. "Injecting a learning space with playfulness and humor creates a warm and welcoming atmosphere."

Expand virtually. "Make sure a classroom has the capacity to link into learning opportunities beyond its four walls—even beyond Earth itself."

Dream big and be brave. "The rate of technological advancement is increasing exponentially. When designing schools, don't let today's reality limit tomorrow's possibilities."

These examples show how a teacher or school leader can have a big impact on a classroom or other learning space. *The Third Teacher* also offers insights about building new and innovative spaces. In the chapter "Community Connections," the authors offer three principles to set a foundation for the school development process:

Let your grassroots show. "To rally support for a new school, establish a visible presence for the campaign in your community."

Move in together. "Building a new school is an opportunity to make friends with other community services, such as libraries and recreational

Resources on Learning Spaces
There are a number of excellent resources to learn more about the importance of appropriate learning space. Here are a few you may find useful:

American Architectural Foundation: www.archfoundation.org

American Institute for Architects: www.aia.org

Architectural Foundation: www.archfoundation.org/aaf/gsbd/index.htm

Be Playful Design: http://beplayfuldesign.com

Centre for School Design: www.thecentreforschooldesign.org

Committee for Architecture in Education: www.aia.org/practicing/groups/kc/AIAS075163

Council for Educational Facility Planners International: www.cefpi.org

DesignShare: www.designshare.com

EDUCAUSE Learning Initiative Learning Spaces: www.educause.edu/learningspaces

Edutopia: www.edutopia.org

FutureLab: www.futurelab.org.uk

Great Schools by Design, American National Clearinghouse for Educational Facilities: www.edfacilities.org

On the Development of Learning Spaces by David Jakes: http://jakes.editme.com/educonlearnspace

OWP/P | Cannon Design: www.owpp.com/content.cfm/k12_portfolio

Society for College and University Planning: www.scup.org/page/index

The Language of School Design: www.designshare.com/index.php/language-school-design

The Third Teacher: www.thethirdteacher.com

facilities, and perhaps even make a new home together on a single campus."

Consult widely and early. "Those heading up the planning process for a new school will get off on the right foot by inviting every potential user and stakeholder into the process— right from the start."

These seem like simple and intuitive ideas, but those involved in school planning often forget them.

Advocate and Share Your Vision
Whether you are a classroom teacher, librarian, technology integrator, administrator, policy maker, or parent, you can help change the school learning environment. If you are a classroom teacher, you may think you do not have the power to change your school. However, you can start creating an innovative environment by surveying your classroom and asking yourself, "If I could change one thing, what would it be?" For example, you might change the arrangement of the tables and chairs or start posting more student work and inviting the community to view it.

You can also become an advocate for change by learning the language of school design yourself. Then, as opportunities arise, you can become an informed voice within your school community.

If you are a school leader, you too can begin by exploring the language of school design. This will help you incorporate these principles into a new vision of a learning environment that takes advantage of both physical and digital spaces. Then, as you create these new spaces—be it a renovation of an existing space or the development of a new space—you can create opportunities to involve all participants, including students, teachers, and community members, in a conversation about what the school values and how the space will support a new way of learning.

As community members, most of us remember "school" as a room with four walls with a teacher standing at the front. It's time to envision a new model of learning where students, teachers, and the community can take advantage of the wide range of emerging technological tools in spaces that foster creativity and collaboration in a safe and secure environment.

Regardless of your role, it is important for you to communicate your expectations of what a school should be to your local, state, and federal policy makers and encourage them to fund and support this new model of learning that takes advantage of the best of technology in supportive learning spaces.

Finally, as you join us in the journey to explore the best of what we know about learning, technology, design, and physical space, challenge yourself to think beyond your current environment. As you cast open the windows, allow your imagination and creativity to guide you in developing the best possible environment, both physical and virtual, for your students.