Teaching is not what it used to be in the nation's colleges and universities. Because higher education is considered important to the employment prospects of more Americans than ever before, faculty are asked to teach a larger and more varied group of students. In addition to providing a "first" college education to young adults, they are called upon to re-educate returning students for second and third careers, and to do that in ways that minimally disrupt existing family, job, and other responsibilities. At the same time, they are exhorted to integrate rapidly changing information technologies into their curricula by revamping courses for delivery to remote locations, improving course quality and appeal with multimedia techniques, and mastering new methods of communication. Commercial providers, it is argued, are ready and waiting to take over from institutions that don't respond with lightning speed (Chronicle of Higher Education, Dolence and Norris).

Meeting these new demands, and at the same time coping with declining budgets, creates problems for universities. The shortage of information about what the public really wants from higher education complicates matters. Little is known about the kind of education now said to be in such great demand by new clientele. Analysts have argued for many years that ours is a "knowledge society" in which even an advanced college degree does not prepare people for a lifetime of work. But who are these new learners and what kind of lifelong education do they want? Is it true that they can be reached effectively through the use of distance education strategies?

Gathering information
These questions motivated a study we conducted in early 1995. Based on a probability sample of random telephone numbers, a national sample of U.S. households in the forty-eight mainland states was surveyed by telephone. The household member with the most recent birthday was asked to complete an interview including about 110 questions and averaging twenty-two minutes in length. A total of 1,124 interviews were conducted, yielding a cooperation rate of 60 percent. Completed national samples of this size have an approximate sampling error of plus or minus 3 percent. Post-sampling stratification was used to ensure that respondent education level was similar to that of the U.S. adult population as a whole. Fifty-five percent of all adults in the United States—and in our weighted sample—have no more than a high school degree or its equivalent.

Because of our focus on work force skills and knowledge, we have excluded from results reported here those adults who are permanently retired, unless otherwise indicated.

Potential customers and how to serve them
Colleges and universities have many more potential customers than they currently serve, if they decide they are in the business of providing continuing education and training. Five findings, in particular, support this claim.

• First, the attitudes and behavior of people from all age groups, income levels, and backgrounds indicate that a large majority of adults recognize the value of lifelong education and training. More than four in five adults say that getting additional training or education is important for them to be successful in their work. The proportion is highest for younger
adults, but even among those age fifty to sixty-four, 59 percent say that more training or education is (probably or definitely) important. The personal significance that people attribute to acquiring more knowledge does not vary with income, race, or location. For example, those with annual household incomes under $20,000 are just as likely to value education and training as those with annual household incomes of $60,000 and over.

Behavior more or less reflects these attitudes. We used a series of survey questions to ask whether respondents had received training or education in any one of eight specific forms, from video tapes to short courses. The number of adults who have had experience with at least one of these formats is remarkably high across all age groups: nine in ten of those under age thirty have had work-related training or education in the last three years, and a surprising 46 percent of those over age sixty-five and still in the labor force have done so (figure 1). Overall, 20 percent of adults have had 50–100 hours of training or education in the last three years, and 28 percent have had more than 100 hours. Experience with work-related training or education increases with annual household income, but even among those who report incomes of less than $20,000/year, the proportion is 72 percent.

- Second, getting educated once is not enough in our knowledge-based economy. We used to think of formal school as something that ended before people enter the labor force. People who went on after high school received their college degrees around the age of twenty-two. For the few who obtained a professional or graduate degree, additional training followed quickly on the heels of undergraduate school. The adage for the 1960s read, Go to college and get a good job.

That picture has changed. As career counselors, economists, and others have argued for some time, knowledge must be continually upgraded. The evidence: adults at all educational levels want to continue learning in a formal setting. Almost three-fourths of adults who have less than a high school education—and the same fraction of those who have master’s degrees—say they want college education or training in the future. And the ones who already have degrees are the ones who most often get some kind of work-related training or education (figure 2). Almost all adults with undergraduate and graduate degrees are continuing their education. The adage for the 1990s is, Go back to college to keep that good job.

- Third, teaching conducted only in the traditional campus classroom will not meet the public’s demand for tailored educational services. College and university faculty and administrators have traditionally thought of serving their clientele by teaching on-campus courses for credit between 8:00 a.m. and 5:00 p.m. This type of instruction is effective for a first and very intense educational experience after high school. However, it does not help older adults get the knowledge they need, when they need it, for jobs and careers.

As noted above, we asked about eight specific formats in which people can get formal training and education. The first four involve one-way instruction rather than interaction with a teacher: a program on television, a video tape played on a VCR, an audio tape played in a cassette recorder, and an instructional guide or tutorial operated on a computer. The second four entail two-way interactive instruction: a college course attended for credit;
Figure 3. Formats in which adults receive work-related training and education (excludes retirees)

Figure 4. Reasons people give to explain why they can't get the kind of education or training they want (excludes retirees)

a college course attended but not for college credit; a short course, seminar, or workshop; and a conference.

A sizable proportion of adults (30 percent) get their education and training from college courses that give credit toward a degree (Figure 3). However, other interactive methods are more common: over half of adults have taken work-related short courses in the last three years, 43 percent have taken noncredit college classes, and 40 percent have attended work-related conferences. One-way instructional formats are also important: 33 percent of adults have used work-related video tapes and 31 percent have used instructional guides on computers.

Not surprisingly, the way that people acquire knowledge changes as they get older. People age eighteen to twenty-nine are most likely to have taken a course for college credit in the last three years, while those age forty to forty-nine and fifty to sixty-four are most likely to have taken a short course, seminar, or workshop.

* Fourth, no single educational approach or technique will make lifelong learning accessible to everyone, because different people face different obstacles. In the past, colleges and universities could structure teaching methods and schedules around the needs and resources of on-campus, eighteen- to twenty-two-year-olds. Meeting the demand for lifelong learning, however, means adapting to the varied situations of older students who typically have commitments that keep them away from campus.

To better understand such constraints, we asked about barriers to continued education and training. The most commonly cited barriers were cost (56 percent) and lack of time (54 percent) (figure 4). About two-fifths of the respondents said that courses in which they are interested are not available when convenient, and one-fourth said courses are not available close to where they live.

As expected, however, barriers vary over the course of the life cycle. Cost is a more serious problem for younger people while time is a greater concern for those who are older. Similarly, cost is a more serious problem for people with relatively less education, and time is a greater concern for those with more education.

* Fifth, distance education strategies have the potential to overcome significant barriers to lifelong learning. As our study shows, the question is no longer whether lifelong learners will continue their education, but how and when. Most adults cannot devote themselves to full-time, on-campus course work. Hence, administrators and faculty must think about providing educational services that are neither campus-bound nor offered during the day only. Our study results suggest that distance education strategies offer promise in this regard, although significant hurdles still remain.

Fifteen percent of adults who are not retired have already had some kind of experience with distance education (including courses broadcast over television, through video or audio tape, or by correspondence). Seventy-two percent of all adults think that more courses should be developed using satellites, TV, and other long-distance methods.

Whether distance education becomes more common in the future will depend partly on people's
access to and utilization of various information technologies. It seems likely that familiarity with personal computers will be necessary for many long-distance learning applications, from using the Internet to video instruction programs. For this reason, we asked survey respondents about their access to computers, both at home and at work. Overall, 35 percent have a personal computer in their home and 56 percent use a computer at work. People under age fifty are most likely to have computers at home and work. Access is highest among people age forty to forty-nine, the same group that is most likely to be encouraged by their employers to get more education and training, and to view inconveniences (and lack of time) as significant barriers to additional course work. Given their relatively good access to computers, they may be one of the prime audiences for distance education.

Not surprisingly, people with more education have greater access to computers, both at home and at work. About three-fifths of people with at least a bachelor's degree have a computer at home and three-fourths use a computer at work.

Of course, having access to a computer is only one small part of using distance education strategies. Many people still prefer the traditional classroom setting. We asked people who plan to take a college course for credit in the next three years whether they'd prefer that such a course be taught in an on-campus classroom with an instructor present or one taught through television or videotapes in their own home. The majority prefers the classroom, but a surprising 29 percent of respondents prefer the latter method. People who prefer classes using video or TV are older, less educated, and less likely to have had education or training in the last three years. They are also less likely to have a computer at home.

These results suggest a tentative conclusion: people with less educational experience—and less interaction with knowledge-age technologies—view their own home as a less threatening environment in which to learn. In contrast, those with more educational experience and familiarity with information technologies have an expectation of how education ought to be delivered based on their past experiences.

**Implications for the nation's colleges and universities**

Institutions of higher education, including land grant universities, face enormous pressures to lower costs and become more efficient. State legislators often demand that professors teach more classes,
usually at the expense of research and off-campus extension or service activities. The typical effect is to produce more of the same, that is, additional classes aimed at providing a traditional first-time education to full-time, on-campus students. Such measures maintain the status quo and will not create the lifelong learning opportunities now sought by the general public.

To a certain extent, colleges and universities must choose between providing only a first-time, on-campus education and serving a much broader clientele. Some are choosing the first option and leaving the matter of lifelong learning—which seems so essential to a knowledge society—to institutions that are making radical changes in curricula and methods of instruction.

How can colleges and universities reach a larger clientele when their funding is declining or, at best, stable? We can only conclude that they must take advantage of technological developments in computing and telecommunications. Eli Noam, director of Columbia University’s Institute for Tele-Information, notes that “Already, electronic distance education is available for a wide range of educational instruction through broadcast, cable, on-line and satellite technologies. Such forms of instruction appeal to motivated students with full-time jobs, family obligations, limited mobility, distant locations, and needs for specialized courses. An example is the Agricultural Satellite Network (AgSat) which allows two dozen agricultural colleges to exchange their course offerings and ‘reduce duplication’” (Noam).

It is possible—though by no means certain—that distance education will provide a win-win situation for colleges, students, and taxpayers. As more high-quality courses are developed for delivery in distant locations, students won’t need to travel as often to campus for classes. Hence, constant expansion of on-campus buildings and facilities may become less important. If we are willing to put infrastructure for distance education in place, the marginal costs of teaching additional students may be relatively low.

Clearly, revamping courses, improving quality and appeal, and mastering new methods of communications will require an enormous commitment on the part of universities and colleges. We should be realistic about the enormous investment entailed in making such changes, but at the same time, we cannot safely ignore the opportunities they present.

We now live in a society in which lifelong learning has evolved from an idea that sounds good to a generally expected norm. The implication is that educators have the opportunity to greatly enlarge their customer base. This will only happen, however, if continuing and distance education are brought into the core of universities and colleges, if new faculty responsibilities are respected and rewarded, and if distance teaching methods are designed to serve new customers. Our knowledge society demands no less.

For more information


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