very revolutionary transformation has a natural evolution. Un-
curbed enthusiasm, rising expec-
tations, disappointment, and
sometimes counter-revolutionary
activity are usually part of the evolution of
transformations whether in politics, agri-
culture, economies, learning, or technol-
ogy. It is only through the advantage of a
historical lens that the fundamental and
dramatic change becomes visible.

Early in the personal computer and
networked learning revolution, visionar-
ies, evangelists, and commercial interests
imagined rich-media, shared landscapes
with novel opportunities for multisens-
ory learning. In the two decades since,
the road has been uneven at best. Glori-
ous failures and half-wins litter the land-
scape, with no shortage of analysis about
the resistance to change or, more point-
etly, the resisters to change.

Not surprisingly, in the first decades of
the IT revolution, disproportionate
amounts of intellectual energy and finan-
cial investment were expended in building
out the technology foundations. Despite
prophecies of transformational learning
environments with new media, immersive
environments, and even artificial learning
agents, the nascent infrastructure was nei-
thé robust enough nor architectured fully
enough to deliver on the vision. More im-
portant, the first generations of networks,
operating systems, and tools inherently
disrupted the habitual rhythms of most
working environments. As a result, cam-
puses now rely heavily on technology and
Web resources that, though radically alter-
ing the academic landscape, have re-
mained centered on the build-out of core
services around the core infrastructure.

Today, the traditional infrastructure-
centric role of IT has reached an impor-
tant juncture. To be sure, these core en-
abling facilities and commensurate
investments retain an important and in-
deed indispensable role. In addition, new
demands, such as for improved cyber-
security infrastructure investments, will
undoubtedly develop. But it will be the
ways in which we leverage the latest gen-
eration of infrastructure for teaching and
learning that will differentiate and distin-
guish academic institutions. Along with
the next-generation network, powerful
microsystems that fuse processors, stor-
age, graphics, and network instructions
on single chipsets and advanced services-
oriented software architecture provide
opportunities for learning environments
that would have been construed as fantas-
tical just a few years ago.

And the transformation has already
begun. A growing number of institu-
tional and organizational initiatives are
documenting what amounts to signifi-
cantly more than random acts of new
media literacy. Networked collabora-
tion—in real time, across considerable
physical distances—is ushering in excit-
ing opportunities, ones no longer limited
to high-energy physics or computer sci-
ence. For example, new forms of perfor-
mance art are being conducted on a
routine basis over advanced network in-
frastructures. It is not only that existing
needs are being met by connecting musi-
cians, dancers, and choreographers to each
other remotely. Never-before-possible
learning outcomes are changing the very
form of the art itself. New curriculums
are being built on the regular, Net-based
collaborations between artists and per-
formers. This virtual stage carries with it
significant promise (and, of course, its
share of critics).

Finally, we are also being challenged to
develop institutional responses to the re-
alities brought to us by a new generation
of learners. The “box” of the classroom
will not contain or meet the needs of the
new global culture that the Net has
spawned. Both millennials, with their na-
tive technology proclivities, and the
larger population of lifelong learners, re-
turning to education for career enhance-
ment and life enrichment, will have little
tolerance for “playing school.” Colleges
and universities need to validate and cap-
itize on the propensities of these learn-
ers and leverage their abilities for engag-
ing authentic challenges and each other.

In agreeing to take on the editorial role
for the EDUCAUSE Review New Horizons
department for the next two years, I ex-
pressed an interest in—and was pleasantly
surprised to receive approval for—dedi-
cating this column to stories about inno-
vative institutional strategies for address-
ning this new and exciting frontier. Over
the next issues, readers of the New Hori-
zons column will be exposed to pioneer-
ing—and often daring—efforts in the
transformation of learning environments
through the integration of multimedia.
To capture the breadth of compelling sto-
ries in this area, I have invited an eclectic
collection of distinguished colleagues to
reflect on the impact of new technologies
in areas such as curriculum design, the
nature and meaning of literacy for learn-
ers, and the profound, long-term changes
to human cognition occasioned by the in-
tersection of new media, the learning en-
vironment, and work.

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I hope that emerging from this open dialogue will be a new agenda that will help to inform strategies for institutional engagement, teaching, faculty support, original lines of scholarly inquiry, and even innovative research projects. For the first time in human history, we can create an analyzable data set combining DNA, neurological scans, and nearly unlimited amounts and unsurpassed quality of human stories and personal histories. The possibility of developing a human sociology of biomedical research (or vice versa) is every bit as provocative as it is likely to generate demand for a whole new set of skills and Ph.D.’s.

Recently, two events at Case Western Reserve University have led me to an epiphany. The first involved wireless access. After rebuilding the campus network, we layered a ubiquitous wireless network and created a cloud that rained down connectivity. Next, we connected our campus and more than 1,200 metropolitan educational, library, museum, research, cultural, and government assets through the OneCleveland initiative. Then I met with a group of students at Case. They said: “Wireless is cool, but we already have that here. What are you planning for us this year?” For students, the issue of wireless access is “academic.” Wireless—and more generally—network access is, in large measure, an extension of today’s physical reality. Asking students at Case about how they use wireless services is the equivalent of asking a fish about how it uses water. Wireless access, like water, simply “is.”

Then, early in the 2005 academic year, the instructional and academic computing group at Case assembled an extraordinarily exciting rich-media search tool for video-captured lectures for almost all large, first-year courses at the university. MediaVision Courseware, as the project is called, provides a comprehensive learning-management environment with a video-centric design. The learning outcomes are compelling. Students are spending two to three times more hours on their subject matter and are able to watch and search for key concepts, to outline subjects, and so forth. In some courses, historic benchmarked performance data is shifting positively for the first time in decades. When students are surveyed about MediaVision Courseware, they say it is “cool.” But, like wireless access, such courseware is simply de rigueur. For them, integrated streaming media courseware is an entirely normal extension of how they live, play, and learn.

And so, the epiphany for me is that the issues related to integrating new media and learning are every bit as much about helping institutions learn (and change) as they are about transforming the individual learner. As we like to say in the IT world, students already “get it.” The point is to help higher education institutions “get it” in a meaningful way that aligns with the vision and mission of these complex organizations.

The signs are incredibly promising. After early skepticism and even some obstruction, new media literacy is being seriously debated and integrated into core curriculums at a number of the most forward-thinking and prestigious colleges and universities in the world. New media, human creativity, and the legal system represent a core disciplinary offering in the best law schools in the United States. Storytelling through new media, once relegated to “soft science,” is gaining currency in the social sciences and humanities, as are fascinating collections of human stories tied to health sciences research. Gaming curriculums as a multidisciplinary undertaking with engineering, art, human interface design, medical, and business students have exploded in popularity. Gaming, simulation, and emulation research is promising in disciplines as diverse as surgical practice, electrical engineering, and computer science. Virtual reality and augmented reality technologies are forming another platform of innovation for forward-thinking institutional leaders.

The next decade may well be seen by future historians as transformational. The internalizing of the institutional imperative to absorb and project future success through new media will change the dynamic forever. Clearly, old patterns of hierarchies, research traditions, and teaching and learning practices will not disappear overnight. However, just over the horizon, many of the contradictions experienced during the first evolutionary phase of the new media revolution will be resolved. The prestige of our institutions may well depend on that.