

# Educating the Net Generation

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Diana G. Oblinger and James L. Oblinger, Editors



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# Educating the Net Generation

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ISBN 0-9672853-2-1

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# The New Academy

**Carole Barone**

*EDUCAUSE*

## Introduction

Something is happening to the academy—outside the consciousness of the majority of its members. A new academy is forming that

- ▶ acknowledges the changes manifested in the Net Generation,
- ▶ uses the power of technology to enable deeper learning,
- ▶ demonstrates the interplay of culture and technology, and
- ▶ changes the nature of interaction among the members.

Some within the academy are aware of these trends, but view them with trepidation because they represent a fundamental change in well-established assumptions regarding how faculty teach and how students learn, not to mention how the academy governs itself. Not engaging in thoughtful self-examination, however, may pose the greater threat.

Technology and pedagogy are converging in the learning landscape. Often this collides with the process, structure, governance, power relationships, and cultural values of the traditional campus. Efforts to transform higher education face deeply entrenched cultural, behavioral, and philosophical resistance. The decade-long effort to convince the traditional higher education community of the transformational power of technology (for example, through the work of the National Learning Infrastructure Initiative, <http://www.educause.edu/nlii>) has yet to yield the breakthroughs many anticipated.

The arrival of the Net Generation on campus is causing unrest in the classroom.<sup>1</sup> A wave of young people empowered to create knowledge, not merely absorb it, now flows in and out of the classroom, calling into question the convictions and processes that have served as the foundation of traditional higher education. It remains to be seen whether traditional higher education will adjust sufficiently to truly engage the Net Generation.

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Alternative ventures targeting today's learners have begun to succeed in the traditional higher education market:

- ▶ Kaplan Higher Education offers undergraduate and graduate programs, both online and on campuses (<http://www.kaplan.com/>).
- ▶ Capella University is fully online (<http://www.capella.edu/>).
- ▶ Pepperdine University offers an online master's degree program in educational technology (<http://gsep.pepperdine.edu/academics/education/ma-edtech/>).
- ▶ American InterContinental University offers degree programs both online and at campuses in multiple states (<http://www.aiuniv.edu/>).
- ▶ The University of Massachusetts Online is adding five new degree programs for 2005 ([http://www.umassonline.net/news/shownews.cfm?news\\_ID=62](http://www.umassonline.net/news/shownews.cfm?news_ID=62)).
- ▶ The Apollo Group, the parent company of the University of Phoenix, projects an increase of 12 to 13 percent in its on campus enrollments and a 40 percent growth in its online enrollments over the previous year by the end of the first quarter of fiscal 2005 (<http://www.bizjournals.com/phoenix/stories/2004/08/23/daily37.html>).

These examples are indicators of enhanced confidence in the quality of the educational product offered online. In addition, the results of a study recently issued by the Sloan Consortium revealed that enrollments in online courses grew by nearly 20 percent from 2003 to 2004. The report concluded that this rate of growth far exceeds that of traditional higher education enrollments and “there is no evidence that online enrollments have reached a plateau.”<sup>2</sup>

## Confronting the Reality of Change

The growing impact of technology is evident in higher education. Technological change, and changes driven by the Net Generation, challenge—some would say threaten—higher education to assimilate the resulting roles, rules, and relationships in a new academy. That new academy must grow out of a traditional campus context that has successfully resisted such intrusions in the past.

When something happens that causes upheaval in our lives, our initial reaction is often denial. To some the emergence of a new academy constitutes just such an upheaval. Denial—and resistance to change—is believed to be a way of preserving the “academic values” that many see as central to their professional way of life. Habits and traditions are not academic values, however. Milton Greenberg discussed the “fantasies” or artifacts of higher education, such as the

credit hour, in “A University Is Not a Business (and other Fantasies): “...the major higher education institutions are caught in a time warp. Teaching and learning tend to be served up in the same old containers, in the same old spaces, using the same old concept of fact-to-face interpersonal relationships.”<sup>3</sup> Ironically, the only way to preserve true academic values, such as pursuing knowledge for the sake of knowledge, the process of discovery itself, or critical inquiry, may be to evolve from the familiar to the unfamiliar—in other words, to embrace the emerging new academy.

Higher education decisions are still governed by traditional expectations and mores. Perhaps we should take note of Langenberg reminding us, “... I am unaware of any cases in which successful buggy-whip makers made the transition to successful manufacturers of automobile-engine starters.”<sup>4</sup> The presence of the Net Generation on campus and the growing acceptance of their “ways” in the external economic and social communities have yet to stimulate widespread transformation; traditional processes continue leading to traditional outcomes. Like the buggy whip, the traditional classroom lecture, the cultural values, and even the edifices associated with higher education seem to belong to another place and time.

Some traditional academics feel that the habits of the Net Generation result in a superficial grasp of their discipline and do not embody the gravitas of an “educated” person. Others claim that the Net Gen lacks “taste” in the choices it makes among online sources and resources. A growing number within the new academy, however, ask what traditional higher education is doing to engage the Net Gen in developing intellectual depth, sophistication, and good judgment in evaluating and using online sources of information. The Net Gen will not be intimidated into abandoning their preferences for interactive, easily accessible, Web-based information sources. They will simply work around the attempts to force them to revert to the traditional activities. If technology is enabling the development of their “information-age mindset,”<sup>5</sup> then technology is also a means of engaging these learners in a deeper learning experience.

There are options. Some traditional higher education institutions are trying to find the wherewithal to change from within. The longer traditional higher education remains in denial of the reality of the new academy, the less feasible transformation becomes. Higher education must avoid the mistakes of the business community. Resilience is preferable to resistance. As Hamel and Valikangas noted,<sup>6</sup> a transformation is a turnaround tragically delayed. Denial produces a

sort of paralysis that makes it difficult to take the actions necessary to move from the past into a new reality.

## Expectations

Historical perspective has a great impact on the convictions that both faculty and students bring to higher education. Many faculty members expect students who are like they were when they were students themselves, 25 to 30 years ago; they plan their courses and teaching methods accordingly. Meanwhile, because of the images of the “college experience” society continues to provide them, many incoming students still expect a classroom experience dominated by lecture halls and blackboards; traditional institutions reinforce these expectations regarding where and how students will be “taught.” Most students still believe that this is how they should learn.

Students have daily encounters with technology and innovation in many areas of their lives; in fact, their social interactions may be organized around instant messaging, blogs, and other technology-based modes of communication. Students may use PDAs and wireless networks to stay in touch with each other, to get information, to vet their ideas and thought processes. Yet, they are not surprised by the mandate that they sit in classrooms and listen to lectures when they get to college—they just get bored and restless. Thus, it should be no surprise when they eventually—perhaps inevitably—begin to question the ways we ask them to learn, because those ways do not match with the interactive access to information and modes of communication by which they learn in other aspects of their lives.

Using data from studies conducted at Washington State University (WSU), Gary Brown argued that higher education is disassociated from reality “and nowhere is it more deeply rooted than in the perceptions of students.”<sup>7</sup> This disconnect seems to be driving an increasing sense of disenchantment with the traditional approaches to teaching and learning. Data indicate that students enter higher education expecting the traditional learning environment, but also expecting to be intellectually engaged in, and challenged by, the learning process. Similar to the WSU study results, George Kuh reported that three years of data from the National Survey of Students Engagement<sup>8</sup> revealed that over the course of their undergraduate years, students become increasingly disengaged from, and disillusioned with, the higher education experience. Cynically, perhaps, they may do what they have to do to earn the grade, and then learn what they need to learn elsewhere . . . and for the digital generation, “elsewhere” is the Internet.

Even those faculty deeply entrenched in established ways of doing things may be starting to feel that something is not working—that they and their learners simply are not on the same page—and therefore learning outcomes are suboptimal. Even though something may feel wrong in the formal classroom setting, most faculty have not yet made the transition to the alternatives presented by the new academy.

Faculty may use the Web to stay current with the latest thinking in their disciplines, but they expect to teach in a traditional classroom setting because that is the only way to ensure that students are learning the “right” things the “right” way. It is clear that some of our sacred cows, such as the lecture as a mesmerizing solo performance, “seat time” in the classroom, the academic calendar (which Milton Greenberg referred to as “a meaningless fiction”),<sup>9</sup> may not be able to make the journey to the new context of teaching and learning successfully. Perhaps they should not, given the new realities presented by our students, their use of technology, and their expectations for extending that use to support their learning.

Many faculty who attempt to adapt to the learning styles of the Net Gen expect to receive individual attention from the campus instructional support staff to make the transition. One-on-one consultation works fine when there are just a few brave pioneers experimenting with new modalities. The resource base breaks down, however, when the majority of faculty need ongoing instructional design and consulting services. Most campuses have fragmented support structures and few, if any, academically trained instructional design professionals. Few institutions have the budget resources to scale these support units to meet faculty expectations for individual attention.

It takes vision, courage, and communication to change expectations and to move toward behaviors manifest in the new academy, an example of which is the University of Central Florida (UCF). UCF’s strategy is to offer groups of faculty within specific academic departments a blended course (part online, part traditional classroom setting) on how to teach a blended course. It is a worthwhile, scalable, and sustainable support strategy.<sup>10</sup> Faculty experience learning in the new modality as they learn how to transform their pedagogy to engage the Net Generation. At the same time, the necessary support services can scale in subtle ways. Faculty learn how to use standard, supported products, as well as how to adjust to a one-to-many model of support staffing. Thus, the UCF model serves as an example of how expectations, processes, and relationships need

to change—and can change—in the context of the new academy. Such changes prepare a faculty that can reach the Net Generation on its terms—faculty who are ready to serve in the new academy.

## New Context, New Academy

Thus far, the new academy has been described by inference. What does the term really mean? What are its key characteristics? Five characteristics separate the new academy from the traditional paradigm of higher education:

- ▶ The interplay of culture and technology (the socio-technological context)
- ▶ A multidimensional framework for action
- ▶ New cultural values
- ▶ A new style of leadership
- ▶ The relationship of learning to space

## Socio-Technological Context

The interplay of culture and technology in the social environment is the dominant attribute of the new academy. All other aspects of the new academy stem from this dynamic. Understanding that technology's major impact has been social indicates that, in the new academy, the campus community must come to terms with a new identity expressed in new processes and behavioral conventions.

At the fall 2004 NLII Focus Session concerning learning space design, Carole Wedge, president of the architectural design firm Bulfinch Richardson and Abbott, spoke about the social aspects of learning and of “the compelling need for professionals and researchers to work collaboratively.” From her perspective, social structures are increasingly enabled by and intermingled with technical ones in higher education. Indeed, the way many of us live our lives assumes “an integrated social, technical, and cultural environment.”<sup>11</sup>

How institutions acknowledge the role of technology in their missions, actions, interactions, curricula, and instructional modalities sends an important message regarding the philosophy and form of the new academy. The following examples are instructive.

- ▶ The University of Central Florida's Web-enhanced course has become the instructional norm, according to Joel Hartman, UCF vice provost for Information Technologies and Resources. UCF studies show that students enrolled in “blended” courses “produce higher student learning outcomes . . . and [such courses] make more efficient use of classroom space.”<sup>12</sup> Blended courses

engage students in active learning experiences. UCF's extensive assessment program (<http://pegasus.cc.ucf.edu/~rite>), headed by Chuck Dziuban, has shown improvement in learning and retention among students in these courses.

- ▶ Because the desire for convenience is one of the hallmarks of the Net Generation, Carnegie Mellon Online offers courses specifically for its residential students (<http://online.web.cmu.edu/public/about/courses/>). Being able to fit a desired course into a class schedule depends on schedule conflicts, work schedules, learning style, or even when a student chooses to learn. Online asynchronous courses are convenient.

These examples illustrate that change is possible—not just through new organizations such as Kaplan and the University of Phoenix, but also in well-established institutions such as Carnegie Mellon University and the University of California. The sooner institutions begin to examine the implications of the interplay of culture and technology, the better they will be able to address the tensions created by this dramatic change—and take advantage of new opportunities it presents. Those campus communities that choose to remain in denial will be distracted by the tensions generated by the disconnect between the new realities of the Net Generation and the traditional institutional context.

## New Decision-Making Framework

The pervasiveness of technology in higher education has affected all other components of the higher education environment, as well as the dynamic created by their interaction. Until the advent of the Information Age and the arrival of the Net Generation, the higher education community expected its environment to be characterized by static variables, linearity, logical progression, consistency, and incremental adaptation.

New computing and telecommunications technologies, however, have ushered in a new environment characterized by unpredictability and disruptive change. Unfortunately, the current governance processes of higher education, which evolved in an earlier context, are not well adapted to the more fluid, dynamic environment in which most institutions now find themselves. Decision making within higher education suffers from conventions and timetables that assume institutions have not months, but years, to adapt to changes in their environments.

In the just-in-time, technologically intensive world in which our institutions now must function, we know that these old assumptions simply do not hold. The acad-

emy's sense of time, and thus the ways in which it determines its actions and strategic directions, increasingly fails to connect with the world beyond the ivy walls.

The new academy is characterized by the complex interplay of agents, technologies, roles, communities, and rules. Paraphrasing from an earlier publication,

Faculty, students, administrators, and campus leaders are the agents of change. Technologies, tools, and techniques are the instruments the agents have available to enable change in their realm of influence. Roles, relationships, and perspectives change as the technologies empower the agents in new ways. For example, students use e-portfolios to manage and own their learning, and they use wireless to discover new knowledge even while engaged in a traditional classroom experience. New technologies, tools, and techniques fundamentally change the nature of the academic program. Technology is enabling the formation and enhancing the effectiveness of many different types of communities that now coexist on campus. New communities form because members are using the tools. The interaction of agents using technologies, guided by rules in their roles within communities, has the potential to produce unanticipated, and often transformational, outcomes.<sup>13</sup>

For example, the introduction of wireless communication capability on a campus changes the dynamic in the classroom because students have instantaneous access to sources and resources. It changes the concept of community because wireless enables individuals to sustain relationships beyond (or even without) in person meetings. It changes power relationships and shifts the locus of control in the learning process from the faculty member to the student.

Instead of serving as safeguards of quality, traditional policies and guidelines such as class contact time stipulations become barriers when most learning takes place outside the traditional classroom setting. Governance practices that fail to take the dynamic in this new decision-making framework into consideration will stall progress toward a new academy. The campus community will eventually develop workarounds as a type of “shadow governance system” to enable the institution to continue to operate.

## Cultural Values

The integration of technology into the fabric of life on virtually every campus will inevitably have a significant impact on campus culture, values, and gov-

ernance—an impact on the institution’s very understanding of its identity and mission. As a result of these impacts, a new set of roles, rules, relationships, and behaviors—not to mention a transformed sense of time—will emerge, recasting the institution in the mold of the new academy. The difference in cultural values between the traditional academy and the new academy may offer us the clearest picture of the shape this recasting will take. These cultural differences are shown in Table 1.

The critical examination of issues and proposed actions need not be constrained by the forms and expectations of governance models based on a stable, relatively unchanging institutional environment that, in many cases, no longer exists. By embracing the cultural values of the new academy, institutions can establish forms of shared governance that rely on dynamic, interrelated frameworks to enable the critical examination of campus issues in the compressed timeframes under which most must operate.

A variety of products support the work of online communities—tools that can enable the aggressive engagement of constituencies in a shared governance model appropriate to the new academy. For example, instead of monthly committee meetings, institutions could use Web-based forums to support widespread engagement of major stakeholders, leading to more rapid and well-informed decision making that still can command institution-wide support.

## New Style of Leadership

Most campus communities expect relatively passive leadership. The “hands-off” leadership style resulting from traditional shared governance models does not lend itself to situations requiring dynamic change; it is better suited to preservation than to transformation. Since preservation of the status quo tends to be equated with protecting academic values, leaders have learned that maintaining their positions depends on ensuring that transformation takes place slowly—if at all—on their watch.

Most institutions, however, now face a constantly changing environment that demands active, enlightened, and sensitive leadership. In an interview John Hitt, president of the University of Central Florida, talks candidly about the journey he has taken to transform UCF.<sup>14</sup> He has found that institutional leaders can help their campus communities construct missions and identities that truly reflect the new realities in which they find themselves, and thus enable them to identify and act on viable opportunities.

**Table 1.** Cultural Values

Traditional	Socio-Technological
Linearity	Multidimensionality
Stability	Continuous change
Fixed structures	Flexible structures
Individualism	Collaboration
Consistency	Dynamic reconfiguration

Communication is a critical element of this new leadership style. It only occurs when leaders take the time to frame the issues in terms that are directly relevant to their campus communities. It is reinforced through the alignment of budgets and goals at all levels with a set of easily articulated, understood, and assimilated institutional goals.<sup>15</sup> Leadership makes alignment happen; alignment directs energy and resources toward agreed-upon goals. Transformation requires alignment.

## Relationship with Space

If an institution is genuinely committed to embracing the new academy, then the way it designs and uses space must further the values of the new academy—values such as community, collaboration, and exploration. Space in the new academy is designed to support learning and research goals, not to comply with artificial space utilization criteria, such as number of tablet armchairs per square foot, percentage of seat occupancy per hour of the day and day of the week, and so on. Most classroom utilization criteria, space assignment protocols, and systems, however, are designed to achieve such nonacademic efficiencies rather than to assign space according to the pedagogic requirements of the course.

Learning spaces should support learning activity.<sup>16</sup> Learning activity is differentiated from teaching activity in that it stems from the principles of deeper learning<sup>17</sup> and involves the active and social creation of knowledge, including engagement in problem solving and critical analysis, as well as the physical activity of forming and reforming groups. They should also reflect the institution's identity.

Flexibility, design for the future, ubiquitous wireless network access, small group spaces, social spaces, and “thought” spaces were among the ideas shared at the NLLI focus session on learning space design.<sup>18</sup> Architect Carol Wedge advocated

thinking of the campus as a system of spaces, resulting in a new approach to design, renovation, and building on campus.

MIT's Stata Center (<http://web.mit.edu/buildings/statacenter/>) provides a vivid example of aligning space design to learning goals. The Department of Aeronautics and Astronautics concluded that it needed to redesign its curriculum to prepare students for engineering practice in the 21st century. It became evident that a new learning space environment would be required to support the new curriculum. Technology, coupled with a new concept of learning space, serves as the enabler of learning experiences in the new curriculum.<sup>19</sup>

Evidence shows that new pedagogical approaches supported by appropriate space design have resulted in improvements in learning.

- ▶ North Carolina State University's SCALE-UP Program in physics (<http://www.ncsu.edu/per/scaleup.html>) is illustrative. Introductory physics students work in small teams, seated at round tables using computers in a space redesigned to support pedagogy that engages the Net Generation. The new design has produced a much higher student completion rate for the introductory physics course.
- ▶ The Virginia Tech Math Emporium<sup>20</sup> has demonstrated similar improvements in completion rates, using online modules and intense online testing accompanied by just-in-time help for students who encounter difficulties mastering the material. Virginia Tech also renovated space to accommodate the pedagogical design of the Math Emporium.

In the new academy, informal learning spaces take on new importance. Informal learning spaces with wireless capability suit the Net Generation's habits of being constantly connected, social, and interactive with peers. Establishing vibrant learning communities cannot be confined to class times or formal classrooms. A significant percentage of learning takes place outside the formal classroom, wherever people gather to interact—whether that is in a hallway or in a virtual community of practice.

Buildings designed for learning, such as MIT's Stata Center, the University of Arizona's Integrated Learning Center, or Stanford University's Wallenberg Hall, all include important features of space in the new academy:

- ▶ Flexibility within the formal classroom spaces (furniture on wheels, movable walls)
- ▶ Expansive areas in which people can interact informally
- ▶ Design elements that consciously promote interaction among the occupants

A focus on learning activity may necessitate changes in space planning projects, calling into question the traditional design approach that focuses on the shape of the room, the efficiency of the fixed seating arrangement, the instructor location, and so on. To align space projects with the institution's learning goals at all levels, building and renovation project managers need to understand the pedagogical principles the space should embody.<sup>21</sup> The stakes of getting space right (or wrong) are high; space requires huge resource investments (time and money). It is easy to design unsuitable or inflexible space if those charged with making decisions do not realize that a new academy is on the horizon. If a learning space is “wrong,” the institution, its faculty, and its students may live with it for 50 years.

## **Institutional Resolve**

Institutional resolve is expressed in alignment and trust: the alignment of action with stated goals and trust between leadership and the academic community. Adopting a culture of evidence bolsters trust, which enables institutional resolve. Gary Brown described the current state of resolve on most campuses:

The student-centered banner, more bellow than bite, is, in most practice, pale language for the real need to transform ourselves and our culture into one that is centered in learning, oriented to the processes of learning rather than just the ends. In the coming days of wireless, blogs, swickis, wikis, gaming, and virtual realities, students will not be mere consumers of education; they will be critical allies in pioneering new ways of knowing and understanding.<sup>22</sup>

In building the culture of evidence necessary to understand and take advantage of significant trends, institutions cannot afford to “study the problem to death.” Overindulging in evidence-gathering in the belief that everything must be precise runs the risk of preventing timely responses. The accumulation of evidence is frequently used—consciously or unconsciously—as a mechanism to slow or delay change. Institutions must seek a balance in their culture of evidence to avoid stranding institutional resolve on the rocks of absolute certainty.

Similarly, institutions can be strangled by convictions regarding their unique character. Such convictions (or delusions) of uniqueness have the power to blind decision makers to reality and cause them to reject extant evidence (about Net Generation students, for example), especially when it is externally generated. Assuming that national trends do not apply to a given institution carries the risk

of inaction; confirming or disproving assumptions with data can galvanize institutional response.

Fundamental to the ability to transform the academy is the wisdom and humility to know students, their motivations, their goals, and their learning styles. Institutions cannot simply assume they know their students through the collective experience of faculty and administrators. They must create a culture of evidence. For example, after attending “Keys to Competitiveness,” a workshop on the Net Generation by EDUCAUSE and the American Association of State Colleges and Universities (AASCU), an institutional leader from Lamar University noted, “The June meeting at the University of Central Florida ... sparked us to survey our freshmen. We left the June meeting a little less than convinced that our students are like UCF students.... [yet] our new students were surprisingly similar to UCF students in their use of technology and the expectations they have for institutional support.”<sup>23</sup>

What we assume we know about students may not hold in today’s rapidly evolving climate. To create the context and justification for a new academy at a given institution, the college or university must objectively define the characteristics of its student body in relation to teaching, learning, and technology. Only then can it harness that reality to drive the necessary institutional transformation.

Another facet of a culture of evidence is self-assessment. An institution must measure its progress as it moves toward transformation and creating its own “new academy.” A rubric for assessing transformational change may help institutions in their own assessments.<sup>24</sup> The rubric challenges decision makers to use assessment to sustain momentum toward a changed state—the new academy. This type of assessment does not measure whether something “works.” Transformative assessment measures progress toward a goal and helps an institution identify next steps. Because it represents an ongoing, iterative process, it is the ultimate expression of institutional resolve.

## Conclusion

The discussion throughout this chapter—and the entire book—leads to a set of recommended actions:

- ▶ Confront the reality of the Net Generation of students.
- ▶ Decide that change is possible.
- ▶ Understand the dynamic interplay of culture and technology.
- ▶ Base decisions on values rather than traditions.

- ▶ Develop a culture of evidence.
- ▶ Align expectations with goals and actions at all levels.
- ▶ Determine priorities, make decisions, execute, and measure outcomes.

As Einstein observed, “The significant problems we face cannot be solved at the same level of thinking we were at when we created them.” This is good advice for higher education as it addresses the learning needs of the Net Generation.

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19. See also Lawrence Biemiller, “MIT Splices Whimsy Into Its Architectural DNA,” *Chronicle of Higher Education*, May 7, 2004; available by subscription at <<http://chronicle.com/prm/weekly/v50/i35/35a02801.htm>>. This article provides an informative description of the pedagogical links in the Stata Center’s design.
20. Robert Olin, “Projects: Virginia Tech’s Math Emporium: A Revolutionary Approach to Learning,” *Mathematics Teacher*, vol. 93, no. 5 (May 2000), p. 442; find the article summary at <[http://my.nctm.org/eresources/article\\_summary.asp?URI=MT2000-05-442b&from=B](http://my.nctm.org/eresources/article_summary.asp?URI=MT2000-05-442b&from=B)>.
21. *Change* magazine ran a feature section on new developments in campus architecture in the September/October 2004 issue, which also contained a resource review. See Jeanne L. Narum, “Transforming the Environment for Learning,” *Change*, vol. 36, no. 5 (September/October 2004), pp. 62–66.
22. Brown, op. cit., p.17.
23. *The Key to Competitiveness*, op. cit.
24. For a quick reference on assessing transformation, see <<http://www.educause.edu/ir/library/pdf/EDU0251.pdf>>.

## About the Author

Carole A. Barone is an EDUCAUSE senior fellow. Before joining EDUCAUSE in 1998, she was associate vice chancellor for information technology at the University of California at Davis. Prior to serving at UC Davis, she was vice president for information systems and computing at Syracuse University. She

holds master's and doctoral degrees from the Maxwell School of Citizenship and Public Affairs at Syracuse University. Barone speaks and writes extensively on the relationship between technology and change. She coedited *Technology-Enhanced Teaching and Learning: Leading and Supporting the Transformation on Your Campus*, published by Jossey-Bass in 2001 as volume 5 in the EDUCAUSE Higher Education Leadership Strategies series. Barone received the 1995 CAUSE Elite Award.