

# The INTELLECTUAL SUPERMARKET

By Ada Demb

In his landmark work *The Sources of Innovation*, Eric von Hippel spoke about the inhibitions that prevent innovation: “Subjects who use an object or see it used in a familiar way are strongly blocked from using that object in a novel way. Furthermore, the more recently objects or problem-solving strategies have been used in a familiar way, the more difficult subjects find it to employ them in a novel way.”<sup>1</sup> A prime example of this dilemma involves technology-based innovation in higher education. Although there has been an explosion in the use of technology, many of the applications remain captive within current industry structures and assumptions. As long as the problem-solving continues to be defined in familiar terms—how to be more cost-efficient, how to make the best use of land-grant institutions, how to understand the impacts on existing institutions—higher education is unlikely to generate radical new approaches for using technology.

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A few years ago, Peter Drucker proclaimed that everything previously stated about management had been wrong. He explained: "All our experience tells us that the customer never buys what the supplier sells. Value to the customer is always something fundamentally different from what is value or quality to the supplier. . . . Management does not need more information about what is happening inside. It needs more information about what is happening outside."<sup>2</sup> Applying Drucker's apocalyptic warning to higher education reveals seven current assumptions that inhibit the type of radical innovation that is necessary to transform the higher education landscape:

1. Access to higher education is through admission to an institution. Whether the institution offers open admission, operates through a virtual network, or is selective in the classical sense, access to the educational process requires "admission."
2. As a result, educational programming (course material and course sequences) is targeted: it is created by the institution, for those students who have been admitted to the institution.
3. Most educational programming occurs within the context of degree programs. A growing array of offerings are included under the continuing education umbrella, and certainly a substantial education and training effort is under way within the private sector. However, the operative assumption seems to be that individuals participating within the higher education system seek to cumulate coursework toward a degree.
4. As a corollary, the majority of students are expected to have a timeframe and perspective relating to progress toward a degree. Thus, it is assumed that the learner wants an intensive, focused experience.
5. Only accredited institutions can offer legitimate degree programs.
6. The institution, with its reputation, serves as the equivalent of a brand name, and graduates are rated, formally and informally, accordingly to the value of the brand.
7. As an industry, the academy functions de facto as a "union shop," assuming

that legitimate educational offerings can be provided only by a specific body of professionals (the faculty) certified as qualified through peer review of their educational and professional attainments.

Higher education requires a new model, one that can operate alongside the old model but that will expand the capacity and explode the boundaries of the industry with its new assumptions:

1. Higher education can be accessed directly by any individual, without the intermediary of an institution. Supported by technology, higher education can achieve society's long-term goal of population-wide, universal access.
2. The demand for educational programming will far exceed the capacity of current institutions. Designers of educational programs are unlikely to know the characteristics of the learners who will be accessing their material.
3. Educational programming will be of a more general nature—modularized and accessible to a general audience, much as is television.
4. In the context of lifelong learning, individuals will seek education intermittently, as somewhat unrelated "events," over a much longer timeframe than is commonly associated even with part-time degree work. The learner's objectives are likely to be situationally defined by personal or professional knowledge needs.
5. Attracted by this potential market, and enabled by the lower barriers to entry, new providers will enter the market—providers from outside the current educational system.
6. The value of a brand name will be determined by the value to the learner as much as it will be by a third party that seeks certification.
7. As a result, radically new ways of assessing and "certifying" learning outcomes will be needed.

### **The Supermarket Analogy**

By contrast with the assumptions of the current system—a very orderly context in which quality has been tightly controlled—the proposed assumptions for

the new model may appear to lead to a chaotic mix of undisciplined entrepreneurial efforts. To examine whether this new model might be a future worth pursuing, we need a radical analogy for the higher education industry. The analogy should be consistent with the new assumptions and should also raise provocative questions about possible future scenarios. An unlikely possibility can offer insights and images for exploring this new territory: the food-retailing industry—in particular, the supermarket. Nine characteristics of the supermarket yield a provocative comparison with higher education:

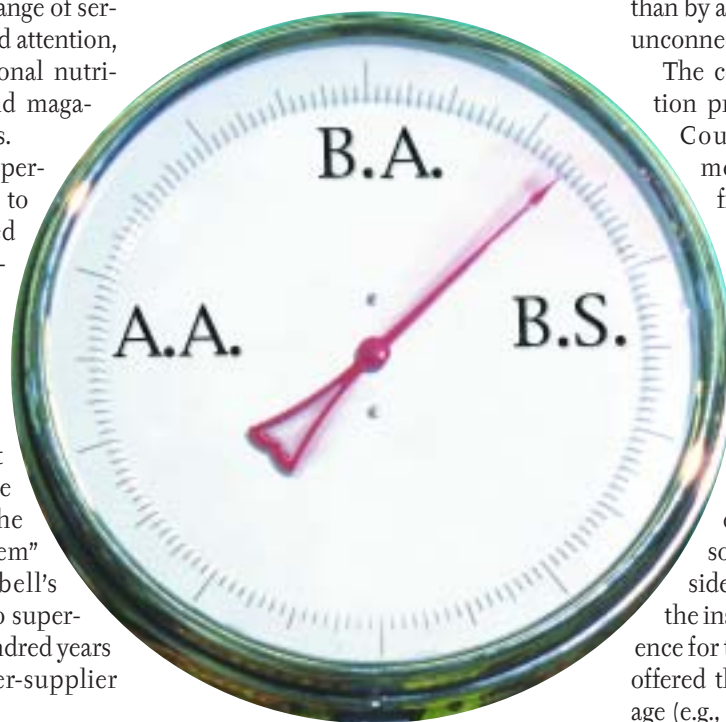
1. Most products in the supermarket can be characterized as commodities: there is a minimum standard of quality the product must meet in order to be fit for sale; beyond that minimum, competition occurs on the basis of price and of perceived differences in quality. Profit margins on individual products are very small; profits are generated by volume of sales.
2. The supermarket manager and the customer are always looking for better-tasting, cheaper, more-nutritious goods yielding larger profit margins.
3. The supermarket represents the quintessential example of the movement from full-service to self-service. The customer chooses the fruit, weighs the fruit, packages the fruit, and then takes the fruit to the check-out line to pay.
4. The supermarket does not take responsibility for the quality of the customer's diet or overall physical or financial health. The supermarket offers a fantastic array of goods, but it is up to the customer to make order from that array and to select items that form some sort of coherent diet or meal plan.
5. The supermarket tailors its product line to the geographic area it serves, but generally it offers both low- and high-end products.
6. The customer's safety and capacity for judgment are supported by related regulation and markets: (a) the U.S. Food and Drug Administration and state departments of health, which oversee the food supply from point of

origin through processing and packaging to store delivery and purchase; (b) labeling, which details the nutritional value of foods on packaged goods as required by law; and (c) nutrition, food, and diet consumer education, which is supplied through a variety of media, including schools, public programming, and private publishing groups such as hospitals and for-profit publications on diet and health.

7. Consumers can turn to a range of services for more personalized attention, from health spas to personal nutritional advisors, books and magazines, or simply restaurants.
8. Brand names, including supermarket brands, are related to quality and are supported by both research and advertising. They are evaluated by independent consumer groups, although not systematically.
9. Food producers and processors are, for the most part, independent of the distribution system in the United States. The “system” that has brought Campbell’s Chicken Noodle Soup into supermarkets for almost one hundred years is held together by buyer-supplier market relationships.

The power of the supermarket analogy is revealed more fully when undergraduate education and lifelong learning skills are considered separately from graduate education or professional certification. Undergraduate education as presently offered in the United States is a commodity. The larger higher education institutions opened up access and kept costs (and therefore tuition) down by creating lecture courses that could accommodate many students at one time. Even when these lecture courses are broken down into recitation sessions or when these institutions hire more faculty to offer smaller classes, the basic curriculum remains the same. This is “mass education”—higher education in the manner of Henry Ford. There are certain minimum standards that must be met; however, beyond those, students are choosing

on the basis of price and perceived differences in brand names. Separating undergraduate education into its two primary components—general education and the major—and then applying the perspective of the supermarket analogy leads to some startling conclusions about possible transformations of the production and distribution system for higher education at the undergraduate level.



#### *General Education*

There is basic agreement about the desired learning outcomes of the general education component of the undergraduate experience: the ability to think critically; to appreciate and understand cultures other than one’s own; to write clearly and persuasively; to have an appreciation for global or international interdependence; to understand the different logical paradigms and contributions to our society of the natural, social, and experimental sciences, arts, languages, and humanities; to be prepared to engage as a productive citizen in a democracy; and to be capable of participating profitably in the complexities of a post-industrial economic system and bureaucracy.<sup>3</sup>

Most large, public institutions structure the general education component of the curriculum as a menu, so that a stu-

dent chooses one or more courses from different “clusters,” with the requirement defined by distribution across clusters. Few institutions (if any) test for learning outcomes in these clusters. Some institutions—most often the smaller, private schools—organize the general education component of the program as a set of core courses, intentionally designed to examine issues and interdisciplinary connections. The integration of knowledge is accomplished by curricular design rather than by an accumulation of different and unconnected courses.

The content of these general education programs is remarkably similar. Course offerings in the “menu mode” look pretty much alike from institution to institution. In this sense, students already find themselves in a “supermarket” and—as when shopping for food items—often discover that their first choice is not available. From a content perspective, general education could be repackaged and made available through widely different contexts. For example, some have argued that when considered in terms of interaction with the instructor, the educational experience for the student might be far better if offered through a well-supported package (e.g., distance education) rather than in an impersonal and oversubscribed lecture.<sup>4</sup>

The next logical question concerns who would produce this general education package. As in a supermarket, how many different types would be needed? How might they be priced? Potential producers of such packages are everywhere—inside higher education, loosely affiliated, and outside. Current faculty could create spin-off companies based on their teaching experiences. In addition, stories about qualified Ph.D.’s who are unable to find full-time or adequate employment appear almost weekly. This is a professional population needing only some entrepreneurial direction to form companies that could design and package modules for general education programs using the output of the research community. General education modules could be sold either to institutions as a new way

of outsourcing or to individuals. In fact, there is no reason conceptually to limit package offerings to the menu mode of general education. More-integrated educational experiences could be packaged as well.

In contemplating the potential for unbundling and modularizing educational offerings, we see that many organizational possibilities and important issues surface. The logic supporting the entry of Harcourt Brace into the higher education market becomes much more apparent and appealing. Perhaps Harcourt, as well as Sylvan, could provide the organizational context within which independent educational designers could create and offer programmatic products.<sup>5</sup> However, the issue that requires attention is the need for quality control. Some critics of corporate approaches to distance learning argue that only faculty oversight can ensure the quality of the educational experience.<sup>6</sup> Whether through the academy or through corporate oversight such as the curricular design control exerted by the University of Phoenix, a means must

and program would be particularly damaging for students outside of an institutional support system. To whom can these students turn for advice about the match between their readiness and the program demands, about the value of the brand name, or about the potential differences in learning outcomes?

The retail food market again offers insight here. For example, although many people's diets are not exemplary, the quality and quantity of information available to the U.S. consumer regarding diet, nutrition, health, meal planning, cooking, and food purchase enable the consumer to function effectively in a self-service mode. There is a critical need for a similar range of intermediate educational services and professionals—educational consultants, brokers, personal education planners, and magazines and books—to help potential students plan and evaluate their intellectual diet and to help them locate the appropriate “stores” from which to purchase their goods. Indeed, some creative and entrepreneurial service providers—both for-profit and public,

creasing proportion of the total potential educational market, which is largely composed of adult learners, who are intelligent, goal-seeking consumers. Yet even these intelligent adult learners will need assistance in evaluating the proliferation of educational offerings. Thus the change in the new model is that educational providers take primary responsibility for the quality of the product itself—the “fruit” or the course—while the customer, with help from others, takes responsibility for his or her own diet.

#### *The Major*

The second component of undergraduate education, the major, can be examined similarly. By modularizing the undergraduate curriculum, educational providers could “package” disciplinary programs in economics, sociology, mathematics, or biology and offer them to the public. Consider the relatively small number of basic texts that serve the introductory and specialized courses in many fields today. Texts have been revised over a period of ten or twenty years and represent

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be found to guarantee that these educational packages utilize the most up-to-date information and the best understanding of learning theory and are likely to yield the learning outcomes sought by the “buyers.”

Further, as more and more programming becomes available, it becomes even more essential to help students select programs appropriate to their level of readiness. As the new technologies allow students to shop at the intellectual supermarket, combining curricular approaches and thereby customizing their educational program, the possibilities increase that students might develop a poor diet, either by choosing educational programs without sufficient attention to creating a coherent experience or by attempting programs that are beyond their readiness. A poor match of preparation

individual and corporate—have already entered the marketplace.<sup>7</sup>

Philosophically, the question of responsibility for “health” is the fundamental difference between the education industry and the retail food industry. The supermarket takes no responsibility for the overall nutrition or health of the consumer, whereas higher education has always assumed responsibility for the customer's educational diet, prescribing the mix and content of courses that would yield a healthy intellect. Colleges and universities are organized to create an environment in which an educated citizenry can be grown. For the younger segment of the student market, a developmentally oriented educational environment may remain the most effective choice. The size of this market segment is quite predictable; it also represents a de-

extraordinary resources, not only for content but also for pedagogy. The University of Phoenix has shown what can be accomplished by placing substantial front-end investment in the design of the curriculum and in the preparation of syllabi and then vetting instructors for delivery. Consider the potential teaching resources in any community: businesspeople, clergy, professionals, and managers in both profit and not-for-profit arenas. Many knowledgeable and accomplished “teachers” could provide an educational experience at the undergraduate level in most fields. In the past, faculty and their institutions accepted responsibility for the quality of the intellectual diet provided to students in large part because educational expertise was a scarce commodity within the community and society. This is no longer the case. With

much of the population now educated well beyond high school, the number of people qualified to fill educational roles has increased dramatically and will continue to rise.

For more than a century, faculty and the research institutions, in particular, have exhibited guild-like behavior when “qualifying” those who will teach in the academy. But a guild can justify its existence only when its expertise is scarce and when it consists more of art than science. Certainly extraordinary teaching involves much art. However, much more is now understood about the learning process—for example, about how students gain critical and reflective thinking skills. Teaching has become more science-based and less reliant on personal art. Regardless, good teaching does involve enormous caring. An “average” teacher who cares a great deal and is equipped with excellent materials can offer extraordinary learning experiences. With good course materials available “on the shelf,” the comparative advantage of the guild is far less apparent for

centralized system could not be established. At least one model exists in another area: the Social Security System. No matter where individuals work, earnings records are accumulated through a lifetime of work by means of a national registry of Social Security numbers. A similar national registry could be established to permit individuals to keep records of their participation in educational programming.

More problematic is the second challenge: how can students demonstrate their mastery of a particular curriculum? How should learning outcomes be certified? The current model is based on a supplier-certification process: accreditation. The assumption is that if the supplier is accredited, then the supplier can certify the progress or attainment of the student. If higher education moves into a supermarket model, with student-consumers choosing from educational packages designed and marketed independently by faculty or others, the system of accreditation will need to be augmented. One method might involve

course by course, and the student’s transcript is assumed to describe the individual’s “mastery” profile.<sup>8</sup> Yet many alternatives are possible:

- For a fee, existing institutions could offer subject-matter testing and could create a transcript for the student.
- Professional associations could develop tests in their subject areas and could create a record for the student.
- For general education, a national test, like the GED for high school diplomas, could be created.
- The creators of individual educational packages could design tests, administering and scoring them when a student indicates readiness for evaluation.
- A network of centers could be established to develop and administer a variety of subject-matter tests.

Some have argued that specially designed, standardized subject-matter tests could be even more reliable than traditional forms of evaluation, which often consist mainly of “seat time.”<sup>9</sup>

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undergraduate education. Where the guild does offer comparative advantage and indeed needs to remain vital and energetic is in the research arena and in graduate and professional training.

Imagining a scenario in which student-consumers are able to purchase off-the-shelf educational programs from a variety of providers raises two other related and important challenges: (1) how to devise a system that allows students to accumulate an educational record and turn that record into a degree or certification; and (2) how to permit students to demonstrate mastery of a particular curriculum or course of study. In principle, meeting the first challenge—tracking educational experiences—should not be complicated. In the current system of higher education, individual institutions record course credits. There is no reason that a more

academic professional associations. In engineering, psychology, and the like, professional associations could evaluate and certify the quality of the “package.” Thus the current professional accreditation of graduate programs would simply be extended into the undergraduate arena.

Still, an element is missing in the self-service education model: the certification of the learner’s achievement. It is only at the graduate level that higher education is organized to evaluate learning outcomes. The general examination (and its alternatives) in master’s education and the candidacy examination in Ph.D. programs test an individual’s judgment and mastery of fundamental subject matter in a context beyond individual coursework. Unfortunately, at the undergraduate level, mastery is most often demonstrated

### Technology Strategies

The transformation of an industry occurs neither smoothly nor even sequentially. As institutions experiment with a variety of products and delivery modes, the move to full participation in the new model will require intentional strategic choices with respect to technology strategies. Technology strategies can be described in two dimensions. One dimension focuses on the relationship between the educational “service” (the course) and the technology; that is, technology can be used to extend the use of current courses or to create entirely new educational experiences. The other dimension concerns the market objective; that is, technology can be used to improve delivery to existing markets or to expand an institution’s reach into new markets (see Figure 1). Combining the dimensions yields four

**Figure 1. Technology Strategies**

	<b>Existing Markets</b> Improve current experience	<b>New Markets</b> Increase access
<p><b>Existing Service</b> Leverage current investments</p>	<p><b>ENRICH &amp; IMPROVE</b></p> <ul style="list-style-type: none"> <li>Expand online offerings</li> <li>Create course Web pages</li> <li>Personalize institutional recruitment through the Web</li> <li>Create e-mail and chat rooms</li> <li>Support registration and student services</li> </ul>	<p><b>EXPAND THE MARKET</b></p> <ul style="list-style-type: none"> <li>Create Web-based versions of existing courses for distance education</li> <li>Form partnerships among institutions to extend degree offerings</li> </ul>
<p><b>New Service</b> Invest for innovation</p>	<p><b>TRANSFORM STUDENT EXPERIENCES</b></p> <ul style="list-style-type: none"> <li>Develop courses that permit distance students to interact with campus-based courses</li> <li>Create “virtual” international experiences through partnerships with overseas institutions so that site-bound students can “study abroad”</li> </ul>	<p><b>TRANSFORM THE INDUSTRY</b></p> <ul style="list-style-type: none"> <li>Create new pathways for obtaining educational experiences (e.g., multiple institution sources)</li> <li>Establish new modes for assessing or demonstrating student mastery (i.e., outcomes)</li> <li>Develop new capacities for cumulating or tracking education “credit/s”</li> </ul>

generic strategies: Enrich & Improve, Expand the Market, Transform Student Experiences, and Transform the Industry. Each strategy can be described by the quantity and quality of the investments needed to realize the objective, with investments defined as (1) *personal time*, the energy and creativity of an on-staff faculty member, (2) *capital*, in the form of optical cables, computers and video equipment, training, and/or the internal organization, or (3) *system approvals*, which are required to mount new degree programs.

Developing new ways of delivering existing course materials to existing markets of current students (Enrich & Improve) is the most cost-effective and easiest starting point. Yet even the translation of existing course materials into viable distributed-education experiences requires considerable investment of faculty time, energy, and creativity—investments that are often inconsistent with the pres-

sure on faculty to maintain research activities. Once technology translation is mastered, a logical next step is to identify new potential students and seek organizational mechanisms for reaching this new market (Expand the Market). The appeal of both these leveraged strategies is clear from the growth in distance-education offerings and from the numbers of institutions participating in these offerings.<sup>10</sup> The industry may simply be exhibiting rational economic behavior in the face of these pressures.

Finding ways to exploit the unique features of the new technologies to create innovative educational experiences both for existing markets (Transform Student Experiences) and for new markets (Transform the Industry) is more challenging and less frequently attempted.<sup>11</sup> Moving into a new program or degree offering at a large research university requires many levels of approval: department, faculty senate, college or school, institutional

boards of trustees, and perhaps, statewide oversight boards. Thus, the lag time from proposal to program offering could easily reach five years before recruiting the faculty who can actual develop and deliver the program. The rigidities in the system caused by program and faculty-reward structures limit many institutions to selecting resource-conservative, incremental strategies.<sup>12</sup> The most far-reaching innovations, however, will be those resource-intensive efforts that create not only new educational experiences but also new logic and organizational forms to support educational programs for a much broader range of new clientele. These are the innovations whose impact will transform the industry.

**Conclusion**

Some components of the (super)market-based model of higher education are already in place. Certainly the variety of new providers entering the marketplace

has dramatically increased.<sup>13</sup> And the federal government is moving incrementally toward complete portability of financial aid, including the proprietary context, a key element in opening access to educational programming. Yet the supermarket analogy highlights at least two assumptions, fundamental to the structure of the current system, that must be questioned and examined before new models of higher education can be established. First is the assumption that the responsibility for a student's educational experience and progress properly rests with the educational provider rather than with the student; and second is the assumption that individual instructors create better learning experiences (i.e., course materials) than do groups of faculty or course designers.

To be able to choose and maintain healthy intellectual diets, educational consumers will need as much information as food consumers. Higher education professionals will need to be much more explicit about the connection between learning experiences and learning outcomes. There is no escaping the need for good outcomes measures. Indeed, perhaps we will move toward the intellectual equivalent of nutritional labeling, with "labels" indicating to what degree particular educational experiences contribute to building, for example, critical thinking skills, content knowledge, paradigm appreciation, diversity and cross-cultural sensitivity, writing skills, citizenship perspectives, or leadership qualities. In the design of these and other aspects of the intellectual supermarket, developing new ways to use technology will be key. Higher education *must* generate innovative approaches for enabling technology to meet the intellectual nutrition needs of the intelligent, self-aware student-consumer of the early twenty-first century. *e*



## Notes

1. Eric von Hippel, *The Sources of Innovation* (New York: Oxford University Press, 1988), 23.
2. Peter F. Drucker, "Management's New Paradigms," *Forbes*, October 5, 1998, 171, 174.
3. See, for example, H. Rosovsky, *The University: An Owner's Manual* (New York: W. W. Norton, 1990), and C. C. Verharen, "A Core Curriculum at Historically Black Colleges and Universities: An Immodest Proposal," *Journal of Negro Education* 62, no. 2 (1993): 190-203.
4. D. A. Trinkle, "Distance Education: A Means to an End, No More, No Less," *Chronicle of Higher Education*, August 6, 1999, A60.
5. G. Blumenstyk, "Moving beyond Textbook Sales, Harcourt Plans to Open a For-profit University," *Chronicle of Higher Education*, June 4, 1999, A32; K. Lively and G. Blumenstyk, "Sylvan Learning Systems Moves into the Higher-Education Market," *Chronicle of Higher Education*, March 12, 1999, A36.
6. S. Crow, "Virtual Universities Can Meet High Standards," *Chronicle of Higher Education*, October 29, 1999, B5-6.
7. "Bookmark," *Chronicle of Higher Education*, January 7, 2000, A57; S. Carr, "A New Web Site Aims to Direct Students to Online Courses, but Price Is Steep," *Chronicle of Higher Education*, January 7, 2000, A54.
8. Discussions about reframing the concepts of "courses" and "time" have been initiated by the American Council on Education (ACE), along with suggestions about moving toward outcomes-based assessment. See Judith S. Eaton, *Maintaining the Delicate Balance: Distance Learning, Higher Education Accreditation, and the Politics of Self-Regulation* (Washington, D.C.: ACE/EDUCAUSE, 2002).
9. J. R. Young, "A Virtual Student Teaches Himself," *Chronicle of Higher Education*, May 7, 1999, A31. Consistent with much older traditions in the United Kingdom, many online programs (such as the MBA program at Scotland's Heriot-Watt University) award their degrees on the basis of final mastery examinations in each of the subject areas at the end of the program (F. Nickols, "Let the Games Begin," *Technology Source* [January/February 2000]).
10. D. Carnevale, "Survey Finds 72% Rise in Number of Distance-Education Programs," *Chronicle of Higher Education*, January 7, 2000, A57.
11. G. Brown, "Where Do We Go from Here?" *Technology Source*, January/February 2000; A. B. Fraser, "Colleges Should Tap the Pedagogical Potential of the World-Wide Web," *Chronicle of Higher Education*, August 1999, B8; P. M. Privateer, "Academic Technology and the Future of Higher Education: Strategic Paths Taken and Not Taken," *Journal of Higher Education* 70 (January/February 1999): 60-79.
12. C. G. Schneider and R. Shoenberg, "Habits Hard to Break: How Persistent Features of Campus Life Frustrate Curricular Reform," *Change* 31 (1999): 30-35.
13. T. Marchese, "Not-so-distant Competitors: How New Providers Are Remaking the Postsecondary Marketplace," *AAHE Bulletin*, May 1998.