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**EDUCATING THE NETGEN:
STRATEGIES THAT WORK**

**PARTICIPANT
PACKET**

**January 29, 2004
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AGENDA

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EMAIL/FAX/CALL-IN INSTRUCTIONS

There are three ways in which you can interact with the panelists:



E-MAIL: Before the program, you may e-mail your questions for the panelists to hhartman@dccd.edu and they will address them during the teleconference.



FAX: Before and on January 29, fax to 972.669.6699



Special Opportunity!!!

Dr. Oblinger will be taking your calls for 30 minutes following the program. We encourage you to take advantage of this extra time to ask your questions and discuss the issues raised in the program.

The telephone number for call-in questions is:
972.669.6644

You will be prompted with: “Welcome to Meeting Place. To attend a meeting, press 1”

Meeting ID #: 7827 Password: 4321

PRESENTER:



Dr. Diana Oblinger is the Executive Director of Higher Education for Microsoft Corporation. She provides strategic direction for higher education programs at Microsoft and works closely with customers on a variety of instructional technology issues. As a spokesperson for higher educational concerns, Oblinger speaks and writes on a range of higher education issues.

For the previous two years, Oblinger was a consultant and Senior Fellow for the EDUCAUSE Center for Applied Research where she directed the development of Research Bulletins, a bi-weekly publication which synthesized current issues for college and university executives. She also serves as an Adjunct Professor of Adult and Community College Education at North Carolina State University.

Dr. Oblinger also has served as the Vice President for Information Resources and the Chief Information Officer for the 16-campus University of North Carolina system. Oblinger was responsible for strategic planning and policy development for information technology as well as for collaborative programs in teaching and learning with technology, student services and IT procurement.

Over a 10 year period, Oblinger held a variety of management positions within IBM including academic programs and strategy executive, academic consulting, and was the IBM Director of the Institute for Academic Technology. Before joining IBM, Dr. Oblinger was on the faculty at the University of Missouri-Columbia and at Michigan State University. At the University of Missouri, she served as an academic dean and was recognized for her work in student recruitment, retention, faculty development and student computing.

Known for her leadership in teaching and learning with technology and distributed learning, she serves on boards such as the University of Texas TeleCampus and is on the Editorial Board of Open Learning. She is a member of the Board of Visitors for the Air University, the educational arm of the Air Force. Oblinger chairs the National Visiting Committee for the National Science Digital Library project for National Science Foundation. Dr. Oblinger also has testified before the U.S. House of Representatives Subcommittee on Technology.

A frequent keynote speaker, Dr. Oblinger is the co-author of *What Business Wants from Higher Education*, which received the 1999 Frandson Award for best literature in continuing education. She is co-editor of five books, *The Learning Revolution*, *The Future Compatible Campus*, *Renewing Administration*, *E is for Everything* and *Best Practices in Student Services* as well as the author or co-author of more than two dozen monographs and articles on higher education and technology topics.

Dr. Oblinger has received outstanding teaching and research awards and was named Young Alumnus of the Year by Iowa State University. She holds three degrees from Iowa State University: a B.S. in Botany, an M.S. in Plant Breeding and a Ph.D. in Plant Breeding and Cytogenetics. She is a member of Phi Beta Kappa, Phi Kappa Phi and Sigma Xi.

BOOMERS & GEN-XERS MILLENNIALS: UNDERSTANDING THE NEW STUDENTS

By Diana Oblinger

An essential component of facilitating learning is understanding learners. The learning styles, attitudes, and approaches of high school students differ from those of eighteen- to twenty-two-year-old college students. The styles, attitudes, and approaches of adult learners differ yet again. How well do college and university faculty, administrators, and staff understand these differences? How often do they take the differences into account when designing programs or courses?

What do we know about today's "new students"? Perhaps most obviously, we know that these students have been heavily influenced by information technology. The "new" student may be a seventeen-year-old high school student (a "Millennial") who uses instant messaging to contact peers and teachers. The "new" student may be a twenty-six-year-old college student (a "Gen-X") whose expectations of customer service are radically different from those of previous generations. Or the "new" student may be a forty-year-old working mother (a "Baby Boomer") who is completing a degree via e-learning so that she can balance work and family responsibilities. One of the greatest challenges facing American higher education is how to deal with such a variety of "new" students.

More students attend college part-time than in previous years; a higher proportion of students are women; and more students are over age twenty-five.

Changes in the Student Population

Current higher education administrators, as well as many faculty and staff, represent a different generation from the majority of the student population. With an average faculty age of over fifty, many decision-makers in higher education graduated in the 1970s.¹ The experiences of a 1970s generation of students are likely to be quite different from those of the current student body. A comparison of student data from 1970 and 1999 illustrates some of these differences (see Table 1).²

	1970	1999
Enrollment	7.4 million	12.7 million
Two-year enrollment	31%	44%
Attend part-time	28%	39%
Women	42%	56%
Older than age 25	28%	39%
Nontraditional	n/a	73%
Have dependents	n/a	27%
Employed	n/a	80%

Source: National Center for Education Statistics, "The Condition of Education 2002"

It is no surprise that enrollment has increased in the last thirty years. The data illustrate that enrollment growth in two-year institutions has exceeded the pace of growth in four-year colleges and universities. There are other trends worth noting: more students attend college part-time than in previous years; a higher proportion of students are women; and more students are over age twenty-five.

The National Center for Education Statistics (NCES) has reported that three-quarters of all undergraduates are “non-traditional”.³ Nontraditional students are defined as having one or more of the following characteristics:

- *Delayed enrollment*, and did not enter postsecondary education in the same year that he or she graduated from high school
- *Attend part-time*, for all or part of the academic year
- *Work full-time*, thirty-five hours or more, while enrolled
- *Are financially independent*, as defined by financial aid
- *Have dependents*, other than a spouse, including children or others
- *Are single parents*, having one or more dependent children
- *Lack a high school diploma*

Many of these characteristics were not measured in earlier studies, presumably because they were relatively rare. The implication is that campus populations today are quite different from those in the days when college and university decision-makers were students.

Not only is the profile of today’s student body different, but the life experiences that shaped today’s students are quite different from those of previous eras. Each generation is defined by its life experiences, giving rise to different attitudes, beliefs, and sensitivities. The “Depression generation” experienced World War II and the Cold War. “Baby Boomers” grew up with the space race, the civil rights movement, Vietnam, and Watergate. “Generation X” saw the fall of the Berlin Wall and the emergence of AIDS and the Web. Consider some of the other defining experiences of Generation X students:

- The Chinese government killed protesters in Tiananmen Square.
- The U.S. stock market crashed.
- The Chernobyl nuclear accident occurred.
- The *Exxon Valdez* caused an oil spill.
- The *Challenger* space shuttle exploded.
- The first computer disk was sold.⁴

But Gen-Xers do not necessarily represent current college and university students. A new group is entering higher education—a group called the “Millennial generation.” The Millennials were born in or after the year 1982. Millennials exhibit different characteristics from those of siblings just a few years older. Millennials:

- gravitate toward group activity;
- identify with their parents’ values and feel close to their parents;
- spend more time doing homework and housework and less time watching TV;
- believe “it’s cool to be smart”;
- are fascinated by new technologies;

- are racially and ethnically diverse; and
- often (one in five) have at least one immigrant parent.

When asked about problems facing their generation, many Millennials respond that the biggest one is the poor example that adults set for kids.⁵

Along with differences in attitudes, Millennials exhibit distinct learning styles. For example, their learning preferences tend toward teamwork, experiential activities, structure, and the use of technology. Their strengths include multitasking, goal orientation, positive attitudes, and a collaborative style.⁶

View of Technology

Some general trends are emerging about how learners view technology. Not surprisingly, technology is assumed to be a natural part of the environment. The younger the age group, the higher is the percentage who use the Internet for school, work, and leisure. This comfort with technology often leads to a perception that the use of technology in schools is inadequate.

In a study of how those age twelve to seventeen use the Web, researchers found that 94 percent use the Internet for school research and that 78 percent believe the Internet helps them with schoolwork. Among teens, instant messaging and e-mail seem to be natural communication and socialization mechanisms; 70 percent use instant messaging to keep in touch; 41 percent use e-mail and instant messaging to contact teachers or schoolmates about classwork. An even higher percentage (81 percent) use e-mail to stay in touch with friends and relatives. In fact, a slight majority (56 percent) prefer the Internet to the telephone.⁷

Perhaps because of the contrast between their comfort with technology and the technology comfort levels of teachers, many students find the use of technology in schools to be disappointing. Students consider themselves more Internet-savvy than their teachers. They indicate that their teachers' use of technology is uninspiring. Students report seeing better ways to use technology than do their teachers. They also state that administrative restrictions, older equipment, and/or filtering software inhibit their in-school use of technology. Their greatest use of technology is outside of school.⁸

A few years their senior, today's college and university students were born in the years immediately following the introduction of the PC. Among this group, 20 percent began using computers between the ages of five and eight. Virtually all students were using computers by the time they were sixteen to eighteen years of age.⁹ Another measure of the ubiquity of technology to current college and university students is the percentage who own computers. In a recent survey, 84 percent reported owning their own computer, with 25 percent owning more than one computer. Twenty-eight percent own a notebook computer. And in 2003, more students plan to buy a notebook (47 percent) than a desktop (43 percent). Students spend an average of eleven hours per week online. Other indicators of their comfort with technology include the percentage who make online purchases (54 percent, with \$1.6 billion in sales) and the percentage who bank online (43 percent).¹⁰

When asked about the impact of the Internet on their college experience, 79 percent said the Internet has had a positive influence; 60 percent believe the Internet has improved their relationships with classmates; 56 percent believe it has improved their relationships with professors.

Contrary to fears expressed by some in academia, students are not using e-mail as their sole mode of communicating. Only 19 percent communicate with professors more by e-mail than face-to-face. However, 55 percent use e-mail to arrange face-to-face meetings. They also tend to use e-mail to clarify information: 75 percent use e-mail for explanation of assignments. Even more (89 percent) have received class announcements via e-mail. In addition, students report that the Internet allows them to express ideas that they would not have voiced in class. Finally, 73 percent of students say they are more likely to conduct research by using the Internet than by going to the library.¹¹ When students were asked, two-thirds indicated that they know how to find valid information from the Web. However, they added that they realize the Web does not meet all their information needs.¹²

One way to describe these trends is the emergence of an “information-age mind-set.” The attitudes—and aptitudes—of students who have grown up with technology (or who have spent significant amounts of time with it) appear to differ from those of students who rarely use technology. Jason Frand has described ten attributes of an information-age mindset:

- *Computers aren't technology.* Students have never known life without computers and the Internet. To them the computer is not a technology—it is an assumed part of life.
- The Internet is better than TV. In recent years, the number of hours spent watching TV has declined, being supplanted by time online. Reasons for the change include interactivity and the increased use of the Internet for socializing.
- Reality is no longer real. Those things that appear real over the Internet may not be. Digital images may be altered. E-mail sent from someone's address may not have come from that person. And the content may or may not be accurate.
- Doing is more important than knowing. Knowledge is no longer perceived to be the ultimate goal, particularly in light of the fact that the half-life of information is so short. Results and actions are considered more important than the accumulation of facts.
- Learning more closely resembles Nintendo than logic. Nintendo symbolizes a trial-and-error approach to solving problems; losing is the fastest way to mastering a game because losing represents learning. This contrasts with previous generations' more logical, rule-based approach to solving problems.
- Multitasking is a way of life. Students appear to be quite comfortable when engaged in multiple activities simultaneously, such as listening to music, sending instant messaging, doing homework, and chatting on the phone. Multitasking may also be a response to information overload.
- Typing is preferred to handwriting. Students prefer typing to handwriting. Many admit their handwriting is atrocious. Penmanship has been superseded by keyboarding skills.
- Staying connected is essential. Students stay in touch, via multiple devices, as they move throughout the day. Cell phones, PDA's, and computers ensure they remain connected anyplace and anytime. As the network becomes more ubiquitous, increasing numbers of students participate in real-time dialogues from anywhere using a variety of devices.

- There is zero tolerance for delays. Having grown up in a customer-service culture, today's students have a strong demand for immediacy and little tolerance for delays. They expect that services will be available 24x7 in a variety of modes (Web, phone, in person) and that responses will be quick.
- Consumer and creator are blurring. In a file-sharing, cut-and-paste world, the distinctions between creator, owner, and consumer of information are fading. The operative assumption is often that if something is digital, it is everyone's property.¹³

Implications

What do the differing learning preferences and views of technology of the “new students” mean for colleges and universities? There might be few implications if students were passive consumers and did not use their “purchasing power.” However, there are many indications that students actively compare programs, evaluate institutions based on the characteristics they consider to be important, and make choices. Beyond the tuition provided by students, many institutions actively seek out the “right” individuals to be part of their student body in the belief that the caliber of the student body in part determines the quality of the institution. As a result, colleges and universities may find that understanding—and meeting the expectations of—the “new students” is important to their competitiveness.

For today's learners, customer service is an expectation, not an exception. Yet it is rare that students and institutions have the same expectations for service.

A number of current programs exemplify a good match between expectations and services. A few examples will illustrate some of the options available to those institutions that seek to modify their programs to address the needs of the “new students.”

Elimination of Delays

In a 24x7, customer-service culture, delays cause dissatisfaction and disengagement. Institutions are finding ways to eliminate delays in processes that range from admission to academic support.

The University of North Carolina at Greensboro utilizes online personal assistants, automated e-mail responses, dynamically created Web portals, and customized Web-mail to provide instant responses to students. Through their Virtual Information Station (<http://infostation.uncg.edu/>), students can get answers to a range of questions that often begin with “How do I...?” “Where do I...?” or “When do I...?” The Web site covers topics from admission to graduation. For example, an online chat tool allows staff to respond to Web-based queries in real time. Prompt responses make a difference in the decision-making process of prospective students.¹⁴

At many institutions, financial aid is a chronic source of dissatisfaction for students. Confusion over the process, complicated paperwork, and data-entry errors cause delays and even rejections. Compliance with federal guidelines further complicates the situation. To provide better

service, the University of Phoenix, with 152,000 students and more than 120 campuses, created the Financial Aid Paperless Project (FAPP). Prospective students can complete an online application, then link to the Free Application for Federal Student Aid Web site to obtain a federal financial aid application, including a master promissory note. A student may then file the application online with the lender of his or her choice. If the lender participates in the university's FAPP project, the lender's system communicates with the FAPP computers at the university and pulls data from the student's application for enrollment. The lender uses the information to complete the student's master promissory note, eliminating the need to rekey data and ensuring that data is consistent across the two applications. The university then retrieves the completed master promissory note, enabling the university to validate the information and process the application. The student is informed almost immediately that his or her application is complete and has been received for processing. The time to fill in and process an application has also been cut by several days, so students get faster responses to their applications.¹⁵

Customer Service

For today's learners, customer service is an expectation, not an exception. Yet it is rare that students and institutions have the same expectations for service.

At Athabasca University, service expectations are clearly spelled out on a Web site (<http://www.athabascau.ca/misc/expect/>) as well as in print material provided to entering students. Whether provided by the registrar, counseling service, academic support, or library, each service is accompanied by a standard as well as a contact person's e-mail address and phone number. This practice helps set expectations for students as well as for staff. How well units meet service expectations is measured, as is also the level of student satisfaction.¹⁶

Adult learners bring customer-service expectations to the institutions they attend. In many cases, customer service is more than a preference—it is a prerequisite to retention and effective learning. One reason often cited by adult learners for abandoning their studies is the lack of timely support. As an institution focused on serving adult learners, Rio Salado College has adapted its approach to ensure that learners have the services they need. A “beep-a-tutor” program, available seven days a week, guarantees students that tutors will respond to their question within one hour. With beepers, the tutors receive questions no matter where they are.

Two other Rio Salado programs focus on being sure the right person responds to queries. Online students often seek help from instructors when they encounter problems, whether these are related to technical issues or to the subject matter. To ensure that instructors are not deluged with technical questions—and to ensure that students get the best responses—Rio Salado created a technical help desk. Staffed by noninstructional personnel, the help desk is specifically tasked to help students resolve technical issues.

Also, because instructors cannot be online at all times, Rio Salado has an instructional help desk staffed by generalist faculty who answer questions about the logistics of a course at times when the class instructor is not available. The instructional help desk personnel, available seven days a week, also provide e-learning orientations to students and serve as a liaison between the instructor and the student. By reducing the number of non-learning-related inquiries, this service assists students who need immediate answers and also maximizes the amount of time an instructor can spend on activities directly related to learning.¹⁷

Experiential, Interactive, and Authentic Learning

The aging infrastructure and the lecture tradition of colleges and universities may not meet the expectations of students raised on the Internet and interactive games. Several programs address this problem.

Laboratories represent a traditional approach to providing learners with experiential, interactive, and authentic learning. However, many institutions feel that they do not offer enough laboratory experiences due to expense pressures, safety concerns, and lack of space. While not diminishing the importance of hands-on labs, online laboratories enable learners to have rich learning experiences without some of the limitations of traditional labs. At MIT, a microelectronics laboratory, called WebLab, enables the characterization of microelectronic devices at any time of day or night, allowing students substantial flexibility. A remote instrument (in this case, the Agilent 4155B Semiconductor Parameter Analyzer) is accessed by students via an application that uses the circuit language of electrical engineering to specify the measurements to be performed. Students can program the instrument and collect data through the Web, download it to their computers, and then complete the analysis and laboratory reports. Students can remotely select the device to be characterized and specify the variables to be measured. Because of the design, the lab is available 24x7. In an estimate of its capacity, WebLab can handle more than 2,000 users per week and more than 15,000 experiments per week. In fact, excess lab capacity is being made available to students in Sweden and Singapore.¹⁸

Likewise, rather than telling students the conclusions of history, a University of Virginia interactive Web site, “The Valley of the Shadow” (<http://jefferson.village.virginia.edu/vshadow2/>), allows students to draw their own conclusions about the Civil War through original records taken from two similar counties in Virginia and Pennsylvania—similar except for the fact that one allowed slavery and the other was free. Utilizing census data, agricultural records, newspaper articles, church records, and letters from soldiers and their families, the site allows individuals to explore authentic information via multiple paths. Students report the experience to be highly engaging and more effective for learning than being told about history. In fact, according to Google, the site is the most heavily trafficked Civil War site on the Web, attracting students from other institutions as well as millions of informal learners.¹⁹

Simulations can be used to help learners visualize complex systems as well as to turn text or numbers into more readily comprehended forms. A simulation can magnify an environment (e.g., the inside of a cell), making it easier for learners to understand the environment. In other cases, events can be slowed down (e.g., a chemical reaction taking place), sped up (e.g., the moving of tectonic plates), or re-created to help learners visualize a process. The Columbia Center for New Media Teaching and Learning and the School of Public Health have developed a simulation in which students can become epidemiologists in the town of Epiville. The students gather facts from newscasts, interviews, and Web sites to deal with outbreaks of disease (<http://lester.rice.edu/browse/lstprojectbrowse.asp?ord=378>).

Game systems, such as Nintendo, were a common part of growing up for the majority of today’s college and university students. A number of attributes of games make them good educational environments. Games often involve problem-solving and decision-making. They provide rapid feedback and can adjust the level of difficulty to the expertise of the player. Speed and a sense of urgency can contribute to learner motivation. For example, games such as *Gettysburg* let

users re-create military engagements using different assumptions. Would the battle have gone differently if General Lee had been there? Users can ask questions, explore situations, and create unique scenarios to explore history.²⁰

Staying Connected

Many students carry multiple electronic devices and use various communication protocols to be sure they are always connected to friends, events, and information. If they are at home or in the dorm, instant messaging dominates. On campus or around town, they use their cell phones.

The aging infrastructure and the lecture tradition of colleges and universities may not meet the expectations of students raised on the Internet and interactive games

Drexel University has developed the capability to allow users to stay connected no matter which device(s) they choose to connect with—Blackberries, Web phones, PDAs, laptops, or other devices. The program, DrexelOne Mobile, enables students to retrieve personalized information from virtually any Web-enabled handheld device. Users who have registered their mobile devices may choose to have relevant personal announcements pushed out to them automatically, without having to browse to find the information. For example, students can get grades as soon as they are posted, learn about last-minute classroom changes, get updates to their schedules, and find out about holds placed on their records (e.g., for late tuition payments). The advantage is that information reaches users when and where they need it, rather than requiring users to wait until they are at their desks. And the university can send news to the entire campus community quickly and easily. The headline news service is updated every ten minutes with the latest sports, entertainment, and general news. In addition, users have access to a searchable university phone directory that operates phonetically so that users don't need to know correct spellings of names.²¹

Conclusion

A growing body of evidence reveals that today's college and university students have developed new attitudes and aptitudes as a result of their environment. Although these characteristics may provide great advantages in areas such as their ability to use information technology and to work collaboratively, they may also create an imbalance between students' expectations of the learning environment and what they find in colleges and universities today. As a result, institutions may find it valuable to ask how well they know and understand their "new students." How are learners' views represented in institutional decisions about courses, curricula, programs, and services? Does the institution have a mechanism that balances students' preferences with the opinions of faculty and administrators? Where can IT be used most effectively?

Beyond balancing the interests of students and institutions, colleges and universities should also consider other implications of the "new students" and their learning styles:

- Is instant messaging a fad, or should it be incorporated into how institutions work with current and prospective students?
- Do the educational resources provided (e.g., textbooks, reference materials) fit the needs and preferences of today's learners? Will linear content give way to simulations, games, and collaboration?

- Does the current definition of “anytime, anywhere” equate to students’ expectations that any device (laptop, PDA, cell phone) will be able to access the Web at any time and from any place?
- Do students’ desires for group learning and activities imply rethinking the configuration and use of space in classrooms, libraries, student unions, and residence halls?

Colleges and universities are finding a variety of ways to meet students’ expectations for service, immediacy, interactivity, and group activities. There is no single formula, particularly since students often span broad ranges of ages, learning styles, and communication preferences. Though each institution will find its own answers, a common set of principles may emerge that will help guide decisions and directions. The first step will almost undoubtedly be to better understand the “new” learners—Boomers, Gen-Xers, Millennials, and those still to come.

Notes

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2. 1999 is the most recent year for which data is available. The source for Table 1 is National Center for Education Statistics (NCES), “The Condition of Education 2002,” June 2002, <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002025> (accessed April 22, 2003).
3. NCES, “The Condition of Education 2002.”
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12. Online Computer Library Center (OCLC), "How Academic Librarians Can Influence Students' Web-Based Information Choices," June 2002, OCLC White Paper on the Information Habits of College Students, <http://www2.oclc.org/oclc/pdf/printondemand/informationhabits.pdf> (accessed April 22, 2003).
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14. Jim Black, Associate Provost for Enrollment Services, University of North Carolina, Greensboro, e-mail, April 4, 2003.
15. Robert A. Carroll, Chief Information Officer, University of Phoenix, e-mail, May 1, 2003.
16. Dominique Abrioux, President, Athabasca University, e-mail, April 4, 2003.
17. Carol Scarafiotti, Dean of Instruction, Rio Salado College, e-mail, April 5, 2003.
18. J. A. del Alamo, J. Hardison, G. Mishuris, L. Brooks, C. McLean, V. Chan, and L. Hui, "Educational Experiments with an Online Microelectronics Characterization Laboratory," 2002, <http://science.donntu.edu.ua/konf/konf7/0102.pdf> (accessed April 22, 2003).
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20. J. C. Herz, "Gaming the System: What Higher Education Can Learn from Multiplayer Online Worlds," in Maureen Devlin, Richard Larson, and Joel Meyerson, eds., *The Internet and the University: Forum 2001* (Boulder, Colo.: EDUCAUSE, 2002) <http://www.educause.edu/ir/library/pdf/ffpiu019.pdf> (accessed April 22, 2003).
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EXCERPTS FROM THE “GREATER EXPECTATIONS NATIONAL PANEL REPORT”: EXECUTIVE OVERVIEW

The United States is fast approaching universal participation in higher education. Recognizing the transformative importance of this development, the Association of American Colleges and Universities launched Greater Expectations: The Commitment to Quality as a Nation Goes to College. As part of that initiative, a national panel of top education, private sector, public policy, and community leaders spent the past two years analyzing higher education in the United States today. The report, *Greater Expectations: A New Vision for Learning as a Nation Goes to College*, details their findings and recommendations.

The report calls for a dramatic reorganization of undergraduate education to ensure that all college aspirants receive not just access to college, but an education of lasting value. The panel offers a new vision that will promote the kind of learning students need to meet emerging challenges in the workplace, in a diverse democracy, and in an interconnected world. The report also proposes a series of specific actions and collaborations to raise substantially the quality of student learning in college.

The panel concludes that change is urgently needed. Even as college attendance is rising, the performance of too many students is faltering. Public policies have focused on getting students into college, but not on what they are expected to accomplish once there. The result is that the college experience is a revolving door for millions of students, while the college years are poorly spent by many others.

Broad, meaningful reform in higher education is long overdue. The near-universal demand for higher learning in the United States creates new urgency, opportunity, and responsibility to revitalize the practice of undergraduate education.

Some colleges and universities already are making the kinds of learning-centered changes the report recommends. The panel studied pace-setting reforms on campuses across the country, and worked in partnership with a set of competitively selected “Greater Expectations” colleges, community colleges, and universities representing both private and public education.

These campus examples of Greater Expectations in action give reason for hope that Americans can, and will, create a new national commitment to educational excellence for every college student.

College in the Twenty-First Century

College attendance has grown so rapidly over the past four decades that now 75 percent of high school graduates get some postsecondary education within two years of receiving their diplomas. Older adults, also, have enrolled in increasing numbers. A college degree has in many ways become what a high school diploma became 100 years ago—the path to a successful career and to knowledgeable citizenship.

Students are flocking to college because the world is complex, turbulent, and more reliant on knowledge than ever before. But educational practices invented when higher education served only the few are increasingly disconnected from the needs of contemporary students.

Today's college students come from an extraordinarily diverse array of national, racial/ethnic, and socio-economic backgrounds. They bring great vitality to campus, but also place significant new demands on faculty knowledge and skill.

Students also attend college today in very different ways. A rapidly rising majority pursues the degree by attending two or more institutions. Part-time enrollment and distance learning are now common. Many students navigate this new terrain without clear direction or educational maps, collecting credits haphazardly as they go.

Preparation for higher learning has not kept pace with access. Less than one-half of students who enter college directly from high school complete even a minimally defined college preparatory program. Only 40 percent of school teachers hold the high expectations for performance that would ready students for college-level work. Once in college, 53 percent of all students must take remedial courses. Those students requiring the most remedial work are the least likely to persist and graduate.

These far-reaching developments call for new approaches to educational quality. But needed reforms are hindered by the absence of broadly shared agreement about what students ought to accomplish in college.

Many students and parents see college primarily as the springboard to employment; they want job-related courses. Policy makers view college as a spur to regional economic growth, and they urge highly targeted workforce development. Business leaders seek graduates who can think analytically, communicate effectively, and solve problems in collaboration with diverse colleagues, clients, or customers. Faculty members want students to develop sophisticated intellectual skills and also to learn about science, society, the arts, and human culture. For the higher education community as a whole, college is a time when faculty and students can explore important issues in ways that respect a variety of viewpoints and deepen understanding.

A meaningful commitment to educational excellence begins with agreement about the most important goals for student learning. The National Panel report offers a contemporary and comprehensive vision for college learning—a vision that addresses the *multiple* hopes Americans hold for college education. Moreover, this vision engages the role that higher learning plays in creating a just democracy, cooperation among diverse peoples, and a sustainable world.

Barriers to Quality from School to College

The United States can take great pride in the progress it has made in giving more students access to college. But even this work remains both unfinished and insufficient. It is unfinished because access continues to be inequitable, especially for the poor and most minority groups. It is insufficient because many students do not succeed once in college and fail to gain the kind of powerful learning that equips them for a world in flux. Formidable barriers to excellence stand in their way.

Despite years of efforts to improve, secondary education in many school districts continues to be seriously deficient, resulting in students who are underprepared for college-level work. State-mandated tests—the centerpiece of the school reform agenda—often reflect a limited interpretation of learning, overemphasizing memorization of discrete facts at the expense of deeper understanding and its application. Faced with many pressures, including high stakes testing and finan

cial constraints, schools place too little emphasis on the analytical, integrative, and practical skills graduates need.

There is also a disturbing misalignment between high school exit requirements and college entry expectations. Few colleges regularly share with secondary schools what incoming first year students should know and be able to do. “College” courses in high school (as well as remedial courses in college) have proliferated, despite the absence of guiding principles about what characterizes college-level learning. Many colleges and universities have begun to encourage more in-depth, investigative, or research-based learning even in the first year, but high school and many advanced placement courses continue to feature broad surveys and superficial “coverage.” The senior year of high school, which ideally should emphasize the intellectual skills expected in college, is wasted for many students.

Once enrolled in college, students face other barriers to excellence.

The fragmentation of the curriculum into a collection of independently “owned” courses is itself an impediment to student accomplishment, because the different courses students take, even on the same campus, are not expected to engage or build on one another. Few maps exist to help students plan or integrate their learning as they move in and out of separately organized courses, programs, and campuses. In the absence of shared learning goals and clear expectations, a college degree more frequently certifies completion of disconnected fragments than of a coherent plan for student accomplishment.

Other barriers to quality include professors trained and rewarded more for research than for teaching, a prestige hierarchy built on reputation and resources rather than on educational success, and a lack of meaningful or comparable measurements to assess student-learning outcomes.

Many college students now juggle multiple demands, including an increased financial burden, full- or part-time employment, and family obligations. College students typically spend less than half the time on their studies that faculty expect. All these conditions complicate efforts to achieve greater expectations for aspiring college graduates—especially if these new realities are not taken into account in a comprehensive reform of undergraduate education.

The Learning Students Need for the Twenty-First Century

These barriers to quality notwithstanding, there is hope on the horizon. College faculties across the country are beginning to adopt new practices that raise the level of student effort and achievement. The Greater Expectations National Panel report and its attendant Web site (www.greaterexpectations.org) highlight many such promising innovations.

The key to successful reform is a clear focus on the kinds of learning that students need for a complex world. The panel urges an invigorated and practical liberal education as the most empowering form of learning for the twenty-first century. It makes strong recommendations about the knowledge and capacities all students should acquire—regardless of backgrounds, fields, or chosen higher education institutions.

The report further recommends that these goals for students’ liberal education become the shared concern of both school and college. The transition from high school to college should be considered a joint responsibility of schools and higher education; it should be carefully planned. The

learning outcomes needed in this new era can only be achieved when all parts of the educational experience address them.

Students will continue to pursue different specializations in college. But across all fields, the panel calls for higher education to help college students become intentional learners who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their lives. To thrive in a complex world, these intentional learners should also become:

Empowered through the mastery of intellectual and practical skills

Informed by knowledge about the natural and social worlds and about forms of inquiry basic to these studies

Responsible for their personal actions and for civic values.

The empowered learner. The intellectual and practical skills that students need are extensive, sophisticated, and expanding with the explosion of new technologies. As they progress through grades K-12 and the undergraduate years, and at successively more challenging levels, students should learn to:

- effectively communicate orally, visually, in writing, and in a second language
- understand and employ quantitative and qualitative analysis to solve problems
- interpret and evaluate information from a variety of sources
- understand and work within complex systems and with diverse groups
- demonstrate intellectual agility and the ability to manage change
- transform information into knowledge and knowledge into judgment and action.

The informed learner. While intellectual and practical skills are essential, so is a deeper understanding of the world students inherit, as human beings and as contributing citizens. This knowledge extends beyond core concepts to include ways of investigating human society and the natural world. Both in school and college, students should have sustained opportunities to learn about:

- the human imagination, expression, and the products of many cultures
- the interrelations within and among global and cross-cultural communities
- means of modeling the natural, social, and technical worlds
- the values and histories underlying U.S. democracy.

The responsible learner. The integrity of a democratic society depends on citizens' sense of social responsibility and ethical judgment. To develop these qualities, education should foster:

- intellectual honesty
- responsibility for society's moral health and for social justice
- active participation as a citizen of a diverse democracy
- discernment of the ethical consequences of decisions and actions
- deep understanding of one's self and respect for the complex identities of others, their histories, and their cultures.

Taken together, these outcomes form the core of a twenty-first century liberal education—liberal not in any political sense, but in terms of liberating and opening the mind, and of preparing students for responsible action. The panel calls for a new national commitment to provide an excel-

lent liberal education to all students, not just those attending elite institutions and not just those studying traditional arts and sciences disciplines. Professional studies—such as business, education, health sciences, technologies—should also be approached as liberal education.

In this spirit, the report urges an end to the traditional, artificial distinctions between liberal and practical education. Liberal education in all fields will have the strongest impact when studies look beyond the classroom to the world's major questions, asking students to apply their developing analytical skills and ethical judgment to significant problems in the world around them. By valuing cooperative as well as individual performance, diversity as a resource for learning, real solutions to unscripted problems, and creativity as well as critical thinking, this newly pragmatic liberal education will both prepare students for a dynamic economy and build civic capacity at home and abroad.

Principles of Good Practice in the New Academy

The Greater Expectations National Panel is optimistic about the future. Liberal education has historically adapted to the needs of a changing world, and innovative approaches can already be found on every kind of campus. The next step is to create from these isolated innovations a comprehensive movement for change across the higher education landscape. The report describes a learning-centered New Academy arising from such a movement.

In this New Academy, colleges and universities will model the purposeful action—the intentionality—they expect of their students. Faculty members will focus more centrally on goals for student learning in both courses and programs, not just on the subject matter taught or the number of credits earned. Leaders will use resources strategically to build a culture centered on learning. Within a broad array of distinctive institutional missions and roles, this learning-centered New Academy will exhibit a rich and desirable diversity of approaches to education. But there will also be a shared commitment to high standards, and new collaborations that create more purposeful educational environments allowing easier passage from one educational institution to another.

Reaching ambitious goals for learning requires integrating elements of the curriculum traditionally treated as separate—general education, the major, and electives—into a coherent program. This does not mean that students will take a common set of courses. But it will require new forms of advising and alignment, both in high school and college, to help each student create a plan of study leading to the essential outcomes of a twenty-first century education. There will be many alternative paths up the educational mountain. But every student needs a sense of direction, markers as well as knowledgeable guides, and navigational tools to support the journey.

Meeting these expectations for quality will focus new attention on the culminating year of college. Both institutions and departments should set standards for achievement of skills, knowledge, and responsibility, and require advanced work that demonstrates the expected outcomes. These culminating performances, which will vary with different fields of study, ought to provide evidence that students can integrate the many parts of their education. They can show how well students actually possess the intellectual, practical, and evaluative judgment and the sense of responsibility a college degree should represent.

Higher education will need to provide both existing and future faculty and school teachers with the necessary preparation to teach effectively in new, challenging environments. The academy must

also offer incentives, professional development, support, and rewards for good teaching. Finally, at both the higher and secondary education levels, the nation must develop more sophisticated, nuanced ways of assessing student learning. To build such a culture of evidence, students and faculty need tools to assess all levels of learning and to mark student progress in achieving the goals of a twenty-first century education.

Achieving Greater Expectations: A Shared Responsibility

Achieving this vision will require concerted action among all stakeholders. Learning-centered reform cannot be accomplished by any one institution or even by the higher education sector alone. Collaboration with secondary school leaders will help ensure better preparation of all high school students for rigorous college learning. Collaboration among policy makers at the state and federal levels will focus public policy and resources on the quality of students' liberal education. Cooperation with accrediting agencies will further reinforce the national commitment to connect evidence of student accomplishment with judgments about educational quality.

The report of the Greater Expectations National Panel also presents a preliminary set of recommendations that engages many groups, including those in secondary and higher education, as well as policy makers, business leaders, boards of trustees, school boards, the media, college students, and their parents.

The Greater Expectations National Panel urges all citizens to take part in creating a society where learning is prized and everyone has access to an excellent education. Ultimately, the nation's future and its place in the world depend on a new vision for learning as the nation goes to college.

TEACHING TO CREATE INTENTIONAL LEARNERS— SELECTED EXAMPLES

The Empowered Learner

Outcome

communicate well in diverse settings and groups, using written and oral means

employ a variety of skills to solve problems

work well in teams, including those of diverse composition, and build consensus

Facilitating Strategies

writing assignments of multiple kinds (expository, creative, and personal writing) for many purposes; required and critiqued oral presentations

problem-based learning; undergraduate research; inquiry-based science labs

planned and supervised experiences in teamwork, both in class and in off-campus settings

The Informed Learner

Area of Knowledge

the human imagination, expression, and the products of many cultures

global and cross-cultural communities

modeling the natural world

Facilitating Strategies

interdisciplinary and integrated courses on creativity through the ages

drawing on students' diverse experiences to enrich classroom discussion; integrating study abroad into courses back on the home campus; teaching courses world-wide through video-conferencing

student team-designed lab experiments to answer questions

The Responsible Learner

Responsibility Expected

active participation as a citizen of a diverse democracy

understanding oneself and one's multiple identities

Facilitating Strategies

service learning; debate on proposed solutions to current social problems

personal writing that requires self-reflection upon a wide variety of subjects, and that situates the self in relation to others

WE CAN ENSURE ONGOING IMPROVEMENT BY...

knowing how well students are learning. Evaluation of what individual students learn in courses has always been part of teaching. Faculty members review work and assign a grade. Traditional evaluation of this type is generally done well and conscientiously. Student dissatisfaction tends to arise when tests seem unrelated to the work of the course, either in content or testing style.

Much less often, however, do professors gather information about competencies that grow during an entire undergraduate career or about collective student performance (by aggregating individual results). While most colleges, for example, say that one of their goals is developing students' abilities in critical thinking, only a few determine how well the student body as a whole analyzes or synthesizes as seniors, much less as entering first-year students. Outsiders who find college graduates unprepared for solving problems in the workplace question whether the colleges are successfully educating their students to think; the colleges have difficulty proving their success.

Assessment is part and parcel of the teaching/learning process. Explicit goals—written and widely shared—specifying what students are expected to know, form the basis for assessment. Learning goals establish the foundation for aligning curricula, teaching, and assessment.

In a continuous manner, colleges should want to make sure that students are learning. Informal assessments conducted during a course (formative assessment) can help a teacher change direction in mid-stream if it appears that students have not understood well enough. More formal evaluation at the end (summative assessment) can feed back into shaping the course design itself. The more closely assessment methods or testing reflect classroom activities, the better they will point up strengths or weaknesses. For example, students expected to critically evaluate complex issues on a final exam need to be asked throughout the course to practice analysis.

Assessments at levels broader than the individual classroom require careful curricular planning. If a college expects all seniors to write convincingly as well as correctly, students will need to write for many courses, throughout the curriculum, over all their years of attendance. Since college educational aims comprehend many abilities that cut across individual courses, senior year assessments could ideally demonstrate skill in integrating a number of them. Portfolios of student work, including web-based portfolios, offer a potentially valuable assessment mechanism.

So, too, do senior projects. To become a truly effective tool, a portfolio serves as more than a collection of student work, interesting as that may be; an evaluation of the learning demonstrated finds its way back into improved programs and teaching. As an example, if a sampling of seniors' portfolios indicated only an introductory ability to formulate hypotheses and test them, the faculty responsible would review where and how in the curriculum this aspect of critical thinking could be strengthened.

When taken seriously, assessment shapes curricula and instructional practice. The business community axiom that "what gets measured, gets done" holds true in education as well. If limited interpretations of assessment lead to external standardized tests that primarily evaluate the low-level skills of factual recall, classroom activities will focus on facts, rather than on understanding. A more nuanced interpretation of assessment recognizes that locally devised mechanisms, often embedded in coursework, can provide more relevant information. An "authentic assignment," similar to what an expert in the field might face, can serve to assess multiple types of learning, and do so at sophisti-

cated levels. If, for example, students are expected to be learning about the history of civil rights, a multiple-choice test will show if they know the major issues, names of activists, and important dates. An assignment asking them to design a voter registration drive given a set of historical constraints could probe for a much deeper understanding of racial and ethnic cultures, while also assessing writing and analytical ability.

In the culture of the New Academy—a culture of evidence⁶⁰—assessment is a necessary and integral part of greater student achievement. It becomes predominantly a tool for improvement: to improve learning, teaching, and the curriculum. Learning-centered assessment can be linked to courses and allow professors to answer for themselves the important questions of what, how much, and how well their students are learning. Assessment need not remain the threatening concept it often now seems to faculty members, identified with external control and infringement on academic freedom.

Assessment for improvement can have the added benefit of showing external stakeholders the academy's success in doing its job: educating students. Explicit learning goals and transparent assessment results could go a long way toward satisfying the demands for accountability and improved learning that are arising in many states.

Promoting Greater Expectations on Campus: Starting Down the Path

1. Encourage broad conversations about greater expectations and learning-centered, twenty-first century liberal education; listen to many voices.
2. Develop a clear statement of functional goals for student learning, from entrance through graduation, and share those goals publicly (including with high schools).
3. Review strategic plans and resource allocation decisions for the centrality of learning within the mission of the institution.
4. Provide faculty and staff development about teaching, curriculum, assessment, collective responsibility, and collaborative leadership.
5. Begin to review the curriculum to ensure that its design supports student progress toward the goals.
6. Plan out the next five steps.

ORGANIZING EDUCATIONAL PRINCIPLES: FROM THE PRESENT TO THE NEW ACADEMY

<i>Former or present...</i>	<i>modified...</i>	<i>present or future...</i>
focuses on teaching	in recognition that what is taught is not always what is learned	Also focuses on learning
emphasizes what an educated person should know	in recognition of the explosion of available information	Also emphasizes where to find needed information, how to evaluate its accuracy, and what students can do with their knowledge
sees the curriculum predominantly as a conveyor of well-established knowledge	in recognition of the world's diverse complexity	Also interprets education as an informed probing of ideas and values
emphasizes study in a discipline	in recognition of the multi-disciplinary approach needed to understand real world problems	Also seeks connections within and across disciplines
emphasizes individual work	given the need to work as members of teams in the workplace and in community life	Also values collaborative work, particularly in diverse groups
stresses critical thinking	given the need for civic engagement in major policy decisions	Also links critical thinking to real-life problems, often involving contested values
promotes objective analysis	in recognition of the need to shape the rapid pace of change	Also develops creativity by valuing personal experience
studies majority Western cultures, perspectives, and issues	to respond to the plurality of the modern world, worldwide problems, and interdependence	Also learns about cultural complexity, a range of cultures, and global issues
values learning for learning's sake	to acknowledge the new role of higher education in U.S. society	Also celebrates practical knowledge
assumes a relatively homogeneous group of students	given the near-universality of college attendance	recognizes a diversity of students
considers higher education in isolation from primary and secondary education	given the need to build an aligned system to reach greater expectations	sees college learning as a part of a continuum with, and dependent on, the K-12 learning environment

TO ACHIEVE GREATER EXPECTATIONS, THE NATIONAL PANEL STRONGLY RECOMMENDS...

enlightened public policies tied to concerted action. College learning has assumed a new centrality in our knowledge-intensive society. While the complexity and importance of the challenges presented by higher education's new role certainly warrant a long list of recommendations, the panel selected the most important and grouped them under five broad headings. They indicate commitments needed from society, as well as changes in education itself. The action steps highlighted throughout the narrative are repeated here as examples of specific initiatives through which change can occur.

Recommendations

Implement policy in support of greater achievement:

All stakeholders commit to the dual policy goals of universal access to college learning of high quality and preparation for all students to succeed at this demanding level.

Important Action Steps:

- Produce standards and assessments that focus on intellectual capacities and reflect the complex nature of learning and learning styles. Initiators of action: State and federal policymakers, informed by conversations with educational leaders.
- Base institutional accountability on demonstrated student success in achieving liberal education outcomes. Initiators of action: State and federal policymakers, boards of trustees, accrediting associations.
- Provide sustained resources for universal readiness and college success. Initiators of action: State and federal policymakers, school boards.

Expect greater achievement:

Secondary and collegiate educators articulate and implement clear, aligned goals for learning to guide students purposefully from high school through college.

Important Action Steps:

- Organize regular, continuous conversations between high school and college educators about learning outcomes, curricula, and teaching practices. Initiators of action: College professors and high school teachers.
- Expect high school seniors to complete a substantial, integrative piece of independent work to demonstrate their readiness for college-level work. Initiators of action: High school teachers and principals.
- Create a mechanism to coordinate advanced placement, dual enrollment, and remedial college courses. Initiators of action: Professors from community colleges, baccalaureate-granting colleges, and universities; high school teachers; and the organizations responsible for national assessments of educational quality.

- Expect college seniors to complete an integrative, capstone experience as evidence of advanced college-level learning. Initiators of action: College and university professors and employers.
- Reach greater achievement on individual campuses: Colleges and universities commit to becoming intentional, learning-centered institutions and set timetables for achieving these goals.

Reach greater achievement on individual campuses:

Colleges and universities commit to becoming intentional, learning-centered institutions and set timetables for achieving these goals.

Important Action Steps:

- Each college and university sets explicit goals for student learning so academic department and general education outcomes can align with them. Initiators of action: College and university faculties.
- Colleges and universities implement curricula to develop student knowledge and intellectual capacities cumulatively and sequentially, drawing on all types of courses (general education, the major, electives) and non-course experiences. Initiators of action: College and university faculties and deans.
- Faculty members across disciplines and departments assume collective responsibility for the entire curriculum to ensure every student an enriching liberal education. Initiators of action: College and university faculties.
- College and university faculty members focus on important student outcomes, regularly assess student progress, base teaching on research about learning, and raise expectations of student achievement. Initiators of action: College and university faculties.
- Centers of teaching and learning on every campus make available significant resources to support faculty members as they assume the responsibilities of learning-centered education. Initiators of action: College and university deans.
- Faculty reward systems value learning-centered education. Initiators of action: College and university faculties and deans.
- Campus leaders place their institution's vision of liberal education at the center of strategic planning efforts and resource allocation. Initiators of action: Presidents, boards of trustees, chief academic officers, and deans.

Prepare for greater achievement throughout the entire system of education:

While students assume more responsibility for their studies, each college, university, and high school commits to functioning as part of a larger system to improve the level and quality of student learning.

Important Action Steps:

- Restructure the professional preparation of elementary and secondary school teachers to give them deep knowledge of the disciplines they will teach, as well as of effective teaching strategies. Initiators of action: Faculties of arts and sciences and education, state boards of education, education program accrediting associations.
- Reform doctoral education so college professors are prepared to be effective educators as well as scholars. Initiators of action: University graduate faculties, in partnership with faculties in undergraduate colleges of every kind.
- Develop robust academic advising systems to explain the high expectations of college-level learning and help students map coherent pathways through a landscape of many institutions and programs. Initiators of action: College and university faculty members and advisors, secondary school teachers and advisors.

Create better public understanding of the value of college learning:

All educators and other stakeholders consistently share with the public the reasons why a practical liberal education is the best preparation for all students in a rapidly changing world.

Important Action Steps:

- Initiate, participate in, and sustain public dialogues about the goals of a contemporary liberal education and how they serve individuals and society.
Initiators of action: College and university leaders, business leaders, national associations, students, and parents.
- Create and then implement a concept of rating and ranking colleges based on success in educating students that is flexible enough to suit a broad range of institutional missions.
Initiators of action: College and university leaders, national media, and foundations.

Pages 17 through 29 contain excerpts from the *Greater Expectations National Panel Report* which can be accessed in its entirety at <http://greaterexpectations.org>

UPCOMING PROGRAMS

(All times are 1:30 - 3:00 PM CT unless indicated otherwise)

FEB. 20, 2004	THE VALUES OF TEACHING (1:00 - 2:15 PM CT)
FEB. 26, 2004	THE REAL COST OF ONLINE COURSES
MAR. 3, 2004	ANNUAL CARL D. PERKINS RFQ TELECONFERENCE
MAR. 25, 2004	COLLABORATIVE LEARNING TECHNIQUES (COLTS)
APR. 8, 2004	CYBER INSECURITY? PREVENTION AND PROTECTION SOLUTIONS

Programs to be streamed and available via the Internet include:

JANUARY 2004	SMALL TEACHING CHANGE = BIG LEARNING GAINS
FEBRUARY 2004	COOPERATION, COMPASSION AND CIVILITY IN THE CLASSROOM
MARCH 2004	CHANGE YOUR MIND AND CHANGE YOUR LIFE (WELLNESS)
APRIL 2004	CRITICAL THINKING: REQUIRED LEARNING FOR THE 21ST CENTURY
MAY 2004	CHEATING AND PLAGIARISM USING THE INTERNET
JUNE 2004	ETHICAL DECISION MAKING IN THE PROFESSIONAL SETTING --a special three hour in-service program for professional counselors and healthcare providers
JULY 2004	DOES YOUR ONLINE COURSE NEED EXTRA CREDIT TO PASS?
AUGUST 2004	RETIREMENT PLANNING FOR EDUCATIONAL EMPLOYEES

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	Excellent			Poor	
Timeliness of topic	5	4	3	2	1
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Panelists or Instructor	5	4	3	2	1
Handouts	5	4	3	2	1
Technical quality	5	4	3	2	1
Overall evaluation of program	5	4	3	2	1
Local site activities were held?	_____ YES		_____ NO		

1. Institution name: _____

2. My current position is: (circle one)

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3. What did you like most about the videoconference?

4. What could have been done to make it more valuable to you?

5. What topics would you like to see addressed in future videoconferences?

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