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ABSTRACT

This report summarizes results from a 1995 national survey on higher education. The telephone survey asked a random sample of 1,124 adults about issues related to continuing education, distance learning, and the performance of colleges, vocational schools, and universities. It found that a large majority of adults from all age groups, income levels, and backgrounds recognize the value of lifelong education and training. About 81 percent of the respondents thought that getting additional education was important for them to be successful at work. Interest in additional education was found to be highest among those who already had college training, and those with college training were more likely to continue their education in one form or another. A majority of respondents thought that it was important for state land-grant universities to provide multiple services, including off-campus instruction and services for older students. Three appendixes provide information on the survey methodology, additional data tables, and a reprint of a short article based on the same 1995 survey, entitled "The Public View of Land Grant Universities: Results from a National Survey" by James A. Christenson and others. (MDM)

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SESRC
SOCIAL & ECONOMIC SCIENCES RESEARCH CENTER
WASHINGTON STATE UNIVERSITY • PULLMAN, WASHINGTON

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Support for this study was provided by grants from the Kellogg Foundation; the Farm Foundation; and the Cooperative State Research, Education, and Extension Service of the U.S. Department of Agriculture. The University of Arizona, the University of Kentucky, and Washington State University provided additional support. The survey data collection and analysis described in this report were conducted by the Social and Economic Sciences Research Center (SESRC) at Washington State University, Pullman, Washington 99164-4014 (telephone 509/335-1511, fax 509/335-0116), under the supervision of Don A. Dillman, SESRC Director, and Mary Boynton, SESRC Study Director. This is SESRC Technical Report Number 95-52.

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What the Public Wants from Higher Education

Workforce Implications from a 1995 National Survey[a]

For many years, it has been argued that lifelong learning is essential for American workers. Even an advanced college degree is not considered enough to provide the knowledge and skills required for a lifetime of work. Instead, as the argument goes, rapid technological change and new careers mean that people must continually retrain and retool.

Because lifelong learning is now considered so important, the nation's colleges and universities are being asked not only to educate new high school graduates, but also to teach returning students. Often, these older students want more education but not necessarily a degree. Typically, they try to balance work and family with the demands of going to school.

Most colleges and universities have tried to meet this new demand by doing more of the same. Rather than investing in alternatives like distance education, they add additional on-campus, semester-long classes to existing curricula.

This report summarizes results from a 1995 national survey on higher education. The survey was conducted to learn whether Americans are now continuing their education and training throughout their working lives, or instead, whether lifelong learning is important only in the minds of pundits and scholars. We asked a random sample of 1,124 adults about their interest in education and training beyond high school; experience with continuing education; views on distance education; and opinions about the performance of colleges, vocational schools, and universities (in particular, land grant universities).

Major Findings

Lifelong learning has become a reality for most Americans. Eighty-one percent think that getting additional education is important for them to be successful at work. A similarly large majority have received some kind of job-related training or education in the last three years. Over half say they'll take a college course for credit in the next three years and three-fourths will take a non-credit course. Interest does not vary by income level, diminishes only slightly with age, and seems to reflect the pressures of working in a knowledge-based economy.

Getting educated once is not enough in our knowledge-based economy. Interest in additional education is highest among those who already have college training, and those with college training are the ones who are most often continuing their educations in one form or another.

Teaching conducted only in the traditional campus classroom will not meet the public's demand for tailored educational services. Non-credit classes, short courses and conferences are more important than traditional classes-for-credit as a means of obtaining additional education.

Distance education strategies have the potential to overcome significant barriers to lifelong learning. Fifteen percent of adults have had experience with distance education, almost three-fourths think more courses should be developed using distance methods, and people who are most likely to seek additional education have relatively greater access to home and workplace computers.

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[a] By Don A. Dillman (Washington State University), James A. Christenson (University of Arizona), Priscilla Salant (Washington State University) and Paul D. Warner (University of Kentucky). Support was provided by the Kellogg Foundation; the Farm Foundation; CREES, U.S. Department of Agriculture; and the universities involved in the study. The report is available from the Social and Economic Sciences Research Center at Washington State University (509/335-1511).

Although lifelong learning is a reality for most Americans, some people are losing out. While the vast majority of adults recognize the importance of continuing to retrain and retool, those with lower incomes and less education are having trouble achieving their goals.

Public support exists for universities, and land grants in particular, to do more than educate 18-22 year old undergraduates. A majority of adults think it's important for land grant universities to provide multiple services, including undergraduate and graduate teaching; teaching older, returning students; providing off-campus technical help; and conducting research.

Implications for the Nation's Colleges and Universities

Despite great interest in lifelong learning on the part of many potential customers, most colleges and universities have shown little interest in meeting this demand. Instead, they have structured themselves to serve one main customer: the undergraduate student who seeks a first-time college education, usually full-time and on-campus where courses are scheduled between 8 a.m. and 5 p.m. Monday through Friday. To the extent that learning opportunities are offered to people who seek any other schedule or venue, their options involve limited continuing education programs, typically underfunded and outside the core departmental structure.

Hence, colleges and universities must change how they do business to meet the demand for lifelong learning. The same American genius that developed a world-renowned system of education for recent high school graduates must now be applied to off-campus instruction that supports adult learning. This can only be accomplished if faculty members are rewarded for assuming new responsibilities. If colleges and universities do not recognize lifelong education as part of their mandate and assign it higher priority, the private sector will certainly fill the vacuum.

Distance education methods offer one means of meeting the demand for lifelong learning. Many adult learners need highly focused, just-in-time knowledge about a new theory or technique to use at work. Often, they need specialized instruction on particular subjects. Technological developments in computing and telecommunications make it possible to bring this kind of education to adult learners, when and where they need it. Distance education may provide a win-win situation for colleges, students, and taxpayers. As techniques are improved and attitudes change, people will not need to travel as often to campus, thereby reducing the constant pressure to expand on-campus facilities. Students can use the Internet to communicate with professors and tap learning resources virtually anywhere.

Finally, providing access to lifelong education will require new policy measures. Cost is clearly a barrier for people with lower incomes, so how to finance lifelong education is a critical question. Training vouchers that can be used at any accredited institution and tax deductions for money spent on tuition should be seriously considered. Both offer a flexible means of allowing individual workers to identify the job skills and professional development they need, when they need them.

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The changes most important to higher education are those that are external to it. What is new is the use of societal demand—in the American context, market forces—to reshape the academy. The danger is that colleges and universities have become less relevant to society precisely because they have yet to understand the new demands being placed on them.[1]

Introduction

For the nation's colleges and universities, these are difficult times. Multiple and often conflicting demands now pose a formidable challenge. Higher education is deemed to be of greater importance to the job prospects of more Americans than ever before. In addition to providing a "first" college education to young people, faculty are being relied 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.

Teaching returning students is a daunting challenge for colleges and universities. By tradition and resources as well as faculty inclination, they are better equipped to provide a first-time college education to 18- to 22-year-olds. For this important audience, college is a culturally expected transition from adolescence to adult responsibilities.

Some colleges and universities are taking steps to assume these new responsibilities, even while they continue doing what they have done in the past. In few cases is this occurring without difficult changes in curricula and redefining the resources that are essential to effective instruction, from types of faculty to buildings to the development of distance education opportunities as an alternative to on-campus instruction.

As if the responsibility of teaching a much more varied population of students were not enough, universities are now coming face-to-face with the down-sizing process that has already taken place in other large organizations. This process seems far from complete. Federal funding seems destined to undergo substantial and long term reductions as the effects of an increasing national deficit begin to dominate government decisions. Similarly, many states are seeking to cut state budgets, with personnel a major target.

The pressures of new responsibilities and downsizing threaten all aspects of university functioning, including not only on-campus instruction but student aid, research grants, and off-campus education. The result is substantial friction within colleges and universities about which activities should be emphasized in this time of increased expectations, and which are expendable.

Land grant universities face additional challenges. Originally, they consisted of colleges of agriculture, engineering, and mining. All of these colleges educated people to work in industry, and all had strong outreach programs to disseminate research results that made industry more productive. As other

[1] Institute for Research on Higher Education, "To Dance with Change," in *Policy Perspectives*, Volume 5, Number 3, Section A, Philadelphia, April 1994, pg. 1A.

colleges have grown up in the land grants, they have not viewed outreach as a priority, nor have they had as much of an industry focus. It is true that the situation is changing: in some states, the newer colleges are developing more extension and outreach, and some colleges of agriculture are trying to broaden their clientele. Still, fundamental questions remain about the appropriate role and source of funding for land grant universities in the future.

There is no shortage of interest groups articulating multiple and often competing demands. Outside—and inside—colleges and universities, various interests call for protecting traditional and often cherished programs, curricula, and activities. Others want the institutions to be restructured, making research-oriented institutions, for example, into teaching universities where professors are evaluated primarily on the basis of effective instruction. Others call for professors to do more applied research and advising on state issues, from health care to economic development to environmental problems.

Sorting through this tangle of demands is hard, not least because so little is known about what the general public wants from colleges and universities. The interest groups have made themselves heard, but the overall population has not. How strong is public support for higher education? With respect to land grant universities, does the public support the multiple services provided in the past? And on the subject of continuing education, what is the demand? Who is getting education and training past high school and how are they getting it? What are the most significant barriers? Do distance education strategies make it possible to overcome barriers to lifelong learning?

These are the key study questions behind a national survey we conducted in early 1995. Based on a representative sample of all adults in the 48 mainland states, the survey provides the first evidence that **lifelong learning has become a reality for most Americans.** Getting additional education and training throughout one's adult life is now the norm. Among those who are not retired:

- A large majority of adults—81 percent—think that getting additional training or education is important for them to be successful in their work.
- A similarly large majority—80 percent—have received some kind of job-related training or education in the last three years.
- Almost three-fourths say they're interested in getting college education or training in the future.
- Over half say they'll definitely or probably take a college course for credit in the next three years; 75 percent say they'll take a non-credit college course.

The most important finding of this study is that regardless of age, income, race, and ethnicity, the great majority of Americans want to continue their education and training well past early adulthood. However, as the U.S. makes its transition to a knowledge-based economy, it is by no means a foregone conclusion that everyone is achieving their educational goals.

A second important set of findings from this study concerns attitudes towards schools that provide higher education and towards a college degree itself. Well over half of all adults think the community colleges, vocational schools, and four-year colleges and universities in their state are doing a good or excellent job. Over 80 percent believe that getting a college degree is more important to success than it was 10 years ago.[2] Almost 70 percent favor a proposal to allow taxpayers to deduct the costs of college courses that their children take.

The rest of this report provides a context for these findings, describes the study methodology, gives detail on the results, and discusses policy implications.

[2] Earlier studies have addressed the same issues and reached similar conclusions. See, for example, "Attitudes About American Colleges, 1991," October 11, 1991, commissioned by the Council for Advancement and Support of Education for National Higher Education Week.

The Context

When and why did lifelong learning take on the significance it apparently has today? Management analyst, Peter Drucker, answers this question by comparing two 20th century transformations in the American work force. The first occurred in the early 1900s with the decline of agricultural and domestic workers and subsequent rise of blue-collar, industrial workers.[3] Drucker argues that because industrial work required no skills that farmers and domestic servants did not already possess, these workers could make the transition to factory work relatively smoothly. By the 1950s and 60s, the height of what is often called the "mass society," industrial workers made up the largest group within the labor force. They were organized, relatively secure in their jobs, and well-paid for manual labor.

The second change, now under way, is already causing far more dislocation than the first, and threatens to strand millions of workers who are unprepared for what lies ahead. It is the decline of industrial workers and subsequent rise of "knowledge workers," so-called because they require formal education and continuous, lifelong learning. Many new jobs, like physical therapists and computer technicians, still entail manual skills, but combine them with theoretical knowledge that cannot be obtained through apprenticeships or on-the-job training. Drucker estimates that knowledge workers will comprise one-third of the work force by the end of the century.

Drucker is not alone in proclaiming the critical role that acquiring knowledge through education now plays in what is often called the "information age" or "knowledge society." Lester Thurow and Heidi and Alvin Toffler, among others, have all written convincingly on the same theme.[4] For evidence supporting their arguments, we need look no farther than unemployment rates and wage levels for people without a college education. In October, 1994, 20 percent of high school graduates not going to college could not find work, compared to roughly six percent for all workers. And, from 1973 to 1990, inflation-adjusted earnings of high school graduates fell by 30 percent to $20,000.[5] These statistics are especially noteworthy, given that *20 percent* of American adults either have not graduated from high school or do not have a GED.[6]

The key conclusion we draw from analysts like Drucker is that while formal education is increasingly important, getting a college degree is not nearly enough to assure success in the information age. Opening the doors of higher education to blue collar workers will not enable them to make the changes now required. Learning must not stop with a diploma, at *any* level:

> *. . . the great majority of new jobs require qualifications the industrial worker does not possess and is poorly equipped to acquire. They require a good deal of formal education and the ability to acquire and to apply theoretical and analytical knowledge. They require a different approach to work and a different mind set. Above all, they require a habit of continuous learning.*[7]

Why continuous learning? The answer is related to the nature of work in the information age of the late 20th century and beyond. Across industries and occupations, technology now changes so quickly that workers must continually adapt. According to Cinda Cartee, a career development specialist who works with unemployed, white collar workers:

> *The most important skill each and every worker has to have is the ability to learn, because they must constantly re-tool. What you know today will not add value tomorrow in terms of being a productive and contributing worker, whether [you are a] professional or . . . non-college graduate.*[8]

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[3] "The Age of Social Transformation," *Atlantic Monthly*, November, 1994, pp. 53-80.
[4] See for example, Thurow's *Head to Head*, William Murrow and Company, New York, 1992, and the Tofflers' *Creating a New Civilization*, Turner Publishing, Atlanta, 1995.
[5] "Class Dismissed," by Sandra Evans, *Washington Post*, June 20, 1995, A1.
[6] U.S. Census Bureau, *1990 Census of Population, Social and Economic Characteristics*, CP-2-1, November, 1992.
[7] Drucker, ibid, pg. 62.
[8] MacNeil/Lehrer Newshour, July 7, 1995, WNET, New York, New York.

Despite this fundamental change in what is required of the American labor force in the information age, higher education still largely reflects the imperatives of educating white collar workers for the mass society. Typical of that bygone era were large corporations which provided lifetime careers to their employees. Successful white-collar workers were expected to receive college educations immediately after high school, and "quality" educating meant providing the same courses in the same sequence and standardized credentials to most students. The ultimate skill was being able to develop a career by advancing vertically along a prescribed route in a large company.

Can there be any doubt that institutions of higher education—and land grants in particular—must shed their mass society orientation to meet the requirements of the information age? We believe such a change is essential and, in fact, already occurring. On some campuses, "returning students" outnumber the traditional 18-22 year old undergraduates. Some universities now provide distance education, enabling students to take courses and obtain degrees by using interactive audio-video connection to central college campuses. Information technology allows students in remote locations to connect to campuses not only in their own state, but in other states as well.

So far, these revolutionary changes are occurring on the margins and run counter to the current experiences of many college graduates. The reality is that jobs—especially career jobs like those their parents had—are hard to find and harder to keep. The promise of lifelong work with one corporation and promotions accompanied by higher salaries and retirement benefits seems an elusive will o' wisp. Who can be surprised that some people might question the value of a college education? Or, that many elected officials are reluctant to continue funding higher education at current levels?

In plain fact, until this study was done, we knew little about the extent to which people support higher education and what they want from colleges and universities. We knew even less about how much they are responding to imperatives of the knowledge age which, in theory at least, demands lifelong education. And, we were only guessing at the extent to which nontraditional—and especially distance—teaching strategies might enable people to meet their continuing educational needs.

These issues motivated us to conduct the study described here. It is our goal to encourage a national discussion of higher education, based on information from our survey on the general public's attitudes towards educational institutions, recent educational behavior, and plans for the future. In this context, we offer a summary of our findings discussed in the remainder of this report.

The Survey

A national sample of U.S. households in the 48 mainland states was surveyed by telephone in February and March, 1995. The survey was based on a probability sample of random telephone numbers, designed to proportionally represent the 48 states according to population size. The household member with the most recent birthday was asked to complete the interview. (See Appendix A for more details on survey methodology.)

The survey objective was to assess:

- interest in work-related education and training after high school;
- the extent to which additional education and training is being obtained and by what means;
- plans to get more education and training;
- support for higher education (including multiple functions of land grant universities); and
- interest in and capability to participate in distance learning.

The questionnaire included roughly 110 questions. The average interview time was 22 minutes. 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 three percent.

Our survey data closely approximate data from the U.S. Bureau of the Census on such characteristics as income, age, gender, race and ethnicity. The subject of our interviews led us to expect some selectivity with respect to education. In other words, we expected a somewhat higher response rate from people with relatively more education. This expectation was borne out, and therefore, the data reported here have been weighted for education based on U.S. census data.

Education is the most critical variable in this study. As one reads the results reported here, it is important to remember that 20 percent of all adults in the U.S.—and in our weighted sample—have less than a high school degree or its equivalent. Perhaps more than any other piece of background information, that statistic should frame the findings we discuss next.

The Findings

1. 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.

For at least a decade, analysts have argued that knowledge is an increasingly critical resource in today's economy. In theory at least, education and training are becoming much more important to individual success and to overall work force competitiveness. However, little evidence has been available on whether people are actually motivated to continue learning after they complete formal schooling.

In fact, 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 50-64, 59 percent say that more training or education is (probably or definitely) important (Figure 1).[9]

The personal significance that people attribute to acquiring more knowledge does not vary with income (Figure 2). Those with annual household incomes under $20,000 are just as likely to value education and training as are those with annual household incomes of $60,000 and over.

Behavior is changing along with attitudes. The number of adults who are continuing to acquire knowledge in some formal way is remarkably high across all age groups: 9-in-10 of those under age 30 have had work-related training or education in the last three years, and a surprising 46 percent of those over age 65 and still in the labor force have done so (Figure 3). 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 in the last three years increases with annual household income, but even among those who report incomes of less that $20,000/year, the proportion is 72 percent (Figure 4).

Hence, it seems that what analysts have been saying about the value of continuing education and training is well understood by the general public.

2. Getting educated once is not enough in our knowledge-based economy.

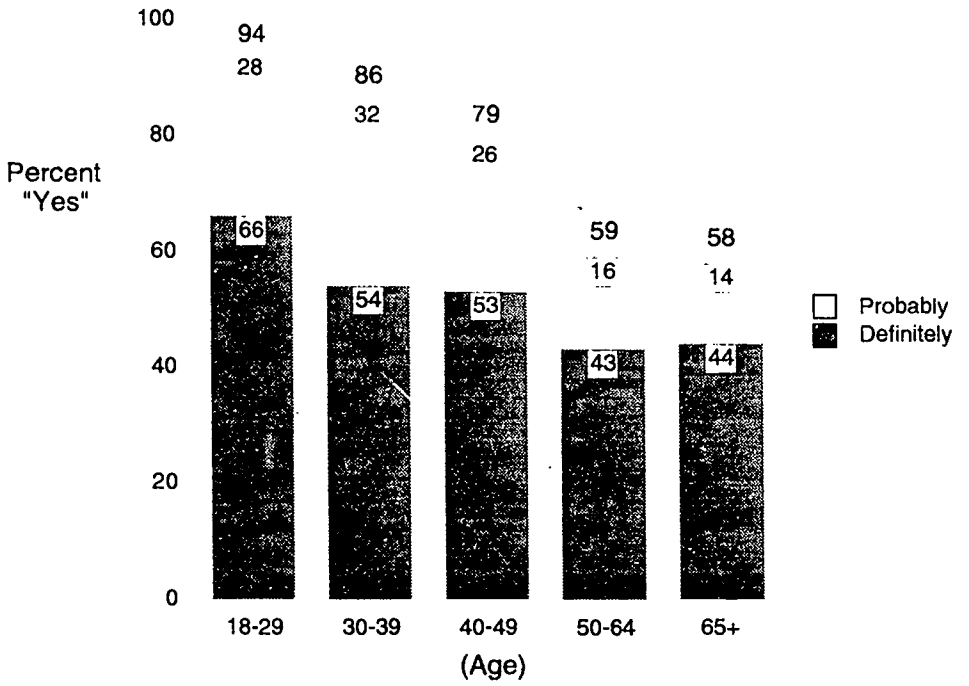
We used to think of formal school as something that ended before people enter the labor force. People who went on after high school received their college degrees around the age of 22. For the few who obtained a professional or graduate degree, additional training followed quickly on the heels of undergraduate school.

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 (Figure 5). Almost three-fourths of adults with less than a high school education—and the same number of those with 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 6). Almost all adults with undergraduate and graduate degrees are *continuing their education.*

The inference: there is a demand for college and university services that may not be widely recognized. People want more than a first-time, beyond-high-school education.

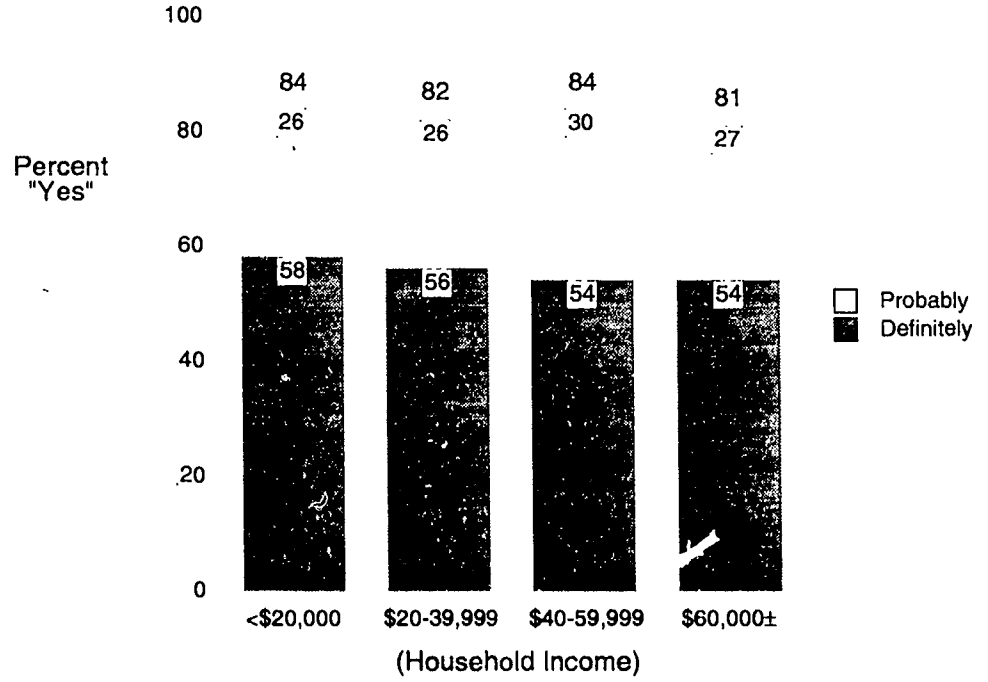
[9] Because of our focus on work force skills and knowledge, we have excluded adults who are permanently retired from results reported here, unless otherwise indicated.

Figure 1. Is additional training or education important for you to be successful in your work? (Responses by age)



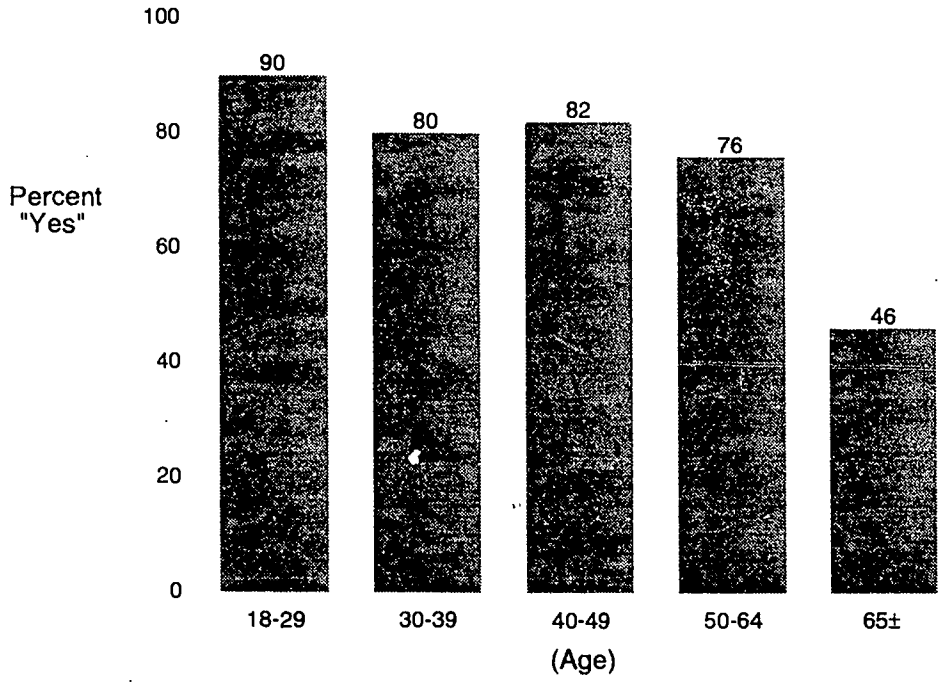
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 2. Is additional training or education important for you to be successful in your work? (Responses by annual household income)



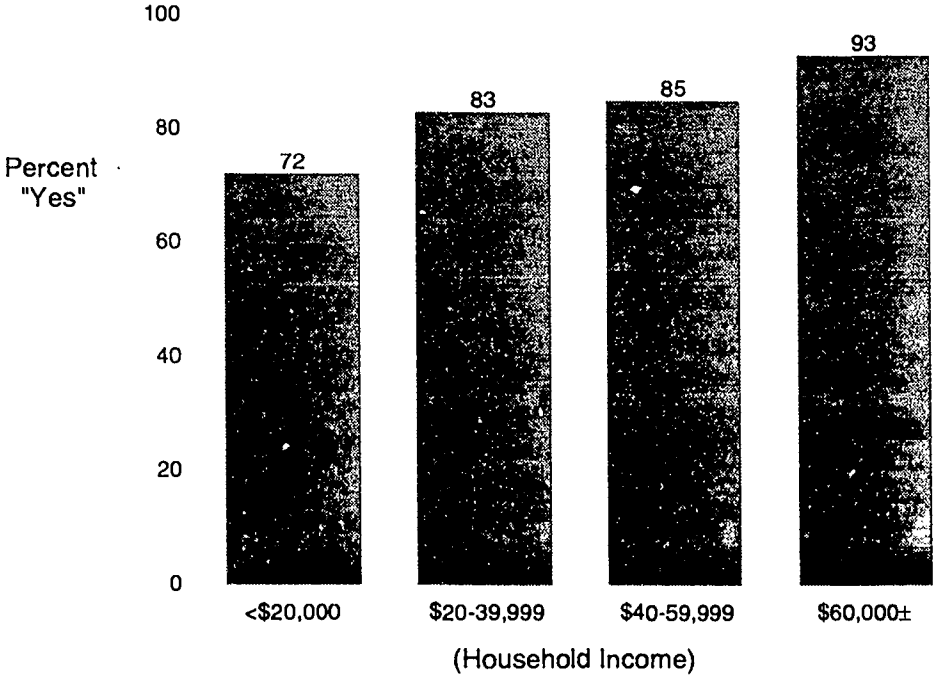
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 3. Have you had any work-related training or education in the last three years? (Responses by age, combined answers to questions about eight types of training and education)



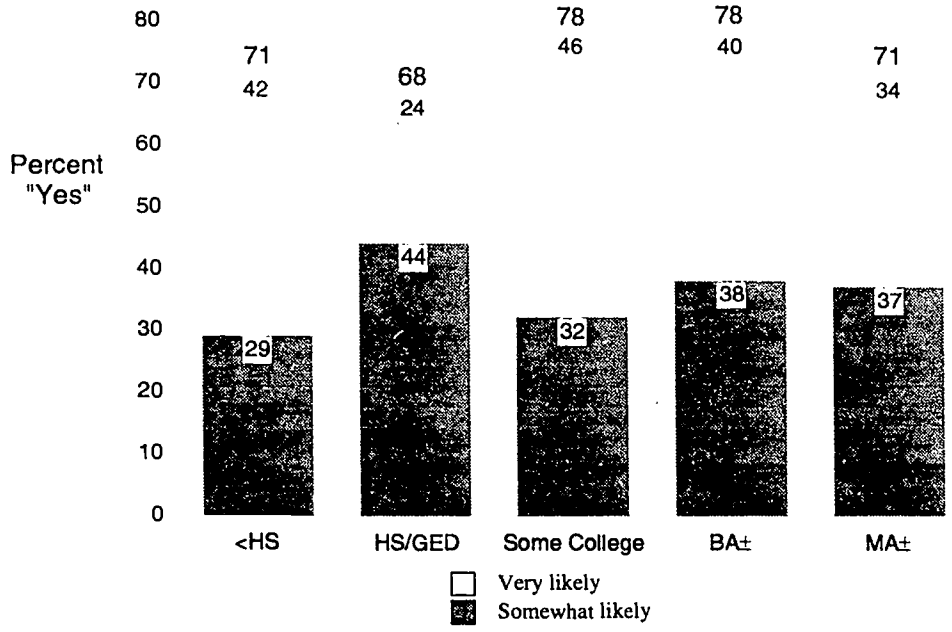
Source: Washington State University, SESRC, 1995.. (Excludes retirees)

Figure 4. Have you had any work-related training or education in the last three years? (Responses by annual household income, combined answers to questions about eight types of training and education)



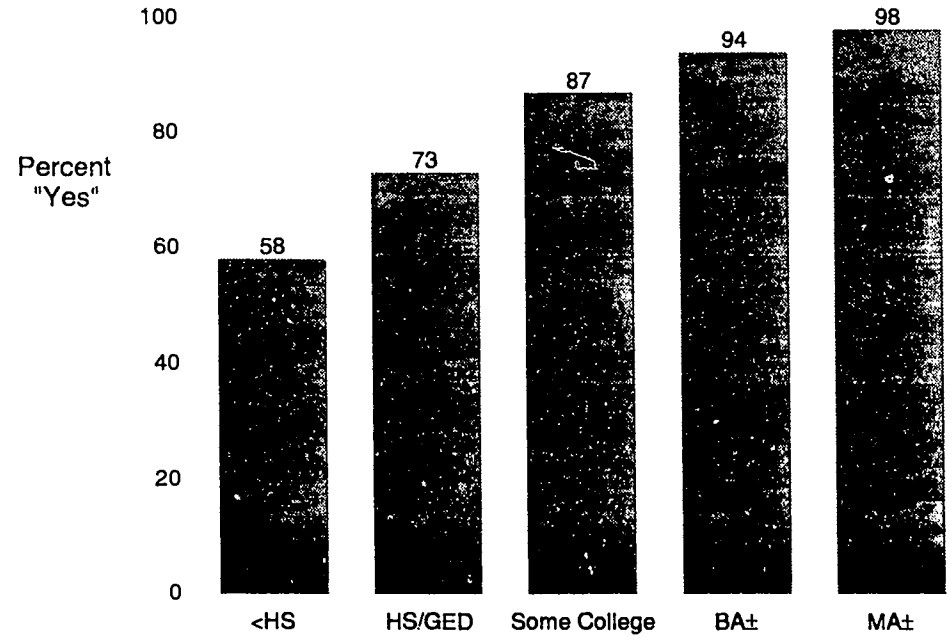
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 5. Are you interested in getting college education or training in the future? (Very and somewhat interested combined)



Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 6. Have you had any work-related training or education in the last three years? (Responses by level of education, combined answers to questions about eight types of training and education)



Source: Washington State University, SESRC, 1995. (Excludes retirees)

3. The increasingly common decision to continue getting an education reflects the pressures of working in a knowledge-based economy.

A career counselor was quoted earlier in this report as saying that the ability to learn is now the most important skill a worker can have, implying that lifelong learning is driven by what happens in the labor force.

Our study findings show that her assessment is accurate. Employers are definitely encouraging workers to acquire more job-related knowledge. Many, but not all, understand that upgrading the skills of their work force is critical to competitiveness. Over one-third of adults report that an employer has encouraged them to get more work-related education or training in the last three years.

The pressure from employers is greatest on people who are mid-career: almost half of adults age 40-49 have been encouraged by their employers to get more job-related education or training (Figure 7.) People with a bachelor's degree are the ones most often pushed to continue learning: over half say they have been encouraged to do so by their employers (Figure 8).

Another reason so many people continue their education and training has to do with career changes. Nearly two-thirds of adults say they have already changed careers at least once since they started working. One-third say they have changed at least *three times* (Figure 9). While recent studies question whether jobs are now less secure than in the past, results from our survey suggest that people's expectations support conventional wisdom that career changes are becoming more common.[10] Nearly half of adults say they are (somewhat or very) likely to change careers in the future. People with bachelor's degrees or higher are just as likely as those with high school or less to say they expect a career change (Figure 10).

We conclude that both on-the-job encouragement and expected career changes are combining to provide a powerful incentive for lifelong learning.

4. 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, college courses for credit. This type of instruction is effective for a first and very intense educational experience after high school. However, it may not make sense in terms of helping older adults get the knowledge they need, when they need it, for jobs and careers.

In our national survey, we used a series of questions to ask respondents whether they had received training or education from eight specific teaching methods. The first four questions concerned 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 questions addressed two-way interactive instruction: a college course attended for credit; a college course attended but not for college credit; a short course, seminar, or workshop; and a conference.

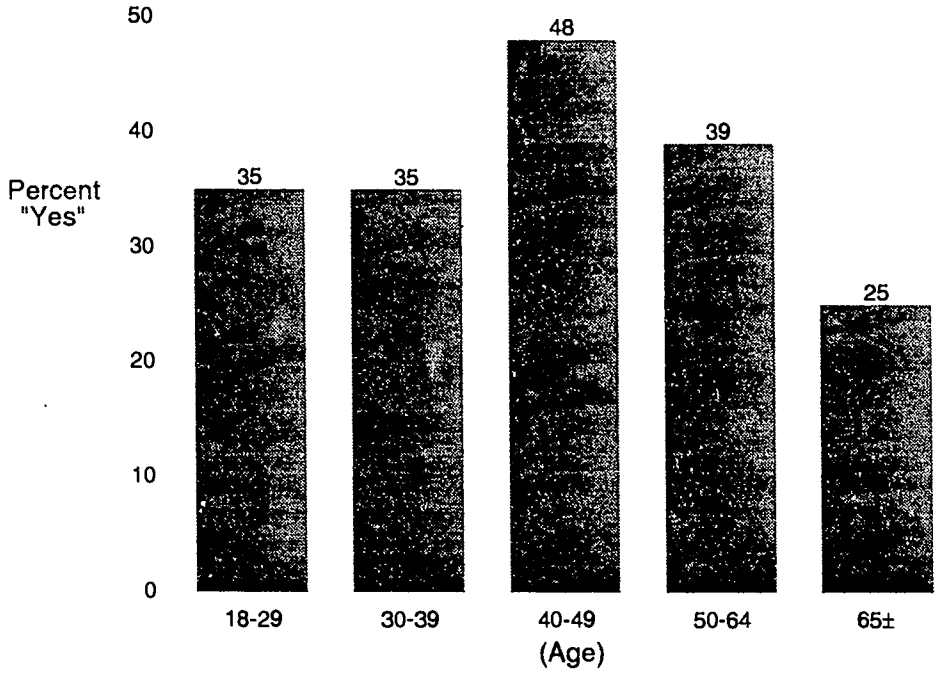
The survey results show that indeed, a high proportion of adults get their education and training from college courses that give credit towards a degree (Figure 11). However, other interactive methods are more common: over half of adults have taken work-related short courses in the last three years; 43 percent have taken non-credit, college classes; and 40 percent have attended work-related conferences. One-way methods are also important: over 30 percent have used educational video tapes and instructional guides on computers.

Not surprisingly, the way that people acquire knowledge changes as they get older. People age 18-29 are most likely to have taken a course for college credit in the last three years, while those age 40-49 and 50-64 are most likely to have taken a short course, seminar, or workshop (Figure 12).

The implication is that faculty and administrators need to think more broadly about ways in which teaching can take place: clearly, a significant demand exists for instruction provided in venues other than traditional college classrooms.

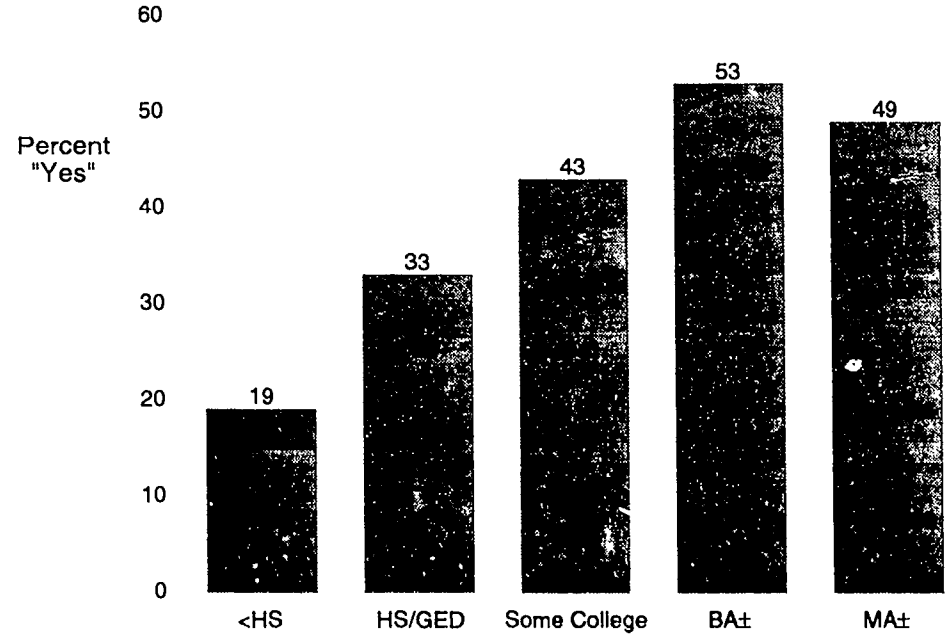
[10] See "Whistling while they work," *The Economist*, January 25, 1995, pp. 25-27.

Figure 7. Has an employer encouraged you to get more work-related training or education in the last three years? (Responses by age)



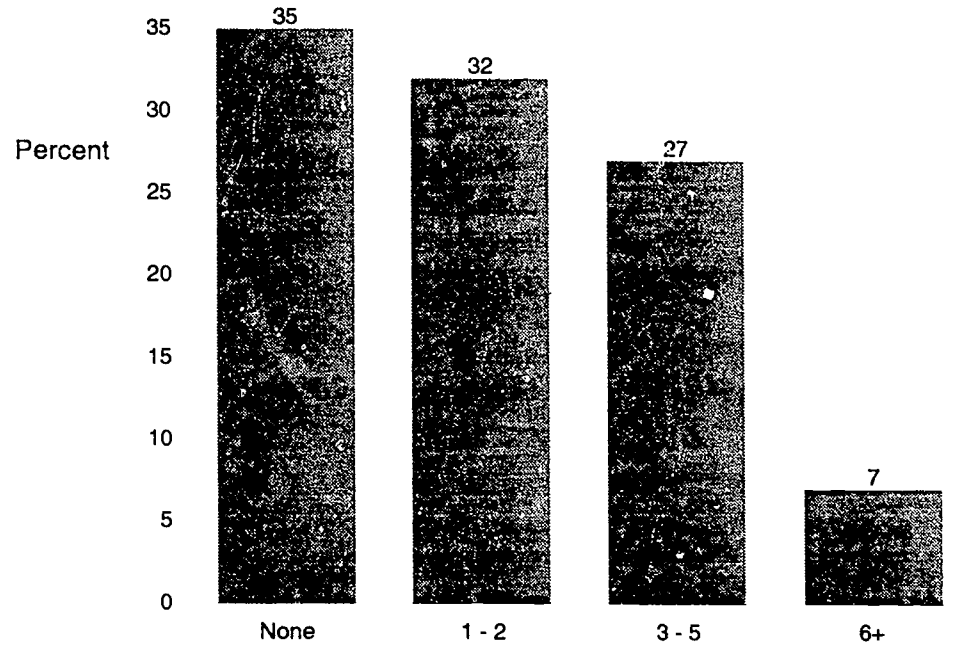
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 8. Has an employer encouraged you to get more work-related training or education in the last three years? (Responses by level of education)



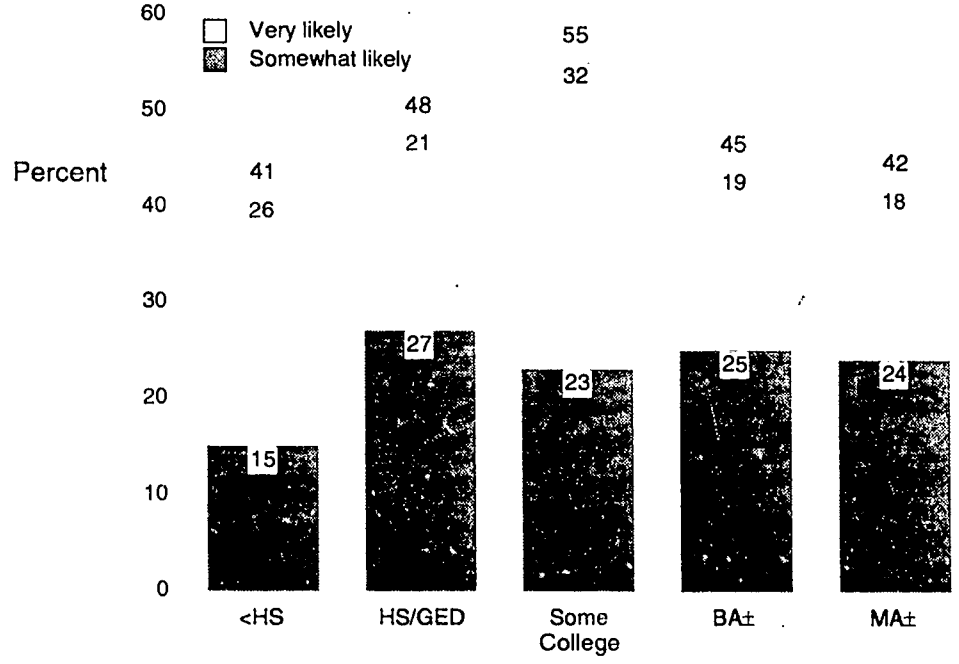
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 9. How many times have you changed careers?



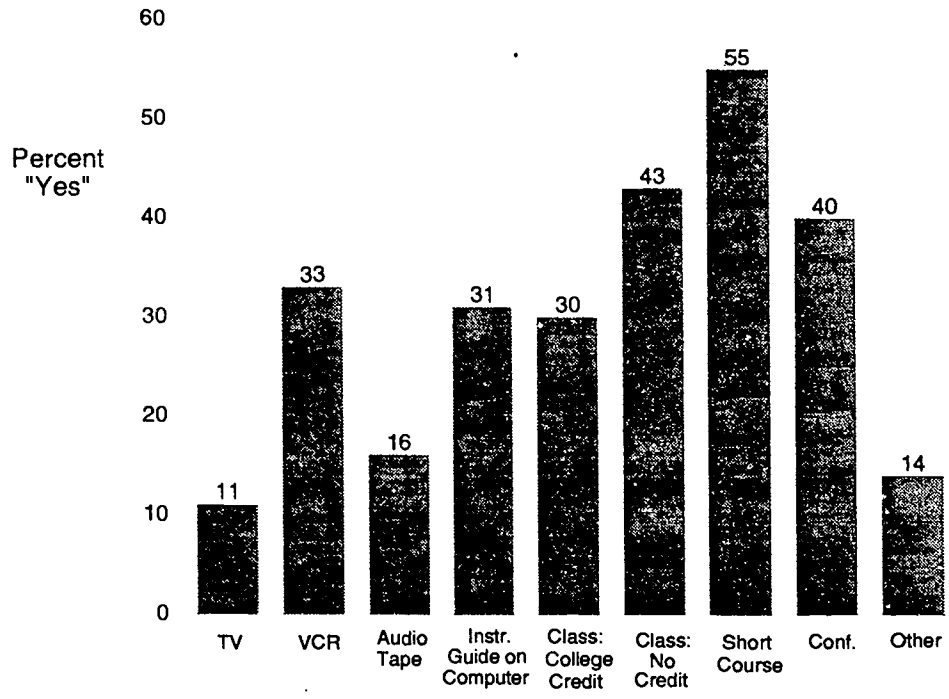
Source: Washington State University, SESRC, 1995. (Excluded retirees).

Figure 10. How likely are you to change careers in the future? (Responses by level of education)



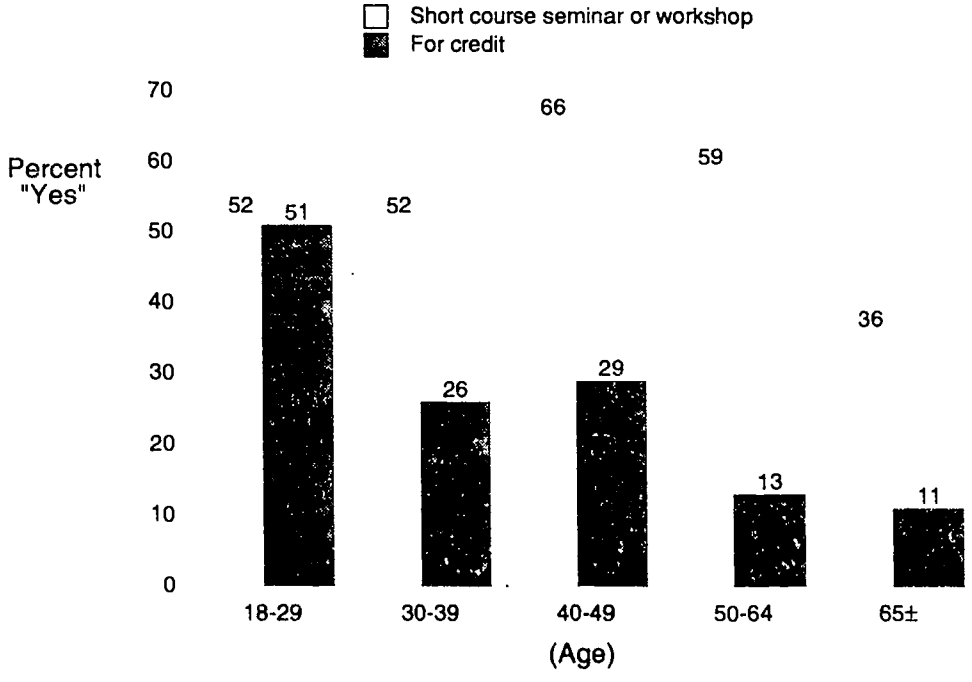
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 11. Have you obtained work-related training in the last three years in any of the following ways?



Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 12. Have you obtained work-related training in the last three years by taking a course for college credit? A short-course, seminar, or workshop? (Responses by age)



Source: Washington State University, SESRC, 1995. (Excludes retirees)

5. 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, 18- to 22-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. They are much more likely than 18- to 22-year-olds to be constrained by where they live and what they can afford, as well as by their jobs and family responsibilities.

To better understand such constraints, we included in the survey a series of questions about barriers to continued education and training. The most commonly cited barriers were cost (56 percent) and lack of time (54 percent) (Figure 13). 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 we 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 (Figure 14). Similarly, cost is a more serious problem for people with relatively less education, and time is a greater concern for those with more education (Figure 15).

The picture that emerges is one of a market that is differentiated into many segments according to age and education as well as other variables like location and family type. The challenge is to make education and training available in many different forms, some of which involve teaching over long distances at flexible times.

6. Distance education strategies have the potential to overcome significant barriers to lifelong learning.

It is no longer in question whether people want to continue acquiring knowledge all the way through their working lives. But most adults cannot devote themselves to full-time, on-campus course work. Not everybody lives near a college or university campus and most people work (full-time, Monday through Friday) when the classes are offered.

Hence, administrators and faculty must think about providing educational services that are neither campus-bound nor offered during the day only. A wide range of distance education strategies offer promise in this regard, but significant hurdles still remain. Educators must perfect the strategies, make the technology available, and help people make the leap from face-to-face contact with an instructor to learning across space and time.

Our survey results indicate that 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.

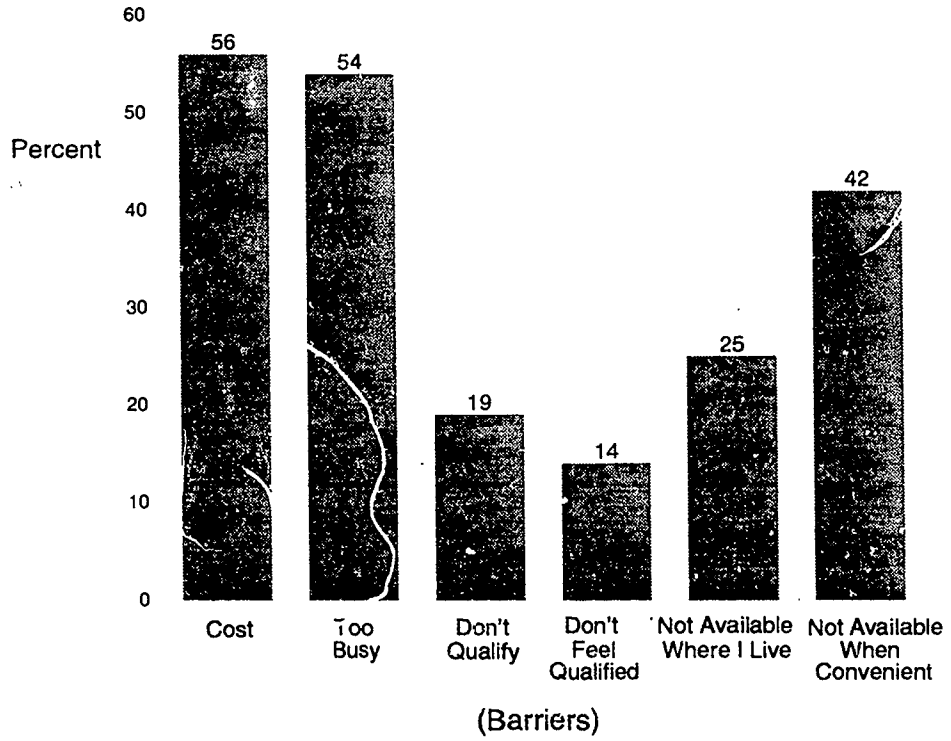
Whether distance education becomes more common in the future will depend partly on people's access to and utilization of various information technologies. It seems likely that familiarity with personal computers will be necessary for many long distance learning applications, from using the Internet to video-instruction programs. For this reason, we asked respondents to the survey about access to computers, both at home and work. Overall, 35 percent have a personal computer in their home and 56 percent use a computer at work.[11]

People under age 50 are most likely to have computers at home and work. Access is highest among people age 40-49 (Figure 16). As we've already noted, people in this age group are already responding to strong pressures at work to continue acquiring knowledge. Furthermore, they're likely 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 work (Figure 17). Use at work is highest among people with at least a bachelor's degree.

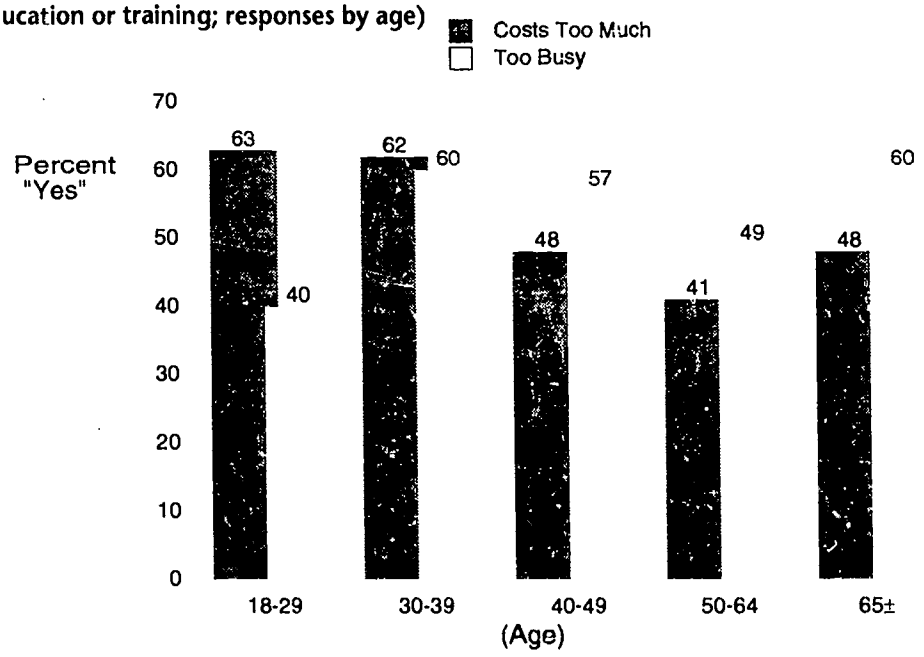
[11] Estimates on the proportion of homes with personal computers vary. For example, a 1993 survey by the U.S. Energy Information Administration estimated that 19-27 percent of homes have personal computers. Other estimates are as high as 46 percent.

Figure 13. Why can't you get the kind of education or training you want? (For adults who are very or somewhat interested, or somewhat uninterested in getting more education or training)



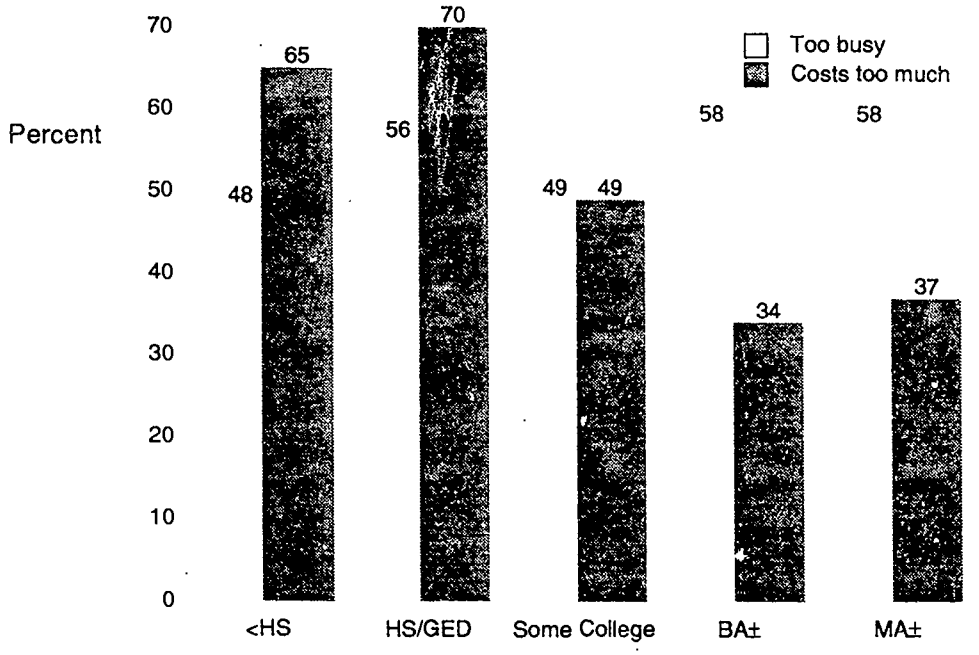
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 14. Why can't you get the kind of education or training you want? (For adults who are very or somewhat interested, or somewhat uninterested in getting more education or training; responses by age)



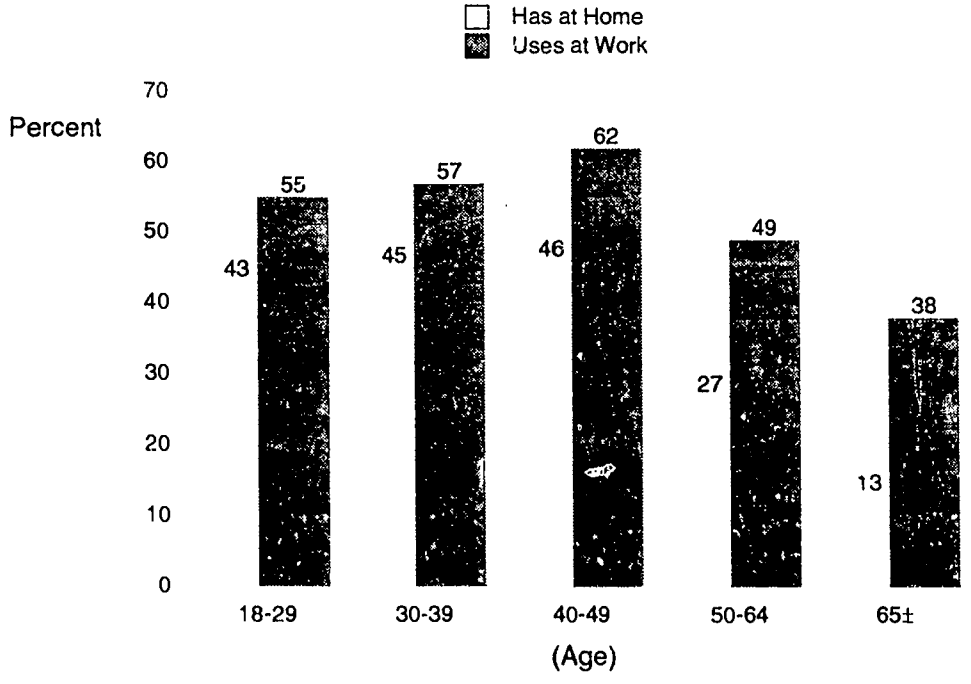
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 15. Why can't you get the kind of education or training you want? (For adults who are very or somewhat interested, or somewhat uninterested in getting more education or training; responses by education)



Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 16. Do you have a personal computer at home? Do you use a computer at work? (Responses by age)



Source: Washington State University, SESRC, 1995. (Excludes retirees)

Of course, having access to a computer is only one small part of using distance education strategies. Many people still view the traditional classroom setting as a preferable learning environment. 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 over TV or videotapes in their own home. The majority prefers the classroom, but a surprising 29 percent of respondents prefer the latter method.

We think that more people favor traditional learning environments not because they have not caught up with the knowledge age, but because educators have not yet developed distance teaching techniques that are—or that are perceived to be—comparable to classroom techniques. When it comes to learning, problems related to time and space have not yet been solved.

Surprisingly, 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.

These findings raise a critical question. Does everyone have the wherewithal to travel the knowledge highway, or are some people being left behind?

7. Although lifelong learning is a reality for most Americans, some people are losing out.

Futurists Heidi and Alvin Toffler have written extensively about a dawning "third wave" civilization in which the mass society gives way to an information age and knowledge-based economy.[12] About the Tofflers' analysis, Robert Reich, U.S. Secretary of Labor, has observed:

> *. . .the Tofflers describe in futuristic terms an economic transformation that has been palpable for almost two decades. The well-skilled and well-connected are already riding the third wave. But most Americans are caught in the turbulence as the second wave crests and breaks. And that is the problem. It is not that the future is slow in coming; it's that it is coming for only some of us.*[13]

Our survey results provide at least preliminary evidence supporting Reich's contention. It appears that the United States is developing a segmented work force in which some people are more likely than others to obtain education and training over the course of their working lives.

As we've shown earlier in this report, Americans almost *universally* recognize the importance of lifelong learning as it relates to the work place. The personal value they put on acquiring more knowledge varies little by income, education, or other characteristics.

However, the reality is that Americans are not *universally* achieving their educational goals. Whether one has recently obtained education and training varies significantly by how much education one already has (Figure 18), as well as by level of income (Figure 19). This is true regardless of the type of instruction that people are getting, from one-way media like TV and audio tapes to more interactive and intensive formats like workshops and college courses.

Furthermore, the people who are most often encouraged at work—and therefore probably *supported by their employers*—to acquire more knowledge, are those who are already college educated (Figure 8). Not surprisingly, these are the people who have the highest income (Figure 20).

We found additional support for the hypothesis that some people are being left behind—but want to catch up. We looked at two subgroups of adults who plan to take college courses in the next three years: those who will continue their education to improve *current* skills, and those who will do so to learn *new* skills. These are two very different groups of people—one that is moving smoothly through the transition to a knowledge age and another for whom the future is likely to be extremely difficult.

People who want to improve their current skills are being encouraged at work to get more training

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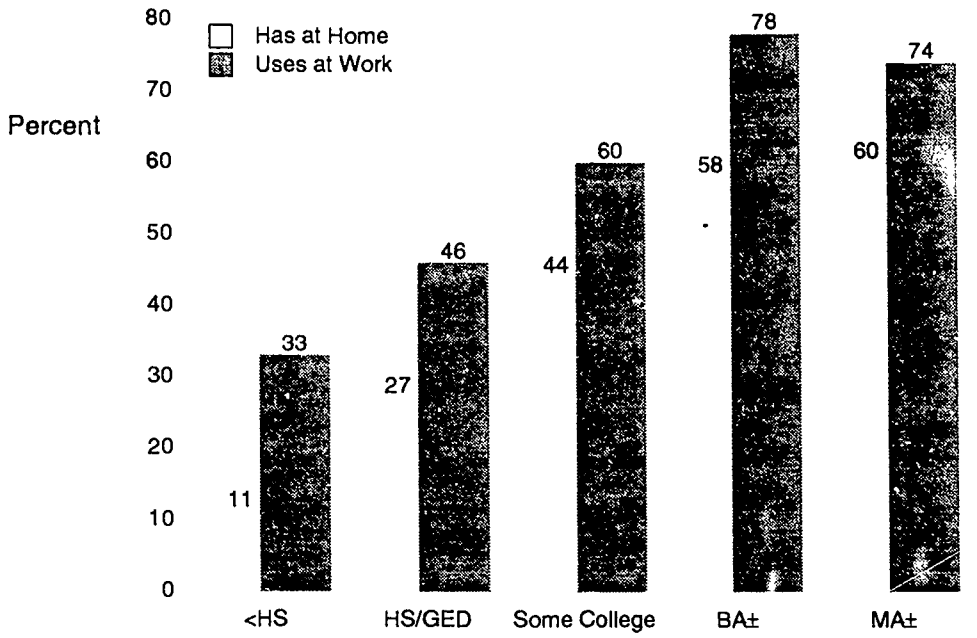
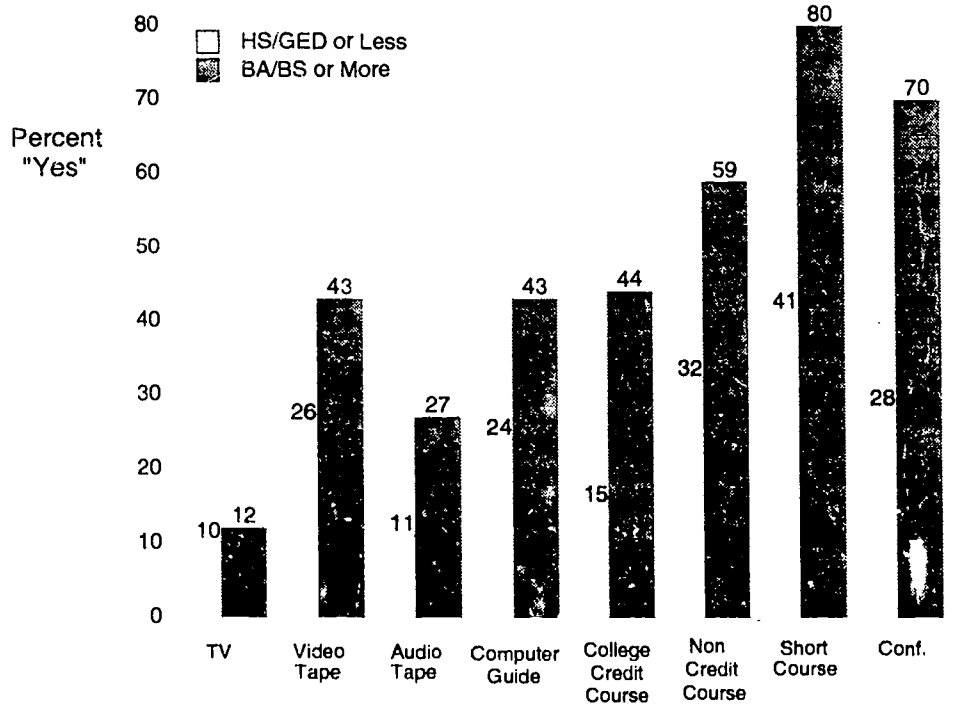
[12] See, for example, *Creating a New Civilization: The Politics of the Third Wave*, Turner Publishing, Atlanta, February 1995.
[13] *New York Times*, April 2, 1995.

Figure 17. Do you have a personal computer at home? Do you use a computer at work? (Responses by level of education)



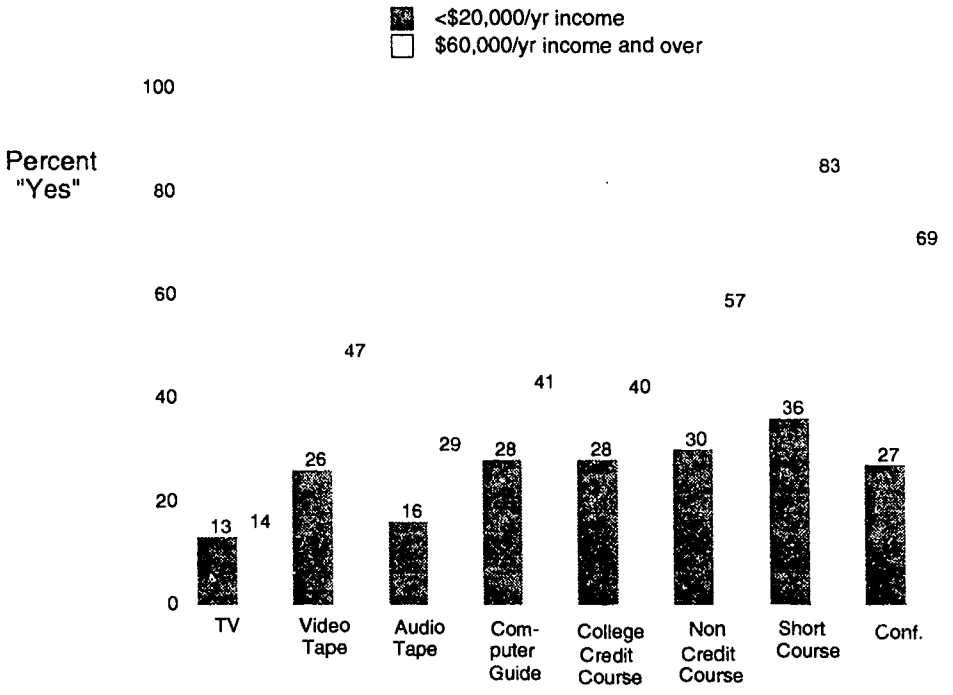
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 18. Have you obtained work-related training in the last three years in any of the following ways? (Responses by level of education)



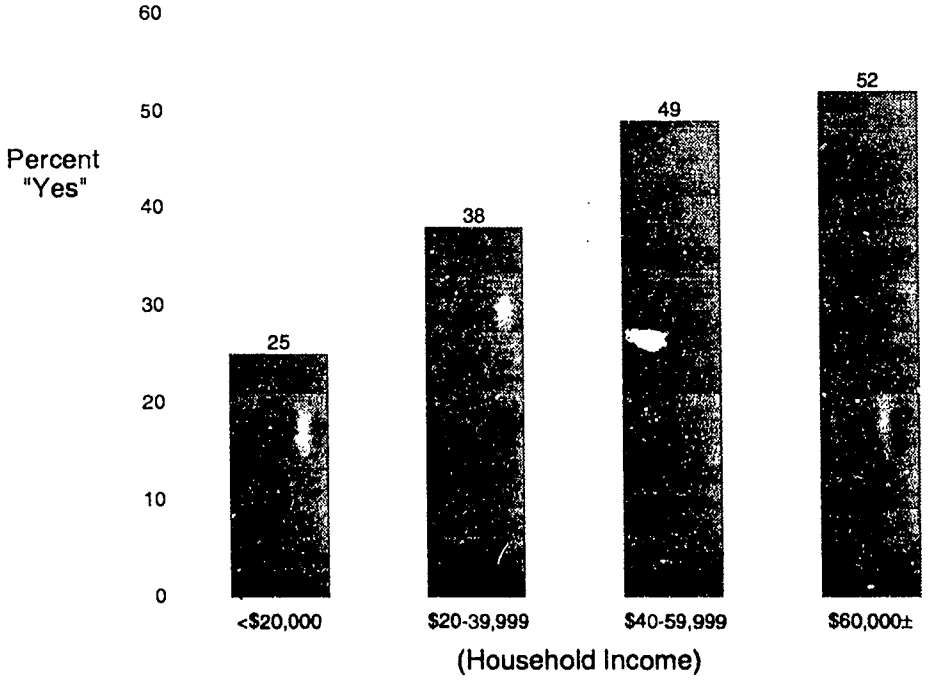
Source: Washington State University, SESRC, 1995. (Excludes retirees)

Figure 19. Have yo·· obtained work-related training in the last three years in any of the following ways? (Responses by annual household income)



Source: Washington State University, SESRC, 1995. (Retirees excluded)

Figure 20. Has an employer encouraged you to get more work-related training or education in the last three years? (Responses by annual household income)



Source: Washington State University, SESRC, 1995. (Excludes retirees)

and education. They are less likely to see career changes ahead; they've had recent training experience; they use computers at work; and, no surprise, they have higher incomes.

In contrast, people who see the need to learn entirely new skills are not getting pushed at work. They are more likely to see a career change in the future; they have not obtained training recently; they do not use computers at work; and they have lower incomes.

Access to higher education has been an important public policy issue for several decades. Now, as education and training become a lifelong concern for most Americans, the access issue is assuming larger dimensions. But how does the general public view this added responsibility for institutions of higher education?

8. Public support exists for universities, and the land grants in particular, to do more than educate 18-22 year old undergraduates.

Nowhere are the pressures on higher education for accountability and responsiveness more evident than in state legislatures across the country. Proposals to focus exclusively on undergraduate teaching are among the measures suggested by legislators who are re-evaluating priorities and trying to cut expenditures. Such proposals portend the greatest upheaval for the land grant universities since they have historically provided services far beyond undergraduate teaching.

Data from our national survey indicate that the general public does not share some legislators' insistence that colleges and universities should abandon functions other than undergraduate teaching.[14] Because of our interest in the future role of land grant universities, we asked two separate sets of questions to measure relative support for services traditionally provided by these schools.

First, after naming the land grant (or land grants) in the respondent's own state, our interviewers asked whether each of five activities should be a very, somewhat, or not an important activity for this university (or these universities). Descriptions of the five activities were provided as follows:

- Undergraduate teaching, that is, teaching students in the years leading to their graduation from college;
- Graduate teaching, that is, teaching students who have received a four-year college degree and are working towards an advanced degree;
- Teaching classes to older students who are returning to school, but not necessarily to earn a degree;
- Off-campus extension work, that is, providing educational programs for people and groups throughout the state; and
- Research on problems facing businesses, residents, and state and local government.

A majority of respondents rated each of the five as "very" important (Figure 21). Less than 5 percent said any of these activities was not important.

Immediately after this series of five questions, people were asked how they would distribute $100 of taxpayer money to teaching students on-campus, off-campus education and technical help, and doing research. On average, respondents said they would spend the most for teaching students on-campus ($45), followed by off-campus education and technical help ($30), and doing research ($25) (Figure 22).

These results indicate that not only does the public support higher education in general, it also supports university functions well beyond on-campus, undergraduate education, a finding that might surprise some public policy makers.

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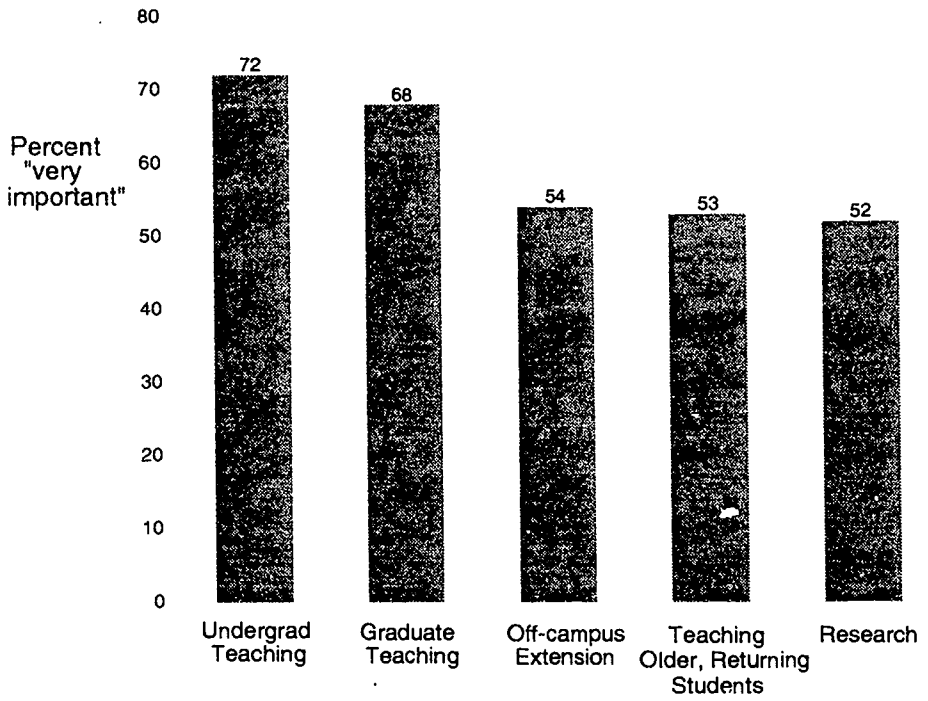
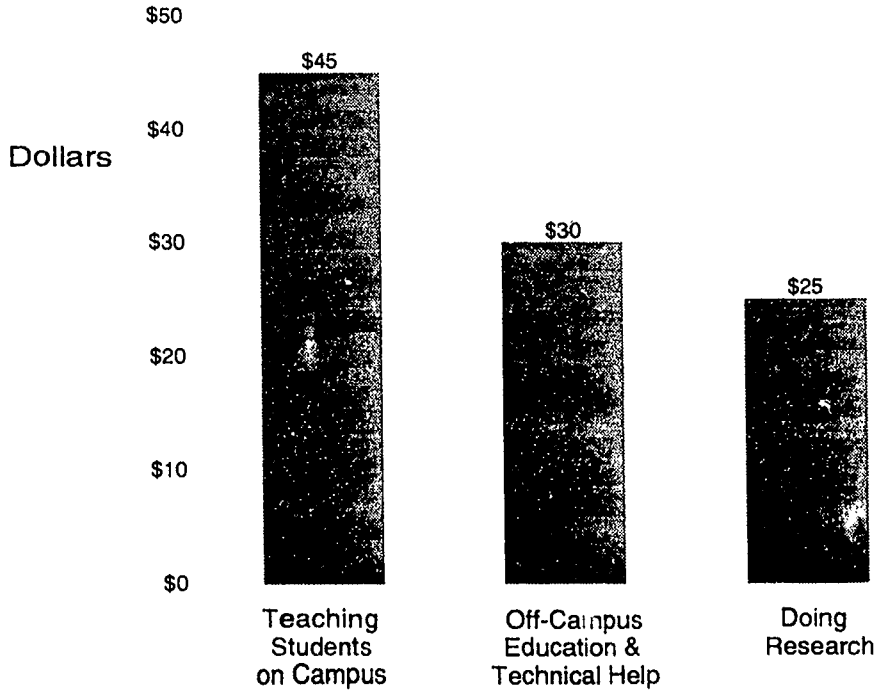
[14] See Appendix C, "The Public View of Land Grant Universities: Results From a National Survey," by James A. Christenson, Don A. Dillman, Paul D. Warner, and Priscilla Salant, in *Choices*, September, 1995.

Figure 21. [Name of land grant university] provides various services to your state. How important is each one? (Response categories: very, somewhat, not)



Source: Washington State University, SESRC, 1995.

Figure 22. Imagine you have $100 of taxpayer money to spend. How would you distribute this money?



Source: Washington State University, SESRC, 1995.

Implications for the Nation's Colleges and Universities

The data reported here have many implications for faculty and administrators in colleges and universities throughout the United States. Four implications, in particular, reflect the intersection between demands for lifelong learning and other forces that now influence institutions of higher education.

1. Higher demand for lifelong education and training means that colleges and universities have many more potential customers than in the past.

Economic and political pressures to down-size and restructure have forced people in organizations of all types to ask fundamental questions about what business they are in and who their customers are. Only by addressing these questions have corporate executives and public officials been able to improve efficiency and prospects for long-term growth. Colleges and universities should do the same.

Our data show great interest in and substantial commitment to lifelong learning. Four-in-five adults think that getting additional training or education is important for them to be successful in their work and a similar proportion have received some kind of job-related training or education in the last three years. Three-fourths are interested in future college training or education. Over half say they will take a course for college credit in the next three years and 75 percent say they will take a non-credit course.

Most of our nation's colleges and universities have shown little interest in meeting the needs of these potential students.

Instead, they have structured themselves to serve one main customer: the undergraduate student who seeks a first-time college education, usually full-time, on-campus, where classes are scheduled between 8:00 a.m. and 5:00 p.m. Education beyond a bachelor's degree is structured around on-campus degree programs, taught in a similar way. To the extent learning opportunities are offered to people who seek any other kind of education and training, these options involve very limited continuing education programs, typically underfunded and operating outside the core departmental structure around which most institutions of higher education are organized.

Today, many institutions of higher education, including land grant universities, face enormous pressures to lower costs and become more efficient. These pressures often take the form of demands by state legislators that professors should 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 foster the lifelong learning opportunities now sought by the general public. Colleges and universities have the chance to serve a much larger group of customers if they decide that they are in the business of providing continuing education and training.

The demand for lifelong learning brings to mind a question faced by the railroads in the early twentieth century. Were they primarily in the business of running railroads or providing passenger transportation? Their decision was to continue running the railroads and leave the matter of providing transportation to others.

Higher education faces a similar question. The choice is between continuing to provide only a first-time, on-campus education on one hand, and serving a much broader clientele on the other. If faculty and administrators choose the first option, they leave the matter of lifelong learning—which seems so essential in a knowledge society—to others.

2. Distance education methods offer one means of meeting the demand for lifelong learning.

Adult learners identify busy lives, inflexible course schedules, and the lack of available courses offered nearby as major barriers to getting additional education and training. The needs of these

potential students reflect family and work commitments, and cannot be met by on-campus, semester-long classes that are taught in lock-step sequence during daylight hours. Often, these students want highly focused, "just-in-time" knowledge about a new theory or technique they can use at work. Many have neither the interest in nor flexibility to follow a tightly orchestrated course sequence over a period of several years.

Technological developments in computing and telecommunications provide options for bringing education to the home and work place in ways not imagined only a decade ago. For example, two-way, interactive video now brings together teachers and students in different locations, often separated by long distances. Educators are beginning to understand how modules of traditional, semester-long courses can be packaged for students and used to augment the learning process. Students can now interact with teachers on the Internet as more people get access to computers. And with less effort than it takes on-campus students to get books from the library, students in remote locations can use the World Wide Web to tap learning resources from virtually anywhere.

Corporate America has increasingly found that many employees are just as productive when they use computers, modems and fax machines to telecommute from home to work. The same possibilities, and perhaps even a stronger motivation, exist for education and training. Many adult learners now need highly specialized instruction on particular subjects. Distance education offers the perfect vehicle for locating and electronically assembling enough students to warrant teaching specialized courses that could not previously be taught.

Our survey results show that nearly three-fourths of the general public supports the development of more courses using satellites, TV and other long distance methods and that 15 percent already have experience with distance education. More than one-third have computers in their home, and more than half of those who are employed use a computer at work. Furthermore, among adults with the most interest in additional education and training—those who already have degrees—more than three-fourths have access to a computer at home or work. Increasingly, people have the technological capabilities to support lifelong learning, regardless of where they live or what their schedules are.

Distance education may provide a win-win situation for colleges, students, and taxpayers. As teaching techniques are improved and people's attitudes change, students will not need to travel as often to campus for classes and therefore, constant expansion of on-campus buildings and facilities will become less important. Once the infrastructure for distance education is in place, the marginal costs of teaching additional students can be relatively low.

3. To meet the needs of lifelong learners, colleges and universities must change how they do business.

Currently, most colleges and universities are organized around discipline-oriented departments. Faculty are hired to teach one, two, or three courses in their area of training and interest each semester. Curricula are built around the departmental faculty's general understanding of what it takes to be educated in a particular field, degrees are offered to those students who complete a certain constellation of courses, and classes are offered in a sequence that meets the needs of full-time students. Courses are designed to be of the same, semester-long duration, and are taught mostly during daylight hours, at times convenient to the faculty member who teaches them. In recent years, many educational institutions have been pressured to shorten the time that it takes students to complete their degree, and this has, in turn, forced even tighter sequencing of course offerings.

New course offerings are typically developed on the basis of what the faculty perceive as a need for augmenting existing curricula. And, they often follow a lengthy and tortuous process in which proposals are made, examined, and finally approved by the broader university. The layers of decision-making involved in this process have serious ramifications. First, curricula that are finally in place are difficult to change and second, responding to rapidly emerging needs for new information is especially difficult.

Also generally true of today's academic world is that continuing education and distance learning courses are viewed as "marginal" operations that must be entirely self-supporting. To the extent they

are offered at all, continuing and distance education classes are organized and delivered outside the core, university teaching structure. They are relegated to special offices and are not included as part of regular departmental responsibilities. As a result, faculty must assume the role of "temporary workers," take on an overload to teach the extra courses, and be enticed with extra pay over and above their salaries.

It is not surprising, then, that such courses often mirror what is taught on-campus, with relatively little attention given to structuring and packaging them in a way that truly benefits adult learners. To meet the needs of such students, courses must be taught in shorter segments (like seminars and workshops) and often at unusual times (including nights and weekends). They can vary in terms of whether or not credit is offered.

The American genius that developed a successful, on-campus system of public, higher education is recognized around the world. It must now be applied to off-campus instruction that supports adult learning. The same attention currently devoted to designing a "first-time" education for recent high school graduates should be directed to continuing education and distance learning. This can only happen if the latter are formally defined as responsibilities for faculty members who are, in turn, recognized and rewarded for assuming that responsibility. In short, universities should re-assess whether they continue to meet their mandate or whether, perhaps, they should relinquish it to other institutions, including those in the private sector.

4. Providing access to lifelong education and training will require special measures.

Regardless of age, gender, race, and ethnicity, the great majority of Americans want to continue their education and training well past early adulthood. Employers, too, recognize the importance of continuous learning and many are encouraging their workers to acquire additional knowledge. However, the reality is that the best-skilled and most well-off are more likely to achieve their educational and training goals. Some people are clearly being left behind.

We have recommended here that universities and colleges change certain policies having to do with their customer base, off-campus instruction activities and faculty incentive systems. While these are important and dramatic policy changes, they will not by themselves ensure that everyone has the opportunity to succeed in the knowledge age.

We know that cost is a barrier for people with lower incomes, so how to finance additional training and education is a critical question. Rather than creating new federal programs to channel public funds in this direction, it is possible that people with low incomes could be given training vouchers to use at any accredited institution. In addition, low and moderate income families could be given tax deductions for money spent on college tuition (a proposal that almost 70 percent of adults favor) as well as on the kind of continuing education and training that is the subject of this report.

Policy tools like vouchers and tax deductions offer a flexible means of allowing individual workers to identify the job skills and professional development they need, when they need them. An important consideration is whether such measures should be left to the discretion of state governments or implemented at the federal level. An argument in favor of using at least some federal resources is that returns to investments in education and training often spill across state lines and accrue to the nation as a whole in terms of increased work force productivity.

Conclusion

The American public strongly supports higher education. Virtually everyone believes that encouraging more people to get education and training beyond high school is a good idea, and in addition, the majority thinks that our colleges and universities are doing a good job.

We also found that public support exists for universities, and land grants in particular, to do more than provide an undergraduate education. A majority of adults indicate that off-campus education, education for returning students, and doing applied research on problems facing people in the state are all very important. And, when asked to allocated $100 of state funds among the functions of teaching, extension and research, on average people told us they would spend $45 for teaching students on-campus, $30 for off-campus education and technical help, and $25 for doing research.

In some states, legislators are sending a loud message to colleges and universities that teachers should spend more time in the classroom. In our view, this is an overly simplistic interpretation of what the American people are really after. We believe they want institutions of higher education to respond to contemporary needs and expectations consistent with work force imperatives in the knowledge age.

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 is brought into the core of universities and colleges, if new faculty responsibilities are rewarded and respected, and if distance teaching methods are designed to serve new customers. Our knowledge society demands no less.

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About the Survey

The Social and Economic Sciences Research Center (SESRC) at Washington State University completed 1,124 telephone interviews to a probability sample of continental U.S. households (including Washington, D.C., and excluding Alaska and Hawaii). The sample consisted of 4,500 random digit numbers and was provided by Survey Sampling, Inc. Respondents were selected from among persons 18 years and over in each household, using the "most recent birthday" technique.

The questionnaire was drafted by a nationally constituted advisory committee and further developed by SESRC staff. Two rounds of pretesting were conducted with 200 cases from the sample and results were used to modify the introductory section of the questionnaire, refine question wording, determine appropriate question flow and branching, and develop targeted refusal prevention strategies. The final survey contained 135 items, as follows: 80 structured content questions, 6 brief open-ended questions, 19 demographic/technology questions, and 30 items used for introduction, administration, and branching.

The survey was conducted between February 20 and March 24, 1995 and interviews averaged 22 minutes. At least six attempts were made to contact each household, including three evening attempts (5:00 p.m. to 9:00 p.m. in their time zone), plus one morning (8:00 a.m. to 12:00 noon) and two afternoon (12:00 noon to 5:00 p.m.) attempts. Callback appointments were scheduled at the convenience of the respondent. Refusal conversion calls were made by a select set of interviewers between one to two weeks after the initial refusal..

The cooperation rate (the ratio of the completed and partially completed interviews to the total number of completed, partially completed and refused interviews, 1,124/1,874) was 60.0 percent.

Interviews were conducted from the Public Opinion Laboratory of the SESRC and interviewers used the micro-computer assisted telephone interviewing (MATI) facilities to aid in the telephone interviews. The system displays questions on a computer monitor from which the interviewer can read the question to the respondent and enter the response directly into a micro-computer for data storage.

The sampling error for a surveyed sample of 1,100 people drawn from the U.S. adult population is estimated to be 3 percent for yes/no questions. This means that the true value in the population from which the sample was drawn will fall within 3 percent above or below the results obtained, with 95 percent confidence. Other potential errors of measurement and nonresponse were minimized by the investigators through questionnaire design, pretesting, sampling design, and carefully administered interviewing protocol.

For analysis, the interview data were weighted based on the respondent's level of education. The weights were calculated based on the proportion of persons in the general adult population who had each education level according to the 1990 Census. The weighting technique is commonly used in national surveys, and in this case, was intended to improve the representativeness of the sample with respect to education, a variable which was important to the inference of estimates based on the sample to the general adult population. For purposes of comparison, both unweighted and weighted sample data are presented in Appendix Table A1, along with national estimates from the U.S. Bureau of the Census.

Table A1. Characteristics of respondents, 1995 national survey, unweighted and weighted data compared with 1990 Census Bureau data

	1995 NATIONAL SURVEY				
	Unweighted		Weighted[a]		1990 Census
	(n)	*(percent)*	*(n)*	*(percent)*	*(percent)*
Total	1,124	100	1,120	100	100
Age					
Under 30	193	18	190	18	26
30-39	292	27	267	25	23
40-49	226	21	200	19	17
50-64	180	17	187	18	18
65 and over	179	17	207	20	17
Skipped/R/DK	54	—	69	—	—
Education					
Less than high school	96	9	223	20	20
HS/GED	308	28	390	35	35
Some college	385	34	282	25	25
BS/BA and above	331	30	225	20	20
R/DK	4	—	4	—	—
Labor force status					
Employed	731	65	681	61	62
Unemployed	75	7	78	7	4
Not in labor force	315	28	360	32	34
Skipped/R	3	—	2	—	—
Region					
Northeast	205	18	199	18	21
Midwest	295	26	288	26	24
South	397	35	423	38	34
West	227	20	210	19	21
Location[b]					
City over 50,000	431	40	397	38	64
Town under 50,000	399	37	393	37	12
Rural (nonfarm/farm)	238	22	263	25	24
Skipped/R/DK	56	—	67	—	—
Income					
Less than $20,000	238	25	277	30	33
$20,000—39,999	342	36	349	38	29
$40,000—59,999	196	21	168	18	19
$60,000 and over	177	19	131	14	19
Skipped/R/DK	171	—	196	—	—
Sex					
Male	431	40	653	39	48
Female	647	60	410	61	52
Skipped	46	—	57	—	—
Race/ethnicity					
White	830	78	799	76	78
Black	74	7	81	8	11
Hispanic	76	7	86	8	8
Other	89	8	90	8	3
Skipped/R/DK	55	—	65	—	—

[a] All sample data in this report have been weighted for education based on 1990 Census data.

[b] Differences between survey and Census Bureau data are likely due to measurement error in the former. "City" is defined by the Census Bureau to include suburbs, while respondents may have classified suburbs as "town."

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University and U.S. Census Bureau, *1990 Census of Population, General Population Characteristics* (1990 CP-1-1) and *Social and Economic Characteristics* (1990 CP-2-1), both published in November 1992.

Explanatory Note for Appendix Tables B1—B11

Tables B1-B11 include data on respondent characteristics cross-tabulated by answers to key questions asked in the 1995 survey. Characteristics include age, education, labor force status, region of the country, location of residence (urban/rural), income, sex, and race/ethnicity.

The chi-square statistic was used to measure statistically significant relationships between column and row variables. Shaded numbers in Tables B1-B11 indicate significant relationships ($p < .05$).

Many of the tables in Appendix B pertain to more than one survey question. Hence, the number of respondents who answered each question is not the same for all columns in every table and the "n" for each individual cell is not reported. However, cell sizes can be calculated by applying the "percent" reported in each cell to the weighted number of observations reported in Table A1. For example, in Table B1, 67 percent of respondents under age 30 said that community colleges were doing an "excellent" or "good" job meeting educational needs. The corresponding number of observations for that particular cell is (.67) (190) = 197.

Question wording is included at the end of each table.

Table B1. Number and percent of respondents who answered "definitely" or "probably" to questions about importance of additional education or training, and about plans for future course enrollment[a, b, c]

	(1) Importance of additional education or training		(2) Will enroll in college course for credit		(3) Will enroll in non-credit course	
	Definitely Yes	Probably Yes	Definitely	Probably	Definitely	Probably
Total (n)	444	228	148	241	168	283
Total (%)	53	27	20	33	21	35
Age (%)						
Under 30	66	28	36	37	16	37
30-39	54	32	16	37	21	38
40-49	53	27	13	24	25	37
50-64	43	16	8	14	21	23
65 and over	44	14	0	8	18	20
Education (%)						
Less than high school	51	24	17	30	9	40
HS/GED	44	32	10	28	15	31
Some college	61	28	29	32	18	38
BS/BA	61	22	20	29	38	33
MS/MA or more	60	19	15	26	43	32
Labor force status (%)						
Employed	54	27	17	29	24	34
Unemployed	67	26	26	38	6	34
Not in labor force	43	33	20	29	6	37
Region (%)						
Northeast	54	28	19	29	24	33
Midwest	49	26	19	28	16	38
South	53	27	16	28	20	31
West	60	29	20	35	24	38
Location (%)						
City over 50,000	61	25	22	35	26	35
Town under 50,000	54	26	17	26	19	34
Rural nonfarm	46	30	11	27	16	32
Farm	36	32	25	14	12	56
Income (%)						
Under $20,000	58	26	24	27	14	39
$20,000—39,999	56	26	15	33	18	36
$40,000—59,999	54	30	14	32	23	40
$60,000 and over	54	27	22	28	37	29
Sex (%)						
Male	54	29	20	29	24	35
Female	54	25	17	29	19	35
Race/ethnicity (%)						
White	54	27	17	29	21	34
Black	60	28	35	28	21	39
Hispanic	58	25	21	33	16	40
Other	47	24	16	26	21	27

[a] Shaded numbers indicate the variable (e.g., age in all six columns) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked these questions.

[c] Question wording:

Column (1) For yourself, do you feel that getting additional training or education is important for you to be successful in your work? Would you say definitely yes; probably yes; probably no; or definitely no?

Column (2) Which of the following best describes the likelihood of your enrolling in a course for college credit during the next three years? Is this something you definitely will do; probably will do; probably will not do; or definitely will not do in the next three years?

Column (3) Do you think you will take a course to learn new job skills that does not give college credit in the next three years? Would you say you definitely will; probably will; probably will not; or definitely will not?

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B2. Number and percent of respondents who have obtained work-related education or training during the last three years, by type of education or training[a, b, c]

	TV	Video tape	Audio tape	Computer guide or tutorial	College credit class	Non-credit course	Short course, seminar, workshop	Conference	Other
Total (n)	90	275	134	260	246	359	459	333	117
Total (%)	11	33	16	31	30	43	55	40	14
Age (%)									
Under 30	13	33	14	32	51	45	52	34	12
30-39	11	31	15	32	26	44	52	38	14
40-49	13	41	18	39	29	48	66	51	16
50-64	7	35	21	25	13	42	59	46	20
65 and over	4	29	14	18	11	26	36	33	14
Education (%)									
Less than high school	17	23	10	17	15	25	30	30	6
HS/GED	8	27	11	27	15	35	45	27	10
Some college	10	38	17	35	45	50	60	38	15
BS/BA	10	42	24	43	45	60	78	64	24
MS/MA or more	18	46	32	43	40	57	87	85	25
Labor force status (%)									
Employed	11	37	17	33	31	46	61	44	15
Unemployed	15	15	10	34	27	33	28	25	13
Not in labor force	8	13	12	23	25	31	34	23	10
Region (%)									
Northeast	10	29	14	30	25	44	55	42	18
Midwest	11	37	16	27	31	41	56	38	9
South	12	30	16	31	27	39	50	40	13
West	10	36	19	38	37	52	64	41	17
Location (%)									
City over 50,000	10	33	18	35	34	48	58	41	15
Town under 50,000	12	37	16	30	28	43	56	44	16
Rural nonfarm	13	34	14	31	23	44	57	35	14
Farm	11	22	23	26	33	29	45	48	6
Income (%)									
Under $20,000	13	26	16	28	28	30	36	27	12
$20,000—39,999	11	30	12	30	29	45	54	38	13
$40,000—59,999	9	45	17	38	31	53	65	43	16
$60,000 and over	14	47	29	41	40	57	83	69	22
Sex (%)									
Male	14	40	18	35	32	46	59	43	15
Female	9	30	15	30	28	43	54	40	14
Race/ethnicity (%)									
White	12	35	16	34	28	46	59	40	16
Black	15	38	13	30	43	46	49	50	4
Hispanic	7	18	15	21	28	29	40	35	7
Other	10	50	30	37	43	43	55	56	24

[a] Shaded numbers indicate the variable (e.g., age for three of the types of education/training) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked these questions.

Question wording: Next, I will read some ways that people get education or training. The first one is A PROGRAM ON TELEVISION. During the past THREE YEARS, have you obtained any education or training for job skills or professional development in this way? The next one is A VIDEO TAPE PLAYED ON A VCR. During the past THREE YEARS, . . . [Question was repeated for an audio tape played in a cassette tape recorder; an instructional guide or tutorial operated on a computer; a class attended for college credit; a class attended, but not for college credit; a short course, seminar or workshop; a conference; any other method that we haven't covered.]

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B3. Number and percent of respondents who have obtained work-related education or training during the last three years, all types combined and number of hours[a, b, c]

	(1) Any work-related training or education	(2) 1-50 hours	(3) 51-100 hours	(4) More than 100 hours
Total (n)	666	336	131	184
Total (%)	80	52	20	28
Age (%)				
Under 30	90	41	20	38
30-39	80	53	19	26
40-49	82	51	21	27
50-64	76	57	19	23
65 and over	46	52	40	0
Education (%)				
Less than high school	58	54	18	29
HS/GED	73	67	12	18
Some college	87	43	22	33
BS/BA	94	37	29	33
MS/MA or more	98	39	26	34
Labor force status (%)				
Employed	83	49	21	28
Unemployed	71	51	13	36
Not in labor force	67	62	12	21
Region (%)				
Northeast	81	53	17	28
Midwest	80	58	17	22
South	74	51	20	28
West	89	40	25	34
Location (%)				
City over 50,000	83	40	24	36
Town under 50,000	85	60	16	23
Rural nonfarm	74	49	19	29
Farm	63	64	30	7
Income (%)				
Under $20,000	72	55	13	31
$20,000—39,999	83	55	21	23
$40,000—59,999	85	48	21	29
$60,000 and over	93	35	27	37
Sex (%)				
Male	84	43	22	34
Female	79	56	18	25
Race/ethnicity (%)				
White	81	50	20	28
Black	83	57	16	27
Hispanic	74	43	25	29
Other	91	54	12	32

[a] Shaded numbers indicate the variable (e.g., age in the case of the first column) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked these questions.

[c] Column (1) pertains to all respondents who answered "yes" to at least one of the types of education and training listed in Table B2. As indicated in Columns (2)—(4), these respondents were asked: Altogether, DURING THE LAST THREE YEARS, how many hours have you spent obtaining educational information or training for job skills or professional development through the methods just named? Would it be 1-50 hours; 51 to 100 hours; or more than 100 hours?

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B4. Number and percent of respondents who cited one or more of six different barriers to getting education and training[a, b, c]

	Costs too much	Too busy	Don't qualify	Don't feel qualified	Courses not available: Nearby	Courses not available: When convenient
Total (n)	408	396	131	99	178	296
Total (%)	56	54	19	14	25	42
Age (%)						
Under 30	62	40	19	9	27	34
30-39	62	60	19	13	24	45
40-49	48	57	12	14	23	48
50-64	41	49	19	22	30	47
65 and over	48	60	23	31	27	44
Education (%)						
Less than high school	65	48	71	45	28	37
HS/GED	70	56	20	16	21	40
Some college	49	49	8	7	24	44
BS/BA	37	58	2	1	31	44
MS/MA or more	37	58	3	1	30	47
Labor force status (%)						
Employed	54	57	17	13	24	44
Unemployed	81	27	39	22	24	34
Not in labor force	56	47	21	16	32	34
Region (%)						
Northeast	58	45	16	14	23	41
Midwest	57	60	16	11	27	45
South	54	51	22	18	23	40
West	53	60	19	10	29	43
Location (%)						
City over 50,000	53	54	14	11	21	44
Town under 50,000	57	55	18	16	26	41
Rural nonfarm	57	47	24	14	33	45
Farm	50	58	26	16	28	44
Income (%)						
Under $20,000	72	46	25	18	26	39
$20,000—39,999	63	54	21	19	22	47
$40,000—59,999	46	57	8	6	25	45
$60,000 and over	27	56	2	2	30	43
Sex (%)						
Male	50	51	20	13	25	43
Female	59	55	16	14	26	43
Race/ethnicity (%)						
White	54	55	16	12	24	41
Black	57	36	11	14	23	51
Hispanic	63	48	33	27	30	48
Other	45	50	16	9	33	51

[a] Shaded numbers indicate the variable (e.g., age for "costs too much," "too busy," and "don't feel qualified") is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Only respondents who were very or somewhat interested, or somewhat uninterested, in getting more training or education, were asked these questions.

[c] Question wording: Here are some reasons people sometimes give to explain why they can't get the education or training they want. The first one is IT COSTS TOO MUCH TO TAKE THE COURSES YOU ARE INTERESTED IN. Would you say that IS or IS NOT a barrier for YOU in getting additional training or education? The next one is YOU ARE TOO BUSY TO TAKE COLLEGE COURSES. Would you say . . . [Question was repeated for: You are too busy to take a college course; You don't qualify for admission to a college or university; You don't FEEL qualified to take college courses; The courses you are interested in are not available close to where you live; and The courses you are interested in are not available when it is convenient for you to attend.]

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B5. Number and percent of respondents who reported work-related pressures to get additional education or training[a, b, c]

	(1) Encouraged at work in the last three years	(2) Turned down for a job because lacked education
Total (n)	316	171
Total (%)	38	21
Age (%)		
Under 30	35	23
30-39	35	25
40-49	48	15
50-64	39	20
65 and over	25	0
Education (%)		
Less than high school	19	23
HS/GED	33	21
Some college	43	26
BS/BA	53	14
MS/MA or more	49	10
Labor force status (%)		
Employed	42	21
Unemployed	18	34
Not in labor force	18	15
Region (%)		
Northeast	34	21
Midwest	35	20
South	39	21
West	44	22
Location (%)		
City over 50,000	39	23
Town under 50,000	38	22
Rural nonfarm	39	16
Farm	33	10
Income (%)		
Under $20,000	25	27
$20,000—39,999	38	23
$40,000—59,999	49	17
$60,000 and over	52	18
Sex (%)		
Male	44	24
Female	34	18
Race/ethnicity (%)		
White	38	22
Black	44	16
Hispanic	31	20
Other	46	18

[a] Shaded numbers indicate the variable (e.g., age for both columns) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked these questions.

[c] Question wording:

Column (1) For those who were in the labor force but not self-employed: Has an employer encouraged you to get additional education or training related to your job or career any time in the last three years? OR For those who were self-employed: Have you felt the need to get additional education or training related to your job or career any time in the last three years?

Column (2) Have you ever been turned down for a job because you did not have the educational background that was required?

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B6. Number and percent of respondents who reported either "no" or "six" career changes in the past and those who said they were either "very likely" or "very unlikely" to change careers in the future[a, b, c]

	Past changes		Likelihood of future changes	
	(1) None	(2) More than six	(3) Very likely	(4) Very unlikely
Total (n)	287	56	198	283
Total (%)	35	7	24	35
Age (%)				
Under 30	47	3	41	12
30-39	31	9	33	23
40-49	31	6	15	37
50-64	30	8	5	68
65 and over	23	0	0	87
Education (%)				
Less than high school	48	10	26	48
HS/GED	28	8	21	34
Some college	31	5	32	28
BS/BA	42	6	19	34
MS/MA or more	39	4	18	40
Labor force status (%)				
Employed	34	7	23	37
Unemployed	31	9	30	17
Not in labor force	38	4	27	25
Region (%)				
Northeast	36	3	24	33
Midwest	33	8	25	34
South	38	6	22	38
West	31	9	27	30
Location (%)				
City over 50,000	37	7	30	27
Town under 50,000	34	7	23	34
Rural nonfarm	30	6	14	49
Farm	33	0	35	25
Income (%)				
Under $20,000	28	9	27	29
$20,000—39,999	34	7	28	33
$40,000—59,999	34	6	20	30
$60,000 and over	40	3	20	42
Sex (%)				
Male	33	10	27	32
Female	35	4	24	35
Race/ethnicity (%)				
White	32	7	23	35
Black	35	1	32	26
Hispanic	47	7	35	31
Other	43	8	19	31

[a] Shaded numbers indicate the variable (e.g., age in all four columns) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked these questions.

[c] Columns (1-2) How many times, if any, have you changed careers since you began working? None; 1-2; 3-5; 6-9; 10 or more. [If respondents asked for a definition, they were told, "Careers means types of jobs or work."]

Columns (3-4) How likely is it that you will change careers in the future? Would you say: very likely; somewhat likely; somewhat unlikely; or very unlikely?

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B7. Number and percent of respondents who have had experience with distance learning; who think more distance learning courses should be developed; and who prefer courses taught on TV or video tape more than in a classroom with an instructor present[a, b, c]

	(1) Ever taken course involving distance learning	(2) More courses using distance learning should be developed	(3) Prefer course taught on TV or video tape more than in classroom
Total (n)	124	800	110
Total (%)	15	72	29
Age (%)			
Under 30	12	78	21
30-39	13	81	34
40-49	20	80	28
50-64	20	69	28
65 and over	14	63	0
Education (%)			
Less than high school	4	58	50
HS/GED	12	74	32
Some college	16	76	25
BS/BA	23	77	16
MS/MA or more	30	81	21
Labor force status (%)			
Employed	16	76	27
Unemployed	11	70	31
Not in labor force	7	66	41
Region (%)			
Northeast	9	73	28
Midwest	12	66	27
South	19	75	32
West	18	74	26
Location (%)			
City over 50,000	18	78	25
Town under 50,000	15	75	29
Rural nonfarm	13	67	33
Farm	8	69	20
Income (%)			
Under $20,000	6	76	23
$20,000—39,999	14	72	33
$40,000—59,999	19	73	22
$60,000 and over	28	83	27
Sex (%)			
Male	17	76	25
Female	14	72	29
Race/ethnicity (%)			
White	16	74	27
Black	18	78	21
Hispanic	11	72	30
Other	14	68	42

[a] Shaded numbers indicate the variable (e.g., education in all three columns) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked first or third question.

[c] Question wording:

Column (1) Have you ever taken a course or another educational activity that involved long distance learning? By long distance learning we mean receiving instruction from a teacher over television, through video or audio tape, or by correspondence.

Column (2) Do you believe colleges and universities should develop more courses using satellites, television, video cassettes and other long distance methods?

Column (3) Suppose you had a choice between taking a course that was taught in a college campus classroom with an instructor present or taking one that was taught over television or videotapes in your home. Which would you prefer? [Only respondents who said they "definitely" or "probably" will take a course for college credit in the next three years were asked this question.]

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B8. Number and percent of respondents who have access to a computer at home and/or work[a, b, c]

	(1) Personal computer at home	(2) Use computer at work
Total (n)	370	440
Total (%)	35	56
Age (%)		
Under 30	43	55
30-39	45	57
40-49	46	62
50-64	27	49
65 and over	13	38
Education (%)		
Less than high school	11	33
HS/GED	27	46
Some college	44	60
BS/BA	58	78
MS/MA or more	60	74
Labor force status (%)		
Employed	43	61
Unemployed	17	39
Not in labor force	24	25
Region (%)		
Northeast	38	51
Midwest	33	55
South	28	51
West	48	69
Location (%)		
City over 50,000	40	59
Town under 50,000	34	55
Rural nonfarm	29	55
Farm	32	39
Income (%)		
Under $20,000	18	38
$20,000—39,999	32	54
$40,000—59,999	53	68
$60,000 and over	70	78
Sex (%)		
Male	39	57
Female	32	55
Race/ethnicity (%)		
White	38	59
Black	19	43
Hispanic	30	43
Other	32	55

[a] Shaded numbers indicate the variable (e.g., age for personal computers at home) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked second question.

[c] Question wording:

Column (1) Do you have a personal computer at home?

Column (2) Do you use a computer at work?

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B9. Number, percent, and characteristics of respondents who plan to enroll in a work-related course in the next three years, by reason for enrolling[a, b, c]

	(1) Improve current skills	(2) Learn new skills
Total (n)	295	173
Total (%)	63	37
Mean age (years)[d]	37.9	34.0
Mean years of education beyond high school[d]	2.9	2.3
Encouraged at work to get more training or education (%)		
Yes (n = 226)	78	22
No (n = 241)	49	51
Turned down for a job due to lack of education (%)		
Yes (n = 114)	54	46
No (n = 352)	66	34
Likely to change careers in the future (%)		
Very likely (n = 143)	38	62
Somewhat likely (n = 122)	57	43
Somewhat unlikely (n = 87)	80	20
Very unlikely (n = 114)	89	11
Have had training or education in the last 3 years (%)		
None (n = 52)	29	71
Yes (n = 416)	67	33
Have a computer at home (%)		
Yes (n = 211)	68	32
No (n = 242)	59	41
Use a computer at work (%)		
Yes (n = 280)	72	28
No (n = 176)	49	51
Income (%)		
Under $20,000 (n = 94)	50	50
$20,000—39,999 (n = 164)	63	37
$40,000—59,999 (n = 91)	68	32
$60,000 and over (n = 73)	80	20

[a] Shaded numbers indicate the variable (e.g., "encouraged at work") is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Retirees were not asked these questions.

[c] Question wording: Which of the following best describes the reasons you (might/would) enroll in such a class? Would it be: to improve current work or job skills; to learn a work or job skill for a new job; for personal enjoyment or improvement; or some other reason? [Only respondents who said they will "definitely" or "probably" enroll in a course to learn work-related skills during the next three years were asked this question.]

[d] Means are significantly different, measured by the t-statistic ($p < .05$).

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B10. Number and percent of respondents who think various land grant university services provided in their state are "very important"[a, b]

	Undergraduate teaching	Graduate teaching	Teaching older returning students	Off-campus extension	Research
Total (n)	774	737	575	579	558
Total (%)	72	68	53	54	52
Age (%)					
Under 30	74	64	45	46	52
30-39	77	73	63	65	58
40-49	74	71	57	62	52
50-64	74	70	53	54	57
65 and over	65	65	43	44	43
Education (%)					
Less than high school	66	60	46	42	50
HS/GED	64	62	50	47	49
Some college	75	72	55	60	58
BS/BA	85	81	61	70	52
MS/MA or more	93	87	66	70	55
Labor force status (%)					
Employed	74	71	56	57	56
Unemployed	80	59	54	50	41
Not in labor force	67	65	46	50	46
Region (%)					
Northeast	69	68	53	53	51
Midwest	71	66	49	53	45
South	71	70	57	58	56
West	77	67	51	49	55
Location (%)					
City over 50,000	78	73	58	56	53
Town under 50,000	74	69	50	59	56
Rural nonfarm	63	62	49	46	47
Farm	60	57	45	44	51
Income (%)					
Under $20,000	67	64	47	50	53
$20,000—39,999	72	68	54	55	52
$40,000—59,999	74	68	62	57	55
$60,000 and over	84	82	55	65	52
Sex (%)					
Male	70	66	50	51	52
Female	74	70	55	57	53
Race/ethnicity (%)					
White	71	68	53	55	52
Black	91	82	60	62	64
Hispanic	75	70	52	46	54
Other	66	55	46	46	41

[a] Shaded numbers indicate the variable (e.g., age for all five columns) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Question wording: [Name of land grant university(ies) in respondent's state] provide/s various services to your state. As I read each service, please tell me how important it is from your point of view. The first one is UNDERGRADUATE TEACHING, that is, teaching students in the years leading to their graduation from college. Do you think this service is VERY IMPORTANT, SOMEWHAT IMPORTANT, or NOT IMPORTANT? The next one is . . . [Question was repeated for: graduate teaching, that is, teaching students who have received a four-year college degree and are working towards an advanced degree; teaching classes to older students who are returning to school, but not necessarily to earn a degree; off-campus extension work, that is, providing educational programs for people and groups throughout the state; and research on problems facing businesses, residents, and state and local government.

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Table B11. Number and percent of respondents who think post-secondary institutions are doing a "good" or "excellent" job in meeting the educational needs of state residents, by type of institution[a, b]

	Community colleges	Vocational schools	4-year colleges and universities
Total (n)	709	594	818
Total (%)	64	53	73
Age (%)			
Under 30	68	56	80
30-39	67	55	74
40-49	68	52	79
50-64	65	58	71
65 and over	58	50	73
Education (%)			
Less than high school	46	49	60
HS/GED	66	60	72
Some college	69	51	79
BS/BA	68	47	81
MS/MA or more	76	48	80
Labor force status (%)			
Employed	64	55	74
Unemployed	69	62	76
Not in labor force	62	49	72
Region (%)			
Northeast	68	54	77
Midwest	66	57	68
South	60	55	77
West	62	44	70
Location (%)			
City over 50,000	65	47	77
Town under 50,000	65	57	75
Rural nonfarm	63	60	71
Farm	77	61	76
Income (%)			
Under $20,000	63	54	75
$20,000—39,999	68	56	76
$40,000—59,999	71	60	75
$60,000 and over	67	44	76
Sex (%)			
Male	65	54	75
Female	65	54	75
Race/ethnicity (%)			
White	67	55	75
Black	56	51	74
Hispanic	59	53	83
Other	65	40	61

[a] Shaded numbers indicate the variable (e.g., age in the case of community colleges and 4-year colleges and universities) is statistically significant, as measured by the chi-square statistic ($p < .05$).

[b] Question wording: How well do you think the 2-year or community colleges are meeting the educational needs of residents? Would you say excellent; good; fair; or poor? [Question was repeated for vocational schools, defined when requested as "schools that provide training to persons who already have a high school degree for a specific kind of job", and for 4-year colleges and universities.]

SOURCE: 1995 National Survey, Social and Economic Sciences Research Center, Washington State University.

Reprinted by permission from CHOICES, a publication of The American Agricultural Economics Association.

by James A. Christenson, Don A. Dillman, Paul D. Warner, and Priscilla Salant ■ In Short

The Public View of Land Grant Universities: Results From a National Survey

Since its inception, *CHOICES* has published a series of provocative articles about the shifting roles of research, education, and extension within land grant universities. By and large, the authors of these articles have written from their own perspectives as administrators and faculty members within the land grant system itself. This *CHOICES* article is the first to present evidence on how the broader public views the land grant system, and more specifically, the Cooperative Extension Service. The authors argue that land grant universities need to recapture their three traditional functions, in part by reinventing outreach and continuous distance education in the contemporary context of an information age.

In February and March 1995, we surveyed a random sample of American adults about what they want from institutions of higher education. Their answers may surprise you.

When asked about the importance of five services provided by the land grant university (or universities) in their state, a majority of respondents rated all five as very important. More specifically, the percentage who rated each one as very important (as opposed to somewhat or not important) is as follows:

Undergraduate teaching, that is, teaching students in the years leading to their graduation from college 72%

Graduate teaching, that is, teaching students who have received a four-year college degree and are working toward an advanced degree 68%

Teaching classes to older students who are returning to school, but not necessarily to earn a degree ... 53%

Off-campus extension work, that is, providing educational programs for people and groups throughout the state 54%

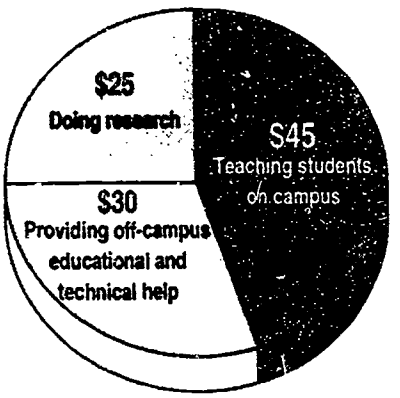
Research on problems facing businesses, residents, and state and local government 52%

No more than 5 percent listed any of them as not important.

Immediately after this series of questions about land grant services in their state, respondents were asked how they would distribute $100 of state tax money to educational services beyond high school. Again, the results may not be what you expect.

Respondents said that on average, they would spend $45 on teaching students on-campus, $30 on providing off-campus education and technical help, and $25 on doing research. The relative distribution of funds among these three functions was consistent regardless of respondent age, education, region of the country, income, or ethnicity.

These results are only a fraction of those from a national study focused on the education and training needs of Americans—especially as these needs relate to the work place—in the emerging information age. The study was funded by the Kellogg Foundation; Farm Foundation; and the Cooperative State Research, Education and Extension Service, USDA. It was also supported by the University of Arizona, University of Kentucky, and Washington State University. The data were collected in February and March 1995 by telephone from a representative, national sample. A total of 1,124 adults responded. The study was conducted at WSU's Social and Economic Sciences Research Center.



Source: Social & Economic Sciences Research Center Washington State University, 1995

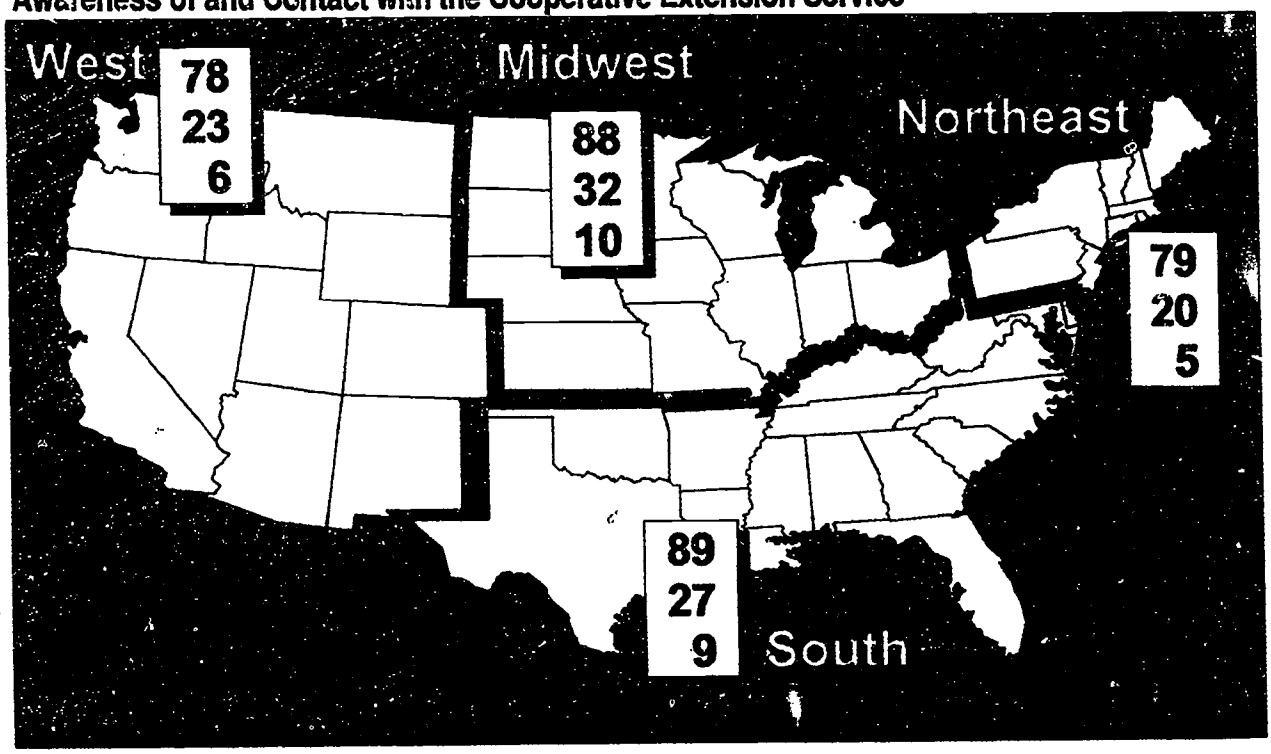
How would you distribute $100 of taxpayer money to educational services beyond high school?

The study findings cast doubt on the argument that land grant universities should concentrate only on undergraduate classroom teaching. On the contrary, the public generally values the multiple services that land grants have traditionally provided. This does not mean, however, that people want services delivered in the same way as they have been in the past, or that most people even identify these services with the land grant system itself.

Few people recognize the term "land grant"

To learn about people's awareness of and contact with the land grant system, we asked a carefully structured sequence of questions beginning with "Have you ever heard the term land grant used to describe a university in the state where you now live?" Only 30 percent of all respondents answered yes. Only 26 percent correctly named

Awareness of and Contact with the Cooperative Extension Service



1. Have you ever heard of the Cooperative Extension Services or any of its programs?
2. Have you ever used the services of Cooperative Extension or participated in any of its programs?
3. Have you used the services of Cooperative Extension or participated in any of its programs in the last year?

one or more land grant universities in their state. However, when respondents were told the name of the land grant (or land grants), 94 percent said they had heard of that university. Clearly, most people know of the land grant universities, but don't recognize the actual term *land grant.*

Focus on extension

One of our study objectives was to look specifically at awareness of and contact with the Cooperative Extension Service (CES) and its programs, including agriculture, home economics, community development, and 4-H. After hearing a brief description of what CES does, 85 percent of respondents said they had heard of CES or its programs before being interviewed for the survey. Twenty-six percent had used CES services or its programs some time in the past, and 8 percent had done so in the past year. Awareness and contact varies somewhat by region (see map).

Whether people have heard of CES or its programs does not vary by income, education, or race and ethnicity. However, there are significant differences when it comes to actual program use; adults with relatively higher incomes and more education, those who live on a farm, and those who are white are more likely than their counterparts to have used CES services or participated in its programs. Use was significantly lower among people under age thirty than among older adults. A similar, general public telephone survey conducted in 1982 yielded very similar findings about clientele characteristics (see Warner and Christenson).

The study findings cast doubt on the argument that land grant universities should concentrate only on undergraduate classroom teaching.

When asked whether more, the same, or less tax dollars should be spent on various CES programs, just over half of respondents said more funds should go to natural resources and the environment, 4-H and youth development, and family development and management. About two-fifths think that nutrition, diet, and health—and community economic development—should get more money, and about one-third think more should be spent on agricultural production and marketing. Roughly 25% of respondents think that less public funds should be spent on leadership and volunteer development, while 15% or fewer of respondents think that funds should be cut from any of the other CES programs.

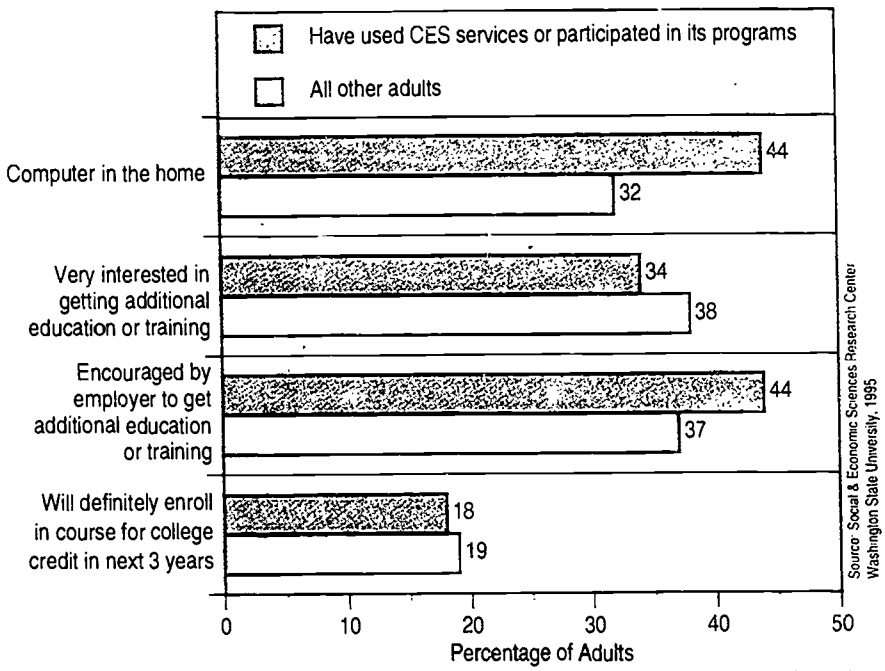
Looking ahead

Today, institutions of higher education face growing pressure to move away from an exclusive emphasis on standardized curricula and place-bound, once-in-a-lifetime degree programs. In addition to providing a "first" college education to young adults, the public expects universities and colleges to re-educate returning students for second and third careers, and to do so in ways that minimally disrupt existing family, job, and other responsibilities. This means much more emphasis on just-in-time and lifelong learning services offered over long distances, using interactive audio-video connections to central campuses.

In responding to these pressures, land grant universities have an enormous advantage when compared to other higher education institutions; they have a long tradition of providing outreach, as well as offering the kind of continuous, lifelong learning that is becoming essential to success in the information age.

Nationally, one in twelve households used Cooperative Extension in 1994.

Our survey results indicate that the Cooperative Extension Service may have another kind of advantage. A large proportion of existing CES clientele already has the capacity to utilize distance learning technologies; 44 percent have computers in their own homes, compared to 32 percent of those who have never used CES services or participated in its programs. CES clientele are also motivated to continue learning; one-third responded that they were very interested in getting additional education or training of the kind offered by universities and colleges, 44 percent are being encouraged by their employer to do so, and 18 percent said they will definitely enroll in a course for college credit during the next three years.



Access to Information Technology and Motivation to Continue Learning

As we progress from the industrial to the information age, many authors—including the likes of Robert Reich, Alvin Toffler, and Peter Drucker—have written eloquently about the need for college-level, lifelong learning. We conclude from this study that such concerns have reached the general public, who in large numbers also recognize the need to continue acquiring knowledge throughout their working lives.

Increasingly, the public also seems to understand how the need for lifelong learning can be met. Based on the study discussed here, a majority of adults identify off-campus education, extension services, and meeting the needs of returning students as important university functions. And, people's interest in long-distance education is backed up by the growing prevalence of supporting information technologies in their homes. What remains to be seen is whether the land grant universities, which pioneered education for nontraditional audiences, will respond to this challenge or relinquish the opportunity to other providers. It is a challenge that the land grants would be ill-advised to ignore. ■

■ For more information

Warner, P.D., and J.A. Christenson. *The Cooperative Extension Service, A National Assessment.* Boulder: Westview Press, 1984.

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