

# GAME CHANGERS

EDUCATION and  
INFORMATION  
TECHNOLOGIES

Edited by **DIANA G. OBLINGER**

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Game Changers: Education and Information Technologies

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FROM THE EDITOR

I would like to thank the many people who made this book possible, particularly Gregory Dobbin for managing the project and Karen Mateer for her research.

—Diana G. Oblinger

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## Ball State University

**Jo Ann Gora**

USING TECHNOLOGY to take learning beyond the classroom, connecting the traditional classroom to the world, is Ball State University's educational niche. Underlying this approach is the assumption that the best instruction requires leveraging the best technology, but it also necessitates the creation of rich learning experiences that enable students to pull the world to them, irrespective of place.

Immersive learning stands as the centerpiece of Ball State University's current strategic plan, in which interdisciplinary teams work with a faculty mentor as they solve real-world problems and deliver a meaningful product to a business, community, or nonprofit organization. This initiative, enhanced by an emerging media emphasis (<http://www.bsu.edu/Academics/CentersandInstitutes/EmergingMedia>), has included more than 12,000 students participating in at least one of the more than 750 immersive-learning projects since 2007.

Perhaps no other example better illustrates the possibilities for the enhancement of learning through technology than the experience known as Polyark/World Tour in the College of Architecture and Planning. Juniors and seniors in that college take a global tour every other year (<http://cms.bsu.edu/Features/Global/ImmersiveLearning/Polyark>). In spring 2010, forty students majoring in architecture, landscape architecture, and urban planning visited twenty-three countries and fifty-six cities including Paris, Madrid, Cairo, Beijing, and Istanbul, led by three of their professors. Dating back to the 1970s, the experience focuses on the development of a rich vocabulary by which students can better contextualize, design, and interpret their surroundings.

During each World Tour, the students have daily assignments in each locale related to the components of theory, design, analysis, and collaboration, which mimic the professional experience. Students continually explore the relationship

between culture and the surrounding physical environment, testing their observations both as field researchers and architectural practitioners. However, the *methods* that students use to complete those assignments and share their observations and field study have changed drastically in the last few years.

For many years, students' tools were the sketchbook and notepad, with the occasional use of still photography. The fact that the film had to be developed in order to share the images with other team members was a limitation for completing assignments. Typically, students returned after weeks abroad and gathered their notes, journals, sketches, and photographs, and only then could begin assembling architectural presentations based on their findings. Each student was also required to apply content learned to the development of a proposed project for the student's hometown, which produced another presentation of architectural renderings.

In recent years, the use of technology has revolutionized this process. Students increasingly use today's digital tools, including smartphones, point-and-shoot digital cameras, and laptops to gather their data in the field. These devices are small, lightweight, and versatile, and they also can be used as scanners and recorders to convert field notes to classwork assignments and design projects.

The profusion of Wi-Fi connectivity, even in so-called underdeveloped countries, means that today's Polyark students can upload their findings more frequently and quickly. This enables them to share information with other team members and with their fellow students and faculty back on campus. Additionally, two-dimensional photographs or drawings of polygons can be quickly transformed via software into three-dimensional images, allowing for immediate manipulation. Utilizing digital media allows the student to arrive at solutions much faster than through traditional analog media.

Polyark students develop their work using a combination of analog and digital tools, a necessity as the course takes place in the field and is subject to all the complications of field study, including weather. However, students are required to submit their daily assignment to their faculty in digital form. That classwork is posted to a centralized website from the road in real time. Faculty members review the students' work, relying on digital tools to provide comprehensive feedback to the student and the greater global-tour community.

An additional, immediate connection between those students on the trip and their colleagues back at the university is made possible via a daily blog, housed at the World Tour website, <http://www.bsu.edu/worldtour/polyark18/courses/journal.html>. Instead of waiting until they return to campus to share their journal notes with classmates, the Polyark students can now do so electronically in real time from halfway around the world.

The various forms of emerging media have changed the course content as well. World Tour faculty organizers now require that students work on two simultaneous projects—one a detailed analysis of a design encountered in one of the cities visited, and one a parallel design to be developed for use in the student's hometown. Obviously, it is much easier to electronically adapt and apply designs when completing these requirements than it was when everything was accomplished with notebook and sketchpad. College of Architecture and Planning faculty are incorporating iPads into next spring's World Tour for use as an all-in-one communication and graphics device, thereby taking this process to the next level.

Using emerging technology to provide students with a fuller, more meaningful academic experience is certainly applicable for other institutions and programs. In fact, the model has spread to several other courses in our College of Architecture and Planning. Every other year, those students and faculty complete a ten-week field study and collaborate on design and planning in southern Asian cities. Called CAP Asia (<http://www.bsu.edu/Academics/CollegesandDepartments/CAP/Activities/StudyAbroad/CAPAsia>), this program employs many of the same technological breakthroughs to enhance teaching and learning both for students on the trip and for their colleagues on campus.

In addition to CAP Asia, architecture faculty and a team from Ball State's Institute for Digital and Intermedia Arts also were instrumental in developing the Las Americas Virtual Design Studio (<http://www.bsu.edu/Academics/CentersandInstitutes/EmergingMedia/Videos/DigFab>). This collaborative exchange enabled more than thirty Latin American architecture programs and Ball State to work on an annual common design project. By using a virtual reality program for enhanced collaboration, nearly two hundred students and faculty members developed designs to convert a large Indianapolis hotel into a "surge" medical facility that would treat the wounded in a natural disaster.

The impact of emerging technology on academic experiences is demonstrated in many ways. The College of Architecture and Planning has received numerous national awards, including being named by *Architect* magazine as one of the top three institutions nationally in digital design, a talent honed by the students in Polyark/World Tour. Ball State alumni work for many of the world's leading architectural firms, including HOK, Skidmore, Owings & Merrill, Frank Gehry Partners, and RTKL Associates, and several recent graduates have used their experience in digital design to land that first job. For instance, Tyler Kirages, a 2011 graduate with a bachelor's degree in landscape architecture, now works for the prestigious firm of DTJ and Associates in Boulder, Colorado, in part because of his digital work at Polyark.

For decades, Ball State University students have learned collaboratively,

further blurring the lines between traditional faculty and student roles. The emphasis on emerging media across campus enhances these efforts while simultaneously extending their reach. The integration of fieldwork with emerging technologies is a powerful tool that prepares these students with an education that readies them for the knowledge-based, global economy they will experience after graduation.

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**Jo Ann Gora** became the fourteenth President of Ball State University in August 2004. Under her leadership, the university has dedicated more than \$25 million to its emerging media efforts since 2008. In 2009, she earned the Mira Trailblazer Award from TechPoint for her significant and lasting contributions to technology innovation in Indiana.

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