Remaking the ACADEMY

21st-Century Challenges to Higher Education in the Age of Information

By Jorge Klor de Alva

Higher education around the world must undergo a dramatic makeover if it expects to educate a workforce in profound transformation. In the forty years between 1950 and 1991, the percentage of skilled workers in the workforce increased by 25 percent. Yet this unprecedented feat in economic history is expected to be nearly duplicated in the nine years between 1991 and 2000, when the same sector of skilled workers is projected to increase by 20 percent.[1] The remarkable acceleration in rate of change summarizes the fact that since 1950, the manufacturing workforce has declined from nearly 40 percent of all employees to less than 18 percent while the service sector has increased from less than 14 percent to over 35 percent. This dramatic upheaval in the labor force and, therefore, in its educational and training needs reflects the great shift that has taken place in the corporate world: from an overwhelming reliance on physical capital, fueled by financial capital, to an unprecedented focus on human capital as the

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Illustration by Jon Lezinsky

primary productive asset.[2] Rather than relying on brick-and-mortar factories and plants, successful companies today are leveraging people and brands into earnings power.

The upheaval in the workforce also reflects the explosion of information technology (IT) and the Internet. Technology expenditures have come to dominate capital spending, and the accompanying technology skills have half-lives measured in months, not years; knowledge is accumulating at an exponential rate; IT affects nearly every aspect of life; information—its acquisition, management, and deployment—is the key competitive advantage; and the speed of the Internet's penetration has transformed each consumer into a specific marketing target, making it possible for e-commerce to account for over 2.3 million jobs and nearly $500 billion in revenue.[3] Thus education can no longer be seen as a discrete phenomenon, an option exercised only at a particular stage in life or a process following a linear course. Critical in nature and specialized in practice, education is progressively becoming the sine qua non of our economic survival, maintenance, and vigorous growth.

Not surprisingly, a new education paradigm has arisen to fit the needs of our progressively more knowledge-based economy. Briefly, the education required today and into the future assumes that learners will need to be reskilled numerous times in their working lives if they wish to remain employed. Access to lifelong learning will therefore become progressively more critical for both employees and their employers, who will find themselves pressured to provide or subsidize such learning if they want to retain their workforce and remain competitive. This new paradigm is also based on the need to provide learning experiences that are continually accessible everywhere and that use the most sophisticated information and telecommunications technologies. Finally, this paradigm attempts to provide educational products tailored to the learner, and in order to be competitive in the marketplace, it emphasizes both branding and convenience.

It is not difficult to see why this new paradigm is being accepted by so many in both the corporate and the political worlds. A knowledge-based economy depends on networks and teamwork with distributed responsibilities; its reliance on technology makes it inherently risky and extremely competitive; and the opportunities created by new and continually evolving jobs emphasize not wages and job preservation but rather ownership through entrepreneurship and options. With technology and the Internet have come globalization and e-commerce, making a virtue of speed, change, customization, and choice and a vice of the maintenance of the status quo, standardization, and top-down hierarchical organization. This is a dynamic setting, one in which win-win solutions are emphasized and public-private partnerships are widely prized. In such a vibrant milieu, many of the risk-averse, traditional rules of higher education are beginning to appear not merely quaint but irrelevant or even downright absurd.

The contemporary disconnect between what traditional higher education provides, especially in research institutions and four-year colleges, and what society wants can be gleaned in part through a 1998 poll of the fifty state governors. The aptly titled inquest, "Transforming Post-Secondary Education for the Twenty-First Century," revealed that the top four items perceived to be most important were (1) encouraging lifelong learning (97%), (2) allowing students to obtain education anytime and anyplace via technology (83%), (3) requiring postsecondary institutions to collaborate with business and industry in curriculum and program development (77%), and (4) integrating applied or on-the-job experience into academic programs (66%). In contrast—and most tellingly—the four items judged to be of least importance were (1) maintaining faculty authority for curriculum content, quality, and degree requirements (44%); (2) preserving the present balance of faculty research, teaching load, and community service (32%); (3) ensuring a campus-based experience for the majority of students (21%); and (4) in last place—enjoying the support of only one of the governors responding—maintaining traditional faculty roles and tenure (3%).[4]

Politicians and business leaders are not the only ones questioning the structure and rules undergirding higher education today. A recent poll by the North Central Association of Colleges and Schools (NCA), one of the six official regional accrediting bodies, recently asked university presidents, administrators, and faculty the question, "What are the highest impact trends on future NCA [i.e., regulatory] activities?" The issues receiving the highest ratings were (1) increasing demands for accountability (80%), (2) expanding use of distance education (78%), (3) increasing attention to teaching and learning (72%), and (4) expanding use of the Internet (71%).[5]

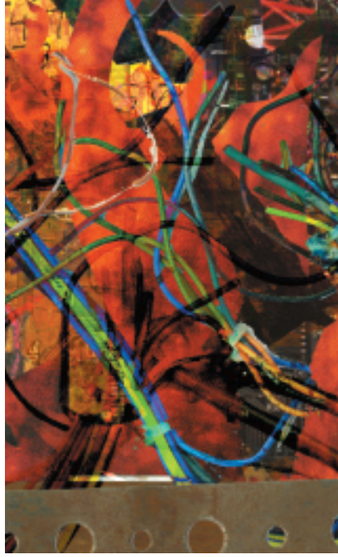
Perhaps more than any other institution, the University of Phoenix (UOP) has contributed to the recognition that education today must be ubiquitous, continuous, consumer-driven, concerned with quality assurance, and outcomes oriented. UOP has shattered the myth that youth is the predominant age for schooling, that learning is a top-down localized activity, and that credentialing should depend on time spent on task rather than on measurable competence. As a result, UOP has now become not only the largest accredited private university in the United States (with nearly 69,000 full-time and over 26,000 continuing education students) but also the country's first truly national university. In doing so, it has helped to prove that the age of learning is always, the place of learning is everywhere, and the goal of learning for most people is best reached when treated as tactical (with clear, immediate aims) rather than strategic (with broad aims and distant goals).

By restricting its market to working adults (all students must be at least twenty-three years old and employed), the University of Phoenix educates a sector previously neglected or underserved (e.g., thirty-five- to thirty-nine-year-old seekers of baccalaureate or graduate degrees make up only 3% of the enrollments of public and private U.S. higher education institutions but make up 30% of UOP's), thereby helping to increase the productivity of individuals, companies, and regions. In a 1998 survey of UOP alumni—with a 41 percent response rate—63 percent of the respondents stated that UOP was their only choice and 48 percent said that they could not have completed their degree if it were not for UOP. In addition, 93 percent reported that UOP's preparation for graduate school was "good to excellent"; 80 percent agreed that the knowledge and skills they had gained from their major gave them a better preparation than that of co-workers who had gone to other colleges and universities; and 76 percent agreed that their overall education at UOP gave them a better career preparation than that of co-workers who had attended other colleges and universities.

That said, how the University of Phoenix, or any other institution of higher education, is likely to contribute to human well-being in the coming century is, not surprisingly, less straightforward. UOP must continually balance the inevitable need to invest in transformation with the necessity to fulfill present promises to its students and their employers and to its regulators, its shareholders, and its own past. Maintaining this balance is a difficult task: the uncertainty that has accompanied the rapid technological and economic changes has caused serious bumps to appear in the road leading to the new millennium.

One of the first bumps in this road is the new economy's unprecedented employment churn, which is making a potential student out of every worker. Although nationally the United States experiences a figure of approximately 60,000 layoffs per month, the number of workers who change their employment status in a typical month has now reached a staggering 13 million. That is—as Labor Department officials claim—an estimated 50 million workers, or about 40 percent of the workforce, change jobs within any one year.[6] In manufacturing alone over the last decades, 10 to 12 percent of jobs have disappeared each year.

Most of this churn comes from productivity increases made possible, in part, by companies reducing their labor forces in unprofitable or underperforming sectors and expanding their headcounts in more profitable areas. In addition, companies have shifted the ways in which they are managed and organized. Today's companies, facing increasingly varied competition, must be more flexible. They need managers and workers who have been reeducated and retrained to be cross-functional, cross-skilled, self-managed, able to communicate and work in teams, and able to change on a moment's notice. In this new, far more demanding workplace, those who do not meet the criteria are usually the first dropped; the more fortunate are retrained or reeducated. It is little wonder that the private and public sectors are spending nearly $98 billion per year in IT and job-related skills, soft skills, and management training.[7]



Results of 1998 Poll of the Fifty State Governors

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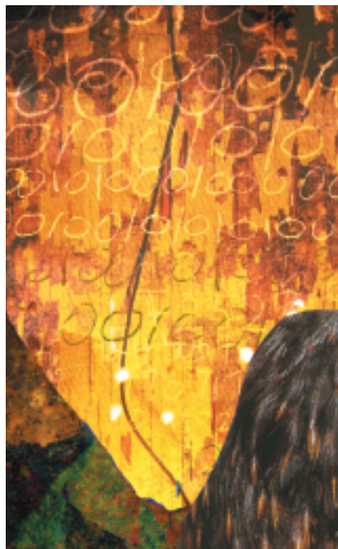
In an environment with this level of churn and organizational and managerial transformation, where the median age is in the mid-thirties and where adults represent nearly 50 percent of college students, a growing number of learners are demanding a professional, businesslike relationship with their campus—characterized by convenience, cost- and time-effective services and education, predictable and consistent quality, seriousness of purpose, and high customer service geared to their needs, not those of faculty members, administrators, or staff. Put another way, when companies, such as Sun Microsystems, generate nearly 100 percent of their revenues from products produced over the previous twelve to eighteen months, students who want to be players in the



new economy are clearly not going to be likely to tolerate a just-in-case education that is not practical, up-to-date, or career focused.

This is not to imply that traditional institutions, especially research-driven ones, are going to disappear. But the ideal of higher education—as represented by, say, Harvard—is an image that not even today's Harvard has of itself, especially as it charges forward with entrepreneurial zeal and profit-oriented energy into cyberspace and the mass education market. For instance, Harvey Fineberg, Harvard's provost, recently reflected on the cyber future of his institution. He referred to Intel founder Andy Grove's observation that the U. S. domestic steel industry is moribund today because it chose not to produce rebar—the steel used to reinforce concrete—and thereby permitted the Japanese to gain market share in the United States. Fineberg, nervous about the future of his venerable institution and other traditional centers of higher education, asked, "Is the University of Phoenix our rebar?" Fearful of being left behind by the future that UOP is helping to create, Fineberg concluded his interview in the *Boston Globe* by stating: "I know that Harvard has to change. No institution remains at the forefront of its field if it does the same things in 20 years that it does today."[8]

Indeed, no institution of higher education in today's economy can afford to resist change. Yet, though the new forms of educational institutions—with their for-profit concerns, their lack of permanent buildings and faculties, and their need to be customer-service oriented—may seem shocking to most academic traditionalists, ironically these characteristics accurately describe the ancestral universities of the Western world. These were corporations that, having received their charters from popes, emperors, and kings, were then free to govern themselves; as the price for their independence, however, they had to finance themselves. In addition, they had no permanent buildings and little corporate property, and they were subject to the loss of dissatisfied customers (i.e., "students"), who were always free to migrate to the competition in other cities.[9]

These universities also shared several traits with today's traditional institutions: they were geographically centered, were committed to the pedagogical importance of memorization (rather than information management), and perhaps even more important, were synchronous in their demand that all students meet at regular intervals, at specific times and places, to hear masters preach to passive subjects. Yet something different is needed in the new economy. Web-based education, an inherently locationless medium, is likely to push to the margins or even to the dustbin a substantial part of those institutions and regulatory bodies that seek to remain geographically centered. Meanwhile, the Internet and database-management systems can provide time-constrained consumers with just-in-time information and learning that, because it can be accessed asynchronously, places the pedagogical focus on arriving at syntheses and developing critical thinking, thus making localized learning and mere memorization secondary. And with asynchronicity and high electronic interactivity, socialization can be refocused on the educational process, a phenomenon that is reinforced by the new commitment to results-oriented learning based on actual performance of specified and testable outcomes, rather than, as in the traditional situation, relying primarily on predetermined inputs and subjective criteria to maintain and assess quality.

This all represents a huge challenge for higher education and technology. To begin with, let us consider the issue of content and its delivery. The predominance of the lecturing faculty member, the passive student, and the one-size-fits-all textbook is often condemned, yet the alternatives are also problematic. Discussion-oriented education, which characterizes e-education, is not easily undertaken. It requires the right structure to make everyone contribute actively to his or her own education, it calls for unlimited access to unlimited resources, and it is best unconstrained by locations in brick-and-mortar classrooms and libraries. Likewise, it calls for a guidance, maturity, and discipline that is often well beyond the reach of indifferent faculty members and unmotivated students, and it is helpless in the face of a disorganized or illogical curriculum. In short, the online education world needed by the new economy is a daunting one, with no place for jaded teachers or faulty pedagogy.

So how can we transform the institutions of the past into those that can serve the needs of the knowledge-based economy of today and tomorrow? Making front- and back-office functions convenient and accessible 24x7 is today primarily a matter of will, patience, and money. But creating access to nearly 24x7 academic programs able to meet the needs of the new economy is a totally different matter. This calls for rethinking the rules that guide higher education today. To drive home the point that this is not a simple matter and to answer the question I just posed, I must remark on the catechism that articulates our faith at the University of Phoenix. We believe that the needs of working adult students can be distilled into six basic propositions. Like the Ten Commandments, these are simple to state but difficult to live up to.

1. These students want to complete their education while working full-time. They want all necessary classes to be available in the sequence they need and at times that do not conflict with their work hours. For this to happen, the rule permitting faculty to decide which classes they will teach, and when, must be modified, and that is not an easy matter, especially when it comes to tenured faculty.

2. These students want a curriculum and faculty relevant to the workplace. They want the course content to contribute to their success at work and in their career, and they want a faculty member who knows more than they do about the subject and who knows the subject as it is currently understood and as it is being practiced in fact, not merely in theory. For this to happen, institutions need to revamp the rule allowing faculty to determine the content of their courses. In addition, faculty would have to stay abreast of the most recent knowledge and most up-to-date practices in their field. The dominant trade version of the meaning of "academic freedom" would have to be reconsidered; otherwise there would be no force compelling a tenured professor either to stay up-to-date or to teach a particular content in a particular way.

3. These students want a time-efficient education. They want to learn what they need to learn, not what the professor may desire to teach that day; they want to gain their education in a structure that will maximize their learning; and they want to complete their degree in a timely fashion.

4. These students want their education to be cost-effective. They do not want to subsidize what they do not consume (e.g., dorms, student unions, stadiums), and they do not want to pay much overhead.

5. Not surprisingly, these students expect a high level of customer service. They want their needs to be anticipated, immediately addressed, and courteously handled. They do not want to wait, stand in line, deal with indifferent bureaucrats, or be treated like petitioning intruders rather than valued customers.

6. Lastly, these students want convenience: campuses that are nearby and safe, with well-lit parking lots, and campuses that offer classes and all administrative and student services at the same location.

Traditional institutions will find it nearly impossible to meet these needs. The University of Phoenix, on the other hand, has been addressing these needs for over a quarter of a century, providing an education in which concentrated programs are offered year-round during the evening and in which students can take their courses sequentially, one at a time, with mandatory attendance (if they miss more than one properly excused class, they are administratively dropped). All classes are seminar-based, with an average of fourteen students in each class (with nine students in the online courses), and these are facilitated by academically qualified practitioner faculty members, all of whom hold doctorate or master's degrees, all of whom—after undergoing an extensive selection process—have been trained by UOP to teach, and all of whom must work full-time in the field in which they are specifically certified to teach. In turn, the curriculum is outcomes oriented and centrally developed by subject-matter experts, within and outside the faculty, supported by the continuous input and oversight provided by UOP's more than 6,500 practitioner faculty members, all of whom, although spread across the entire country and overseas, are individually integrated into the university's faculty governance structure. This curriculum integrates theory and practice while emphasizing workplace competencies along with teamwork and communication skills—skills that are well developed in the study groups that form an integral part of each course. Lastly, every aspect of the academic and administrative process is continually measured and assessed, and the results are integrated into the quality-improvement mechanisms responsible for the institution's quality assurance.

While content is quickly becoming king, the landscape is becoming increasingly populated with distribution systems; content parading as knowledge or information is thus becoming as ubiquitous as disloyal subjects. This phenomenon is placing a premium on Web portals, online enablers, marketing channels, and information-organizing schemes.

Still, my tone of confidence, and indeed pride, should not lead us away from the question that follows the critical observation made by Harvard's provost: in the face of the challenges that the new millennium portends, how durable is the UOP model or the many others it has inspired? For instance, while content is quickly becoming king, the landscape is becoming increasingly populated with distribution systems; content parading as knowledge or information is thus becoming as ubiquitous as disloyal subjects. This phenomenon is placing a premium on Web portals, online enablers, marketing channels, and information-organizing schemes. In turn, these initiatives—demanded by the knowledge-based economy—have the capacity

to transform higher education institutions into totally unrecognizable entities. Online enablers, the outsourcers who create virtual campuses within brick-and-mortar colleges, can provide potentially unlimited access to seemingly unlimited content sources. And through the marketing channels opened up by their e-commerce capacity, they can easily be expanded not only into educational shopping centers but into merchandise marts, focusing on a market of nearly 75 million potential users, 15 million of them college students who spend $90 billion annually on discretionary consumption.[10]

Online information portals can provide remote proprietary and nonproprietary educational content and, more important, can integrate into the brick-and-mortar campus information systems, providing the connectivity, functionality, and database management

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necessary to make available to the institution all the academic, administrative, financial, and student services, and possibly the content, necessary for operation. By providing institutions a way to outsource the technological infrastructure that automates the administrative tasks burdening every institution and its customers, these portals can reduce both the technology costs and the transaction costs while offering students levels of convenience that were undreamed of until now. And again, they also can provide the wherewithal to add a shopping mall of educational and consumer goods to any campus.

The importance of the role played by portals and online enablers in the transformation of the traditional academy cannot be overestimated. Apart from the Amazon.com-like possibilities that they open for some higher education institutions, another way to appreciate their effect is to think of them in terms of the parallel represented by the shift of retail banking out of the branch bank to the ATM and then onto the desktop. Not only has the relationship between the customer and the process ("banking") been transformed, but just as many banks can use the same ATM machine, many students will be able to replace or supplement their institution's courses with courses or learning experiences—which can be exchanged for graduation credits—derived from any other accredited institution, corporate university, or relevant database. Although this should be a point of concern to the educational institutions addressing the needs of the new economy, the fears among the traditional institutions are so great that they have already undermined the ill-fated California Virtual University, they plague the efforts of Western Governors University, and I suspect they will continue to dash water on the overheated plans of the United Kingdom's Open University in the United States. As long as local faculty members continue to control the curriculum, geography-centered campuses will have difficulty competing for new learners but they will also make it nearly impossible for these traditional-based virtual-campus conglomerates to reach their goals.

Which institutions, then, are likely to be the winners in the future, best meeting society's expectations for higher education in the next century? Because staying ahead is critical to the University of Phoenix, let me return to it once more as a source for speculation. In light of the dramatic shifts taking place, UOP may be better able to serve the adult learners of the future by transforming a significant part of itself so as to function as a platform or hub that emphasizes its role as a "search engine" (i.e., as an identifier and provider of content), as a "portal" (i.e., as a gateway to databases and links to learning experiences), as a "rubric-meister" (i.e., as a skilled organizer of complex data), and as an "assessor" (i.e., as a recognized evaluator of content, process, and effectiveness whose assessments can help take the guesswork out of shopping for education and training). This is a legitimate proposal for any university that has prided itself on its capacity to innovate and to transform itself. The proposal is as legitimate, at least, as the one the railroads should have considered when confronted with the question, "Are you in the business of trains, tracks, and warehouses, or of transportation?" And we should remember the fate they suffered for their unanimous adherence to the former position. If, as any university that wants to survive into the next millennium must believe, the University of Phoenix is primarily in the business of education, rather than of brick-and-mortar classrooms and self-created curriculum, its transformations in the future should be—and no doubt will be—dictated primarily by what learners need, not by what it has traditionally done.

But before the openness of future possibilities seduces us into cobbling untimely configurations, a simple warning is in order. A proposal such as the one I have laconically described is not easily implemented even in an innovative university such as mine. After all, the University of Phoenix is fully aware that to serve its markets well in the future, it must provide a variety of delivery modes and educational products, but those IT and telecommunication products worthy of investment are not easily identified. For instance, although UOP pioneered

interactive distance learning as early as 1989, although it has the world's largest completely online, full-time, degree-seeking student enrollment—with over 11,500 students and growing at more than 50 percent per year—and although UOP prides itself on the effectiveness of its online degree programs as measured by student performance and retention, it recognizes that its experience and its new Web-enabled platform, developed at a substantial cost, cannot in themselves guarantee that UOP has a solid grasp on the future of interactive distance learning.

First of all, the evolution of distance education has not yet reached its Jurassic period. Consolidation can be expected, but the behemoths lie unformed and, I suspect, unimagined. An acquisition that does not entail a soon-to-be-extinct technology is hard to spot when technology is changing at warp speed. And opportunities to integrate the next hot model are easy to pass up. Only deep pockets and steel nerves are likely to survive the seismic technological displacements to come. That said, to serve its markets and thrive, UOP, like any other higher education provider that seeks to survive in the next few decades, will need to keep its focus even as distance education begins to blur with the edutainment and database products born of the large media companies and the entertainment and publishing giants. That focus, always oxymoronically tempered by flexibility, is most likely to be on the use of any medium—PC, television, Internet appliance—that permits the level of interaction that leads to effective education and that can command accreditation (if such is still around), premium price points, and customers whose sense of satisfaction transforms them into effective advocates.

Furthermore, the University of Phoenix will need to reaggregate some major parts of itself to form a centralized content-producing and wide-based distribution network, but it is unlikely to be able to do this without some form of campus-based delivery. Having already advanced further than any other institution in unbundling faculty roles (i.e., in separating teaching from content development, and assessment), UOP, without abandoning its physical presence of multiple sites distributed globally, is likely to shape itself more along the lines of a media company and educational production unit than to continue as solely a brick-and-mortar university with a massive online campus. With media specialists as guides, and content experts on retainer, UOP will likely emerge as a mega-educational system with widely distributed campuses, multiple sites in cyberspace, and possibly a capacity for self-regulated expansion based on its track record, its focus on measurable outcomes, and its comprehensive, award-winning quality-assurance systems.

As education moves toward the certification of competence with a focus on demonstrated skills and knowledge—that is, on "what you know" rather than on "what you have taken" in school—more associations and organizations that can prove themselves worthy to the U.S. Education Department will likely be able to gain accreditation. This increased competition worldwide—from, for instance, corporate universities, training companies, course content aggregators, and publisher-media conglomerates—will put a premium on the ability of institutions not only to provide quality education but to do so on a continuous and highly distributed basis and with convenient access for those seeking information, testing, and certification. In short, as education becomes a continuous process of certification—that is, a lifelong process of earning certificates attesting to the accumulation of new skills and competencies—institutional success for any higher education enterprise will depend more on successful marketing, solid quality-assurance and control systems, and effective use of the new media than on production and communication of knowledge. This is a shift that I believe UOP is well positioned to undertake, but I am less confident that many non-elite, especially private, traditional academic institutions will manage to survive successfully.

That glum conclusion leads me to a final observation: societies everywhere expect from higher education institutions the provision of an education that can permit them to flourish in the changing global economic landscape. Those institutions that can continually change, keeping up with the needs of the transforming economy they serve, will survive. Those that cannot or will not change will become irrelevant, will condemn misled masses to second-class economic status or poverty, and will ultimately die, probably at the hands of those they chose to delude by serving up an education for a nonexistent world.

Notes

1. U.S. Bureau of Labor Statistics, "21st Century Skills/Jobs," January 1999.
2. Michael T. Moe, "The Book of Knowledge" (Merrill Lynch, 1999), 17, 19.
3. *Industry Standard*, October 27, 1999 (http://www.InternetIndicators.com).
4. Education Commission of the States, "Transforming Post-Secondary Education for the Twenty-First Century: Views of the Governors," June 1998.
5. North Central Association of Colleges and Schools (NCA), Committee on Organizational Effectiveness and Future Directions (OEFD), report, 1998.
6. Bureau of Labor Statistics, in *New York Times*, July 22, 1999, C10.
7. Moe, "Book of Knowledge," 21.
8. *Boston Globe*, September 19, 1999.
9. Quoted by Robin Lustig, opening presentation, New Model Universities Conference, London, April 29, 1999.
10. Keith Gay, Thomas Weisel Partners (TWP), "e-Education: .com Meets .edu," June 25, 1999, 5, 29.

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