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November 8, 1999, Monday, PM cycle

SECTION: State and Regional

LENGTH: 551 words

HEADLINE: Kentucky moving towards front of online education

DATELINE: LOUISVILLE, Ky.

BODY:

Joan Jahnige teaches advanced **high school** Latin to 24 students who she may never meet face-to-face.

That's because Jahnige's classroom on the Internet. It's part of a growing trend nationally and in Kentucky.

Kentucky Education Television -- which employs Jahnige as a distance educator -- began developing online courses four years ago. Now it offers half of its courses that way.

The Council on Post Secondary Education began the Kentucky Commonwealth **Virtual University** this fall, offering 22 college courses to 250 students. And the state recently announced plans for a virtual **high school** starting next year.

Much like courses taught by Jahnige, the online program will offer advanced courses not found at some schools. **Distance learning** director John Gorman said that in two years Internet classes will replace televised coursework.

Jahnige taught in a traditional classroom setting for 13 years before joining KET's seven-member staff. She said new internet classrooms have rewards and drawbacks.

"We are in constant contact. I feel like I get to know them and know their humor. (But) I miss the eye contact - it's a very valuable tool to have," Jahnige said.

National experts point to an explosion of online courses over the past three years. A few entirely online universities have opened and some colleges have started for-profit ventures to develop new Internet courses.

"For a long time, people have talked about the arrival of lifelong learning and the opportunities of new technology, and here it is," said Kenneth Green, a California researcher who monitors the spread of online courses in higher education.

Internet language courses often offer video to help students with pronunciation and may include audio hookup allowing students' speech to be stored and reviewed by a teacher later. Other courses can allow students to download transcripts of lectures, video of speakers or links to reference sites on the Internet.

Teachers often answer questions by e-mail. And discussion periods are scheduled, so that all students and teachers participate at the same time. Tests can include items requiring an instant response or, more often, essays.

As Internet courses become more common, scrutiny is growing on how an electronic education

compares with classroom learning.

"There's a lot of research that suggests that students who take Internet classes learn as much as in a classroom, but they aren't always as satisfied," said Peg Miller, director of the American Association for Higher Education in **Washington.** "There's a kind of cultural shock."

Regional groups that accredit colleges and schools are developing Internet standards. And Kentucky's **virtual university,** has asked a panel of university academic officers to ensure its courses are rigorous and responsive.

Lori Lee-Wooten, a Glasgow graduate student, is pleased with how far online education has advanced in Kentucky. Wooten said she has driven to teleconference sites in the past, only to find the equipment isn't working.

Now, when her husband turns on wrestling on Monday nights, she is on the Internet, attending her master's degree class in vocational rehabilitation.

"It's the same thing as going to a class; it's just that if the phone rings, I can hit pause," Ms. Wooten said.

LANGUAGE: ENGLISH

LOAD-DATE: November 9, 1999

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USING EDUCATIONAL TECHNOLOGY TO IMPROVE TEACHING AND LEARNING

"This debate has never been about technology. It has been about what our children have the opportunity to do. It's about much more than just giving a young person a computer or connecting that person to the Internet. It's about connecting students to a whole new world of learning resources and offering the mind the opportunity to expand and take on a new and challenging future."

U.S. Secretary of Education Richard W. Riley
July 29, 1998

New and developing computing and networking technologies continue to expand the range of resources, skills, and learning environments that are and will be accessible in the future. Used creatively and aligned to high standards, technology can support inquiry-based learning where students are experimenting and exploring challenging content rather than just reading about it. When supported by technology-based interactive visualization, simulation, and "hands-on" modeling opportunities, students may be able to understand difficult concepts earlier and more readily than ever before. The 1994 reauthorization of ESEA included the first step in ensuring that our students would have access to this changing technological world and its opportunities to support achievement to high standards.

The Technology Literacy Challenge Fund (TLCF), the Technology Innovation Challenge Grants, and the Star Schools programs have charted a path toward modernizing schools and classrooms for the Information Age. Building on the success of these programs, our plan for reauthorization would help teachers and students step into the next century by successfully integrating technology into the curriculum. The Administration's proposal to reauthorize the ESEA would:

- **Stimulate the development of the next generation of tools and applications** through the consolidation of the Technology Innovation Challenge Grants and Star Schools programs into one discretionary authority. Next Generation Technology Innovation awards would advance the use and development of cutting-edge technology and include a stronger focus on identifying and evaluating innovative, effective models that other schools and districts could adopt. The awards would continue the Star Schools program's commitment to using technology--particularly web-base instruction--to provide access to challenging course content, such as Advanced Placement and foreign language instruction, to students in disadvantaged and rural areas.

- **Continue the commitment to using educational technology to improve teaching to high standards.** In a 1998 survey, only 20 percent of teachers reported feeling very well prepared to integrate educational technology into classroom instruction. Our proposal would help teachers use technology to engage students in challenging content, remain current in their field, and connect with fellow teachers and other experts. The TLCF would increase classroom access to technology and support ongoing, intensive teacher development in the integration of educational technology to support challenging standards for all students. Our proposal would also support the Preparing Tomorrow's Teachers to Use Technology program which would engage entire faculties of institutions of higher education in creating comprehensive strategies for building effective technology use into the teacher education curriculum.

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- **Build school and district capacity** through resources for planning, evaluation, and investment in new technology applications. Regional Technology in Education Consortia would continue to build partnerships and provide support to strengthen state and local technology efforts.

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View Related Topics

MAY 11, 1999, TUESDAY

SECTION: IN THE NEWS

LENGTH: 12636 words

HEADLINE: PREPARED STATEMENT OF
BRUCE DROSTE
DIRECTOR
VIRTUAL **HIGH SCHOOL**
US DEPARTMENT OF EDUCATION
BEFORE THE HOUSE EDUCATION AND THE WORKFORCE COMMITTEE
EARLY CHILDHOOD, YOUTH, AND FAMILY SUBCOMMITTEE

BODY:

Virtual **High School**
"I want everyone to know that this year has been the best professional development year for me in 27 years of teaching. I not only feel part of a new wave of education but I feel that I have re-fallen in love with my subject - biology." -- Richard , VHS teacher, Ridley **High School,** Folsom PA
"I really enjoyed my first semester class (Introduction to Stellar Astronomy) because the teacher was extremely dedicated, we did experiments and observations of the sky and I met classmates who were determined to make this class great. Astronomy has helped me enrich my general knowledge and change my perspective on the Universe." -- VHS student "Virtual **High School** is of special interest to us because it gives our Deaf students the opportunity to participate in classes with heating students and teachers on a fairly equal basis without the need for interpreters. In an informal survey of our VHS students at the end of the first semester, all the students responded in enthusiastic support of their VHS experience. They unanimously agreed that using the computer communication in VHS (email and discussion area) allowed them to feel comfortable interacting with the hearing students in their class." -- Joyce Barrett, VHS site coordinator, Model Secondary School for the Deaf, **Washington** DC
I. The Virtual **High School** Cooperative
A Technology Innovation Challenge Grant
The Virtual **High School** is an extraordinary project that is having a positive impact on thousands of **high school** students and hundreds of educators in schools across America. Like other Technology Innovation Challenge Grants, VHS is using the best of educational technologies to give students and teachers access to resources, curriculum, and training of the highest quality, and to prepare educators and learners to be skilled and confident participants in an increasingly technological world. Like other Technology Innovation Challenge Grants, VHS is bringing these benefits to more than just a select group of participants: VHS students and teachers represent a spectrum of different ages, ethnicities, backgrounds, learning abilities, and educational experiences. Similar to other Technology Innovation Challenge Grants, the effect VHS is having on education reaches far beyond the thousands of participants involved in the project. Teachers who have had access to the VHS professional development course find that they are bringing new technology skills, new teaching strategies, and a revitalized enthusiasm for teaching back into their local classrooms, thus passing the benefits of their experience on to countless additional students and colleagues. Students who have taken a VHS course find that the experience has helped them become independent learners and capable technology users, and they pass these skills on via daily interactions with peers, family members, and even teachers. **High schools,** communities, and entire states have found that the success of VHS has generated strong partnerships between corporate and educational entities, as well as support for additional technology and educational initiatives within their regions. VHS has become a model for similar programs across the country and around the world. In this testimonial, you will read about the simple yet powerful VHS model, and hear from VHS participants who talk about the far-reaching ways in which VHS has touched their lives.

What is VHS?

The Virtual **High School** (http://vhs.concord.org) is a cooperative of over 125 **high schools** across the U.S. that offers netcourses taught by teachers for students in the cooperative. Each school contributes teachers who, with the help of teacher mentors, instructional technology experts, university faculty, and businesses, design and offer innovative courses over the Internet. Each school in the cooperative can enroll 20 students in these netcourses for each section of a teacher's time it contributes to the pool. (This allows schools to offer a range of courses usually found only in large **high schools.**) Quality is maintained by requiring each virtual teacher to successfully complete a graduate-level professional development netcourse on the design and development of network-based courses. At the halfway point in its five-year grant, the VHS project is now turning from concept development to large-scale implementation.

This academic year, there are 32 schools in the project offering 34 courses to approximately 600 students. In addition, 90 new teachers from as many schools who are completing a yearlong professional development program will offer their first courses in the 1999-2000 academic year. Thus, next year, we expect over 110 courses to be offered serving 2,500 students from at least 120 schools nationwide. During that year, we will offer professional development to several hundred new teachers to reach a goal of 300 schools in the final year of the grant.

VHS Course Design

VHS courses are either one-semester or full year courses, based on an asynchronous, scheduled model structured around online discussion groups. Due to its asynchronous nature, students can access the network anytime at school or at home to read assignments, participate in discussions, and submit completed work. At the same time, courses are carefully scheduled with all the students in a course participating in the same activities and thinking about the same issues. Teachers are trained in structuring and moderating these online discussions. Without this emphasis, online courses can become conversations between individual students and the teacher thereby generating an overwhelming volume of posts. This maximizes the value of the online discussions and helps ensure that students can learn from each other and construct their own understandings. This is not only good pedagogy, but it is essential to making a manageable load for the teacher.

Most VHS courses follow a weekly rhythm that includes a major topic, assigned activities, online discussions, and student contributions. Activities have, for instance, included readings, lab experiments, music composition, critiquing a video, locating Web resources, and taking a poll. A master schedule for each course dictates these events and expectations in detail, to help ensure that all participating students are able to make meaningful contributions to the class.

Student evaluation is entirely up to the teacher who authors and delivers each course. As part of their professional development, the VHS project encourages teachers to develop "alternative" evaluation strategies that foster online contributions, collaboration, and student creativity. The project insists that the evaluation methods and criteria be clearly stated as part of each course description. VHS Courses

With over 100 courses in the current catalog, it is difficult to grasp the range of VHS courses offered.

VHS courses are open to students in grades nine through twelve and address specialized content not typically available in most **high schools.** One powerful motivation for teachers to participate in the project is the opportunity to offer a specialized or advanced course for which there would never be sufficient enrollment in the **high school.** As a result, the project attracts and encourages some unusual courses. The following sampling of course titles gives a flavor of the resulting range of courses offered. This list represents the first 30 courses in alphabetical order in the 1999-2000 catalog. All the course descriptions can be found online at (http://vhs.concord.org).

101 Ways to Write a Short Story A Model United Nations Simulation Using the Internet A Shakespeare Who-Dun-It Aeronautics and Space Travel--and Record-Breaking with Model Airplanes American Music Heritage - Song and Society American Popular Music AP Statistics Astronomy: Stars and the Cosmos Atmospheric Interactions Aviation History Beyond Today Bioethics Symposium Biology II -- A Second Year Course BLASTOFF - Building Lead Associate Scientists through On-line Fabulous Frontiers Business in the 21st Century Calculus for Business Career Awareness for the New Millennium Chemistry II Computer Graphics on the Internet Connecting Mathematics and Science through Technology CyberReporting Democracy in America? Earth 2525: A Time Traveler's Guide to Planet Earth Earth Dynamics Eastern and Western Thought - A Comparison Employability Skills Environmental Ethics Ethnobotany Evolution and the Nature of Science Evolutionary Genetics with a Biotechnology Twist! VHS Costs and Sustainability

Participation in VHS does not alter the basic teaching cost structure of a school. One or more teachers are assigned to a virtual course instead of a "real" one. Because the students enrolled in the virtual courses are outside the school district, this re-assignment reduces the number of students in the district who are taught by district staff. Assuming an average class size of 20, this loss is exactly compensated by the 20 students for each section contributed who are allowed to register in VHS courses. The net result is no change in the number of sections offered and students taught.

This "zero sum" feature of the VHS has three important consequences:

Easy expansion. Each school can tailor its level of involvement to its own needs. A school that wants more students enrolled in VHS simply has to offer more sections to the cooperative. Because this decision has no cost impact on other schools, the project as a whole can easily expand to fill whatever need is generated.

Decentralization. Most virtual course projects are highly centralized, offering new courses from a distant center. This model is difficult to finance, reduces the autonomy of the recipient, and threatens school faculty. The VHS model because it is highly decentralized, avoids all these problems. One of the strengths of this national program is that it leaves control in the hands of states, schools, and local teachers and administrators.

Union acceptance. Many projects offering online courses reduce the staffing requirements at the recipient school. Naturally, teacher unions are opposed to such models. The VHS, on the other hand, has strong union support because it does not alter employment levels and does offer teachers professional development and new employment options.

Participating in the VHS, however, does entail costs. Of course, computers and network access are required. Surprisingly, this is not a major problem for most **high schools,** since student access to just a few computers can be spread out over time. The major costs to schools are the time required for online professional development and the local site coordinator functions. In addition, the project generates central costs for project coordination, student registration, technical support, server support, and evaluation. One of the major issues being addressed by the project is what these costs are, how they can be minimized, and whether they can be sustained.

It is reasonable to assume that VHS site management will become routine, that the technology will improve, and teacher professional development will require less time. When this happens, the VHS model will be easily and economically duplicated. Rather than simply growing the original VHS, we anticipate that there will be numerous virtual **high school** cooperatives. Any large district could establish one. Some might be organized around content or language. It is conceivable that highly specialized virtual **high schools** would be created. If all the virtual **high schools** adhere to the same quality standards, there can be cross-enrollments between them, increasing the range of courses and student diversity.

Small **high schools** could become more attractive since they are no longer restricted in the courses they offer. It is even possible that the good pedagogy demanded by world-class virtual courses will spread throughout **high schools.**

"How are we doing?" - VHS Evaluation Efforts

More than two and a half years, three and a half semesters, and dozens of courses into the VHS project, VHS participants have gained unparalleled insight into the many factors that make up a quality **high school** netcourse. In this last year, the project has focussed on the quality of course design and delivery, with the appointment of a national standards board that has established quality standards for netcourses. This board, the NetCourse Evaluation Board, or NCEB, has synthesized the enormous expertise of university-level **distance learning** experts, state department of education (DOE) curriculum experts, as well as VHS teachers, trainers, administrators, and students, to create a set of netcourse standards by which all VHS courses will be reviewed. In addition, the project will appoint independent "department chairs" (content experts) who will periodically check on the progress of 5-10 netcourses for which they are responsible. The VHS netcourse standards will be adopted not only by VHS, but also by other groups who wish to develop and evaluate high-quality netcourses based on a proven national model. The three tiers of the VHS evaluation process are complementary yet distinct - they focus on three separate facets of NetCourse design and delivery.

SRI - Project Evaluator

The VHS project has retained SRI International as an independent evaluator. Their research has found a high degree of satisfaction among students, teachers, and school administrators. They verified that students liked VHS because it allowed them to take courses that were of interest to them but not offered at their **high school.** They also found that teachers liked it because they could teach courses they had

always wanted to offer but couldn't because of low enrollments. SRI's research revealed a high degree of acceptance from school administrators who appreciated VHS because it offered advanced courses and gave them increased flexibility. All the principals and superintendents responded favorably on overall satisfaction with the program. The full SRI report is published on the VHS Web site (http://vhs.concord.org).

II. Virtual **High School** Participants The best way to begin to understand the enormous impact that VHS is having on American education is to let the VHS participants - students, teachers, site coordinators, and **high school** administrators - speak for themselves. VHS and all the Challenge Grant projects are designed to serve these students and educators, and they are the people who make these projects truly powerful. In the testimonies that follow, VHS participants explain the impact that the project has had on their lives.

They are from different backgrounds and all walks of life. They range from 9th graders to teachers with 30 years' experience. They come from at least eighteen different states and 120 **high schools** across the country. They live in large urban cities and **rural** farming communities. What these participants' testimonies have in common is that they point to positive outcomes far greater than the designers of the project ever could have imagined. VHS students talk about the confidence they have gained not only in course subject matter, but also in taking responsibility for their own learning, and using technology and the Internet for real-world applications. Students and teachers talk about the empowerment that comes from gaining access to technology resources, hundreds of courses, and a national community of peers they'd otherwise never have access to.

Teachers talk about the shift to more encompassing teaching strategies that comes from having students of varying ages, backgrounds, and learning abilities together in one class, and about the way perspectives broaden for students who have the opportunity to learn with kids from different parts of the country. All of these lessons and skills will be invaluable to teachers and students as they move into the increasingly more technological and connected world of the 21st century. The following testimonies are grouped into several broad categories that describe the benefits of VHS and the Technology Innovation Challenge Grant program as a whole.

VHS expands horizons and builds communities of learners

"What I find most remarkable about my student's experiences is that they don't feel that they are involved in a **distance learning** course. They feel that they are members of a virtual **high school.** The difference is most important. They became part of a national community of learners and explorers. They are excited about their education. The skills and lessons they gain from the VHS program spill over into their regular **high school** classes. They share their virtual education with fellow students and are able to add unique perspective to regular classroom discussions. They are truly becoming self-disciplined, nationally orientated students. They have moved far beyond the boundaries of our local **high school.** Ironically, a number of our students have found their virtual courses to be more "real world" than their regular classes. Often the VHS courses are more self-directed, production oriented, less memory based educational experiences. They will take these lessons to college and to life. Any program that adds over one hundred courses to a **high school's** curriculum, enhances the students' technological skills and links them to students and teachers throughout the United States would have to be considered a great achievement. The fact that Virtual **High School** has been able to do this while giving the program a very personal community based feel is remarkable. It is an honor to be part of the Virtual **High School** experience." -- Mark McGrath, VHS site coordinator, Collingswood **High School,** Collingswood NJ

"..about asynchronous discussion - there are a lot of people who don't really *like* that idea. I emphatically disagree...I love it! I think it works better than face to face discussion, actually. And not necessarily for the reasons that everyone usually says "it gives people time to think about their answers" and "it helps shy students express themselves more easily", etc (although those are advantages....just not the ones that directly apply to ME :P) I like it because everything that everyone wants to say...can get said. It's not like a 'real' conversation where one person says something, and someone else responds, and then someone picks up on a tangent to THAT and you can't really go back the first thread of the conversation .... or you could, but you'd have to abandon that new tangent. Either way, you lose out on something. With asynchronous discussion, you can have both threads (or more) going at the same time, and they can sprout other branches, and so the discussions end up being in-depth and covering a lot more ground than usual. And being able to finish a thought without being interrupted (otherwise known as rambling :P) is nice - and of course, everyone can still reply to whatever was in there in the middle that they DID want to respond to. And then there's the fact that we have a complete record of the

conversation on hand...which can be useful. I really do think that this 'discussion factor' is one of the BEST things about VHS, and one of the things that makes it successful." -- VHS student, WebQuest: A Literary Odyssey

"I think that VHS is a wonderful experience, I learned not only about the subject - Russia and Soviet Union, but I also learned about myself a lot. I learned how to develop more discipline in my ability to study, I learned more about other teenagers from other vhs classes through vhs students' discussion etc. Surprisingly, I even like my vhs teacher very much! She taught me a lot. Ms Terry Haugen is really a wonderful teacher. It is not easy to do all homework on time but it is great working with her." -- VHS student, Russian, Soviet, and Post-Soviet Studies

"I entered VHS because I thought it might provide a higher level of difficulty and challenge me in something that is not offered at my school. I soon found that my class was not hard, it simply required you to think. Most of the things we did in my class was analyze and write essays, which I learned a lot from. But when a person enters this class they need to be aware that they will have a lot to talk about and will have to be prepared to talk a lot and share their thoughts. On a lighter subject, my teacher, Mr. Stefanisko, was so neat! He provided his own insight on some of the subjects and also constructive criticism on some of ours. He helped to make us really think about what we were talking about, not just throw something down. I learned tons from just the discussion area and the books for the course were absolutely perfect! I loved each and every one of them. Thank you for the most enjoyable class I have ever taken!" -- VHS student, Exploring America through its Writers

"VHS is not about using technology for the sake of using technology. VHS is about offering students unique and alternative learning experiences that not only supplement, but transcend their normal **high school** experience. It is far beyond kids learning content over the internet; it is about people-connections and developing a sense that wherever you are in this expansive country we are in this life together. VHS is a place where kids from all over the country, from all sorts of backgrounds come together and share in learning. Imagine in the future, all **high schools** being interconnected, and kids from everywhere having the opportunity to experience on a daily basis their peers from communities across the nation. In a nation so vast, that changes so rapidly, whose population is so diverse, we must provide the opportunity to understand each other no matter where we come from, no matter what our cultural heritage. I see Virtual **High School** as the vehicle for such an opportunity and an incredibly positive use of internet technology." -- John Dye, VHS teacher, History and the Silver Screen, Dublin Scioto **High School,** Dublin OH

"I am very pleased with my course and the experience I have received from it. It has helped me to become more independent and more self- disciplined when it comes to my school work. I enjoyed getting to know my classmates as well as my instructor. I am registered for another class during the spring semester and I can not wait to get started." -- VHS student, A Model United Nations Simulation Using the Internet

"As with any new technology, I believe that VHS has much potential to be a truly valuable learning tool. To me the advantageous aspects include student flexibility, the necessity of personal responsibility, and broadened educational horizons. I think that each is an asset that is both valuable and attractive to potential students. They truly appreciate being given the responsibility for their own education and the trust associated with that responsibility. The breadth of VHS courses speaks for itself." -- VHS student, The Bioethics Symposium

"This was a wonderfully fun course to take as an elective. I found that it seemed to help me not only learn about poetry, but about people from other parts of the country who have grown up in a background much different from my own." -- VHS student, Poetics and Poetry for Publication

"What? A class over the internet? That's cool!" That was the first thing I thought of when I heard about the course. Her (Marsha West's) methods of teaching swept me away. I was overwhelmed by the substantial amount of curriculum, but it was the most helpful work I have ever done in an English class. In the beginning, there were many problems with connections and technical difficulties, but the hardworking administrators overcame these hard times with much encouragement to the student .... they were soon solved. My Site Coordinator was enthusiastic about the course, so this made me want to participate. The teachers were some of the best I ever encountered." -- Sarah, VHS student, John F. Kennedy **High School,** Fremont CA

"VHS was really hard in the beginning, but once I got into the swing of things, I really enjoyed myself.

I learned a lot about debating subjects that didn't stand on solid ground and those things that people all had opinions about but there wasn't much physical evidence for any of the opinions being the right or

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wrong one. Besides course topics I definitely learned patience. As an added bonus, I am much more technologically literate. There is no way that I could have done that any other way than by taking this course and that will definitely help me out when I go to college. Thank you, VHS!" -- VHS student, The Bioethics Symposium

"The English AP course I took was one of the most valuable courses I have ever encountered. I believe the success of this course and many other courses depends mainly on the teacher. I enjoyed the course very much. It was a great learning experience. The people I met and the work I did was different from the regular coursework I had been used to. Mrs. West was a dedicated teacher, that's probably why I learned so much. The content of the course was educating and helpful in many ways. I would definitely recommend this course to anyone who is interested in taking the English AP." -- VHS student, AP English: A Web-Based College Level Course in Literature & Composition

"I have loved being able to have intellectual conversations without getting the Blank Stare. I have also loved the personal conversations that went on...Every day I venture to the school library with two other people and we plop ourselves down in front of these marvels of technology for an hour and a half. Each of us sits in their own silence, immersed in their own activities. Talk occurs, but they can hardly be expected to understand my stress-filled ranting about an essay on Moby Dick that just HAS to be done...I am alone. Or so I thought. I entered VHS to find a group of very different people who accepted me with open arms. Names on a screen, maybe, but also people that live FAR away...Together we have traversed great works of literature, and as I watched the water, I could almost see the Pequod chasing after the elusive Moby Dick, tossed by the waves...It's true, each one of us is different, and each one of us brings to the class different views of the world. Moby Dick is a perfect metaphor for our class...every new opinion I encountered helped to either reaffirm or question my beliefs...I would like to thank all of you for making this an experience which I will always remember... You all have opened me up to questions I never recognized in the past, and might never have." -- Kristi, VHS student, WebQuest: A Literary Odyssey "I think one of the things that helps (make a VHS course work) is that it is not _solely_ done on the internet. We still have real live solid books, and the time spent actually reading and not burning out your retinas on a computer screen is refreshing. And we all read - and then we all have that BASE for when we do get together online and discussion and comment. And what the internet does best - bring people together, no matter how far away they are physically. We take the best of what the Internet offers and use THAT, and don't chuck everything that's low-tech just because its low-tech- the only reason to stop using something is if there is something else *better* out there. It's not a matter of "take classes on the Net in order to take classes on the Net," it's "take classes on the Net because it can do this, this, and this better than normal." In fact, if I *do* get to take this class again, one of the things I'm looking forward to is the discussion with my friends who will also be taking it- because the discussions really DO work better in this medium, even if we are sitting in the same room." -- VHS student, Allen **High School,** Allen TX

VHS is enabling teachers and students to become confident technology users

"I think VHS is a great opportunity to provide a wide variety of nontraditional curriculum and to integrate the Internet into that curriculum. I really liked my course. Before taking VHS, I felt very uncomfortable with the Internet and I knew very little about it. Although I am no expert, I now feel like I understand it well enough to do what I need to do. I thought my course gave me excellent insight into how the Internet is having an impact on business. I think this is very valuable information because I feel like I am a step ahead of my classmates with this knowledge." -- VHS Student, Business in the 21" Century

"My main attraction to the VHS course was its ability to provide me with a class not offered by my **high school.** As I began the course, however, I realized that I was learning about much more than just Eastern/Western Thought or Music Appreciation - I gained an immense knowledge of computers and communicating via internet. My VHS teachers were most helpful in introducing me to the VHS system and encouraging interactions among other students. Before this year, I had never taken keyboarding or any computer classes, and I had never been on the internet; now I can honestly say that I know a lot about working with computers on the internet. Also, I felt that the format of VHS fits my learning style - it allows me to work at my own pace and communicate when necessary. I also love the informal nature of VHS courses - students can read and freely comment on others' work." -- VHS Student, Eastern and Western Thought - A Comparison and Music Appreciation and Composition

"When I think about VHS and its impact, the first thing is new technology. I have been teaching 25 years and when I went through schools only NASA and the IRS had computers. I did not have the background, knowledge or experience in computers. Today I feel very comfortable using both Macs & PC and this is

because of VHS. My field is art and I will be ever in debt to VHS for bringing me up to date with the use of computers in the art world. This new computer knowledge has made me a better teacher. I feel that I will better prepare my students for college and technical school. Artfully yours," -- Janice Cooper, VHS teacher, Computer Graphics on the Internet, Thomasville **High School,** Thomasville, NC

"I'd say that so far the best thing about VHS that has helped me and my students at Lowell **High School** is the practical experience that I have gained using the Internet as a research tool. I think many people (students, parents, and teachers) think that if you have a project, the internet will in some magical way do it all for you while you sit back and watch. The other misconception is that just because information is on the Internet, it is valid. I'm really learning how to use the Internet and have been able to pass this on to my students and fellow teachers." -- Jim DeProfio, VHS teacher, Perspectives in Health, Lowell **High School,** Lowell MA

"...As domestic and international culture becomes increasingly more global the ability of the academic and economic communities in the United States to communicate more effectively with their global partners becomes a matter of not only economic importance, but also of national security. We need to be as literate as possible in this area so that we can maintain our lead in this area. Long **distance learning** will supply this nation with literate members of our electronic society. The blatant commercialization of the internet has overshadowed the real potential of the internet and that is the free flowing of academic ideas and the ability to communicate with others who have mutual interests, knowledge, and aspirations. VHS fills this void." -- David Jost, VHS teacher, Music Appreciation and Composition, Westborough **High School,** Westborough MA

"VHS has been a very exciting adventure for my five students who are participating this spring. It is a very interesting phenomenon when students come into the class before the bell rings, log on and get right to work. As site coordinator, I have watched them grow as learners. They have learned not only a great deal about Hispanic culture but also a great deal about using the internet as a research tool. They have become responsible for their own learning--independent learners who can take the technological tools (that will only become more prevalent in the 21 st century) and utilize them to learn." -- Vicky Ferguson, VHS site coordinator, Milton **High School,** Alpharetta GA

"As a teacher I have learned so much technologically and how to make directions clear in the written form. I think I have everything explained, but the students will let you know if you don't. Technologically I don't even know where to start: learning Lotus Notes, learning the internet surfing, learning to import, retrieve files, export materials from my course, just all the ends and outs has helped me develop as a teacher." -- Luron Singer, VHS teacher, Introduction to Botany, Center **High School,** Center CO

"My parents and I were both hesitant about the whole idea of Virtual **High School.** You see, I am the kind of person who needs a lot of one on one to gain understanding and I thrive on class discussions. I was worried I wouldn't be fulfilled academically by taking the VHS class. If it weren't for Mrs. West being our teacher and site coordinator I don't think I could have made it. Another worry was that I wouldn't be able to function competently with the computers-I am no genius when it comes to technology.

At the beginning of the year I thought, "Oh, I'll get used to this in no time." It is now the end of the year and I am still trying to get used to VHS. However, over the year I gained confidence and understanding of how those relentless machines work." -- Jenny, VHS student, WebQuest: A Literary Odyssey

VHS is serving the needs of a diverse student population

"This is the first year for Model Secondary School for the Deaf to participate in Virtual **High School,** and we are very pleased with the results of our involvement. Ten of our students have enrolled in classes each semester this year. Their success and enthusiasm, along with the growth we have seen in their independent study skills and in their self-confidence has convinced us that this is a very valuable program which we hope will continue in the future. We are a small **high school** with 206 deaf/hard of hearing students. VHS gives students who are ready for the **distance learning** challenge the opportunity to take a variety of courses that would not otherwise be available in a small school. In classes like Web Quest - Honors English, Poetry for Publication, Screenwriting, U.S. Government Issues, etc. MSSD students have explored new subject matter and shared ideas and experiences with students and teachers from across the United States. VHS is of special interest to us because it gives our Deaf students the opportunity to participate in classes with hearing students and teachers on a fairly equal basis without the need for interpreters. In an informal survey of our VHS students at the end of the first semester, all the students responded in enthusiastic support of their VHS experience. They unanimously agreed that using

the computer communication in VHS (email and discussion area) allowed them to feel comfortable interacting with the hearing students in their class.
Some student comments that we received on the survey were: -- "I felt I was communicating through a TTY (teletypewriter)." -- "I love working independently and was very motivated because I had to depend on myself." -- "It is a great experience." -- "It is a good chance to enrich the learning experience and interact with other teachers and curriculums." -- "I loved it." -- "I greatly recommend that the VHS continues in the near future. It is a once in a **high school** lifetime opportunity."
This does not mean that Internet **distance learning** is always easy for our students, nor do I think that it takes the place of teachers. What we are discovering is that VHS gives the teacher or Site Coordinator monitoring students the opportunity to step back and become an advisor or mentor as they focus on helping the students develop responsibility, time management, communication, and independent learning skills which are so important in today's work world. Many of the students have struggled to cope with the new "Internet way" of taking classes and with the responsibilities involved with **distance learning,** but their sense of pride and accomplishment in the end makes it all worth while and a very meaningful part of their **high school** education." -- Joyce Barrett, VHS site coordinator, Model Secondary School for the Deaf, **Washington,** DC
"Next year we are going to have a sophomore enrolled that has severe hearing problems, but he is a dedicated student and the nice thing about VHS is that no one will know he's any different, and VHS is very visual. I am really excited to see how it works for him." -- Luron Singer, VHS teacher, Introduction to Botany, Center **High School,** Center CO
"One of our LHS students enrolled in a VHS course would not have graduated this spring without VHS. She had family problems, moved out of the house, worked full time, and had a difficult schedule. VHS was the only class she could fit into this chaos, due to the flexibility of LS. Otherwise, she would have had to attend summer school (at a personal financial cost), and would not have graduated with her class." -- Curt Stedron, VHS teacher, Screenwriting Fundamentals, Littleton **High School,** Littleton CO
"It would have been interesting and great if all of my classes were taken as a VHS course. I probably would have done better since I learn better when it is a good time for me to be in that class, and not for the school faculty. Being able to work on my assignments later in the day and sometimes late at night, I absorbed the information better. Of course, the "traditional" classroom is important, but I found that VHS is more interesting." -- VHS student
"One thing of importance is that VHS has given us 3 additional seats for students who are in our county's psychoeducational center. This will enable these students to have interaction with non-disabled peers that may not be possible otherwise. We have some students who have such severe emotional or behavioral disabilities that they can not be safely integrated into a regular **high school** environment. Through this pilot we will be able to give these students the opportunity to participate and learn from their non-disabled peers. This can truly be a powerful educational experience. This will also enable these students to take higher level academic courses that are not available because of the small size of the school. There are approximately 400 such students across the state of Georgia...VHS can truly make a positive impact on these students' lives." -- Alison Coker, VHS teacher, Career Awareness for the New Millennium, Sprayberry **High School,** Marietta GA
"Two years ago I was a basic illiterate in long distance asynchronous learning. ("What's email?"). Many of these students and site coordinators were as well. This project has challenged my intellectual ability and my teaching ability like no other in my 21 years as a public school teacher. The lessons I have learned about myself as a teacher could go on for pages, but let me be brief. I have learned that the most important thing that we can teach our students is not what to learn, but how to learn. Each student I have encountered in VHS is from a different school, background, academic level, and musical background. The challenge has been in bringing out the inner student in each participant. They all have the ability to learn, but the desire to learn needs to be fostered. I have reached a point now where I have obtained knowledge of learning styles, complex problem solving in both computer technology, and educational pedagogy. This is all a direct result of my participation in the VHS project." -- David Jost, VHS teacher, Music Appreciation and Composition, Westborough **High School,** Westborough MA
"As an English teacher for VHS, I immediately noticed how open students are in their writing. I think they feel more comfortable sharing their thoughts on-line rather than in the traditional classroom. In light of all the focus lately on different **high school** cliques and some feeling like outsiders, VHS offers students a chance to be a part of something new. Students are not put into a category; I know them through their work. The result is a chance to really share what they think without the fear of being judged." -- Peter Stefanisko, VHS teacher, Exploring America through its Writers, Windsor **High**

School, Windsor CA
"Here's a story about Carlos from Forks, WA (Marsha West's school). He was a "special" kid who had no computer skills and who had difficulties in learning. He took my class and sweated up a storm, working REALLY hard and growing by leaps and bounds. (All this is from Marsha - she might even write you the same story.) Anyway, he didn't finish all the assignments, and his work was below average because of his limited abilities, but because of his work ethic and the amount he learned about Hispanic cultures, not to mention computers, etc., he passed my class. At the end of the school year, the students at Forks had to fill out surveys. One of the questions was "What was your favorite thing this year at Forks?" Carlos' answer: "Cynthia Costilia". Brings tears to my eyes every time I tell it. The kid had a place to BE, where he fit in with the group and felt success as he learned about technology and Hispanic cultures."-- Cynthia Costilia, VHS teacher, Explorando culturas hispanas a traves del Internet, Allen **High School,** Allen TX
VHS offers unparalleled professional development opportunities for teachers
"As a future VHS teacher, I share the excitement of these students. The TLC training course has given me a shot of adrenaline at a time when I had begun to look ahead favorably toward retirement. Imagine that; 44 and ready to call it quits.
No more. Whatever happens next year when I teach my Shakespeare course, I have already received full value for my year-long TLC course. Because **distance learning** poses such a unique teaching experience, strategies must be modified to maintain the interest of the students and the integrity of the course. TLC has taught me to *rethink* my teaching strategies, and my current students are reaping the benefits. Incredible. The computer and TLC has given me a new perspective on Shakespeare.

Thank you for providing such a wonderful learning experience for me, and such an exciting opportunity for our students. I am a firm supporter of VHS." -- Wanda M. Stuckey, VHS teacher, A Shakespeare Who-Dun-It, Griffin **High School,** Griffin GA
"While I am only a teacher in training for the VHS and presently writing my course for next year, I want everyone to know that this year has been the best professional development year for me in 27 years of teaching. I not only feel part of a new wave of education but I feel that I have re-fallen in love with my subject - biology. By developing my course, I have had the opportunity to introspectively analyze what I am teaching, why I teach in the way I do, and how I can change and improve my communications with students. I am deeply grateful for the opportunity afforded me by the VHS at this point in my career."-- Rich Clevenstine, Ed.D., VHS teacher, Biology II - A Second Year Course, Ridley **High School,** Folsom PA
"From a teacher's standpoint, it has given me a new adventure and definitely a new challenge. After 26 years of teaching, it has really given me the boost I needed in my teaching career. Sometimes we as teachers become complacent and do the same thing year after year. This type of course makes teaching more exciting and more meaningful. It has really given me more ideas to use in my present classes." -- Joann Collins, VHS teacher, Exploring the Wonderful World of Multimedia, Lincoln County **High School,** Lincolnton GA
"On a personal note, the opportunity to teach a VHS course has motivated me as a teacher. It was good to get back into course design and helped me to keep current in my field. The TLC course helped me to evaluate my regular courses, as well, looking for places to improve their quality." -- Terri Day, VHS teacher and site coordinator, Introduction to Microbiology, Center **High School,** Center CO
"Legislators often lament the quality of teachers. If they could only contact any of the TLC participants!!! They are student oriented, creative and enthusiastic. They are not getting paid for putting in hours of their own time, but are creating courses for the love of the subject matter and they realize the phenomenal potential of VHS. This is Canfield **High School's** (Ohio) first involvement with VHS. We are in the process of creating a course. We have 20 students registered for a variety of classes next year. The technical and course help from concord (the staff at The Concord Consortium) in creating our course has been wonderful. Providing students with the opportunity to participate in a program such as VHS is nothing less than vital in this age of technology." -- Sieglinde Warren, VHS teacher, World Literature on Film as it Reflects the Continental Experience, Canfield **High School,** Canfield OH
"I am a VHS teacher in training and I feel like this has given me a new perspective in my teaching. One day when I was in the lab working on my course, I asked one of my former students who was in the lab for another language class to read through one of my lessons online and tell me if he understood the instructions. He read through that week's sections and ASKED if he could enter his comments as the lesson requested! It is not often that a student requests if he could please do the work, much less one that

is not even in your class." -- Cindy Price, VHS teacher, Paginas en la red en espanol, Wheeler **High School,** Marietta GA

"Having worked this year developing my course, I have grown in more ways than I can explain. It's not just that I have had to learn a whole new virtual world (including LOTUS NOTES); it's that being involved in long-**distance learning** has heightened my awareness of all aspects of my face-to-face teaching. For example, I work harder to clarify directions. I try to find new ways to connect with students and families. I am more inclined to encourage my students to use technology to solve problems and find information simply because I am more and more comfortable and confident with it myself. I shouldn't say "simply;" there's very little about this kind of learning that is simple--except for the fact that it is so exciting and powerful. And people who say it is impersonal haven't experienced what I have .... Being a part of a virtual community is as dynamic--though not visually--as is being a part of any group of people who share common goals /interests... Simply know that I've loved being a part of VHS." -- Deborah Baker, VHS teacher, Narrating Family Histories, Tiffin Columbian **High School,** Tiffin OH

"This has been an incredible experience for me. I am only in the developing stages of the VHS program and will begin my online class in Personal Finance in September of 1999. Teaching at a small **rural high school** - around 500 - nine through twelve - does not allow for the opportunities that VHS will afford.

I appreciate the opportunity and experience. My teaching career started after being in the corporate environment for over 15 years - and this has been an incredible adventure from the beginning. Thanks VHS for the challenge!" -- Debbie Routt, VHS teacher, Personal Finance, Armuchee **High School,** Rome GA

VHS greatly increases access to courses and educational resources

"As the Director of Technology at a small **rural** school district I have found VHS invaluable to our program. With the selection of courses available to us, we can now compete with other local schools both public and private. With only 305 students in both the Jr. and Sr. High, North Brookfield notices every time a student leaves. When asked why they were leaving the response usually includes lack of course selection. With VHS this argument does not have merit. Recently there have been rumblings about actually closing the school and sending our students to a larger district. As an educator I believe in the small school model, where students are not a number. Our students would be lost among many in a large district. VHS has helped keep our doors open by offering high caliber classes and a teaching staff that is dedicated to educating our young people. We ask that you support VHS as much as possible so that more students have the opportunities that we have had." -- Trevor Bruso, VHS site coordinator, North Brookfield Jr/Sr **High School,** North Brookfield, MA

"Kalida **High School** is a small school of only 360 students in grades 7-12 located in the small farming community of Kalida, Ohio. There are many advantages in having a small school such as the close relationships that develop between students and staff and the personal nature of much that we do. The biggest drawback is the lack of course offerings that we have for our students in house. Becoming a part of VHS is one of the greatest things that has happened to the students of Kalida **High School** in recent years. Next year we will have students taking a wide range of courses in a variety of disciplines that was never available before. We will have a teacher teaching a course (Marketing With Probability) that we could not offer here because of a lack of enrollment. Our course offerings have more than doubled as a result of the VHS offerings. Programs such as VHS and other forms of **distance learning** offer students from schools of all sizes educational opportunities that they normally would not get. I know that the members of Congress are interested that there is a worthy purpose to their funding. They can rest assured that increasing the educational options to students through programs like VHS is an investment that will pay dividends for many years to come. I thank everyone responsible for offering our students this unique educational opportunity." -- Dale J. Nienberg, Principal, VHS site coordinator, Kalida **High School,** Kalida, OH

"The music class that I teach has provided the opportunity for students around the country to learn about music in ways that is not possible for many in their own schools due to lack of programs, funding, or scheduling. Amy, from Allen **High School** in TX, wrote that she was able to understand the instructions of her conductor in the All State Band due to the materials and experiences she had had in my course. David, from Shrewsbury, MA wrote that he was going on into a career in sound engineering and recording and that the course helped him in his own musical development which will be necessary for him to do well in college. An education in the arts provides an opportunity to develop and foster the soul, to share thoughts and emotions with others, and to gain an insight into other artists and cultures. The arts enable us to experience our own feelings and emotions more so than in any other academic

discipline. Without the arts the human experience would be a drab, colorless, unemotional experience. It is through the arts that we become the human part of humanity as the face of humanity is seen through our legacy that has been left behind in the visual, musical, and language arts. The world of the artist is changing as rapidly as the rest of the world. The artist of tomorrow needs to be aware of the technology and climate in which they are creating and performing and be able to address to this audience. As educators, our role is to prepare our students to the fullest extent possible and teach them to realize their role and importance in our society and of society's impact on them. VHS provided this needed arts experience to the students involved in the project. I urge continuation of the Technology Grant so that we can reach our goals for our students.

" -- David Jost, VHS teacher, Music Appreciation and Composition, Westborough **High School,** Westborough MA

"I can truly say that VHS will make a positive impact on our system. We are a very small school system with limited resources, and we only have about 425 students in grades 9-12. Our school system will never be able to offer the kind of courses that VHS offers. This opens the door for our students great opportunities to take courses they are interested in but would never have had the opportunity to take. One example is a student who wants to be an actress. She is looking forward to taking the course, "Screen Writing Fundamentals." Also, the group of students that we have signed up this year thinks it is so exciting to be able to take a course from another instructor in another state. It will definitely give them some new experiences. One other thing I might mention is that we have a shortage of teachers to teach various courses causing some of our classes to be overcrowded. VHS helps to reduce class loads." -- Joann Collins, VHS teacher, Exploring the Wonderful World of Multimedia, Lincoln County **High School,** Lincolnton GA

"I can't imagine the *need* to justify the Technology Innovation Challenge Grant program, or more specifically, programs such as Virtual **High School.** Surely the necessity of such funding is evident: Our *Brave New World* has arrived, and we can either accept our destiny or forfeit our place to those who can meet the challenge. This fall's school term will mark my school's official entry into the future of education. Twenty of our students are enrolled in a range of courses through VHS from technical to academic, from AP to open to all. As large a **high school** as we are, almost 3000 students, we cannot offer the variety and expertise of course selection which VHS can. Our students are very excited; our only problem has been in selection of the core VHS students. After all, we have *only* twenty slots." -- Wanda M. Stuckey, VHS teacher, A Shakespeare Who-Dun-It, Griffin **High School,** Griffin GA

"I'm glad that C++ is offered because it is a subject that interests me and that I would not be able to take under the regular **high school** curriculum." -- VHS student, Introduction to Computer Programming

"I teach at a **rural high school.** VHS makes available so many electives that our school could never offer on their own. Unfortunately, some students need to work to survive. VHS can give those students the flexibility that they need to survive and complete their education. It could be a great influence in reducing the dropout rate. There are also several upper level courses offered that challenge the bright students. I am, myself, currently enrolled in graduate school and the courses that I have been taking are on the Internet or offered through our **distance learning** center at the **high school.** Today's technology is making it possible for American's everywhere to have easy access to education. American's today lead busy lives and the flexibility of scheduling is making education possible in many areas where it was difficult or impossible yesterday. It is crucial for the Federal Government to continue to stand behind the Education of America and aid educational endeavors like this one (VHS) with all of the financial and moral support possible!" -- David Perry, VHS teacher, World Area Studies/Current Events, Stamford Jr/Sr **High School,** Stamford TX

"We require all of our senior learners to take one course related to history for next year. Since there exists a plethora of (VHS) courses to choose from, the students have a choice on the direction they want to take in studying history. This opportunity has allowed one of our girls to graduate from **High School** (this past) December. She is now working and preparing to leave for college next year. -- Robert J. Erger II, VHS teacher, BLASTOFF -- Building Lead Associate Scientists Through On-line Fabulous Frontiers ACT Academy, McKinney TX

"A student in Screenwriting (1st semester), told me that the course was the best writing course he'd ever taken. Now, I offer this not to hype my course, but to point out that without VHS, there would be NO screenwriting class anywhere in a U.S. **high school.** This kid would have ZERO chance to take such an esoteric (but clearly valuable) course!"-- Curt Stedron, VHS teacher, Screenwriting Fundamentals, Littleton **High School,** Littleton CO

"I think the two biggest contributions (of VHS) for our school/area (is that it) 1. provides a wide range of courses and increases the number of course offerings and 2. provides technology rich courses as an additional method of instruction." -- Nancy Marsh, VHS teacher, Natural History of the Southeast: A Case Study of Georgia, Portal **High School,** Portal GA

"The biggest impact on our school is being able to offer dozens of classes to our students that wouldn't be possible otherwise. We are a small **rural** school (740 students K- 12) and staff time is limited to required courses. We have little opportunity to teach elective courses in our subject areas. This gives our students the chance to take classes that might be offered at bigger schools, or even junior colleges and higher level colleges, that they wouldn't have access to due to distance, time, etc." -- Terri Day, VHS teacher and site coordinator, Introduction to Microbiology, Center **High School,** Center CO

"There are a LOT of advantages to this type of learning - especially for 'independent' learners like me. One is the 'flexibility' in scheduling... Of course, I DO have a computer at home, so that helps immensely. I really do prefer to do my work at 1 or 2 in the morning. And with VHS, I can, if I choose to. One of the BEST advantages of this type of **distance learning** is the variety of classes available. It's hard to generate enough interest in a single school for most classes .... for a lot of the ones that are being offered next year, I can see maybe two or three people in the entire school wanting to sign up for them. So there would be no way to offer it HERE. But once you get a whole bunch of schools involved...all with their own two or three students...BAM! you have a class. A non-generic class, which is the only kind we really get in **high-school.** (have you noticed that class-titles in **high school** are more like FIELDS than individual classes? General, general, general ....) And in THAT way, VHS is an absolute godsend. Because I can actually take classes in areas that _interest_ me *boggle* And I know it's going to keep me sane next year .... since I've pretty much run out of stuff to take HERE. I'm taking 4 VHS classes next year." -- Jenn, VHS student, Allen **High School,** Allen TX

"...Consider some remarks my students made today.., a boy who's taken Screenwriting and is now in Short Story Writing and a girl in Aeronautics. Both feel the program gives them a chance to do something they "just had to do" by offering courses that can't be offered on a traditional campus. The gift wants to be a pilot, and she says the course work has given her terrific insights into what it takes to keep a plane aloft, and the impact of tweaking little things in plane design. She says the course strengthened her commitment to the career. And both students spoke enthusiastically about their ability to network with kids from all over the country. They're both impressed by how different things are elsewhere and love not being confined to our own quite homogeneous community in exchanging views with their classmates. They really like the program." -- Marie Kahn, VHS site coordinator, Las Lomas **High School,** Walnut Creek CA

"My name is David and I am a senior at Shrewsbury High, and I am also a VHS student. This past semester, I took "Music Appreciation and Composition," which was most likely the best course I have taken in **High School.** For the second semester, I am taking a "Fundamentals of Music" class in my **High School,** which is a step above the VHS class I took last semester. I was wondering if it was possible to leave the VHS class which I took last semester idle, that is, do not delete it from the database because I could definitely use the site as an effective resource for my other class..." -- VHS student, Music Appreciation and Composition

"We are about to register for next year, so I've been looking at the course offerings, so I can recommend things to kids. The new courses are just mind-blowing. To Kill a Mockingbird is my favorite book of all time, and how I wish I could take that course (TO KILL A MOCKINGBIRD: Maycomb - Microcosm to the World)!" -- Suzanne Tribble, past VHS site coordinator, Myers Park **High School,** Charlotte NC

"I had a faculty member of my local school ask if VHS would allow a teacher from a participating school to actually take a VHS course as a student? There are a few topics posted that have sparked interest in a few teachers here." -- Don George, VHS site coordinator, Canfield **High School,** Canfield OH

"My former student Eric Lint had taken AP senior English with me when he was a junior. His plan was to take courses at the local college during his senior year through post-secondary option. BUT, he was shut out of his fall course; there was nothing for him to take--except VHS. He was able to get his semester of English credit through Multicultural Literature which qualified him for an honors diploma. The more options we offer students, the more likely we are to meet the real needs of individual learners.

" -- Deborah Baker, VHS teacher, Narrating Family Histories, Tiffin Columbian **High School,** Tiffin OH

VHS is disseminating its successful model and acting as a catalyst for change

"Participation in the Virtual **High School** project has been a real catalyst of change at John F. Kennedy **High School.** Not only has it provided our students with courses more specialized and advanced than those offered at far more affluent secondary schools in our vicinity, it has also brought us recognition which is launching additional technology research projects into our classrooms. One other consequence - in February, a leadership group at the school - including all VHS participants - was authorized to proceed with a restructuring effort that will create the first Multimedia/Technology Magnet School in the Silicon Valley." -- Jerry Lapiroff, VHS site coordinator, John F. Kennedy **High School,** Fremont CA

"We are so committed to online learning that we are going to include it as one of our goals in our Charter School proposal to the state. The staff and administration at Sprayberry **High School** (SHS) believe that the integration of technology and curriculum offers unlimited possibilities for students .... SHS envisions online courses and **distance learning** as a vehicle to meet the needs and demands of education in the new millennium. The State of Georgia (DOE) is willing to take on the role as Administrator of the Virtual **High School** program for the southeast. Cobb County Public Schools have a unique opportunity to become the cornerstone of this program and others like it. With the Internet capabilities available, computer access to all, and technology training within Sprayberry, we propose that SHS become an online course development center and training site for teachers within the county and across the state." -- Becky Nunnally, VHS site coordinator, Sprayberry **High School,** Marietta GA

"We are using VHS as a testbed for virtual learning in Ohio. SchoolNet sponsors schools that participate in the program, as a way to develop what we believe will be new teaching literacies in the future. We have grown from two **high schools** participating in the first year to over thirty schools participating in the second year, and we anticipate adding another fifty schools in next year's TLC. The structures and resources that have been developed through this challenge grant have been of great benefit to us. We have used VHS as a model to create Ohio-specific professional development virtual courses for teachers at the novice and practitioner level of technology use. We are developing a school-within-a-school within the existing VHS structure - the medical schools at Case-Western Reserve, Ohio State University, and the University of Cincinnati are partnering with us to develop a **high school** curriculum focused on health careers and medicine. Courses that will comprise the curriculum of this school are being developed as part of the existing VHS program with the long-term goal of assembling them into a virtual health/medicine **high school.** We are building capacity - both human and hardware - to duplicate VHS in Ohio after the challenge grant ends. This year we will replicate some VHS courses at SchoolNet to gain technical experience." -- Tim Best, Programs Director, Ohio SchoolNet, Columbus OH

VHS and the Challenge Grants are making a difference

"I have a student who is currently in grade trouble in my American history class. She comes from a broken home and there are some problems between her and her step-father...Jenny is to be enrolled in my (VHS) Vietnam class second semester next year. When I started to make plans for the research projects for that class, I decided to allow students to interview a Vietnam vet. Her step-father is a Vietnam vet. Realizing she needed some extra credit if she were to pass my class this year, I gave Jenny the option to take her step- father's photograph albums from his Vietnam experience and create a PowerPoint presentation using those pictures. I asked her to have her step-father explain each picture she was to include in her project. The step-father is very interested in Jenny taking the Vietnam class. I feel certain that this project is going to open a line of communication between this troubled student and her step-father- Vietnam vet. Hopefully, this project will help to bridge the rift between these two and allow them to better understand each other.

In addition, this student will get the credit she needs to pass my American history class this year and have a head start on next year's VHS project. Hopefully, her extra credit project will be good enough for me to include in my Vietnam course to share with my cyber students next year...Hopefully, everybody gains something.

None of this would have happened without my being involved in VHS." -- Ken Sowards, VHS teacher, The Vietnam War, Fort Loramie **High School,** Fort Loramie OH

"When I think about my experience with VHS, I always think about the personal aspect that it has brought to my teaching. I value the close community of educators who are able to provide critical insight and observations about my teaching; I value the opportunity for the collaboration between the often insular world of the school and the larger world of technology. But, mostly, I value the personal relationships with students - the kinds of relationships which just are not possible in the size and structure of most secondary institutions. My journey with VHS began in its very first year - in March of 1997. One of my freshmen, Scott, had just committed suicide. I could only ask myself what we, the school, might have been able to do differently. For me, the hard work as a pioneer of VHS has been

dedicated to Scott - so that we can try to make a difference for other alienated students.
So many of these new relationships have been intellectually and personally joyful. We are able to engage in open-ended discussions about philosophy, the focus of my course. There is time for thoughtful and individual responses, as we try to understand major beliefs of various philosophers. And, we also have a unique opportunity to meet each other as persons. Two of my first students are now off at college - one in Ohio, another in North Carolina - but we continue to communicate about all kinds of topics. We have become a wider community of learners: wishing one student well on her trip to the Hague as a youth delegate to a peace conference; providing another student in Littleton, Colorado, a forum to describe her thoughts; offering emotional support to another on the death of a friend, at a time when she felt those in her physical surroundings didn't understand her grief. While I do not believe that a "virtual" environment can ever totally replace the live classroom, I do think it provides a rich and rewarding environment for many." -- Bevan Vinton, VHS teacher, Eastern and Western Thought - A Comparison, Campolindo **High School,** Moraga, CA
"As a result of my module on Clinton's One America Race Initiative for the 21st Century, Lina Pheng of Lowell High extended her assignment to the teaching staff and interviewed them as to their experiences with racial discrimination. This came to me by way of her site coordinator who was impressed with her initiative and interest in the topic. Lina is a fine example of the type of student enrolled in my United States Government Issues Net Course, she earned a 95% for the first half marking period. My course also allows for non planned online discussion as news breaking events occur. Discussions on the Kosovo Conflict and the Columbine Tragedy allowed for students from California to Boston to discuss and express their opinions across time zones. Students are divided on whether we should be involved or not and all agreed that we should not send in ground troops. On the tragedy in Littleton, students made the following remarks: the state and federal government needs to address this issue, with monies made available to fund security measures and programs to prevent future problems, a re-vamping of the Brady Bill, education programs in the schools to reduce "violence", the dire need for parents to talk to their children. Another module entitled Controversial Issues, allowed students to post opinions on the following topics: Clinton's Female Woes; Sadam's Castles in the Sand; Tobacco, Use and Sales to Youth; Internet, To Filter or Not; and School Violence. Students post a comment, it is read by a peer who then reacts, starting a thread or string of asynchronous discussion.
As an instructor I have become proficient in the use of Learning Space and Lotus Notes, the later is the software we use for our online course. I have acquired new technology skills and have incorporated Standards and Benchmarks into my course making it more in line with states' education standards. I have made many virtual friendships, both with my students and fellow net course teachers. I have gotten many virtual cards and thanks from my students as a result of my course content and method of delivery." -- Joey Sanchez, VHS teacher, United States Government Issues, Escalante **High School,** Amarilla NM
"I don't have any great "this changed a student's life" stories. What I do have is the wonderful experience of being involved in a truly dynamic, truly exciting educational journey.

Last year we only had a few students involved in the Virtual **High School** program. Each was able to take a course not offered at our **high school** and each developed relationships with students throughout the country and some remarkable technology skills. This year we have fourteen students participating and their knowledge and enthusiasm for the program grows each day. Next year we will have at least twenty-six students involved and a waiting list of students hoping someone will move or change their mind about the program. The growth of the VHS program in our school indicates the infectious nature of a program whose time has come.
I have a Vietnamese student who took "Logic, Deductive Reasoning and Proof" last semester, as she is very math orientated. When she found that she also had to deal with the twisted logic stream of the book, "Through the Looking Glass" she became a little overwhelmed. She dug in and mastered the complex verbal logic of Lewis Carroll's work and is far more proud of the "A" she earned in that class than her "A"s in her advanced math courses. I have a student who is taking "Introduction to Computer Programming" this year and "Visual Basic" next year because he has already completed all the programming courses available in our school. He can't wait for next school year to begin. I have students who were able to take "Native America", "Poetics and Poetry for Publication", "The American Music Heritage", "A Model United Nations Simulation" "Photography as Visual History" and "Microbiology". None of these courses are available in our **high school** and each student has a passion for their particular topic." -- Mark McGrath, VHS site coordinator, Collingswood **High School,** Collingswood NJ

"I believe (this) is a good way to take academic courses while learning about the internet. The course I am taking, AP English, is the most valuable course I have ever taken. The teacher was committed to the students and the course and that's why this particular class was very beneficial to my academic career." -- VHS student, AP English: A Web-Based College Level Course in Literature & Composition"
Facts:
1. Most of our VHS senior students report that they feel more comfortable to face the technology demands of college, after taking VHS courses. 2. ESL (English as a Second Language) students are successfully taking advantage of VHS courses they would refrain from taking in a regular classroom because of their imprecise, accented oral English.
3. In at least one case, parents of a very bright student moved their child from a catholic school to the Hudson **High School** to take advantage of the VHS courses." -- Gabriel Cruz, VHS site coordinator, Hudson **High School,** Hudson MA
"Virtual **High School** has propelled Miramonte **High School** and the Acalanes District into the digital age and afforded students and staff with educational opportunities that have increased learning, and fostered collaboration. The Challenge Grant Program has created a national educational community for us allowing our teachers and students to experience learning in diverse communities. Visitors to Miramonte **High School's** lab where Virtual classes are being taken by students are amazed at the variety of courses that students are taking, the collaboration between students and the energy in the room. Students are sharing poetry that they have written, music they have composed, programs they have created, and stories they have read. In one classroom students are taking eleven or twelve different classes and sharing what they are learning with other students.
Virtual **High School** has extended opportunities for Miramonte students by providing them with elective choices that they would never have if the school was not involved in the Challenge grant program. The number of electives at the school has grown from a few traditional choices like Foods or Psychology to well over 100 unique and challenging courses. Students are now able to pursue interests which will open many doors in the the career and college world. Virtual **High School** also is a powerful opportunity for special needs students. One student at Miramonte has Lyme's disease. He is unable to attend school for more than two periods. His Virtual course on Oceans has allowed him to participate in a school environment from home, talking to students and learning when he has the energy.
Virtual **High School** has been the strongest teacher training component in our district ever. Teachers are finally collaborating on courses and learning technology.
The nature of the online courses gives teachers flexibility to pursue this learning from their tight schedules. It has broken down the isolation of the classroom walls by giving teachers the means to "see" ideas from other educators and implement those ideas in their classrooms." -- Cheryl Davis, VHS site coordinator, Miramonte HS, Orinda CA
END
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LANGUAGE: ENGLISH

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Star Schools -- Cycle Six - 1997

Cycle Six: The following eight projects were funded in cycle six (FY 1997-2002):

- Los Angeles County Office of Education. Project IMPACT will design and implement a distributed learning system that improves instruction in the nation's classrooms and educates students, teachers, and parents. This model facilitates learning through powerful instructional technologies and allows participants to access information from a variety of sources via satellite, multimedia, and the Internet. This project will transform traditional classrooms into technology-rich centers of learning to help students achieve high academic standards. Project IMPACT currently involves a national consortium which reaches approximately 140,000 students and 4,000 teachers, and builds on the effective model of TEAMS (Telecommunications for Educational Advancement in Math and Science) Distance Learning, a four-time Star Schools grant recipient. The project will serve multiple states, counties and districts across the country.

- Massachusetts Corporation for Educational Telecommunications (MCET) - Transitions Through Telecommunications. Transitions will use multiple technologies to provide a collaborative lifelong learning project with hands-on learning, reading, writing, and professional development programs to develop the skills, self-esteem, and confidence of the teens, adults, parents, and non-native speakers in the states of Connecticut, Maine, Massachusetts, New Hampshire, New York, and the District of Columbia. During the five-year project, MCET and its partners will develop and link learners through four reading and writing developmental skill clusters that form a continuum of tools for lifelong learning.

- Pacific Resources for Education and Learning (PREL)- Pacific Islands Distance Learning Program. PREL will deliver direct distance learning programming to the students and teachers. Specially, PREL will provide an array of challenging courses which were otherwise not available but which build on the rich culture of the region. Examples include an engaging science curriculum for grades five and six which focuses on oceanography, fragile environments, and volcanoes; a fourth grade live, interactive environmental program focusing on the natural and cultural history of the Hawaiian Islands; and a high school credit course on problem solving. Professional development programming includes contexts from the region as well as global issues associated with teaching and learning. The overall objective is to increase the capacity for effective use of distance learning through a Pacific-wide telecommunications infrastructure.

- College of Central Wyoming - Mountain Plains Distance Learning Partnership will focus on the needs of the Native American population in this vast intermountain region. This partnership of four states will develop an electronic, virtual campus employing a host of technologies, a two-way audio and visual interactive fully scalable high speed digital ATM microwave technology; electronic transmission and receiving classrooms; and computer-assisted instructional programming centers. Teachers will be empowered to design and deliver interactive multimedia curricula to remote communities for K-14 students and adults. The project includes a comprehensive training model and multimedia curriculum strategies to help teachers develop the skills they need to teach via the system.

- Juvenile Justice Distance Learning Consortium (JDLC) - Florida, New York and Texas have joined together to form the Justice Distance Learning Consortium (JDLC). Through SafetyNet, juvenile offenders as well as teachers and staff in 52 facilities located in these three states will receive computer and video-based educational programs and courses via satellite, computer and DBS (direct broadcast satellite technologies) in Year One. Additional facilities and states will be encouraged to join the Consortium in years to come. JDLC will work with existing Star Schools projects and other video-based program producers to re-package existing materials into products and services appropriate for the juvenile offender population base. A primary objective of SafetyNet is to stimulate learning so that students can move from the correctional facilities back

into schools without missing out on needed curriculum.. Another objective is to create the types of computer-assisted learning materials that will engage learners and encourage them to take responsibility for their educational achievements. A final objective is to provide staff development opportunities for teachers and administrators at all facilities. Three specific curriculum areas will be the focus: math, literacy, and life/work skills. Phoebus Communications Inc., in Maryland, will manage the project on behalf of the Consortium; Information Systems of Florida and Illuminactive Inc. are key technology partners in the project.

- Satellite Educational Resources Consortium (SERC), Next Generation. The Next Generation project from SERC represents a plethora of technologies. The most exciting is the creation of curriculum-based multiple media materials in science and mathematics which will be made available on demand by digitizing extensive video archives within the existing public television inventory. This new technology will allow teachers to have immediate access to resources from a host of exemplary programs such as the CPB/Anneberg Math and Science Project. SERC will also develop new distance learning courses for middle school students in French and reading across the curriculum, offering them first by traditional technologies and then through the digital, on-demand service. Finally, to enrich its technological offerings, SERC will develop an Internet-based course in Calculus/AP Calculus for students.

- Educational Service District (ESD) 101 - The Pacific Star Schools Partnership is a consortium representing education organizations in six states and U.S. Pacific affiliated territories. The project will benefit the region by making available courses and enrichment modules for elementary and high school instruction. Technological system enhancements will also be added to the existing infrastructure to offer the most cost effective access to quality instruction than has been available through distance learning in the past.

- StarNet, United Star Distance Learning Consortium - The program will focus on an Engaged Learning model emphasizing the areas of early reading; middle school math proficiency; literacy for the deaf; adult literacy; technology training for teachers; and online, asynchronous staff development via the Internet for teachers of middle school algebra, elementary reading, adult literacy, and those in alternative schools, etc. The project will use a mix of converging technologies including satellite, CD-ROM, and Web-based tools to connect students and teachers across the country.

Dissemination Project:

- The WestEd Distance Learning Resource Network (DLRN) will create service to the growing number of schools, colleges, and universities that use distance learning to reach rural and metropolitan learners. These will include information and research on the topics of computer conferencing, standards-based curriculum and assessment, instructional methods and strategies, and emerging technologies. DLRN will provide training and educator networking opportunities through online, text-based forums. They will also provide audio conferencing, electronically publish the Star Schools DLRN Journal, produce video applications, and create the DLRN Distance Learning Resource Guide, along with the DLRN Distance Learning Kit.

Special Local Network

- Southeastern Pennsylvania Consortium For Higher Education (SEPCHE). A collaborative project which proposes to establish local and wide area computer networks and interactive video capabilities to enhance the quality and efficiency of academic programming, student access, operations, teacher training and community outreach, at the eight SEPCHE member colleges through inter-institutional cooperation and technological linkages.

  Member colleges of the Consortium include: Beaver College, Cabrini College, Chestnut Hill College, Gwynedd-Mercy College, Holy Family College, Immaculata College, Neumann College and Rosemont College.

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September 28, 1999 Tuesday ROP Edition

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HEADLINE: Bulletin lists **distance-learning** college courses ; 7-college consortium offers 100 courses

BYLINE: ANNE WARREN MURRAY, For The Patriot Ledger

SOURCE: For The Patriot Ledger

BODY:

With a goal of providing a one-stop listing of college courses available via **distance learning,** the Massachusetts **Distance Learning** Consortium was recently formed.

Its Fall '99 bulletin of more than 100 courses is available by contacting any of the seven member schools, Bristol Community College, Bridgewater State College, Cape Cod Community College, Massasoit Community College, Salem State College, the University of Massachusetts at Dartmouth and University of Massachusetts at Lowell.

Representatives of the member schools say they hope additional area institutions will join the consortium.

"By banding together, we can take the best of each campus and offer it throughout the region," said Mary Fuller, director of **distance learning** and technology programs at Bridgewater State's John Joseph Moakley Center for Technological Studies. "This broadens the reach of each school."

A student registers, pays tuition and receives credit from the member institution offering a particular course. It is up to the student and academic adviser to determine whether credits may be applied toward a particular program of study or degree.

Distance learning courses are available in three formats: Telecourses, which can be conducted with on-air TV programming or on videocassette viewed at the student's convenience; interactive video courses delivered via two-way audio and video to various sites; or by Internet with an E-mail and/or telecourse component.

In the current consortium directory, Bridgewater has more than 20 course listings, including undergraduate titles such as Japanese 1; a sociology department videoconference offering, Violence Against Women in North America; and two business department TeleWeb courses, Introduction to Business Communication and Introduction to Entrepreneurship. Also listed are two graduate-level education courses, Seminar for Educational Leadership and Selection and Development of Educational Personnel.

Currently, all courses in the consortium bulletin are for-credit, although Fuller says she would like to see some non-credit continuing education or personal enrichment offerings added.

One course to catch Fuller's own eye is Wise Women, a UMass-Dartmouth Women's Studies offering on the phenomenon of women aging in American society.

"It's about the experience of older women as explored through literature and intergenerational class projects to determine the forces that affect quality of life and productivity in later life," Fuller said. "I'm trying to decide if I have the time to take it," she said. "It sounds like such an interesting course."

Although the founding purpose of the consortium was to provide a single resource for students interested in **distance learning,** Fuller wouldn't mind seeing the concept "grow and develop toward becoming a kind of **virtual university,**" Fuller said.

"Thirty-three states in this country have **virtual universities** already," she said. "It might one day be a way for us to deliver quality, affordable courses to students around the world."

But for now, the emphasis is on pulling the state's colleges and universities together to offer various courses across the state. For example, Salem State College is offering fire-safety certification courses at Bridgewater.

"The students can sit in a classroom at Bridgewater, but they're registered at Salem State," Fuller said. "The class is sent over the phone lines.".

Without **distance learning,** students would have to drive to the North Shore to take the courses.

"It builds upon our strengths," Fuller said. "For example, we at Bridgewater have a wonderful teacher education program. U-Mass-Dartmouth has a strong engineering department. We all have limited resources, too. For us to market these courses together under one heading makes good financial sense."

The consortium's goal is by no means to make learning a less intimate experience.

"It's all about accessibility," said Fuller. "We have a lot of students with travel time constrictions, work and family commitments, not to mention physical limitations. This really expands our reach in providing all types of students opportunities to complete degrees, get additional training and upgrade their skills.

"Are we taking students away from campus? No, we're expanding opportunities to those who could not otherwise be here."

Like Fuller, Ann Whitney, dean of Massasoit Community College's Canton campus, has been interested in taking the best from the state's colleges and universities and offering it to area students via **distance learning** for some time.

Whitney and Donna Briggs, director of **distance learning** at Massasoit Community College, represents the school in the consortium. While Briggs' role is to explore how Massasoit will approach, manage and implement **distance learning** technologies at its campuses, Whitney's focus is to look beyond the walls of Massasoit to the surrounding community. As a founding member of a smaller **distance learning** consortium that was absorbed by the Massachusetts **Distance Learning** Consortium, Whitney has long made it her goal to provide greater access to **distance learning** courses, not only to area college students but to **high school** students as well.

"I'm seeking grant money to provide college-level courses to area high schoolers at no cost," she said.

She said she was particularly interested in offering developmental and technical math, English as a second language and environmental technology courses.

Not only do such programs allow youngsters to earn college credits while still in **high school,** she said, but they also instill confidence in **high school** students who might not otherwise be planning to attend college.

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Distance Learning:

Funding Sources

Districts are using various **funding sources** to provide this AP opportunity to their students, including general curriculum funds, gifted/talented monies and funding to support math education.

Some states and localities have special funding available as well.

Federal Government

- Advanced Placement Incentive Program

Purpose of Program: The primary purpose of the Advanced Placement Incentive Program is to enable States to reimburse part or all of the cost of advanced placement test fees for low-income individuals who (1) are enrolled in an advanced placement class; and (2) plan to take an advanced placement test. In addition, a State educational agency (SEA) in a State in which no eligible low-income individual is required to pay more than a nominal fee to take advanced placement tests in core subjects may use any grant funds, that remain after test fees have been paid on behalf of all eligible low-income individuals, for activities directly related to increasing (a) the enrollment of low-income individuals in advanced placement courses; (b) the participation of low-income individuals in advanced placement tests; and (c) the availability of advanced placement courses in schools serving high- poverty areas. This program is authorized under Title VIII, Part B, of the Higher Education Amendments of 1998 (1998 Amendments) (20 U.S.C. 1070a-11, note). Who May Apply: SEAs in any State, including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Northern Mariana Islands, the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau.

- Technology Innovation Challenge Grants

The Clinton Administration selected 20 school district partnerships in 17 states to be awarded grants totaling $30 million to help provide the additional support to meet the challenge of preparing new teachers, and supporting existing ones, to teach effectively using technology.

The Technology Innovative Challenge Grant Program serves as a catalyst for positive change for schools. It supports educators, industry partners, communities, parents, and others who are using new technologies to help bring high quality education to every classroom and neighborhood. "School districts are forming partnerships with businesses and community organizations across the country to meet the challenge of bringing their schools and communities into the information age," said President Clinton.

"These Challenge grants will help schools put computers in classrooms and provide more training for teachers to use technology to improve their lesson plans. These grants are one of many efforts needed to ensure that our students are prepared for the challenges of the 21st century."

"The grants focus on enhancing teachers' skills and their professional development to use computers and advanced learning technologies in their classrooms," said U.S. Secretary of Education Richard W. Riley. "Students will benefit from teachers who are familiar with these rapidly changing technologies and are able to effectively integrate them into their teaching curriculum."

The 20 school district partnerships receiving new grants are located in 17 states. They will work with partners in 150 school districts, 100 businesses, and 80 colleges and universities, benefitting about one million students and providing additional training opportunities for thousands of teachers in these communities.

The grants will range in size from $789,000 to $2 million a year for five years, and will leverage business and community partners by generating matching commitments valued at more than $90 million.

Challenge Grant communities work to integrate new technologies into state or local education improvement efforts that have been stimulated by a growing national commitment to raising education standards.

Effective use of new technologies in these communities will contribute to improved student achievement in reading, writing, science, mathematics, history, the arts and other disciplines. Each project will support effective training for teachers and promote greater parent and community involvement in education.

These projects also will help smooth the transition from school to careers and college by engaging students in real-life learning experiences through which they can develop the life-long learning skills necessary to navigate the changing economy.

- Title VI

Title VI supports local education innovations. States must subgrant at least 85 per cent of funds competitively to school districts to support activities in eight primary areas: (1) technology related to implementing reform; (2) acquisition and use of instructional and educational materials, including library materials and computer software; (3) promising education reform projects such as magnet schools; (4) programs for at-risk children; (5) literacy programs for students and their parents; (6) pro-grams for gifted and talented children; (7) school reform efforts linked to Goals 2000; and (8) school improvement programs or activities authorized under Title I.

California

- Digital High School Funds

- University of California College Prep Initiative (UCCP) funds. The Initiative was established to provide online college preparatory courses to high school students who otherwise would not have this opportunity.

Michigan

- Michigan Virtual University.

Michigan high school students go online for Advanced Placement courses

LANSING, Mich. — August 10, 1999 — Starting this fall, Michigan high school students who excel in their everyday classes can enroll in online Advanced Placement (AP) courses through the Michigan Virtual University (MVU)

Thanks to a new partnership between Michigan Virtual University and APEX Online Learning, Inc., students across Michigan will be able to earn college credit via the Internet. In recent years, many high schools have offered college-level Advanced Placement courses while the student is still in high school. Not all school districts, however, have been able to offer them, either due to financial constraints or an insufficient number of interested and qualified students.

APEX online courses are multimedia, independent study courses that include 150 hours of curriculum, an online teacher who answers questions and grades the students' work, and ongoing assessment and reporting. Creative teams of certified teachers and subject experts design courses that include learning activities such as tutorials, multi-media simulations and online discussions.

As an introductory perk, MVU offered 100 course scholarships (one semester each) to Michigan high schools for any of these online courses:

Calculus AB (two semester course)
Statistics (two semester course)
Microeconomics (one semester course)
U.S. Government and Politics (one semester course)

In conjunction with the scholarships, MVU has been collaborating with the Michigan Association of Intermediate School Administrators and the Michigan Association of School Administrators to offer free training and a small stipend to the in-school educators who serve as on-site mentors for the students.

Most colleges look favorably upon applicants who take AP classes, and most will grant credit or waive a course requirement for students who score well on AP exams. Students enjoy the flexibility of the online courses because

they can access the course 24 hours a day on the Internet and work at their own pace.

The Michigan Virtual University is an initiative of Governor John Engler, who in his January State of the State Address cited the need for online Advanced Placement courses for Michigan students. Jamey Fitzpatrick, MVU vice president of development and education policy, said "Because these are the first Michigan Virtual University offerings to the K-12 community, we had to be particularly careful in selecting a provider that guarantees high quality course content. The APEX courses are exactly what we were looking for and will be essential in establishing our reputation as a leading provider of distributed learning opportunities."

Rachel Martinez, education manager for APEX, said "We are proud to have been selected to support Michigan Virtual University's vision to use technology to offer Michigan students broader access to the challenging AP curriculum. And our thanks to Bob McDonough, director of academic services for the College Board/Midwest, who played an instrumental role in understanding the educational needs of Michigan and providing solutions which brought MVU and APEX together."

The Michigan Virtual University is a private, not-for-profit Michigan corporation established in 1998 to deliver education and training through the innovative use of electronic learning technologies such as the World Wide Web, intranets and CD-ROMs. MVU serves as a broker and is developing a slate of distributed learning programs and services throughout Michigan.

APEX Online Learning is a Seattle-based company that began in 1997 as a research project of Paul Allen, one of the founders of Microsoft. It is dedicated to expanding access to learning opportunities — opportunities that help students reach their next educational and professional goal through online learning. APEX provides effective products by combining the interactivity and accessibility of the Internet with the experience of master teachers and content specialists. Current programming includes Advanced Placement online courses in five subject areas and AP exam review.

Washington State
A first round of grant applications were being accepted until September 7, 1999 for the Internet-Based Curriculum Grant Program.

United States Dept. of Agriculture:
The Distance Learning and Telemedicine Grant and Loan Program (DLT) was created to encourage, improve, and make affordable the use of

telecommunications, computer networks and related technology for rural communities to improve access to educational and/or medical services.

Background, Accomplishments , Initiatives, Applicant Eligibility, Qualifying Situations, Qualifying Equipment

Background

The 1990 Farm Bill authorized the Distance Learning and Telemedicine Grant Program to provide grants to rural schools and health care providers. The 1996 Farm Bill reauthorized the Distance Learning and Telemedicine Grant Program and established a new loan component. The DLT helps rural schools and health careproviders invest in telecommunications facilities and equipment to bring educational and medical resources that otherwise might be unavailable to rural areas.

Demand for the DLT has been very high; for the four fiscal years from 1993 through1996, USDA's Rural Utilities Service received 858 applications seeking a total of$262 million. Due to budget constraints, only $35 million was available. This moneyfunded 119 projects in 39 states and one U.S. territory.

In January of 1997, RUS received $6.5 million in funding authority from the Fund forRural America. Utilizing these funds, RUS funded an additional 23 projects, bringingthe grand total to 142 grants totaling $41.5 million.

Accomplishments - "Real Results"

Funding for telemedicine and distance learning services are having a profound effect on the quality of life for rural residents. Distance is a barrier that prevents rural residents from accessing high quality educational and health care services. Distancelearning and telemedicine services, utilizing Advanced Telecommunications

Technologies, can bridge this distance for rural Americans so that they can access the same quality education and health care services as the rest of the nation. Distance Learning Services can provide rural schools, students, teachers, and parents with many new opportunities. A trip to the local library in a rural town can be as rewarding as opening the information door to the world. Parents can receive continuing education courses increasing career enhancement opportunities. Health and public safety officials can receive advanced certification training in their local communities without having to travel to major city centers.

The DLT has helped rural residents access the information superhighway, which offersrural America an unprecedented opportunity to compete on an equal footing with bigcities and with other countries. The information superhighway is already bringing jobs, educational and health care services to rural areas, and more fully integrating rural Americans into the mainstream of

the American economy and culture. Yet there also exists a danger that some parts of rural America will lack access to "on-line" resources and will fall even further behind the rest of the country.
The Administration believes that the information superhighway is crucial to rural development and recognizes that the Federal government, in partnership with the private sector, has an important role to play in ensuring that rural Americans have full access to those resources.

The DLT has facilitated an important step forward. Through four years of program activity, approximately 704 rural schools and education centers will gain access to improved educational resources through the information superhighway by sharing limited teaching resources and gaining invaluable access to libraries, training centers, vocational schools, and other institutions located throughout the country.

Program Initiatives

The program is intended to fund projects which are primarily "dynamic"; i.e., those systems which deliver critically needed educational and medical services in rural areas through structured interactive educational training and/or medical professional presence over distances. Intermittent services which cannot readily show usage ortangible results such as community bulletin boards, or Internet Home pages, may beconsidered as adjuncts to dynamic systems, but would not be suitable as a primarypurpose under the DLT.
The program facilitates "networking" of multiple dispersed sites over a geographic area, rather than a single stand alone entity. Applicants must submit proposals which, to the extent possible, maximize the number of geographically dispersed sites.
Projects must be driven from the "ground up". For instance, applicants must document significant local community involvement and input in designing projects.
Projects funded are required to be self-sustaining without the need for further grant or loan funding. Ongoing costs for sustaining the proposed system, through user fees, tax assessments, school budgets, or other funding, should, to the extent possible, originatelocally.
To ensure sustainable projects, RUS endeavors to fund applications which maximize system utilization and benefits to rural residents. For example, projects which serve multi-purposes, such as providing adult education and vocational training, while also delivering K-12 and college courses, are highly desirable.
The DLT funds capital costs of acquiring and installing telecommunications hardware located at schools, hospitals, and other eligible sites. It also funds other non-recurring capital costs of establishing a distance learning and telemedicine system. System operating expenses, including salaries, are not eligible.

Applicants should fund telecommunications access and usage fees for network transmission facilities through revenue from the project, or from sources other than RUS. Services should be provided through the local telephone telecommunications carrier, or other telecommunications provider.

Applicant Eligibility

Rural schools, libraries, hospitals, health care clinics, and related organizations which operate rural educational or health care facilities. Indian tribes, consortiums or partnerships, and other incorporated organizations that operate educational or medical facilities in rural areas. The DLT is an exclusively rural program. Urban institutions are encouraged to participate as network partners; however, grant funding will be provided onlyto facilitate educational and/or medical services to rural areas. Funds will not be provided to State or Local governments; however, State supported institutions which provide educational and/or medical services to rural areas are eligible.

Distance Learning situations include, but are not limited to:
Linking rural schools within regions to share limited teaching resources. Linking a rural school or a grouping of rural schools to institutions located in metropolitan or more populated centers. Utilizing rural libraries or other community facilities as distance learning centers, linking them with on-line resources or regional institutions. Utilizing job training centers, vocational schools, or other facilities incorporated by job training programs.

Types of Equipment Funded

The DLT is "hardware intensive", but other costs, limited to the capital costs of establishing the project, such as software, training, and technical assistance, may be considered.
RUS will fund up to 90% of the costs of acquiring eligible equipment for requested loans. RUS will fund up to 70% of the costs of acquiring eligible equipment for grants, combination grant and loans, and all applications not specifically requesting loans. See 7 CFR Part 1703 for specific guidelines.
Examples of eligible equipment:
Equipment used for distance learning classrooms, such as encoding and decoding devices, specialized cameras and video monitors, video switchers, microphone mixers, computers and local area networking equipment.

PROGRAMS:

APEX:

APEX is an independent educational enterprise that develops and delivers online Advanced Placement courses to individuals and schools. The APEX Project was initiated by Paul Allen, co-founder of Microsoft, to bring the full power of computers and the Internet to online learning for Advanced Placement students. Because APEX is focused exclusively on Advanced Placement courses, APEX is able to concentrate a unique combination of specialized talent and resources on the development and delivery of these curricula. Using the unique multimedia and interactive capabilities of the Internet, APEX has developed online courses that offers learning alternatives for high-achieving students. Students can earn school credit and prepare for Advanced Placement exams even when a particular AP course isn't offered at their school, or when they have scheduling conflicts.

The APEX instructional designers have combined the strengths of master AP teachers, the knowledge of content experts, and the power of new Internet technology to create comprehensive courses that meet all College Board AP curriculum requirements. Because the courses are online and created in advance, students can complete assignments at their own pace at school or at home. Each course includes a set of learning activities and tests that takes about ten hours a week to complete.

An APEX "class" is made up of 25 students from across the country and an online AP teacher dedicated to helping each student master the AP course. Students interact with each other during special online discussion groups to share information, opinions, and solutions. APEX online teachers interact with each student via email or phone to answer questions and provide encouragement, while monitoring progress and evaluating assignments and tests.

APEX classes give students an opportunity to gain the knowledge and skills necessary to be well-prepared for AP exams, learn new computer skills, and make friends from around the country.

Cost

Tuition for an APEX Advanced Placement course is $395 per semester course per student. This fee includes:

- Online instructor mentoring and supervision by an experienced AP teacher.
- A complete curriculum designed specifically to meet standards published by the College Board.
- Unlimited access to online course materials, including multimedia tutorials and assessments.
- Special exam rehearsal exercises modeled on actual exam.
- All necessary software.

- Any required texts.
- All registration fees.

Some AP courses are one semester, most are two semesters long. Students pay for each semester separately. Some courses require special application software (such as computation packages for math) or equipment (such as a graphing calculator).

Technical Requirements

To install and run APEX programs, you need to have the following hardware:

- A PC with at least a Pentium 75 MHz processor, 16 MB of RAM, and 80 MB* of available hard drive space for a complete installation
- A sound card and speakers or headphones
- A CD-ROM drive.
- A 28.8 kbps speed modem minimum
- Consistent, reliable Internet access at 28.8 KBPS or above
- A printer
- Access at least once a week to a fax machine

And one of the following Operating Systems:

- Windows95
- Windows98
- or Windows NT 4.0

***Note:** The APEX Installation requires 80 megabytes of free hard drive space for a complete installation only. If you currently have Internet Explorer 4.01 SP1 or later installed on your hard drive, 50 megabytes of free space is adequate.

Academic Requirements

In general, students should be self-motivated and good independent learners. Good writing skills are important to a student's ability to succeed in an AP course, and essay writing is important to do well on the free-response sections of an AP Exam. Because this course is computer-based, students should have basic keyboarding skills and be comfortable with basic functions of Windows 95, getting online, using email, and using a word processor.

ARCHIPELAGO

Archipelago, a Harcourt Higher Learning Company, is an educational multimedia publisher. Archipelago specializes in the development of content-based multimedia and Web sites. Their in-house staff includes expert computer

programmers, animators, graphic artists and designers, video and audio producers, editors, project managers, and Web producers. Archipelago is currently developing interactive multimedia course presentations for the distributed learning environment. These products will provide students with the flexibility they need to take courses anytime, anywhere.

Archipelago brings strong educational credentials and first-hand teaching experience to its multimedia courses. Archipelago's founder and president Gary Lopez (Ph.D., marine biology, Scripps Institution of Oceanography) began his work in education as a college instructor and his work in media as a filmmaker and software designer. Gary's client list includes Encyclopedia Britannica Educational Corporation, The Cousteau Society, the Corporation for Public Broadcasting, and most major educational publishers. Brian Rowlett (University of California, San Diego) Archipelago's Vice President Technology, and Pat Harman (University of Illinois at Urbana-Champaign), Director of Art and Design, also have university-level teaching experience in their disciplines. This classroom teaching experience, combined with more than fourteen years of developing educational and documentary media, makes Archipelago a unique publisher.

Archipelago Productions was purchased in 1993 by Harcourt General Corporation -- the parent company of Harcourt, an international publisher with eleven elementary, secondary, college, professional, and trade publishing units. Archipelago is a division within this corporation, producing college and high school Advanced Placement (AP)-level multimedia products. The company also works closely with its sister publishing divisions to produce a variety of educational materials. Over the past several years Archipelago has produced a number of custom multimedia presentations such as the Saunders Interactive General Chemistry CD-ROM, Saunders Core Concepts in Physics, Encuentros -- introductory Spanish CD-ROMs, and over twenty-five other CD-ROM titles designed for student purchase and classroom presentation. Also, more than fifty videodisk products (with a variety of custom features) and over fifty applications of the LectureActiveTM Presentation software are available.

Courses

UNIVERSITY OF NEBRASKA:

As part of the Department of Distance Education, the UNL Independent Study High School (ISHS), founded in 1929 to help small rural schools, currently serves nearly 14,000 enrollments annually from students in all 50 states of the United States and more than 135 other countries. The Independent Study High School is fully accredited by the North Central Association of Colleges and Schools and the Nebraska Department of Education and as such is authorized to grant a fully accredited high school diploma.

In addition to serving individual diploma students, UNL's ISHS works closely with local school districts and alternative educational centers to help them supplement their curriculum. Schools and adult or community learning centers use UNL distance education instructional materials for individualized instruction in all types of settings, such as their own distance education programs, in regularly scheduled day classes, in classroom minicourses, or in programs for at-risk students.
The University of Nebraska-Lincoln Independent Study High School offers a complete four-year high school curriculum of more than 130 core and elective courses in 16 subject matter areas. Students can earn a high school diploma by taking only distance education courses. However, more than 65% of the students enrolled in UNL distance education courses use the courses as a supplement to their high school curriculum.

Benefits:

- Help students overcome scheduling conflicts.
- Provide courses not offered by your high school.
- Offer enrichment courses for advanced students.
- Provide basic courses for special-needs students.
- Provide alternatives for students who cannot attend traditional daytime classes.

Courses:

Agriculture
Art
Business
Career Planning
Computers and Technology
Driver Education
English as a Second Language
English
Family and Consumer Science
Industrial Education
Languages:

- French
- German
- Latin
- Spanish

Mathematics
Music:

- Piano
- Theory and Appreciation

Photography

Science
Social Studies
Study Skills

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AP urban/rural
* ESL
Remedial

Exp. projects.
- How many? funded.
- Is redundant w/star schools?

Expand to work w/ universities.

Who involved?

JB to get from Kendra

Comm Colleges
Universities

How many states?

Info Highway
* schools:
Is Focus on dist and online?
Who has gotten grants
What do they focus on?

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LEXINGTON HERALD-LEADER

Published Friday, October 8, 1999, in the Herald-Leader

Virtual high school to offer advanced courses statewide

Program thought to be first in nation

By Linda B. Blackford
HERALD-LEADER EDUCATION WRITER

FRANKFORT -- Senior Emily Hester has taken every math and science class the tiny Pineville High School has to offer, and currently does college-level math during the school's one pre-calculus class.

That's why she was thrilled to learn about a new statewide program, unveiled yesterday, that will let her take advanced math, science and language courses over the Internet.

``It sounds great. Our school is so small we just don't have teachers for higher math and science," said Hester, who plans to get a doctorate in psychology.

The Kentucky Virtual High School is aimed at students just like Hester, who want to take advanced classes but attend remote or small schools that can't attract or afford the teachers.

``Not a single one of Kentucky's 195,000 students should be denied the opportunity to enroll in high-level courses because of the size or location of their school," Gov. Paul Patton said at a news conference yesterday. ``It's a major step forward in terms of equality for students in all areas."

The Kentucky Virtual High School, which state officials called the first of its kind in the nation, will start in January offering Algebra I and II, Geometry I and II, Chemistry I and II, Physics I and II, Spanish I and II, German I and II, Latin III, Latin literature, humanities and advanced placement calculus.

The selection could easily expand to more AP classes, said Mary Beth Susman, the CEO of the Commonwealth Virtual University, which is providing the basis for the virtual high school.

Classes will be provided by two national internet education companies.

All the classes will be online, with some CD-ROM and video materials

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All the classes will be online, with some CD-ROM and video materials available as well. A certified instructor would send and grade assignments online, but coaches would also be at the local school location to help students.

The courses will cost school districts about $300 a student, the same as a regular classroom course. Officials could use technology funding to pay for them, said Gene Wilhoit, deputy commissioner at the Kentucky Department of Education.

The virtual high school could serve between 3,000 and 5,000 students the first year, Susman said.

The program will echo the long-distance satellite classes provided by Kentucky Educational Television, which is a partner in the program. Those classes, which are given to entire classes of students, will continue because the virtual high school may only serve one or two students at a school.

``For large classes, we have been able to deliver coursework via satellite," said Ginny Fox, executive director and CEO of KET. ``But that is really inefficient for the one or two students who may need a class."

Fox said she expects that some of their existing online instruction will be funneled through the new virtual high school.

The courses will also be available to adults working toward a GED or those learning English as a second language. Home school students and students in state juvenile justice facilities could also take the classes, but everyone outside of public school would have to pay the $300 themselves.

Education Commissioner Wilmer Cody said the virtual high school wouldn't be possible without the well-funded system of computers and wiring already in place in Kentucky schools.

Every school in Kentucky has at least one Internet-connected computer for every 10 students; that's supposed to sink to a 6 to 1 ratio by next year.

But the virtual high school won't be for all students. It will require motivated, independent learners who aren't easily daunted by a virtual teacher, officials said.

``This will take a very mature student," said Judith Gambill, president of the Kentucky Education Association. ``This is the icing on the cake for those accelerated students, wherever they go to school."

Accelerated students like Emily Hester think they're more than ready for the virtual high school.

``I took physics on the satellite class and you have to be independent and teach yourself, but it works pretty well," she said. ``It sounds like this would be the same."

The Web address for the virtual high school is www.kvhs.org.

Reach Linda Blackford at (606) 258-9253 or email:
lblackford@herald-leader.com.

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What's new about technology in the classroom?

FEBRUARY 10, 1999 EDUCATION WEEK on the WEB



Going the Distance

The highway heading east from Sioux City is ruler-straight, with little on either side but miles and miles of barren Iowa cornfields covered in snow. Only the 18-wheelers bowling down the four-lane road, which soon narrows to two lanes, interrupt the monotony.

It's not the kind of landscape that brings in many visitors. Or, for that matter, teachers.

Though Iowa schools are the pride of their communities and compare well nationally in achievement, "math and science teachers are hard to come by" in the more rural areas, says Kenneth J. McKenna, the principal of Battle Creek/Ida Grove Senior High School, located about a half-hour's drive off the main drag.

Two-way, interactive videoconferences are the next-best thing to being there for Iowa students who are benefiting from a pioneering state telecommunications network.

Read an accompanying story, "Public or Private?," in This Week's News.

Specialty courses such as Advanced Placement classes or foreign languages are even more of a problem. Even when teachers are available to teach such subjects, there aren't always enough interested students to justify paying their salaries, says McKenna, whose school enrolls about 300 students in grades 9-12.

Read our feature story, "Program Puts Teachers On-Line," Nov. 4, 1998, about a distance education program in Alaska.

That's one reason he's thankful for the Iowa Communications Network, the only completely state-owned and -operated telecommunications network in the nation. The fiber-optic network allows schools to communicate not only over the Internet, but also by television-quality video and audio.

This year, Battle Creek/Ida Grove and three other nearby high schools are using the ICN to share about 10 televised courses--including psychology, AP U.S. history, advanced speech, calculus, languages, and a college-credit medical-professions course--that would be impossible for each school to offer separately. In cases where a televised course duplicates one that another school offers, it helps students accommodate jam-packed schedules.

"It makes so much sense to be sharing. All of a sudden, I can offer one course and get seven back," McKenna says.

While schools in many states receive televised courses, mostly via satellite broadcast, no other state has promoted interactive televised instruction, and underwritten it, like Iowa has.

"It's a demonstration to the country of what can happen in a fairly small, rural state to provide equitable opportunities," says Pamela A.

Pfitzenmaier, who, as the director of educational telecommunications at Iowa Public Television, coordinates the educational activities of the ICN.

Since 1989, when construction of the ICN began, 340 schools have installed interactive classrooms that allow them to carry live, two-way video teleconferences for a bargain-basement line charge of $5.25 an hour, a cost that is heavily subsidized by the state. And schools can often arrange to use more than 200 interactive sites at area education agencies, libraries, colleges and universities, and National Guard armories.

As a result, Iowa is uniquely positioned to take advantage of what some educators predict will be the next big instructional trend in K-12 schools: distance learning.

For years, rural schools have received television-based classes broadcast by satellite or cable TV. Now the Internet, via World Wide Web sites and e-mail, and interactive television are allowing new forms of distance learning.

Internet-based courses tend to be "asynchronous," meaning they don't involve simultaneous interaction between teachers and students. Many experts believe this approach is more appropriate for adult learners than teenagers. The Internet can transmit real-time "compressed" video, but it is usually of poor quality.

what holds to side?

Interactive television, meanwhile, offers an immediate means of communication that allows teachers and students to respond to each other almost as if they were in the same classroom.

Experts disagree over whether interactive television or the Internet will prove more successful in the long run. Fortunately for Iowa schools, the ICN gives them both options.

Iowa schools have taken to the icn with greater enthusiasm every year. Last fall semester, K-12 schools in the state used their interactive classrooms for a total of 30,907 classroom hours--up from 22,821 classroom hours in the fall of 1997. (A one-hour class transmitted to five schools is counted as five classroom hours.)

At the same time, most observers agree that the network's potential has barely begun to be tapped, and many schools' interactive rooms are only occasionally used.

The course-sharing arrangement in western Iowa is one of the ICN's success stories. Four years ago, after Battle Creek/Ida Grove installed one of the first school ICN labs in the state, McKenna and Superintendent Joe Graves noticed the equipment was collecting dust.

"It was sitting there idle most of the time," McKenna recalls. "It seemed like a $50,000 white elephant."

The district had no budget for purchasing video courses from out-of-state colleges or commercial distance-learning providers. So in 1996, McKenna wrote letters to other high schools in northwest Iowa, inviting them to start a course-sharing league over the ICN.

The deal was simple: Any school that provided a course, free, to the others would be entitled to any and all other courses at no expense. Their only cost would be the ICN's hourly line charge.

Since 1996, the league has been as large as five schools. Currently, it's four.

"The more the merrier," McKenna says. More schools means more options, and more ways to get a good match between school calendars, class schedules, and subject-area needs.

The shared courses take place in each school's interactive classroom. In each room, three large-screen television sets are mounted high on the walls. There are also three video cameras, one at the back of the room trained on the teacher, one at the front aimed at the students' rows of tables, and one mounted on the ceiling above the teacher's table to take images of documents.

A computer on the desk allows the teacher in charge to choose camera shots that all the classrooms will receive. Students share desktop microphones; the teacher usually uses a clip-on mike. A telephone and a fax machine complete the setup.

On a recent Tuesday morning, Battle Creek/Ida Grove is the sending school for AP U.S. History. Nine 11th and 12th graders share the same room with Kate Kramer, the teacher, while the class's nine other students--visible on 32-inch television screens--report from Woodbury Central, Maple Valley, and Rockwell City high schools, up to 65 miles away.

Today's lesson is a classic--the causes of the Civil War--and the method is fairly traditional. Students in small groups mull over questions on a worksheet, writing down their answers before discussing them as a class.

To students at the receiving schools, Kramer is more than a remote video presence. She calls on them by name, and on this day tosses them questions at about the same rate as to those in the room with her. Just to be sure not to miss someone, she occasionally draws a tongue depressor bearing a student's name from a well-riffled stack of them in her hand. To that student she directs her next question.

"Can anybody help them out?" she asks into a video camera, when the Maple Valley High School students falter at defining the "gag laws" passed by Southern states. The answer comes from the trio at Woodbury Central.

"I had some anxiety about teaching on television at first," Kramer says later. "But I love it now."

During second period, Nate Werneburg, a senior, is the only student using the ICN room at Battle Creek/Ida Grove. He is taking Speech II from Maple Valley. An adult's presence is required by the league's informal rules, so an uncertified aide takes a seat at the front of the room; she will help if needed.

It's perhaps not the most efficient use of the aide's time, but the course credit will allow Werneburg, 18, to graduate a semester early, a week before he reports to the U.S. Navy.

Werneburg says the class--the first he has taken online--has been a good experience, with a fine teacher that he otherwise never would have known. "This is one of my funner classes," he says. "I learned to give an after-dinner speech."

Later that day, and 45 miles away in the town of Moville, Woodbury Central High is getting its turn to send a course out to the other schools in the league--in this case a medical-professions course taught by Tom Chartier.

Chartier, a 50-year-old with a wry smile, leads 17 students--all girls--in a review before the semester final, in Woodbury's sleek interactive-video classroom.

Ten of those students appear on 50-inch screens on the wall, from Ida Grove. They discuss the rules of medical documentation and the medical definitions of "abandonment" and "cryonics" and traits of a health-care provider.

The yearlong class is especially valuable to the students because it will earn them college credit. Chartier, who is college-certified, teaches the combined class only two days a week over the ICN. Then a teacher in Ida Grove leads the students at that school the rest of the week. But all the students are eligible for college credit from Western Iowa Tech Community College.

Chartier, who has taught for 28 years, says the video classes took some getting used to, starting with figuring out how to control the cameras so students in the remote classrooms saw what he wanted them to see on their screens. He has learned through experience, with the help of a training session at Western Iowa Tech two years ago.

Teachers need two things to make the arrangement work, Chartier says. First, the equipment has to function reliably, which requires solid technical support. Second, the teacher needs to release his grip on the airwaves.

Chartier says that when he first started using video, he felt as though he had to be presenting information all the time. But now he permits silences so students can make notes or think, and he leaves five minutes at the end of class for students to chat with one another.

Perhaps because of such efforts, Chartier says the remote students perform equally with those in his actual classroom. But he does say the students who aren't in the room need special qualities. "People who succeed have to be strong in comprehension, reading, and have good listening skills," he says. "Without that, there could be a little bit of trouble. They have to be able to focus on a screen."

One complaint some observers have about Iowa's distance education classes is that they don't take advantage of the technology to teach in innovative ways. Teachers often provide information in standard lecture style, with the usual questions and discussions one would find in any traditional classroom.

Pfitzenmaier of Iowa Public Television says that's partly a limitation of the network's current architecture.

She says technical changes being planned will eventually--pending state funding--allow compressed video to go to individual desktop computers throughout a school, which should support a whole range of educational software and alternative approaches.

One complaint some observers have about Iowa's distance education classes is that they don't take advantage of the technology to teach in innovative ways.

Yet ICN administrators say that lecture and discussion are still efficient and effective ways to present material, and that the schools also have computer labs that permit a range of other learning methods.

In the meantime, McKenna tries to place above-average or better-motivated students into the classes at Ida Grove.

Superintendent Graves, who has taught a graduate class over the ICN, says, "Even with graduate students it's much easier to lose the student, much easier [for him or her] to escape mentally."

Distance learning also requires a special type of teacher, McKenna says. It's challenging to keep track of papers and grades for students at all the sites as well as to orchestrate everyone's active participation in class, so flexibility and organizational skills are crucial, he says.

Key on teaching

The biggest hassles of course sharing, in practical terms, are the schedule and calendar conflicts, Iowa educators say.

"This is a kind of a pain to set up and do," Graves admits.

"A lot of people are letting pretty small things keep [them] from sharing, like their schedule's three minutes apart," says Jim Christensen, the distance-learning coordinator for the Western Hills Area Education Agency, which serves the state school system's Area 12 in western Iowa.

The key to success, school officials agree, is flexibility. To accommodate schedule differences between schools, Battle Creek/Ida Grove students who are taking ICN classes are often allowed to leave their previous classes five minutes early or arrive late.

Early periods of the school day are easier to schedule with other schools. By lunch, often the trickiest time of day to schedule, "you can just about forget it," Principal McKenna says.

Schools that haven't been able to work things out as flexibly as Battle Creek/Ida Grove can use the ICN for limited projects and for special

events.

For example, Christensen ar-ranged a series of live question-and-answer sessions last fall between students in Iowa classrooms and astronauts at NASA's Johnston Space Center near Houston. For each hour-long session, he says, participating classes spent about 10 hours of preparation and study.

And a 5th grade class at Lincoln Elementary School in Sioux City has used the ICN to visit with pen pals in an elementary school in Wales. Once a month, Lisa Frink's students go to a nearby National Guard Armory building that has an interactive-video room and talk with the Welsh students. They have written a story together and shared cultural lore. Before the December holidays, the students did a statistical study of the most desired Christmas gifts; they found that electronic toys and Barbies topped the wish lists at both schools.

Yet Frink is the only teacher at Lincoln using the ICN. This is the first year the school has had access to the network.

The Iowa Department of Education, the ICN schedulers in the state's 12 area education agencies, and the community colleges are trying to increase use of the network by helping schools match up with one another. Iowa Public Television maintains the Iowa Database, a Web site that posts the ICN's master schedule as well as educational "want ads" from schools looking for offerings, say, of Russian language, or scores of online field trips and joint class activities, some of them sponsored by state or federal grants.

"Short of developing a common schedule, that's about the best you can do," Rich Gross, a technology consultant for the state education department, says.

McKenna notes that standardization and cooperation do not come easily to Iowa, which is so committed to local school autonomy that it has defied the nationwide trend toward state curriculum standards.

"The only way to make it really work is for everyone to have the same calendar and the same schedule--and that will never happen in Iowa--or at least that's the only way to make it work better," McKenna says.

Battle Creek/Ida Grove Senior High has been successful, he says, because "we work hard trying to find people that are compatible."

On the Web

Read more about the Iowa Communications Network, including a clickable map of ICN video sites. Read how "Students Learn 'Real World' Chemistry Through Supplemental Curriculum."

"Iowa: Students and the Caucuses," from "The Citizens Election Project," a Pew Center for Civic Journalism Project, looks at how the ICN linked prospective first-time voters with presidential candidates.

To learn more about distance education, browse through the "Distance Education Clearinghouse," from the University of Wisconsin-Extension. Includes a list of online journals.

Florida's Virtual High School Breaks The Mold

By Tiffany Danitz, Staff Writer
stateline.org
Friday, October 08, 1999

Florida has a high school that breaks all the rules of what the term "high school" implies. There is no school building, there are no bells between classes, and the school population is not drawn from normal geographical boundaries. This unique new school is an online statewide virtual place of learning where class begins when the kids click on.

Students arrive, sans yellow bus, at their Internet classroom on their own timetable, be that 9 a.m. or 9 p.m. But once they are at their computer, the work is tough, highly technical and involves a multitude of disciplines. The state legislature-funded project is two years old and serves 2,000 students.

The Florida (Online) High School principal,Julie Young and teacher Cheryl Woods demonstrated the new technology for governors and other participants at the recent National Education Summit in Palisades, New York. IBM, a partner with the virtual high school, was one of the sponsors of the summit.

How does it work? Any Florida student in grade 9-12 who is admitted to the program can chose from among 51 different courses covering everything from English, Math and Science to electives such as ancient Latin and modern business technology. Courses are free, and the cyber school employs certified fulltime teachers.

Students do their classwork on a computer desktop, interacting with teachers by e-mail, telephone and occasional face-to-face meetings. Algebra World, one of the math courses available, requires students to build a graph like that used for the board game "Battleship" and theoretically instills knowledge about graphs, slopes and x and y axis.

Although students are expected to retrieve information off the World Wide Web, they are also forced out of doors to interview professionals, or visit a workplace to help them better understand the subject they are studying.

Florida (Online) High School expands the "repertoire" of public education.

Cyber-principal Julie Young

The academic curriculum, which meets Sunshine State Standards, can eliminate a student's need to attend a traditional public school but most of those who have signed up so far are supplementing their regular school work..

Julie Young, the cyber-principal, described her school as a way of expanding the "repertoire" of public education, "so that kids get everything they need. There are so many different kids and lots of different ways to teach."

To benefit from the online school, students must be self-motivated and independent learners. To enroll, they must get permission from their principal, guidance counselor and parents.

"This isn't for everyone," Young says. "In reality, a classroom does not work for every student and online won't work for every student either."

Only five percent of those enrolled are full-time virtual students. Twenty-five percent are home schooled and the rest are enrolled in traditional schools. Those in normal public or private school take the online courses during or after school hours.

Every Florida school district participating in the project is required to provide computers for needy students.

"We are in the infant stages of serving that population," Young says. The legislature just donated 50 computers that will be used in pilot projects for minority students without access to computers and troublemakers suspended from regular classrooms.

Not everyone is delighted with the project. Mark Shoup,of the National Education Association-affiliated Indiana State Teachers Association said there is a small, but growing fear among educators that computers may one day replace them.

"Teachers are aware of becoming obsolete," Shoup told *stateline.org*.

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History of The Florida High School

Although computer-based instruction is not a new educational invention, the advent of the Internet environment brings new possibilities for joining the best technology with the best instructional practices.

In 1996 the Orange County Public Schools introduced an experimental WebSchool that offered online courses which included SAT Preparation and Computer Programming to Orange County students. Just as Orange County was venturing into cyberspace, Alachua County was also proposing an online school to span the state. Thus after collaboration between the two counties, The Florida High School officially began in August, 1997 as a joint project between Alachua and Orange County Public Schools with fifteen educators who served in administrative, instructional, and/or developmental jobs.

The project's mission is to place a complete high school online by the year 2001 and will include those student services that will enable students to successfully transition to postsecondary educational institutions and to the workplace. To maintain high quality, course content will meet the requirements of the Florida Sunshine State Standards as well as important criteria such as the SCANS competencies that are supported by both the education and business communities.

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October 13, 1999

Education

By PAMELA MENDELS

Kentucky Reaches for High School Students With Internet Courses

Beginning in January, students in Kentucky who wish to delve into Catullus, Cicero and other masters of Latin will be able to log on to a new Web site and work through the classics in a course offered entirely online.

The class is one of about 15 expected to kick off Kentucky Virtual High School, an ambitious Internet-based education venture announced last week by the governor of Kentucky. If all goes as planned, students at public high schools across Kentucky eventually will be able to choose from and enroll in a variety of online courses offered free through the state's Department of Education.

Aiming at students in small, rural school districts that suffer from a shortage of teachers.

In launching the venture, Kentucky has joined a small but growing group of publicly financed efforts to offer high school courses over the Internet for credit. And as more schools, homes and public facilities become wired, the number is likely to grow, said Julie M. Kaminkow, special assistant to the director of the Office of Educational Technology at the U.S. Department of Education. "It's a great way to provide courses to students who otherwise might not be able to take classes in calculus, AP history and what have you," she said. "It allows for a broad array of course selection in school."

Details of the ventures vary in both the types of courses they offer and how they are structured. For example, the Virtual High School, financed in part through a federal grant and operated by the nonprofit Concord Consortium in Concord, Mass., offers primarily elective courses, like advanced placement statistics and aviation history. It is operated as a cooperative, with schools in 26 states and a number of countries agreeing to design and teach Internet-based courses in exchange for their students being able to participate.

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The Florida High School, a four-year-old project financed by the State of Florida, hires teachers who design and teach the courses, many of them central to a basic high school curriculum, like algebra and English. By 2001, said Bruce B. Friend, assistant principal of the school, the project expects to offer all the courses necessary for a student to earn a high school diploma in Florida. Most of the students enrolled are public high school students, he said, but a substantial minority -- about 30 percent of the 1,200 students statewide -- are home-schooled students.

In Kentucky, the effort is aimed in large part at students in small, rural school districts that suffer from a shortage of teachers qualified to teach upper-level math, science and foreign language courses.

"The whole structure of opportunity in public high schools has been tied to how schools are organized -- groups of students in classes and economies of scale," Wilmer S. Cody, Kentucky commissioner of education, said in a telephone interview. "But this technology is a way you can deliver a high school course if there's only one student in the school who wants to take the course."

The classes were developed by two sources, Kentucky Educational Television and Class.com, a new for-profit online learning venture set up by the University of Nebraska, which has been preparing correspondence classes for high school students for years and now has developed a number of courses for the Internet.

Each course will be taught by an instructor certified to teach in Kentucky, and the teachers will be trained in Internet instruction. Students, who are likely to take the courses at their schools during the school day, will each be assigned to a coach, an adult at the school who can monitor the student's progress.

Edward S. Ford, an education policy advisor to Gov. Paul Patton and one of the architects of the project, predicts that between 2 and 1/2 and 5 percent of 195,000 students enrolled in Kentucky public high schools will enroll in the online courses during the venture's first year.

Enrollment is to be paid for by the school districts at about $300 per student per course. Cody said this is about the price school districts pay for student enrollment in conventional classes. Eventually, the program is expected to be open to non-traditional students as well -- such as young people in jail, adult learners seeking a high school diploma or students being schooled at home.

Not everyone is embracing the growth of online virtual high school courses, however. Mark A. Shoup, a former teacher and spokesman for the Indiana State Teachers Association, said the union, in anticipation of virtual projects being introduced in that state, has a number of concerns about the ramifications of virtual classes.

One is whether schools might be tempted to do away with classroom instruction for subjects with small enrollments if online alternatives are available. Another is whether online instruction is as effective as a traditional class. "There's a dynamic that goes on in a classroom," he said. "I'm afraid that would be compromised online."

Education

Sites
Internet links of interest to readers of the Education column

Forums
Join a Discussion on Technology in the Classroom

Cody said he believed there is as much a possibility for good instruction as bad online, and said that students' progress in the online courses will be measured, for a kind of quality control, in a way that can be compared with the progress of students in conventional classes.

Moreover, designers of the Kentucky program, which has received the support of that state's teacher's union, say that there is enough virtual conversation, built into the courses through e-mail and online discussions, that they believe students will be able to get to know their teachers and receive individual attention.

"It does not decrease interaction between teachers and students," said Mary Beth Susman, chief executive of Kentucky's Virtual University project and one of the organizers of the high school venture.

At the same time, project organizers say, virtual courses do demand a special kind of high school student. "This kind of education is probably not for everyone," said Ford, the governor's education policy advisor. "It takes a motivated student, capable of being self-taught."

The EDUCATION column is published weekly, on Wednesdays. Click here for a list of links to other columns in the series.

Related Sites
These sites are not part of The New York Times on the Web, and The Times has no control over their content or availability.

- Latin literature
- Kentucky Virtual High School
- Kentucky Department of Education
- Office of Educational Technology
- Class.com
- Kentucky Educational Television
- Virtual High School
- The Florida High School
- Kentucky Commonwealth Virtual University

John B. Buxton

10/28/99 11:24:14 AM

Record Type: Record

To: Lana D. Krstich/OPD/EOP

cc:
Subject: Re: distance learning

Here's some stuff from Tom Kalil.

---------- Forwarded by John B. Buxton/OPD/EOP on 10/28/99 11:24 AM ----------

Thomas A. Kalil
09/23/99 01:10:37 PM

Record Type: Record

To: John B. Buxton/OPD/EOP@EOP

cc:
Subject: Re: distance learning

JB

1. Here's an article I wrote on distance learning:

http://www.hied.ibm.com/multiversity/Sum98/nationoflearners.html

2. Here's the home page for LAAP

http://www.ed.gov/offices/OPE/FIPSE/LAAP/

P.S. House is zeroing out LAAP!!

3. Here's the demonstration projects the Secretary approved

http://www.ed.gov/offices/OPE/PPI/DistEd/

4. Here's the press release for LAAP

Give me a buzz when you want to talk.

6-5366

THE WHITE HOUSE

Office of the Vice President

For Immediate Release August 26, 1999

VICE PRESIDENT AL GORE ANNOUNCES $10 MILLION IN GRANTS TO EXPAND OPPORTUNITIES FOR ADULT LEARNERS

Washington, DC -- Americans struggling to balance work and family and still get the education they need to get ahead will find new educational opportunities more accessible thanks to $10 million in new federal grants to expand access to high quality education for adults, announced today by Vice President Al Gore.

The new funds will be provided by the U.S. Department of Education's "Learning Anytime Anywhere Partnerships," (LAAP). Under LAAP, colleges, universities, companies, and non-profit organizations join together to expand access to high-quality learning opportunities students can access "anytime, anywhere" for example through the Internet. This is particularly important for adults, who often find it difficult to participate in traditional classroom-based instruction because of the competing demands of work and family.

"All Americans deserve access to educational opportunities that will help them get ahead. We must make it possible for adults to learn at a time, pace, and location that works around the constraints of their daily lives," said Vice President Al Gore. "At a time when what you earn depends on what you learn, we need to promote innovative ways of educating Americans so that they can compete for the high-wage, high-skill jobs that our economy is creating in record numbers."

LAAP is especially designed to help students in underserved geographic areas, who have limited access to the traditional college campus setting, and who need more flexible education and training opportunities to keep pace with changes in the job market. Simultaneously, the program helps meet the current critical needs of business and industry.

The LAAP grants may be used to develop:

-- Model programs and software that will make distance learning possible;

-- Innovative on-line student support services such as job placement, academic counseling, and library services.

-- New institutional policies and practices that go beyond merely

putting more courses online but truly deliver programs that are self-paced alternatives to traditional semester scheduling.

-- Methods of assessing the quality and success of these new distance learning programs by charting the skills and competencies achieved by students, as well as retention and completion rates.

LAAP grants are awarded to partnerships involving two or more institutions of higher education, community organizations, businesses, and other public and private agencies. Partnerships stimulate resource sharing, reduce program duplication, and promote economies of scale.

Examples of the grants include:

-- The National Telecommuting Institute will develop an at-home training program that will prepare people with severe disabilities to perform customer service jobs in "e-commerce" from their homes using the Internet.

-- The Hispanic Educational Telecommunications System (HETS) will create a virtual learning community composed of students, faculty, counselors and professionals. HETS will pool faculty and staff to develop workforce training and counseling as well as courses for academic credit. The project will serve an estimated 100,000 students enrolled through the nation's Hispanic Serving Institutions.

-- The College of the Mainland in Texas project will partner with some 30 Gulf Coast petrochemical companies to develop a program for industry workers to refresh their skills, learn new technologies and safety precautions, or earn an associate's degree.

LAAP grantees are required to provide 50 percent of the total project costs. The total federal funding for these grants is $35 million over the next five years. However the 29 grantees have generated $60 million to support their projects for a total public and private investment of roughly $95 million over a five-year period.

More information on the grants is available on the World Wide Web at http://www.ed.gov/offices/OPE/FIPSE/LAAP

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LEARNING ANYTIME ANYWHERE PARTNERSHIPS (LAAP)
FY1999 Awards

Lead: North Carolina State University -- $578,774 (total funding: 3 years, $978,287)
Contact: John S. Risley, 919-515-2524, risley@ncsu.edu
Partners: Davidson County CC*(NC), Duke U. (NC), NC A&T State U., North Park U. (IL), Addison Wesley Longman, Brooks/Cole Publishing Co., John Wiley & Sons, Inc., Saunders College Publishing, Prentice Hall,

W.H Freeman and Company Publishers

Lead: Educational Communications Foundation (VA)-- $346,934 (total funding: 4 years, $1,139,324)
Contact: Randal A. Lemke, 703-273-7200, x. 703, rlemke@iciahq.org
Partners: Northern VA CC (VA), Dallas County (TX) CC District, Coastline CC (CA), Metropolitan CC (MO), Miami-Dade CC (FL), Monroe CC (NY), Portland CC (OR)

Lead: Hazardous Materials Training and Research Institute (HMTRI) (IA) -- $282,654 (total funding: 5 years, $1,146,191)
Contact: Patricia Berntsen, 319-395-5893, pbernts@kirkwood.cc.ia.us
Partners: Kirkwood CC (IA), Scott CC (IA), Aiken Tech. Coll. (SC), Amarillo CC (TX), Blue Ridge C C (NC), Crownpoint Institute of Technology (NM), Cuyahoga CC (OH), Cypress Mandela/WIST Training Center (CA), Davis Applied Technology Center (NM), Dona Ana Branch CC (NM), Highline CC (WA), Lakeshore Tech. Coll. (WI), Miami-Dade CC - North, New England Interstate Environmental Training Center (ME), Owens CC (OH), Strive - Boston Employment Service Inc., Ulster CC (NY), U. of FL

Lead: Indiana U. (IN) -- $332,811 (total funding: 5 years, $1,570,325)
Contact: Thomas Duffy, 812-856-8459, duffy@indiana.edu
Partners: U. of CO - Denver (CO), Western Governors U. (CO), Phi Delta Kappa International (IN), EDUCAUSE/IMS (CA)

Lead: University of Detroit Mercy -- $360,072 (total funding: 5 years, $1,302,127)
Contact: Cynthia Zane, 313-963-6388, zanecy@udmercy.edu
Partners: Detroit Public Health Department, Mercy Health Services (MI), Oakland U. (MI), St. John Health System (MI), U. of MI, Wayne State U. (MI), Detroit Medical Center

Lead: Fox Valley Technical College (WI) -- $307,598 (total funding: 3 years, $800,520)
Contact: Kay Chitwood and Carol May, 920-735-5682, chitwood@foxvalley.tec.wi.us
Partners: WI Tech. Coll. System Board, Blackhawk Tech. Coll. (WI), Chippewa Valley Tech. Coll. (WI), Gateway Tech. Coll. (WI), Lakeshore Tech. Coll. (WI), Madison Area Tech. Coll. (WI), Mid-State Tech. Coll. (WI), Milwaukee Area Tech. Coll. (WI), Moraine Park Tech. Coll. (WI), Nicolet Area Tech. Coll. (WI), Northcentral Tech. Coll. (WI), Northeast WI Tech. Coll., Southwest WI Tech. Coll., Western WI Tech. Coll., WI Indianhead Tech. Coll.

Lead: National Association of Student Financial Aid Administrators (NASFAA) (DC) -- $281,701 total funding: 3 years, $930,870)
Contact: Ellen Blackmun, 202-785-0453 x. 161, blackmun@nasfaa.org
Partners: TX Guarantee Student Loan Corporation (TGSL), U. of NC at Wilmington

Lead: University of Colorado at Denver -- $156,685 (total funding: 4 years, $405,734)
Contact: Doris R. Kimbrough, 303-556-3202, dkimbrough@castle.cudenver.edu

Partners: U. of NC at Wilmington (NC), CO Electronic CC (CO), Brunswick CC (NC), Cape Fear CC (NC), Addison Wesley Longman, Inc., and Eduprise.com

Lead: The Hispanic Educational Telecommunications System (HETS) (PR) -- $376,275 (total funding: 5 years, $1,997,071)
Contact: Nitza Hernandez Lopez, U. of Puerto Rico, 787-250-0000, x. 2052, n_hernandez@upr1.upr.clu.edu
Partners: U. of Puerto Rico, U. of TX-Pan American, U. of the Sacred Heart (PR), Herbert H. Lehman College - City U. of NY, Electronic Data Systems (EDS) Corporation

Lead: National Telecommuting Institute, Inc. (MA) -- $351,925 (total funding: 3 years, $1,962,255)
Contact: M. J. Willard, 617-787-4426 x. 305, mjwillard@nti.org
Partners: NY State Department of Vocational and Educational Services for Individuals with Disabilities, Willow CyberCenter Network (a consortium of public and private sector organizations that includes Bell South, MCI/Worldcom, Nortel Networks, Automatic Data Processing, and Willow CSN), MA Institute of Technology (MIT) Center for Advanced Educational Services

Lead: Pennsylvania State University -- $317,171 (total funding: 3 years, $982,059)
Contact: Robert Snyder, 814-865-0912, rns3@psu.edu
Partners: Apple Computer, Inc., Sun Microsystems, Report Mill Software

Lead: Pace University (NY) -- $329,400 (total funding: 3 years, $997,017)
Contact: David Sachs, 914-673-8820, dsachs@pace.edu
Partners: Council for Adult and Experiential Learning (CAEL) (CO) and the National Advisory Council on Telecommunications Education and Learning (NACTEL), which includes Bell Atlantic Network Services, the Communication Workers of America (CWA), GTE, the International Brotherhood of Electrical Workers (IBEW), SBC, and US West

Lead: Washington State Board for Community and Technical Colleges (SBCTC) -- $374,636 (total funding: 4 years, $1,841,285)
Contact: Jan Yoshiwara, 360-753-4691, jyoshiwara@sbctc.ctc.edu
Partners: Washington Association for Community and Tech. Coll.s, Washington OnLine Consortium, Campus Consortium, TLT Flashlight, Center for Information Services

Lead: Arizaona State University -- $497,331 (total funding: 4 years, $1,953,152)
Contact: Gary Bitter, 480-965-4960, bitter@asu.edu
Partners: Cisco Systems, Inc. (CA), Pearson Education, Inc. (MA)

Lead: East Carolina University (NC) -- $270,499 (total funding: 3 years, $924,437)
Contact: David Hillis, 252-328-4147/6705, hillisd@mail.ecu.edu
Partner: Ericsson Wireless Internet Solutions

Lead: The Western Interstate Commission for Higher Education (WICHE),

Western Cooperative for Educational Telecommunications (CO) -- $241,300 (total funding: 3 years, $734,652)
Contact: Barbara Krauth, WICHE, 303-541-0308, bkrauth@wiche.edu
Partners: Systems and Computer Technology Corporation (SCT), Kapi'olani CC (HI), Regis U. (CO), KS State U.

Lead: PBS Literacy Link (VA) -- $448,489 (total funding: 5 years, $2,410,717)
Contact: Noreen S. Lopez, , 703-739-8692, nlopez@pbs.org
Partners: U. of PA/National Center on Adult Literacy, Jefferson County (KY) Public Schools Adult Education, KY State U., KY Manufacturing Company, KLRN Public TV (TX)

Lead: University of North Carolina at Greensboro -- $405,375 (total funding: 5 years, $1,808,619)
Contact: Gerald W. Meisner, 336-334-5330, jm@curieuncg.edu
Partners: NC A & T State U. Davidson College (NC), NC Department of Public Instruction, and webslingerZ, Inc.

Lead: North Dakota Association of Tribal Colleges (NDATC) -- $290,288 (total funding: 3 years, $779,600)
Contact: Phyllis Howard, 701-255-3285 x. 396, phoward58@hotmail.com
Partners: Candeska Cikana CC (ND), Fort Berthold CC (ND), Sisseton-Wahpeton CC (SD), Sitting Bull College (ND), Turtle Mountain CC (ND), United Tribes Tech. Coll. (ND), Western Cooperative for Educational Telecommunications (CO), Legacy Solutions, Archipelago Productions

Lead: University of of Arizona -- $473,470 (total funding: 3 years, $1,480,950)
Contact: Frances Himes, 520-621-5177, himes@u.AZ.edu
Partners: Pima CC (AZ), Oracle Corporation, Silicon Graphics, Inc., Sun Inc.

Lead: College of the Mainland (TX) -- $229,081 (total funding: 3 years, $921,122)
Contact: Joanna Kile, 409-938-1211 x. 502, jkile@mail.mainland.cc.tx.us
Partner: Gulf Coast Process Technology Alliance (a consortium of 30 Gulf Coast petrochemical companies, 20 community colleges and universities in TX, LA, and MI, plus professional organizations, government agencies and training companies)

Lead: Stephen F. Austin State University (TX) -- $306,936 (total funding: 5 years, $1,653,418)
Contact: Anna L. Bradfield, 409-468-2906, abradfield@sfasu.edu
Partners: TX Tech U. TX School for the Blind/Visually Impaired, TX Education Agency, TX Higher Education Coordinating Board, State Board for Education Certification

Lead: Rocky Mountain College (MT) -- $145,788 (total funding: 3.5 years, $500,960)
Contact: Arthur H. DeRosier, Jr., 406-657-1015, derosiea@rocky.edu
Partners: Fort Peck CC (MT), Little Big Horn College (MT), Salish Kotenai College (MT)

Lead: University of Washington -- $708,857 (total funding: 3 years, $1,383,385)
Contact: David Szatmary, 206-685-6313, dszatmary@ese.washington.edu
Partners: Prentice Hall, World Organization of Webmasters (CA), Public Broadcasting Service (VA)

Lead: The University of Texas Medical Branch -- $387,397 (total funding: 3 years, $1,119,968)
Contact: Vicki Freeman, 409-722-3056, vfreeman@utmb.edu
Partners: U. of TX Pan American, U. of NE Medical Center, U. of KY, Wharton County Junior College (TX), U. of TX Brownsville/TX Southmost College, Seminole State College (TX), U. of Houston-Clear Lake, National Laboratory Training Network (GA), Southern Regional Education Board (GA)

Lead: Indiana State University -- $252,802 (total funding: 3 years, $1,152,788)
Contact: Nancy Franklin, 812-237-8452, extfrank@ruby.instate.edu
Partners: Vincennes U. (IN), Ivy Tech State College-Terre Haute, Ivy Tech State College-Columbus, Ivy Tech State College-South Bend

Lead: Southern Regional Education Board (SREB) (GA) -- $210,249 (total funding: 3 years, $785,277)
Contact: Bruce Chaloux, 404-875-9211, bruce.chaloux@sreb.org
Partners: Eighteen additional partners, including FL Gulf Coast U., the U. of NC, the FL Community College Distance Learning Consortium, and the Higher Education Boards, Departments, or Commissions of AL, AR, DE, FL, GA, KY, LA, MD, MS, OK, SC, TN, TX, VA and WV.

Lead: Oregon University System -- $513,432 (total funding: 3 years, $1,405,836)
Contact: Holly Zanville, 541-346-5764, zanvillh@ous.edu
Partners: eCollege.com, Eastern OR U., OR Health Science U., OR Institute of Technology, OR State U., Portland State U., Southern OR U., U. of OR, Western OR U.

Lead: Utah State University --The Center for Persons with Disabilities -- $174,398 (total funding: 4 years, $861,360)
Contact: Cyndi Rowland, 435-797-3381, cyndi@cpd2.edu
Partners: Public Broadcasting System (PBS) Adult Learning Service (VA), The American Association for Higher Education, The Teaching, Learning and Technology (TLT) Affiliate of AAHE (DC), Western Governors U. (CO), MadDuck Technologies (VA)

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U. of Nebraska's Class.com Hooks Up With a Kentucky School

A FOR-PROFIT COMPANY created by the University of Nebraska at Lincoln has scored a major sale: It will provide on-line courses to a new virtual high school in Kentucky.

Gov. Paul Patton of Kentucky, a Democrat, has announced that the state will purchase courses from the company, Class.com, to help start the Kentucky Virtual High School. The school will offer on-line courses to students throughout the state beginning in January.

Mary Beth Susman, chief executive officer of Kentucky Commonwealth Virtual University, said the state would pay $195 to Class.com for each student enrolled in one of its courses. The virtual university has worked with other state agencies to develop the high school.

Richard Edwards, senior vice-chancellor at Nebraska, said the university had founded Class.com with the goal of helping school districts, like those in Kentucky, make education more equitable.

"We have been working hard for three years to make courses that work in exactly the kind of circumstances that Kentucky has identified," he said.

KENTUCKY TEACHERS

The Kentucky Virtual High School will license 10 to 12 courses from Class.com. Although the content of the courses has been developed by Nebraska, students will sign up at their local high schools and take the classes with teachers certified in Kentucky. All of the classes will be offered almost wholly on line, with some CD-ROM and video supplements.

Ms. Susman said state officials would like Kentucky high-school teachers to be able to create some of their own on-line courses as well. To meet that goal, the state has contracted for training and software with eCollege.com, which provides consulting and other services to faculty members and institutions that hope to put courses on line.

Ms. Susman said the deal between Kentucky and Class.com demonstrated that on-line education is blurring the distinction between high school and college.

The Kentucky Virtual High School would enroll 900 students in its first semester, with a goal of 4,000 to 5,000, she said. Initially, the virtual school will focus on advanced mathematics, science, and language classes. Ms. Susman said the aim was to provide all students in the state with access to the same classes, regardless of the wealth of a school district.

"This is a major step forward in terms of creating an equality of opportunity for all students in Kentucky, particularly those in rural areas," she said.

Class.com was created in the spring by the University of Nebraska at Lincoln, which has operated an accredited, correspondence-based high school since 1929. Leaders of the company hope to continue to contract with individual high-school districts or consortia of districts to offer their courses (*The Chronicle*, April 16).

It is not surprising that Kentucky looked to an outside source for some of its initial courses, said Phyllis Lentz, a resource and research specialist at Florida High School, a virtual high school in Florida. "The development of curriculum is a very time-intensive process," she said. Because high schools generally have to offer many of the same core courses, "a course doesn't always have to be reinvented—it can be transferred to another state or environment," she said.

Florida High School has been in existence for two years and currently works with about 2,000 students in 57 counties. Ms. Lentz said she anticipated that other states would soon establish programs comparable to the Florida and Kentucky schools. "From the number of phone calls we get, it sure seems like everybody is," she said.

—SARAH CARR

The Chronicle of Higher Education 10/22/99

The Chronicle of Higher Education
10/22/99

Distance Education Can Bolster the Bottom Line, a Professor Argues

AUSTIN, TEX.

ALTHOUGH SOME colleges use distance education to improve teaching, one professor thinks the technology can also increase enrollment and revenue.

Christopher J. Dede, a professor of education and of information technology and engineering at George Mason University, told those attending a conference here last week that they need not worry about the cost of new technology. Distance education, he said, would enable colleges to increase the number of students they serve—and increase tuition income.

The math is complicated, but Mr. Dede explained that a college—if it used space efficiently—could enroll one-third more students by holding a quarter of each course's class meetings on line, rather than in the classroom.

The extra revenue in tuition and fees would more than pay for the technology, he said.

"It's much more expensive to build a building than a virtual building," he said at the conference, Telelearning '99, which was organized by Austin Community College and several other sponsors.

'HYBRID COURSES'

But additional revenue is not the only benefit of distance-learning technology. Other speakers at the conference said that "hybrid courses," which incorporate elements of traditional and on-line education, improve the learning experience for many students.

Virginia Crank, an assistant professor of English at Rock Valley College, in Rockford, Ill., said the hybrid approach had helped shy students participate in one of her courses, in which face-to-face meetings are often dominated by a single student. "He consumes the class time with his energy," Ms. Crank said. "When we go on line, this student is forced to listen to the other students."

Ms. Crank also said that students had responded to their classmates' written work in greater depth when they had to state their views in writing, instead of simply nodding in approval in the classroom. "I predict that hybrid classes are going to be even better than both traditional and on-line classes," Ms. Crank said.

The barrier to the effective use of information technology, Mr. Dede said, is the professor who doesn't know how to make use of the new tools. "Learning the technology isn't very difficult," he said. "Learning the pedagogy is going to be more difficult."

But he predicted that distance-education technology eventually would become commonplace in higher education.

"Within my lifetime, refusal by a faculty member to use distance-learning technology will be considered professional malpractice," said Mr. Dede. —DAN CARNEVALE

✓NO Chronicle of Higher Education 10/22/99

Course Evaluations Proliferate on the Web—to the Chagrin of Many Professors

BY WENDY R. LEIBOWITZ

WEB SITES on which students can post evaluations of professors are proliferating, and there's not much the professors can do about it.

The phenomenon is relatively new, and reaction is sparse, focusing on a handful of courses. But most of the sites have ambitious plans, putting dozens of courses and colleges up for evaluation.

Some of the evaluations are part of larger World-Wide Web sites for students, such as collegestudent.com, which invites critiques from students at more than 400 universities in the United States and Canada.

Advertising adorns the pages—from on-line companies such as jobs.com, as well as from real-world retailers such as Target and financial institutions like First USA and Bank One.

Started in 1996 as a data base of affordable housing by four students at the University of Texas at Austin, collegestudent.com has grown to offer a range of services, of which evaluations are only a small portion. Other such sites are small; grade-it.com focuses on 13 universities, mainly in the South and Southwest.

Whatever their size or scope, however, the sites feature uncensored, anonymous, and unconfirmed comments that name professors at specific universities.

There is no way to know whether a message was posted by a student who actually studied with the professor, or, perhaps, by an employee of the site trying to drum up traffic—or, for that matter, by someone with no connection to the university or the site.

ably opinions, with strong free-speech protections. "There's no constructive-criticism clause in the First Amendment," says Eugene Volokh, a law professor at the University of California at Los Angeles.

It is unlikely that a Web site—as a transmitter of information—would face legal liability even if libelous or defamatory comments were posted as part of its course-evaluation service. A student posting a comment might face liability only in an extreme case, if a professor could demonstrate that his or her career had suffered because of false remarks—and could find the student who had made them.

Sometimes it is easy to trace the electronic footprints of a poster back to a specific computer or e-mail account. "You could subpoena the identifying information about them from the Web-site operator," says Mr. Volokh. But "if they allow people to submit comments from the Web using input boxes, they wouldn't have the information." He adds: "If I were the site, I'd try to set up e-mail boxes that way."

Lawsuits are probably not advisable, anyway. "It wouldn't be good P.R. for a university to sue people who claim to be their students," the law professor says. "Just let it lie."

While formal evaluations at the end of a course are a fixture at many colleges and universities, the results generally circulate only within the institutions. Of course,

Continued on Following Page

Continued From Preceding Page
students themselves have always exchanged frank comments about professors' teaching abilities. At some institutions, students have published guidebooks to the faculty—but those exchanges, too, have taken place largely within the confines of the campus.

Comments posted on the Internet, on the other hand, are available to the whole world. They could affect a scholar's reputation in the wider academic community, tenure prospects, or grant awards.

ISOLATED COMMENTS

One of the chief problems with evaluation sites on the Web, professors say, is that they let isolated comments represent a classroom of students, or even an entire institution. Generally, university-sponsored evaluations are solicited from every student in a class, usually by distributing a form at the end of a semester. On some campuses, summaries of the evaluations, or the evaluation forms themselves, are then printed, including studied judgments as well as off-the-cuff observations. A particularly harsh evaluation is averaged out in the context of other critiques.

But on the Web, anyone with an ax is free to grind away. Many of the evaluation sites are new, so some courses are represented by one or only a few comments—most of which appear to be from people who say they have suffered negative experiences. Thanks to the anonymity promised by the Web sites, users could go to any college's evaluation page and criticize every professor there, or even make up professors and then criticize them.

Michael T. Hardie, coordinator of faculty relations at the University of California at Berkeley's media-services office, visited the collegestudent.com site, entered the university's zip code (94720) and was not pleased by what he saw. "Of 14 evaluations posted on the site, only two were about real faculty and real courses at Berkeley," he says. "Not a very good track record.

"In addition to false names of professors at the Berkeley site, the classes referred to are non-existent," he goes on. "The very first course on the list, 'ACC 302' [supposedly in accounting], taught by a 'Professor Wilson,' doesn't exist, nor does the second, 'ACC 312,' nor the third. . . . Any attempt to have a legitimate site for course and professor evaluations is undermined by the shoddiness of it all."

Griffin Davis, vice-president of marketing at collegestudent.com, acknowledges that some users abuse the system, rendering their remarks no more useful than graffiti. But the site would not be visited as frequently as it is if many of the comments were invented, he says. "We have to trust our users to use the resources the way they're intended. We do have staff that check these things periodically." If a name is obviously false, or the content clearly fictional, it will be removed, he says.

Visitors to the site who are unfamiliar with a given college, however, might find it hard to tell what's real and what isn't. "AAAAAAH! bad teacher!" reads a posting at CollegePro-Net, which focuses on the University of Maryland (http://come.to/collegepronet). "i would NEVER recommend him as a teacher for chem233, because it seemed he did not care for his students," the posting continues. "He would tell you to come to his office if you need help, but what he didn't tell you was that he'd yell at you for asking a 'stupid' question."

"I believe in student evaluations. But this takes student evaluations and exacerbates everything that's wrong with them."

The site carries a warning label: "CollegePro-Net does not verify the accuracy of any review." The chemistry professor referred to in the posting, Ammon Herman, told *The Chronicle* that he does teach Chemistry 233, but says he doesn't yell at students.

It's inevitable, he says, that course evaluations have now gone on line. "I'm not surprised—everything is going on the Net."

To be sure, student evaluations on the Web can be a helpful source of information for prospective students who have no other way of learning about professors.

At U.C.L.A., "student evaluations are not available unless you go to the records office," says Mr. Volokh, the law professor. "You can do it, but it's not something that prospective students will do." Students are paying good money for courses, he adds, and so reliable evaluations are useful on line or off, steering students toward the best professors. "Perhaps on-line evaluations can be vehicles for the school to improve," he says.

On-line evaluations do have positive features. In electronic form, the information can be easily searched. The collegestudent.com site presents the information in various ways, to allow visitors to see the results of an evaluation according to the respondents' gender or class year, or according to course difficulty. Some sets of evaluations go back several years.

A few professors have embraced the inevitable, posting their student evaluations on their personal Web sites or on those provided by the university. Among them is José Llanes, a professor of organization and leadership at the University of Texas–Pan American. "Students should know how their peers evaluate a professor before they have to sit there for 45 hours, read through mandated texts, and endure all manner of hopefully benign manipulation," says Mr. Llanes. In general, he says, he prefers "a classroom full of students who know what to expect."

'ANONYMOUS GOSSIP'

How should a professor respond to negative comments? "One of the ways to fight anonymous criticism," Mr. Volokh says, "is to make clear that it's anonymous and unaccountable. The site could be persuaded to put up a note saying, 'These are anonymous posts, and take them as you would anonymous gossip.' "

Taking matters into one's own hands is the way of the Web, he says. "If the professor feels very strongly, he could ask some students to post and say, 'I was in this person's class, and he was a great teacher! And I'm willing to sign my name to this.' " ■

Looking to make a quick buck from

Distance Education Can Bolster the Bottom Line, a Professor Argues

AUSTIN, TEX.

Although some colleges use distance education to improve teaching, one professor thinks the technology can also increase enrollment and revenue.

Christopher J. Dede, a professor of education and of information technology and engineering at George Mason University, told

ucation, improve the learning experience for many students.

Virginia Crank, an assistant professor of English at Rock Valley College, in Rockford, Ill., said the hybrid approach had helped shy students participate in one of her courses, in which face-to-face meetings are often dominated by a single student. "He consumes the

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February 17, 1999, Wednesday

SECTION: Front; Pg. A1;

LENGTH: 744 words

HEADLINE: Distance learning debuts in Person
Science & Math links with county schools by interactive video

BYLINE: MIRIAM STAWOWY The Herald-Sun

BODY:

ROXBORO -- Person **High School** is more than 30 miles from the N.C. School of Science & Mathematics in Durham, but on Tuesday distance made no difference thanks to the highway.

The information highway, that is.

"Welcome to distance learning," said Myra Halpin, a Science & Math chemistry teacher whose face and voice were broadcast live from Durham to teachers in a special video room at Person High. "This is an interactive media. If you have questions, please ask."

At the same time, on a television screen in Durham, Halpin saw those same teachers, media coordinators and administrators, who had gathered inside the video room for the school system's first distance-learning session.

Still experimental, the **high school's** distance-learning program will one day open new worlds for Person County students, said Sandy Davis, assistant superintendent for Person County Schools.

"Here is an opportunity to look beyond the classroom," Davis told the group attending the informational session.

Distance learning will allow students to take classes from other school systems in the state, to take virtual field trips, to schedule information sessions with NASA or the Smithsonian Institute. It will allow teachers to receive training, as well as teach courses to students beyond their own school system, Davis said.

Person **High School** is one of 64 **high schools** in the state gearing up for distance learning, said Carole Stern, assistant head of distance learning at Science & Math. The school offers about nine upper-level classes each day to **high schools** throughout the state, she said.

Distance-learning facilities at public schools are growing rapidly, said Linda De Grand, section chief for emerging technologies at the N.C. Department of Public Instruction.

"The driving force is the desire of school systems to access additional resources for students in the classroom, as well as specialized courses they don't have," De Grand said.

Davis hopes to expand advanced-placement course offerings through the program, as well as foreign language courses not offered in Person County Schools because teachers are not available.

Person **High School's** distance-learning facility was funded through a $ 500,000 five-year federal technology grant awarded in 1995. For video and data transmission, the school system relies on a network provided by the N.C. Information Highway, a network for high-speed data, voice and video that

operates within the N.C. Department of Commerce.

As an NCIH client, the Person County school system will pay $ 2,800 per month in line service charges. But 75 percent of the cost is paid by the grant this year, which will decrease in the next two years. The school system also qualified for reduced costs on electronic transmission rates, also knows as e-rates.

Immediate plans call for using the remaining school year to teach faculty members how to use the new technology and learn about courses offered through collaboration with Science & Math.

Next year school officials hope to receive or deliver courses, and in two to three years, to expand so students and teachers from other schools can use the facility, Davis said.

On Tuesday, Person County faculty members saw how to tap distance learning as a teaching tool.

With the backdrop of Jupiter orbiting behind her, Halpin used a virtual tour of the planet to demonstrate how graphics can become three-dimensional on the television screen. The television screen also split into sections to show other ways to use graphics and a camera close-up showed how lab experiments could be made more visible for students who in a normal classroom would be in the back row.

Southern Middle School media coordinator Cynthia Wilson said using video as a teaching tool will appeal to students.

"Our kids are so video literate that I think this will catch their attention," Wilson said. "This is truly amazing for us. We'll have to learn a bit to use this."

Davis said the potential of the distance-learning program rests on the faculty's interest.

"Those embracing other technologies will be the first to get into this," Davis said. "It's a new medium for us and because of the grant, we'll be able to explore it. The potential is great."

As Tuesday's information session ended, Halpin waved goodbye, and the teachers at Person High waved back to their television screen. Then, just as suddenly as she had appeared on the screen, Halpin zapped off.

GRAPHIC: Photo: WALT UNKS, BEYOND THE CLASSROOM: Roxboro **High School** math teacher Wendy Allen (left) and chemistry teacher Harriett Tillett listen while Myra Halpin, an N.C. School of Science and Mathematics chemistry teacher, leads a training session in distance learning Tuesday. Halpin was instructing the teachers in Person County via a live video broadcast from Durham.

LOAD-DATE: February 17, 1999

FOCUS™ **Search: Advanced Search;headline (distance learning) and atl10 (distance learning);...**

To narrow this search, please enter a word or phrase:

FOCUS

Example: **House of Representatives**

some

CLASS™

CLASS™ offers complete online high school courses, course services, and curricular materials for purchase.

These courses are now in use as part of an accredited online high school operated by the Division of Continuing Studies Independent Study High School at the University of Nebraska -- Lincoln.

These courses were developed by the CLASS™ Project at the University of Nebraska -- Lincoln.

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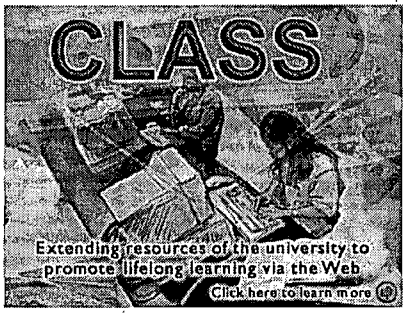
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For information about the CLASS™ Project, please click on the image at left.

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Your email address*:

Your telephone number:

Submit your request | Clear the form

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To submit comments about this Web page, please email: webmaster@class.com.

Last Updated September 15, 1999..

frequently asked questions

Questions about the CLASS project | Questions about the CLASS Courses

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Home | Introduction | Courses | Partners | Instructional Design
Features | Demonstrations | FAQ | Registration

For more information send a message to classweb@unlinfo.unl.edu
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Division of Continuing Studies - CLASS™

It is the policy of the University of Nebraska-Lincoln not to discriminate on the basis of gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.

Questions about the CLASS Project

What is CLASS™?

What is the CLASS™ Project?

How is CLASS™ funded?

Who are the CLASS™ partners?

Is the program accredited?

What does accreditation mean?

Click here for "Questions about CLASS™ Courses"

Questions about the CLASS Courses

How are the CLASS™ courses different from other on-line courses?

What computer skills do I need?

What computer system configurations must I have?

What about Web security?

Who can take the CLASS™ courses?

Can CLASS™ courses be used in our school, learning center or home school?

What courses are currently available for enrollment?

How much does a CLASS™ course cost?

What type of students take CLASS™ courses?

What's included in the CLASS™ courses?

Are teachers involved?

How do I register?

Can I get credit for these courses?

Are the credits transferable?

How long do I have to complete a course?

Can I get my high school diploma?

If I have completed courses at another high school, may I receive a diploma from the Independent Study High School?

How many courses must I enroll in to be a full-time student?

Are scholarships available?

Is there an honor roll?

What should I do if I enroll in the wrong course?

What is the refund policy for CLASS™ courses?

May I transfer to another course?

How many courses can I take at once?

How old do I have to be to take a course?

Can I take a high school course even though I'm not high school age?

Do you offer college preparatory courses?

May I test out of a course?

How do I get a username and password for the CLASS™ courses?

Can I try a course before enrolling?

Where can I get a print copy of information about the CLASS™ courses and the Independent Study High School or find out more information?

Click here for "Questions about the CLASS™ Project"

Q. What is CLASS™?

A. CLASS™ stands for **C**ommunications, **L**earning and **A**ssessment in a **S**tudent-centered **S**ystem. CLASS™ is ushering in the next generation in education--on-line learning--that integrates various multimedia components such as audio, video and text in a seamless navigational system that engages students and facilitates individualized learning, discovery and exploration. CLASS™ courses are being developed at the University of Nebraska-Lincoln, Division of Continuing Studies, Department of Distance Education.

RETURN to CLASS Project questions

Q. What is the CLASS™ Project?

A. The CLASS™ (Communications, Learning and Assessment in a Student-centered System) Project provides students with an on-line high school by utilizing the unique capabilities and qualities of the World Wide Web. Individual high school students, schools, learning centers, learners schooled at home, or those who do not desire or are unable to attend traditional classrooms are appropriate for CLASS™ distance learning courses. CLASS™ courses offer a cost-effective alternative for obtaining high school credits or a high school diploma from our accredited high school.

RETURN to CLASS Project questions

Q. How is CLASS™ funded?

A. Initial funding for CLASS™ courses was from the General Services Administration, for proof of concept. Additional funds, granted from the Department of Education under the Star Schools initiative, provided $15 million, over five years, to develop a complete accredited high school diploma sequence. Fifty-five courses will be available in the fall of 2001.

RETURN to CLASS Project questions

Q. Who are the CLASS™ partners?

A. The following are partners in the CLASS™ Project:

Since 1909, the Division of Continuing Studies (DCS), at the University of Nebraska, has been a leader in distance education utilizing a variety of delivery systems - from print-based correspondence, to satellite, to today's technological explosion of computer technologies, including the Internet and World Wide Web.

The Independent Study High School (ISHS), as part of the Division, is the only university-based, fully accredited independent study high school in the United States.

The Research and Development Unit (R&D), headed by Assistant Director Charlotte Hazzard, is part of the Department of Distance Education within the Division of Continuing Studies at the University of Nebraska-Lincoln. R&D is responsible for the creation, design and development of the CLASS™ courses. R&D is also exploring ways to use CLASS™ technology in other educational endeavors.

Nebraska Educational Telecommunications (NET) is a multi-facted organization governed by the State of Nebraska (Nebraska Educational Telecommunications Commission) and the University of Nebraska. NET offers a full range of services, including noncommercial television, radio, satellite and audio, video and multimedia production, as well as one of the world's largest educational media libraries. NET is recognized nationally for its quality television and radio programs for state, regional and national distribution. NET produces the Emmy-award-winning *Reading Rainbow* series. NET has responsibility for the production of the CLASS™ courses

Nebraska Department of Education (NDE) is governed by the State Board of Education. It is the policy-making body for all of Nebraska's 604 public school districts. NDE promotes the use of technology to improve educational opportunities. NDE is also actively involved in the creation of frameworks for core curriculum areas and links to post-secondary institutions and with private corporations within the state. NDE ensures that CLASS™ courses meet national and state standards.

The Center for Instructional Innovation (CII) is a research and development center at the University of Nebraska-Lincoln established to apply basic research from cognitive psychology, linguistics and cognitive science to the design and evaluation of educational practices in the nation's schools. Special emphases in Center research are the design and evaluation of technology-oriented distance learning methods and critical examinations of the role of technology in learning. CII is assisting the CLASS™ Project in developing the best methods of teaching Web-based learning.

RETURN to CLASS Project questions

Q. Is the program accredited?

A. Absolutely! This is an important consideration when taking courses. The University of Nebraska-Lincoln's Independent Study High School offers the

only university-based, fully accredited high school diploma program. It is accredited by the North Central Association of Colleges and Schools and the Nebraska Department of Education. The Independent Study High School has on-site teachers, advisers, and a principal.

RETURN to CLASS Project questions

Q. What does accreditation mean?

A. Accreditation requires an outside, independent review of a school to ensure that it meets certain criteria. Schools are accredited regionally. Our Independent Study High School has been accredited by the North Central Association of Colleges and Schools since 1978 and the State of Nebraska Department of Education since 1967. The Independent Study High School is the only fully accredited, university-based high school in the United States. Schools that are accredited generally accept credits from other regionally accredited schools. This may be important if you plan to continue with your education.

RETURN to CLASS Project questions

Q. How are the CLASS™ courses different from other on-line courses?

A. CLASS™ courses are unique from other Web-based courses because of their interactivity and student-centered focus. All the tools and materials a student needs to take a CLASS™ course are contained within the course. Students are responsible for their own learning with guidance from the teacher. Students make choices in the paths they take and select from many different learning activities and experiences. Students encounter increasing levels of complexity and sophistication within the course content so that they acquire an ever-widening understanding of the concepts being presented.

CLASS™ courses give students the opportunity to learn using a myriad of learning tools that are unique to Web-based distance education, including student-to-student communication, dynamic learning activities, student-selected learning paths, multimedia-reinforced learning, self-monitoring of progress and the ability to create multimedia portfolios, all in a seamless learning environment not bound by time nor space.

The CLASS™ courses are approximately a semester in length. You can register through the University of Nebraska-Lincoln's Independent Study High School at any time during the year and begin as soon as you have your assigned username and password.

RETURN to CLASS Courses questions

Q. What computer skills do I need?

A. A basic understanding of computers is helpful. Students should know how to use the keyboard, mouse, CD-ROM drive, how to point and click, and use pull-down menus. Experience with e-mail and browsers (such as Netscape) is also helpful but not necessary.

RETURN to CLASS Courses questions

Q. What computer system configurations must I have?

A. You will need the following minimum configurations in order to take a course:

- Pentium with Windows 95 or Power Mac with System 7
- 28.8 or greater modem or network access
- Internet provider with SLIP or PPP
- 4x or greater CD ROM
- 32 MB memory RAM
- Hard drive with 25 mg space available
- 15" color monitor (16 bit, 800 x 600 resolution)
- Sound card/speakers
- Keyboard and mouse
- 3.5" floppy drive
- Netscape Gold 3.01 with plug-ins for: *Global Perspectives: Bosnia, Geometry in Our World, Chem City, and Writing: A Window on the World*
- Netscape Communicator 4.04, 4.06, 4.5 for the remaining courses, with plug-ins
- Microphone for English as a Second Language (ESL) course

RETURN to CLASS Courses questions

Q. What about Web security?

A. Students need a username and password to access a course. Courses reside on a secure server at the University of Nebraska-Lincoln.

RETURN to CLASS Courses questions

Q. Who can take the CLASS™ courses?

A. CLASS™ courses are open to any learner who has access to a computer that meets the minimum configurations and to the World Wide Web.

RETURN to CLASS Courses questions

Q. Can CLASS™ courses be used in our school, learning center or home school?

A. Yes. Schools, learning centers, and home schools can purchase a site license and provide the courses locally, offering credit and using local teachers. CLASS™ courses can be used to supplement curriculum or incorporated into the classroom experience.

For more information, contact the Department of Distance Education at 402-472-2175 or email unldde@unl.edu or classweb@unlinfo.unl.edu.

RETURN to CLASS Courses questions

Q. What courses are currently available for enrollment?

A. Currently open are the following courses:

Business

- Personal Economics and Finance
- Macroeconomics

Computers and Technology

- Introduction to Technology

English

- Reading Comprehension: Reading Mega Mall
- Beginning Composition: A Writing Roadtrip
- American Literature 1: Diversity in American Literature-Xroads
- Advanced Composition Writing: A Window on the World

English as a Second Language

- English as a Second Language: Everyday English, Levels 1-2

Mathematics

- Basic Geometry: Geometry in Our World
- Math Skills: Calculation Carnival
- General Mathematics 1: Interactive General Math 1

Science

- Life Science: Oceanography
- Basic Chemistry: Chem City
- Health Science 1: Health Games
- Chemistry 1:Voyage of the Democritus

Social Studies

- American History 1: Interactive American History
- Global Perspectives: Bosnia
- American Government: Inside Washington
- Ethnic Studies 1: Multicultural Studies

Study Skills

- Study Skills: Learning Fundamentals

Approximately 10 new courses will be released each fall, so check back often.

Currently scheduled for fall 1999 release are the following courses:

- Protocol of Business and Personal Relationships
- International Business
- Career Planning
- American Literature 2
- World Literature 1
- English as a Second Language 2
- Spanish 1
- General Math 2
- Beginning Algebra 1
- Health Science 2
- Chemistry 2
- American History 2
- Introduction to Psychology

RETURN to CLASS Courses questions

Q. How much does a CLASS™ course cost?

A. Enrollment fees, handling fees, and, in some cases, sales tax and special transportation charges are costs associated with a CLASS™ course. Course costs may be paid by check, cash, money order, or credit card, or they may be billed to an authorized billing account. You may register on-line from our Web site.

Enrollment Package Fee	Tuition	Resources	Total
Nebraska Resident	$90	$105	$195
Nonresident	$94	$105	$199

The enrollment fee covers tuition, on-line instructional resources, and all teaching services. Once you enroll, you will receive a start-up packet that explains how you may access your CLASS™ course and an e-mail containing your username and password.

Handling Fee	$21
(walk-in fee)	$13

The handling fee covers the administrative costs of processing enrollments, the costs of sending course materials via UPS Ground or equivalent carrier within the contiguous 48 states, the start-up costs related to network infrastructures, and the costs associated with technical help for students.

The start-up package you receive will include a CLASS™ Handbook and a CD-ROM with the course resources cached to speed the operation of the course.

Sales Tax

For CLASS™ courses, the sales tax is computed on the handling fee and shipped materials required by the course, if any. This tax applies to all purchases sent to or picked up at a location within Nebraska and computed according to the current local rate.

Special Transportation Charges

Within contiguous 48 states: If you wish to have any materials that accompany the CLASS™ courses sent by a method other than UPS Ground or an equivalent carrier, you will be charged the handling fee plus the actual costs of shipping. Please provide us with specific shipping instructions, any special delivery directions, and your telephone number.

Hawaii, Alaska, and Overseas: Materials are sent via an air package service (such as DHL) to students not residing in the contiguous states. You will be charged the handling fee plus the actual costs of shipping via the air packages service.

If you wish to have any materials that accompany the CLASS™ course sent by a method other than an air package service, you will be charged the handling fee plus the actual costs of shipping. Please provide us with specific shipping instructions, any special delivery directions, and your telephone number.

Site licenses are also available. For more information or costs contact us at:

University of Nebraska-Lincoln
CLASS™ Project
205 NCCE, 33rd & Holdrege Streets
Lincoln, NE 68583-9809
Voice - 402-472-0874
Fax - 402-472-0905
E-mail - classweb@unlinfo.unl.edu
Web - http://class.unl.edu

RETURN to CLASS Courses questions

Q. What type of students take CLASS™ courses?

A. CLASS™ courses are taken by learners who wish to complete, augment, or obtain their high school education. CLASS™ courses offer opportunities

for students in various circumstances to meet their educational needs. Among those served are students who in the following circumstances:

- They are unable to attend a local school because they live in isolated areas.
- They are in countries outside of the United States and are without access to an accredited high school diploma from a school in the U.S.
- They have dropped out of school but want to continue their education and earn a high school diploma.
- They have difficulty coping with the time and place restrictions of a classroom and want to proceed at their own pace.
- They cannot attend a local high school because they are homebound.
- They want to accelerate their high school progress.
- They need basic instruction to improve their skills.
- They want a quality education in a home school setting.
- They have course deficiencies.

RETURN to CLASS Courses questions

Q. What's included in the CLASS™ courses?

A. CLASS™ courses include video, audio, on-line quizzes and tests, and projects that you complete and e-mail to your teacher. Go to the Features section to view some of the course interactivity. In most cases, tests provide immediate results. You will have an on-line notebook that will serve as your personal note taking space as well as the tool for submitting assignments. Links, notes, pictures, and other information can be stored in the notebook. You can use e-mail and newsgroups to communicate with your teacher and other students taking the course. Links to the Web will provide additional information about a particular subject.

Each course also includes an on-line course guide which includes information such as overview of the course, objectives, and how the course will be graded. Courses also include informative sections such as *Netscape for New Users; Table of Contents, Glossary*, and much more all of which are designed to help the student move more easily through the course material.

RETURN to CLASS Courses questions

Q. Are teachers involved?

A. Yes. The University of Nebraska's Independent Study High School has a principal, advisers and certificated teachers. They work with students throughout the course and are available via e-mail, fax and phone for students taking a course through the Independent Study High School.

RETURN to CLASS Courses questions

Q. How do I register?

A. On-line registration is available by clicking on Registration. You may also register using the form in the Independent Study High School Bulletin, by phone 402-472-2175, by fax 402-472-1901, by electronic mail dcsreg1@unl.edu or by regular mail. Payment is required at the time of registration.

For more information, contact the Department of Distance Education or e-mail unldde@unl.edu or classweb@unlinfo.unl.edu.

RETURN to CLASS Courses questions

Q. Can I get credit for these courses?

A. Yes, students who successfully complete a CLASS™ course will receive five credit hours or 1/2 unit of Carnegie credit. Each course is equivalent to a semester of work. Credit can be awarded through the University of Nebraska's Independent Study High School or in some cases through your local school. Please contact the Independent Study High School for more information

RETURN to CLASS Courses questions

Q. Are the credits transferable?

A. Yes, the Independent Study High School is fully accredited by the North Central Association of Colleges and Schools, meaning earned credits are generally transferable.

RETURN to CLASS Courses questions

Q. How long do I have to complete a course?

A. The tuition covers a period of one full year from the date the enrollment is processed for each course. A student may not complete a course in less than five weeks (35 days) from the date that the first electronic submission is received at the Independent Study High School without advance permission from the administrator of the Independent Study High School. Under no circumstances will a student be allowed to complete a course in less than three weeks (21 days) from the date the first electronic submission is received in our office.

Students may extend their enrollment for one additional year by submitting a written request and a $35 extension fee within 90 days after the course expiration date.

RETURN to CLASS Courses questions

Q. Can I get my high school diploma?

A. Yes, the Independent Study High School offers a four-year diploma program. Because the school is accredited by the Nebraska Department of Education and the North Central Association of Colleges and Schools, students who meet the specific requirements established by ISHS are granted an accredited diploma.

All students who enroll as diploma students must have earned a minimum of 200 credit hours (or 20 units of Carnegie credit) before they will be granted a high school diploma. All Independent Study High School courses are 5 credit hours (equivalent to 1/2 Carnegie unit or 90 instructional hours) and are a semester in length.

Please note that at this time, students cannot earn their diploma entirely with the on-line CLASS™ courses; some print-based courses may be necessary.

RETURN to CLASS Courses questions

Q. If I have completed courses at another high school, may I receive a diploma from the Independent Study High School?

A. Yes, you may. However, students receiving a diploma from the Independent Study High School must successfully complete a minimum of five courses (25 credit hours, equivalent to 2 1/3 Carnegie units) through our program, regardless of the number of credits accepted for transfer from other schools.

RETURN to CLASS Courses questions

Q. How many courses must I enroll in to be a full-time student?

A. Students who are enrolled in five or more courses (25 credit hours or more) are considered to be full-time students.

RETURN to CLASS Courses questions

Q. Are scholarships available?

A. Yes. The K.O. Broady Scholarship Fund awards a limited number of scholarships annually on the basis of financial need, scholastic record, and

availability of funds. The scholarships are for individuals who want to enroll the University of Nebraska-Lincoln's Independent Study High School as diploma students.

Applications may be obtained from the distance education office by calling 402-472-4321. Completed applications are accepted year-round and scholarships are granted in October.

RETURN to CLASS Courses questions

Q. Is there an honor roll?

A. Yes. The Independent Study High School publishes an honor roll for our diploma students twice a year. The honor roll appears in our newsletter, *UNL's High School World.*

To qualify for the honor roll, students must be registered with us as diploma students. They must have earned grades of B or higher in every course completed within each six-month grading period (February-July, August-January). They also must have completed a minimum of five courses during the grading period.

RETURN to CLASS Courses questions

Q. What should I do if I enroll in the wrong course?

A. You should contact the registration office at the following address:

Registration and Records
Division of Continuing Studies
Clifford Hardin Center for Continuing Education, Room 225
33rd & Holdrege Streets
University of Nebraska-Lincoln
Lincoln, NE 68583-9100
Phone: 402-472-2175
Fax: 402-472-1901
E-mail: dcsreg1@unl.edu

RETURN to CLASS Courses questions

Q. What is the refund policy for CLASS™ courses?

A. If a student cancels an enrollment or drops a course, we will refund the enrollment package fee on receipt of a written request up to 60 days from the date of enrollment.

The following costs will be subtracted from the enrollment fee:

$25 for process fees

$35 for each unit in which an assignment or activity has been evaluated

Handling Fee: No refunds are given for handling fees.

Transportation Charges: No refunds are given for transportation charges.

RETURN to CLASS Courses questions

Q. May I transfer to another course?

A. It would depend on the circumstances. You need to contact Registration and Records at:

Registration and Records
Division of Continuing Studies
Clifford Hardin Center for Continuing Education, Room 225
33rd & Holdrege Streets
University of Nebraska-Lincoln
Lincoln, NE 68583-9100
Phone: 402-472-2175
Fax: 402-472-1901
E-mail: dcsreg1@unl.edu

RETURN to CLASS Courses questions

Q. How many courses can I take at once?

A. There is no limit to the number of courses that can be taken, but we recommend that you consider other obligations you may have, such as other courses you may be taking, employment, or family.

RETURN to CLASS Courses questions

Q. How old do I have to be to take a course?

A. There is no age minimum or maximum for taking a course.

RETURN to CLASS Courses questions

Q. Can I take a high school course even though I'm not high school age?

A. Yes. There are no age restrictions.

RETURN to CLASS Courses questions

Q. Do you offer college preparatory courses?

A. Yes. Please consult with an Independent Study High School Adviser or or email unldde1@unl.edu for availability of current college preparatory courses.

RETURN to CLASS Courses questions

Q. May I test out of a course?

A. We do not offer that option at this time.

RETURN to CLASS Courses questions

Q. How do I get a username and password for the CLASS™ courses?

A. Once payment for the course is received, you will receive an e-mail with your username and password so that you may begin the course.

RETURN to CLASS Courses questions

Q. Can I try a course before enrolling?

A. You can sample our courses by going Courses or Demonstrations from here or the bottom of this page.

Occasionally, principals, counselors, advisers, teachers, parents, and others are allowed temporary access to a course of particular interest for review. For more information on this option contact CLASS™ at the address listed below.

RETURN to CLASS Courses questions

Q. Where can I get a print copy of information about the CLASS™ courses and the Independent Study High School or find out more information?

A. For information you may contact us the following ways:

For specific information on CLASS™ contact:

University of Nebraska-Lincoln
CLASS™ Project
205 NCCE, 33rd & Holdrege Streets
Lincoln, NE 68583-9809
Voice - 402-472-0874
Fax - 402-472-0905
E-mail - classweb@unlinfo.unl.edu
Web - http://class.unl.edu

For specific information on the Independent Study High School contact us at the following address:

University of Nebraska-Lincoln
Independent Study High School
Department of Distance Education
Division of Continuing Studies
269 Clifford Hardin Nebraska Center for Continuing Education
Lincoln, NE 68583-9800
Voice - 402-472-4321
Fax - 402-472-1901
E-mail - unldde1@unl.edu
Web - http://www.unl.edu/conted/disted

RETURN to CLASS Courses questions

For more information send a message to classweb@unlinfo.unl.edu
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The Chronicle of Higher Education 10/22/99

As Distance-Learning Boom Spreads, Colleges Help Set Up Virtual High Schools

Backers say specialized on-line courses can benefit students in low-income districts

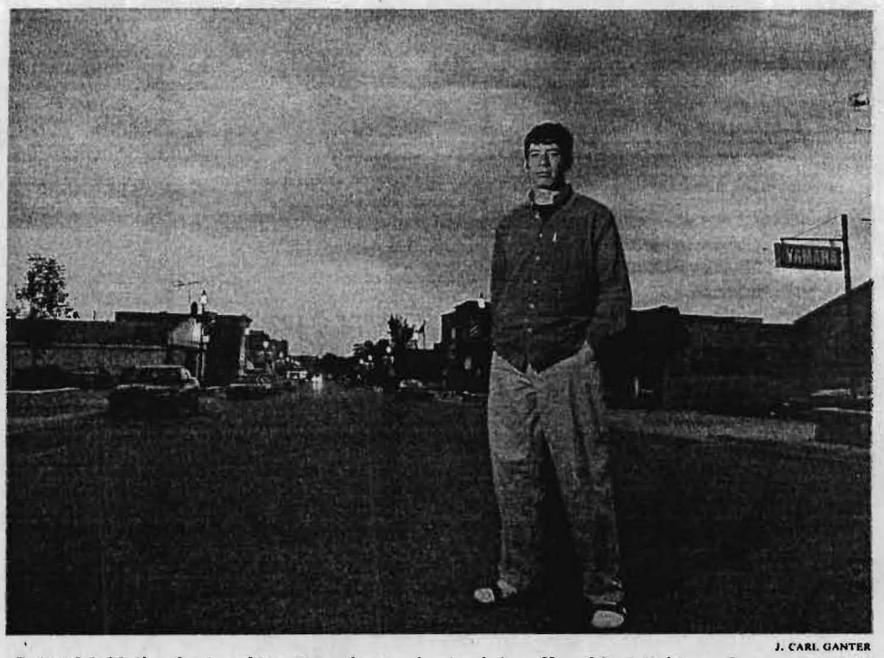
BY SARAH CARR AND JEFFREY R. YOUNG

DISTANCE EDUCATION might soon be as fashionable in America's high schools as cell phones and baggy pants. A growing number of colleges, schools, and companies are delivering high-school courses over the Internet.

Most of these "virtual high schools" aren't trying to replace traditional schools, however—cyberspace isn't filling up with P.E. and band classes, at least not yet. The virtual schools focus mainly on Advanced Placement and college-preparatory courses in the kinds of subjects that many traditional high schools don't have enough teachers or money to offer. Proponents say distance education can give high-school students in poor districts opportunities for advanced classes that have traditionally been available only in upscale areas.

Students usually enroll in only one or two virtual courses, meeting the rest of their requirements in traditional classrooms. The financing of the courses varies, depending on the nature of the program: In some cases, students and parents are expected to pay, while in others, school districts or state departments of education cover the costs.

The virtual-high-school programs are so new, however, that little has been done to assess the quality and effectiveness of their courses, even when great care has been taken to produce them. And some observers worry that fly-by-night operations might emerge and try to peddle inferior courses to unsuspecting high-school students on line.



J. CARL GANTER

Brian McNeil, who is taking virtual A.P. physics labs offered by Michigan State: "The concepts they explain are simple, and not difficult to understand."



SHMUEL THALER FOR THE CHRONICLE

Elaine Wheeler of the University of California: "We're trying to provide something where nothing is currently happening."

Among the states whose governments, universities, or schools have created virtual high schools are Arizona, California, Florida, Kentucky, Massachusetts, Michigan, Nebraska, and Utah. The programs transcend state boundaries, however, and many of the courses are open to students anywhere.

HARD-TO-FIND CLASSES

In some cases, universities are leading the creation of virtual high schools. For instance, the University of Nebraska at Lincoln created a for-profit spinoff, called Class.com, to sell high-school courses over the Internet (*The Chronicle*, April 16, 1999).

In other cases, schools or school districts are teaming up to start on-line programs. A Massachusetts-based education consortium, for example, is working with 220 high schools in 30 states to develop and share on-line courses. A number of for-profit companies are also developing or offering high-school courses on line.

Colleges and universities involved in offering on-line high-school courses say they're not interested in taking over the business of teaching younger students. Instead, they're focusing on offerings that are hard to find in many high schools: remedial courses, such as English as a second language, and courses for gifted students, such as advanced composition classes.

"We would like to help educators do their jobs better," says John A. Blair, the president of Nebraska's Class.com. "They know very well how to offer their core courses. It is in the endpoint areas that we have identified a need, and it is our intention to help educators solve that problem." Mr. Blair hopes that Class.com courses and curricula will help high schools deal with other problems as well, such as teacher shortages and over-enrollment.

Raymond Ravalgia, the deputy director of Stanford University's Program for Gifted Youth, agrees that colleges should play a role in providing courses in specialized areas. He says both high-school teachers and textbook publishers frequently are unable to provide adequate resources for gifted students.

"Textbook publishers develop their materials geared at some conception of the average student," he says. "They are generally not interested in micro-niches of students, so this is some place natural for universities to step in."

In the Stanford program, which began in 1992, grade-school, middle-school, and high-school students can take a range of advanced courses, including some for credit at the university. The students and their families pay for the classes in the majority of cases, with some opportunities for financial aid, but Mr. Ravalgia hopes that ultimately more schools will offer to pay for the courses, which typically cost $435 per quarter.

At the University of California, officials created an on-line high-school program to help level the playing field for the

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state's students. Students applying to attend the university's campuses are ranked for admissions purposes on the basis of grades and standardized-test scores using a point system, and those who have taken honors and advanced-placement courses are awarded additional points. But high schools in some areas don't offer honors or A.P. courses, leaving their students at a disadvantage.

"What we are trying to do is to make Advanced Placement courses available to students who otherwise wouldn't be able to take them," says Elaine Wheeler, the project director of the University of California College Preparatory Initiative. "Our philosophy is that nothing beats a quality teacher teaching good curriculum to students in a classroom, but we are trying to provide something where nothing is currently happening."

"If a student chooses not to take the harder courses when able to do it face to face, but takes them on line, that would be an issue I would want to explore."

This semester, the university system is offering courses such as A.P. calculus, honors psychology, and microeconomics to students at 27 high schools. The program is supported by a $4-million allotment from the state. Organizers of the College Preparatory Initiative also hope that the students who are accepted to the university will be better prepared for college-level work as a result of the on-line classes.

Brad Huff, the science coordinator at the Fresno County Office of Education, says that this fall, 24 high-school students in the county are taking an A.P. chemistry course offered through the University of California programs. Students from the Fresno schools study, communicate, and take tests completely on line, and meet once a month for hands-on laboratories.

CLOSING A GAP

Mr. Huff says he hopes such courses will help lessen the disparity between class offerings at large and small schools, and help more students from the region gain admittance to the university.

Meanwhile, some high schools are working on their own to provide distance education.

One of the largest school-sponsored efforts is the Virtual High School, run by the Concord Consortium in Massachusetts (http://vhs.concord.org/). The non-profit group is working with about 220 high schools, though only 110 of the schools are currently offering courses. The effort is financed by a five-year, $7.8-million grant from the U.S. Department of Education.

Participating schools must develop and teach at least one course on line, in exchange for which their students can take on-line courses from other member schools. Bruce F. Droste, director of the Virtual High School, calls it "the barter system for education."

VIRTUAL TRAINING

Teachers must take a 26-week training course—on line, naturally—before they are let loose in a virtual classroom. Mr. Droste says that the cooperative effort allows a high-school teacher to design and deliver a "dream course" on a subject of personal interest. Courses on ethnobotany, A.P. statistics, or American popular music might not be in enough demand at a single school, but they can fill up quickly on line. Class size is capped at 20 students.

Companies are also looking to cash in on distance education for high schools. APEX Online Learning, for instance, focuses on

U. of Nebraska's Class.com

creating and delivering Advanced Placement courses on line (http://www.apex.netu.com/). The company, started by Microsoft cofounder Paul Allen, offers only four A.P. courses so far—calculus, statistics, microeconomics, and U.S. government. Bryan Barnett, the company's chief academic officer, says more courses are in development. Each costs $395.

The company isn't an accredited high school, so it can't grant academic credit for its courses, though students are free to take A.P. tests in hopes of receiving college credit for their work. And APEX is working to form partnerships with high schools and colleges under which those institutions would grant credit for APEX courses. Last month, APEX officials forged such an arrangement with Michigan Virtual University, for instance.

DIRECT TO HIGH SCHOOLS

Another company, Archipelago Productions, is developing materials for on-line high-school classes (http://www.archipelago.com). The company does not deliver courses on its own, but instead sells its materials to high schools or colleges that want to use them. It is a division of Harcourt General, the textbook and trade publisher.

What concerns some school officials and others is that the possibility of profits might also attract questionable operations. The College Board, which creates and administers the A.P. tests, is particularly concerned that companies could promote on-line courses as preparing students to take A.P. tests.

Says Lee Jones, executive director of the A.P. program for the College Board: "It makes me wonder to what degree the College Board needs to be involved with determining standards for delivery. If people are going to use the A.P. name, we want to have some mechanism in place to measure quality." Mr. Jones also says that the board is now considering whether it should offer its own A.P. courses on the Internet (*The Chronicle*, October 8).

Textbook publishers "are generally not interested in micro-niches of students, so this is some place natural for universities to step in."

Some aspects of a high-school education, such as science laboratories, are more difficult to replicate in cyberspace than others.

For one of the Virtual High School's courses in physics, the school mails students laboratory kits so they can perform experiments in their schools or homes. "We went out and bought a lot of large fishing-tackle units" to package the kits, says Mr. Droste. The kits include various tools and instructions for doing the labs. At other virtual high schools, students must come to campus for a weekend to complete the laboratory requirements of science courses.

Some educators are trying a different approach—setting up virtual laboratories. Wolfgang Bauer, a physics professor at Michigan State University who is teaching an on-line A.P. physics course this semester, is creating interactive simulations for it, including a Java program that shows students a video of a computer being thrown off of a building.

Students can stop the video at any point and find out the speed and height of the falling object at that instant. Students are asked to plot this data and compute gravity's influence on the object's acceleration.

"I think that's a very valid lab experiment," says Mr. Bauer. "The only thing they don't get is the satisfaction of dropping the computer five stories and smashing it themselves."

VIRTUAL IS BETTER

He argues that virtual labs can actually provide better training than can a traditional laboratory. These days, even physicists do much of their work with computer simulations, Mr. Bauer adds.

One of the students in the course, Brian McNeil, says that so far the on-line labs have served their purpose. "They are quite simple by definition—the concepts they explain are simple, and not difficult to understand in the abstract," he says. He adds that he may miss having real lab sessions "later on, when the subject matter turns to thermal physics, electricity, etc."

Mr. McNeil's only complaint so far is that the course is too easy, covering concepts he had encountered earlier, in an independent-study course. "I expected it to be rather more difficult than that," he says, "given that it is the on-line version of a 200-level physics course at a large university."

One college admissions official says she hopes the additional options don't add too much to the pressure on high-school students.

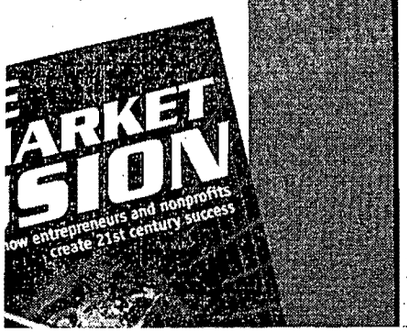
"The bar is already so high for students," says Robin G. Mamlet, the dean of admissions at Swarth-

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INFORMATION TECHNOLOGY

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more College. "One worries that all this will do is add to their burden, and they will not only take courses at school, but also on line. There is a joyless drudgery in taking as many courses as possible."

AVOIDING HARD CLASSES

Ms. Mamlet acknowledges that on-line courses will be a boon to students who do not have access to A.P. and honors classes, or who want to take courses their schools do not offer. She said she would be wary, however, if a student opted for an on-line course instead of taking a traditional course that seemed more challenging.

"If a student chooses not to take the harder courses when able to do it face to face, but takes them on line, that would be an issue I would want to explore," she says.

Most leaders of the on-line programs don't intend their courses to make face-to-face interaction obsolete. But the director of Christa McAuliffe Academy—a private, accredited, on-line school based in Washington—says he hopes to present students with a viable alternative to more-traditional schools, even requiring courses like P.E.

The director, Glen Blomgren, says he's spent 10 years working to have Christa McAuliffe accredited as a degree-granting, distance-learning program, and now he wants to make the curriculum "available to the masses." Currently more than 300 students are enrolled at Christa McAuliffe.

"My plan is to be serving a million students within five years," he says. "We feel like we are poised on the edge of a huge explosion with this." ■

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HEADLINE: 'Wired for learning': Lessons from a distance learning partnership; the East Texas Learning Interactive Network Consortium; Technology Information

BYLINE: Meathenia, Peggy

BODY:

In 1992 a group of educators in East Texas "shook hands" and formed a collaborative known as ET-LINC. The East Texas Learning Interactive Network Consortium began defining the needs of small, rural schools for the coming century. Looking toward the digital age that is rapidly changing the way people live, the schools wanted to utilize the broadband fiber optic cable that was being laid by two independent telephone cooperatives in a 125 mile swath of East Texas. In order to do so, they had to develop a process "to build a distance learning partnership" and "to train educators in the distance learning environment." A model emerged from this process that enables educators and community members to design networks and to determine the uses of a digital broadband telecommunications network. The success of the distance learning partnership is being used to change communities and the way we learn and teach in East Texas.

A series of grant awards have allowed the distance learning partner schools to implement innovative programming. The award of each grant can be attributed to the partnership building activities and the training of educators in the distance learning environment.

The schools have focused their attentions on "building distance learning partnerships" and "training educators to utilize the networks in creative and innovative ways." The model used by ET-LINC is applicable to any group of schools and communities wishing to determine the uses and benefits of distance learning networks. As broadband telecommunications become more available to public schools an understanding of the build-out process is critical. Additionally, the process draws upon a large body of research dealing with change and on becoming a change agent as a member of a distance learning partnership.

Results of the Collaborative Building Process:

Success Number 1: ET-LINC's work was accelerated when the partnership received a 1994-95 Planning Grant from the Texas Education Agency to pursue their vision of solutions that advanced switching technologies could provide for the rural and small communities Fiscal agent consortium, Gladewater Line Independent School District, received the 1994 Project for Educational Technology planning grant award of $ 25,000 from The Texas Education Agency. The award allowed the consortium schools to begin the multi-year process of identifying the uses and applications of the digital broadband fiber to link schools in numerous northeast Texas counties. The TEA grant provided the impetus to strengthen the process to build partnerships for distance learning networks and to provide training for educators as well as for community members, students and parents. From tips alliance, the participating schools and university members drew up a comprehensive partnership plan.

Success Number 2: The outcome of the planning grant was the award of the 1995 Implementation Grant

Award from TEA -- Projects for Educational Technology, East Texas schools partnered in the Implementation Award Grant, known as "Creating Connections." Twelve East Texas school districts received funding for installation of the multi-media, distance learning classrooms. Other schools in the East Texas area participated in the training component. An additional seven school districts from Limestone, Hudspeth and El Paso counties joined the consortium to participate in the wining for teachers. The schools in the Central and Far West Texas schools either had video conferencing systems or were planning for full-motion audio-video networks. Their need focused on training. The final estimated total of the project including contributions from all partners including the two telephone companies was over $ 6,000,000. TV 12 East Texas schools now have state of The art technology in the classrooms and access to full broadband services, including audio-video, Internet and data services. Texas A&M University -- Commerce built its classroom along with Jarvis Christian College. The addition of the universities to the partnership had been sought from the early days of planning.

The award for training and classroom build-out provided the teams of students, community members and educators the opportunity to articulate the many needs they had that could be addressed through the telecommunications network. They were among the first in Texas to think about the telecommunications technology in non-traditional ways.

Success Number 3: The "partnership building process" continued and resulted in another award. The ET-LINC schools and Texas Alliance for Education and the Arts planned together over an 18-month period. It was agreed that The Texas Alliance would be fiscal agent for a project to utilize the distance learning network as a means of providing innovative programs for students in the elementary grades. The partnership with the Texas Alliance for Education and The Arts was designed to provide staff development to teachers in the distance learning environment in grades 2-6. The teacher-training component included use of the multi-media environment to integrate math, reading, and the fine arts. A Meadows Foundation Award provided for elementary teachers to receive training on-line in the two-way, real-time, interactive classroom. During this three year initiative, students in these grades will be involved in a variety of special projects in which the arts are infused into the core academic subjects. The partnership with the Texas Alliance is a creative, innovative teaching and learning project that utilizes the telecommunications network to deliver programming to small and rural schools.

Success Number 4: Another major initiative funded as a means of enriching, expanding, and enhancing educational programs is the "East Texas School-to-Work Partnership." The U.S. Department of Education and National School-To-Work Office reviewed the School-To-Work Partnership Proposal in a national round of competitive applications. The five year, $ 1,650,000 award was the first national award to a telecommunications distance learning network. As of July 1, 1997 nearly $ 400,000,000 of start-up funds have been awarded to states and local partnerships throughout the United States. The East Texas School-to-Work Partnership is the first and only pilot project to develop electronic linkages to the workplace for students in all grades. Participating teachers in the career curriculum component are receiving training on-line through the distance learning network. Additionally, students are receiving training in utilizing telecommunications technologies to prepare for living and working in the coming century. The partnership was funded at the national level because the proposal showed intensive planning for the use of technology as a solution to the isolation of small and rural schools from major work sites and employer mentoring of students.

Students and educators are finding that their lives are being changed by the distance learning network of ET-LINC. Much like water, gas and electricity changed East Texas, broadband is becoming vital to the schools. When these utilities first came to this region, they fundamentally changed the way we lived. Our fives were made easier We had more time to pursue our dreams and futures. The telecommunications network has had ad will continue to have an impact on students in East Texas.

Success Number 5: The latest grant award allows the distance leasing partnership to replicate its model for all educators in the State of Texas. The Texas Education Agency is providing $ 192,000 for the partnership to produce a multi-media package outlining the development of the technology partnership. The product is titled "Wired for Learning." A CD-ROM ad seven videotapes will be provided to all Texas public schools, private **high schools,** regional education service mom and teacher preparation programs in state universities at no cost. The tapes cover a variety of topics: a description of distance

learning networks, teaching on-line, technical and infrastructure considerations, and student and parent overviews. Imbedded in the CD-ROM will be audio and video clips and a tutorial with specific references to the included videotapes. A hyper-link to the Internet site win be maintained by the Texas Center for Educational Technology, University of North Texas. The replication transport strategy involved is to provide training at the user's point of need that is flexible as to fin and place of accessing information.

Success Number 6: The original 12 schools received the customized classrooms. Since then all 12 have received Texas Telecommunications Infrastructure Foundation awards to upgrade their switches and codecs. Other schools; do were am original ET-LINC members have also received TIF awards for Internet connectivity with the ability to upgrade to full audio-video capacity. Their goal is to become partners in the distance learning high speed network.

The successes of the highly visible network and partnership have not gone unnoticed in Texas. There are those, of course, who say such broadband capacity is not needed and is a luxury unnecessary in Texas public schools. Likewise, there are still many in the public who believe that a telephone in every teacher's classroom is frivolous. But for those who understand the evolving nature of schooling brought on by the education reform movement, there is agreement that distance learning technologies can provide a tool of change.

Not only have the partner schools received these numerous grant awards to implement their dream of equality, but leaders nationally have also recognized the magnitude of the partnership's accomplishments. The first award was the 1995 Texas Technology Implementation Award from the Texas Center for Educational Technology. A second came from the Council of Chief State School Officers in July of 1997 for the Technology Innovation Award. The third and most unusual was presented by the Texas State Comptroller, John Sharp for the First Local Government Technology Award (1998) for the most cost effective public service project meeting citizen needs.

The Goals for Distance Learning Networks Include:

1) To create opportunities for students to access curriculum beyond the traditional offerings. To utilize telecommunications technology to expand students' educational experiences by operationalizing a collaborative organization. To create learning communities of all ages that can link to participating schools, universities and community sites. To develop a comprehensive telecommunications plan to identify ways to enhance academic knowledge, workplace skills and cultural understanding of students in participating schools. To share resources and expertise. To expand their vision of the future for all stakeholders -- for students, parents, educators and the community.

2) To increase student achievement by removing the parameters set by the four walls of the traditional classroom, by expanding beyond the seven period school day and nine moth school year, and by moving beyond the twelve years of education. To establish applicability of distance learning networks to provide equity and excellence for students. To impact students and educators through a planning process that is both cost effective and replicable for individual schools or consortia of school districts.

3) To enrich curriculum through the use of cutting edge telecommunications technology for minority and economically disadvantaged students. To create environments in which students and other community stakeholders can link, expand, and enrich their learning experiences beyond the traditional setting and limitations through a systemic process of planning for change.

4) To serve as a catalyst to promote technological innovation and new applications by creating connections with public schools, higher education and the private and public sectors.

Issues of Distance Learning Networks: The very nature of distance learning networks requires that partners identify and resolve certain issues if the partnership is to reach its potential:

1. What Is Interactive Distance Learning and Telecommunications? 2. What is Two-Way Interactive Networking? 3. Planning the Project: Establishing Major Gods 4. Establishing Management and

Supervision 5. Training and Staff Development Needs 6. Curriculum and Instruction 7. Impact of the Interactive Network 8. Designing the Teaching Setting 9. Setting the Stage for Effective Integration 10. Does interactive television work? What does research say? 11. Issues for Teachers and Staff 12. Classroom Design 13. Relationship of distance learning to district educational improvement efforts 14. Impact of E-Rate on development of infrastructure

Lessons from the Planning Component of the Distance Learning Network

The planning model was a modification and blend of two processes that have been used nationally to bring about systemic educational change and cost effective implementation of technology. The planning process allowed consortium members to identify and design solutions for users to improve student performance in a nontraditional setting; support specific district goals; communicate requirements to the board of trustees; impact at cost and time to implement on a regional basis; and facilitate development of a resources plan and installation schedule with financial impact and cost justification statements. The strategic planning process originated from the mission statement of the participating school partners. Objectives were formulated in order to assist the schools to accomplish their missions. The objectives and goals centered on using an advanced telecommunications network to impact student achievement and assist in designing an educational environment appropriate for the coming century.

Nationally, schools will have opportunities for E-rate discount that may range from 20 to 90 percent for the purchase of modern telecommunications services. This recently legislated opportunity may be the driving force for schools to look seriously at broadband services for distance learning. Internet connectivity, cabling, etc. The planning for distance learning partnerships is lengthy and often exasperating, as schools do not have experience in the partnership building arena.

In Texas, the public schools are also impacted by the availability of TIF (Texas Telecommunications Infrastructure Funds) for the next seven years. Because Texas and other states are beginning to provide a variety of grant resources and subsidies, schools need to be entering strategic planning in order to maximize the funds that may be available to consortia around the country. This planning model can assist schools in determining how distance learning systems can improve student achievement. The process will help schools identify opportunities that will increase student achievement by removing the parameters set by the four walls of the traditional classroom. Distance learning systems, if strategically planned, can ameliorate the constraints of geography, disability and economics status -- giving all students a fair opportunity to go as far as their talents and ambitions will take them.

The key concept that captures the imagination of educators, students and parents is the capacity for **high school** students to take college credit courses while in **high school.** Parents can easily see the university with 15 to 24 university credits. Students that are scholarship bound see the advantage that the notation of college credits earned in **high school** will have on their scholarship applications. Of all the factors used to capture the educators' imaginations, this has been the key idea to build two distance learning networks in the state.

Currently an administrator in the Lufkin Independent School District, I am working with Angelina County schools to build a third network. My goal is to have interoperability and compatibility with the ET-LINC schools, the closest of which is 102 miles north. Peoples Telephone Communications of Quitman. Texas and ETEX Cellular of Gilmer. Texas serve ET-LINC. IV local phone provider in Lufkin is another independent telephone company, Lufkin-Conroe Telephone which has been purchased by a major company. Texas Utilities. Some of the first business people I met when joining the Lufkin ISD in July of 1997 were representatives of Lufkin-Conroe Telephone Company.

Because of the magnitude of bringing partners together into a telecommunications partnership, I designed a core team approach that has performed extremely well. The planning teams are structured for three levels:

Core Team -- representatives of participating schools who manage the planning process

Campus Coordinator -- a designated teacher from each of the participating campuses

District Leadership Team -- a team constituted at each school district that includes local school staff. students, business, parent and community representatives.

"Wired for Learning" CD-ROM and Multi-media Kit: All Texas school, will receive the "Wired for Learning" Kit in August of 1998. The kit is designed to assist schools in planning for distance learning technologies and to avoid some of the missteps in dealing with the many vendors and service providers. Rita Dobbs of Gladewater ISD and I are co-authors of "Wired for Learning." Information to obtain a copy is contained in the box on the fight.

What system changes have occurred over the past three years as a result of ET-LINC? Documentation of the changes that have occurred as a result of the 1994 Projects In Technology. Planning Grant are contained in EVALUATION SUMMARY OF CREATING CONNECTIONS. prepared by Macy Research Associates as of March. 1997.

A summary showed the following: Of the 579 entries on visitations of ET-LINC distance learning classroom sites there were visitations for 2.298 hours. Of these 212 entries were for observation and 170 for training purposes for a total of 1,551 hours. As of December. 1996, 9.764 individuals had participated in some form of training provided by the Core Team and project directors. By May of 1997 that number exceeded 12,000 participants. These numbers do not include audiences reached through a series of 5 TSTAR satellite broadcasts on progress of TEA Technology Initiatives and by two TCET broadcasts that featured "Creating Connections." Audiences that received orientations, training and overviews included school board members, community and business people, educators, university faculty, education service center staff, students, consultants, vendors. Tech Prep Consortia, School-To-Work Partnerships. TIF board of directors, etc. Demand for information on building the partnership, the planning process, and dealing with change continue to come to ET-LINC members and schools.

Changes noted during the project build-out period include:

* schools providing additional resources for retro-fitting the classroom of the equipment:

* schools changing schedules for students to take dual credit courses on-line:

* reassignment of teaching staff to participate as instructors:

* university personnel taking training in order to teach on-be:

* scholarship funds being made available to seniors for college tuition costs:

* teachers continuing or beginning graduate level programs on-line:

* community members beginning undergraduate level programs and attending with **high school** seniors:

* flexible scheduling arrangements for students and community members to take courses:

* allocating resources for monthly line fees for the DS3 fiber optic cable costs:

* students taking courses that they would not have had access to prior to distance learning:

* training for the distance learning environment being infused into a number of staff development plans at the campus level;

* business and community member awareness of the impact that the system can have on economic development:

* community and regional colleges collaborating as to which courses will be delivered on-line;

* study of the network's origin and growth in the theses of two degrees:

* superintendents who have continued to work together to develop additional programs, i.e. School-To-Work. TIF Internet proposals, etc.:

* development of many innovate and creative teaching and learning activities that are beginning to be infused into a variety of content arms.

The excitement and achievement of the schools involved in a distance learning partnership forges unique relationships and renews the commitment of educators and community members. Embarking on a distance learning partnership reminds me of an ancient take by Homer, the Greek writer. The adventures of schools seeking the technologies of tomorrow are much like those of Ulysses. We will not be thrown off course by the winds of indecision and dashed upon the rocks of the unknown if we hold true to our course. We must steer by the stars and hold to our convictions that all students can have access to quality regardless of distance or resources. We must never waver from our belief that American schools are worth saving. As captains, we must demonstrate strength in our as we sail into a new century. .

RELATED ARTICLE: Additional project information

Web site of Texas A&M University - Commerce. edu:80/ntep/linschd.htm

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Peggy Meathenia, assistant to the superintendent at Lufkin Independent School District, is a speaker and author on Distance Learning strategies. She has led various projects such as the Creating Connections project and the East Texas School-to-Work Partnership.

LANGUAGE: ENGLISH

IAC-CREATE-DATE: January 24, 1999

LOAD-DATE: February 08, 1999



Search: Advanced Search;headline (distance learning) and atl10 (distance learning);...

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Education Technology News

May 26, 1999

SECTION: No. 11, Vol. 16; Pg. NA ; 1061-5008

IAC-ACC-NO: 54806880

LENGTH: 753 words

HEADLINE: Distance Learning Association's D.C. Chapter Preparing Guide for Schools.

AUTHOR-ABSTRACT:
THIS IS THE FULL TEXT: COPYRIGHT 1999 Business Publishers, Inc. Replaces Education Computer News. Subscription: $ 286 per year as of 1/97. Published biweekly. Contact Business Publishers, Inc., 951 Pershing Dr., Silver Spring, MD 20910-4464. Phone (301) 587-6300. FAX (301) 585-9075.

BODY:

The Washington, D.C., chapter of the Distance Learning Association will release an assistance document in the fall for officials at **high schools** in the metropolitan area to use as a tool in implementing effective technology programs, Lawrence Tagrin said, head of the education technology special interest group.

At this point, the group is soliciting feedback from school officials in an attempt to narrow down common problems they are facing in establishing distance learning programs. The group is quite interested in learning what types of assistance training the schools would like to receive, Tagrin added.

"I want the school districts to tell us what they would want us to provide answers to relevant to distance learning," he added. Tagrin pointed out that the group cannot help schools acquire hardware, but its primary role will be to brainstorm with faculty and staffers about navigating around technology problems.

Nationwide there are two key areas in distance learning that many schools grapple with. One obstacle to establishing distance learning in the schools is a resistance by teachers to embrace something new. Quite often, teachers are intimidated by the technology and are more comfortable in a traditional classroom setting, according to distance learning experts.

"We can help teachers see that the Internet will not replace them but will allow them to address a broader spectrum of learning styles," he added.

There are critics of distance learning and technology in the classroom who contend the Internet is a "totally rotten" teaching environment, according to Tagrin. His group, however, wants to change this type of thinking by proving to critics that, with the right plan in place, the Internet and other distance learning technology can create an exciting learning environment.

Another problem associated with distance learning involves the cost of the equipment. Initially, the cost of purchasing hardware and establishing connections was deemed too expensive for school districts. Now that the use of technology is so widespread, costs have been declining; therefore, this is no longer considered an obstacle to distance learning, Tagrin said.

Costs linked to distance learning can also be slashed with funding provided by the federal E-rate program. E-rate was unable to curb costs early on because the initiative was just launched last year.

The new guide from the Distance Learning Association chapter will not only be used at schools in the District of Columbia, but will be available to schools in Southern Maryland and Northern Virginia.

In Maryland, distance learning programs are implemented to combat recruiting problems some of the schools face when trying to hire teachers for certain subjects.

Specifically, distance learning is used to provide instructions in foreign languages and advanced placement courses. "In rural areas, it fills in the gap if they can't recruit a certified teacher," said Barbara Reeves, the director of instructional technology in Maryland. Approximately 120 sites in Maryland use distance learning through interactive videos.

Distance learning in Maryland does not consist of a lot of Web-based learning, but instead consists of videos, according to Reeves.

She pointed out research has shown that the key to establishing effective distance programs is ensuring that teachers are comfortable using the technology and know how to integrate it in their curriculums.

One area Maryland educators are grappling with is trying to overhaul a two-day training program it had in place to prepare teachers to use technology in their classrooms. "This course didn't really prepare the teachers to utilize the equipment to fit the needs of a particular subject," Greg Talley, education coordinator for distance learning added.

Now Maryland education officials are trying to restructure the training so that teachers will be given directions on how to tailor the use of the technology for use in history and English classes, Talley said.

Educators in Virginia use broadcast satellite programs to provide students in rural areas with access to foreign language instructions and AP classes, said Lan Neugent, assistant superintendent for technology. He added the Virginia Department of Education would like to see teachers and students use the Internet to conduct more research.

For more information, contact Lawrence Tagrin, (301) 590-6260, Greg Talley, (410) 767-0075 or Lan Neugent, (804) 786-2260.

LANGUAGE: ENGLISH

IAC-CREATE-DATE: June 14, 1999

LOAD-DATE: June 15, 1999

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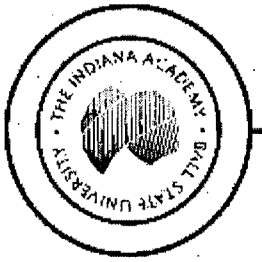
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insite HIGH SCHOOL COURSES

ELEMENTARY COURSES
HIGH SCHOOL COURSES
ELECTRONIC FIELD TRIPS
PROFESSIONAL DEVELOPMENT
HIGHER ED. COURSES
SOFTWARE APPLICATIONS

PROGRAM BACKGROUND

The Indiana Academy Office of Outreach Programs has been offering high school distance learning courses since 1990. What began with just three classes and a few dozen Indiana students has evolved into eight classes serving hundreds of students in several states. The broadcast schedule for the 1999-2000 academic year focuses on Advanced Placement science and mathematics courses, including **AP Biology**, **AP Calculus AB**, **AP Physics B**, **AP Chemistry**, and **AP Statistics**. Other offerings include **Human and Molecular Genetics**, **High School Physics**, **Astronomy**, and **Russian I** and **II**.

Each broadcast is a live, interactive course session that allows students at remote sites to call in on a **toll-free telephone number** and talk to the instructor directly on the air. They can also call the instructors during pre-determined office hours. And through the extensive supplemental **course Web sites**, students and teachers can **e-mail** the instructors with questions or concerns. As an added benefit, the science instructors conduct **on-air laboratory experiments** to help students and teachers with the handling and processing of materials.

Find out more about AP Biology.
10-10:50 a.m. EST

Why is a cell membrane permeable? Find out in this Advanced Placement course in biology for students interested in pursuing biology-related careers or in just learning about advanced sciences. This course is equivalent to a college introductory biology course taken by biology majors their first year. The course is much more complex and intense than the usual high school course in range, depth, time, and effort required in order to help students prepare to take the national AP Biology exam. Recommended for grades 11-12.

Find out more about AP Calculus AB.
10-10:50 a.m. EST

Mathematics can be made interesting and relevant to everyday life! While this course isn't for the weak at heart, it provides a good introduction to the intense level of college courses and is essential for those students dedicated to advanced study in mathematics and sciences. The Advanced Placement syllabus covers one semester of college calculus and includes differentiation and integration of functions of a single real variable. Recommended for grades 11-12.

Find out more about AP Chemistry.

1-1:50 p.m. EST

What compounds are used to create the chemicals we use for fertilizing, medications, or even cleansing the water we drink and the air we breathe? The equivalent of a college-level chemistry course, this practical yet complex approach to AP Chemistry is based on the Advanced Placement curriculum and prepares students for the national AP exam. Recommended for grades 11-12.

Find out more about AP Physics B.
11-11:50 a.m. EST

Learning about science can be fun with this intense approach to complex physics issues. This algebra-based general physics course follows the syllabus recommended by the Advanced Placement program of the College Board. Learn about mechanics, thermodynamics, waves, oscillations, optics, and modern physics, as well as how the concepts apply to everyday life and learning. Recommended for grades 11-12.

Find out more about AP Statistics.
12-12:50 p.m. EST

Learning about science can be fun with this intense approach to complex physics issues. This algebra-based general physics course follows the syllabus recommended by the Advanced Placement program of the College Board. Learn about mechanics, thermodynamics, waves, oscillations, optics, and modern physics, as well as how the concepts apply to everyday life and learning. Recommended for grades 11-12.

Find out more about Astronomy.
1-1:50 p.m. EST

Star-gazing becomes a fine art and science in this course designed to expand students' knowledge and understanding of the solar system and cosmos beyond our planet. Concepts in the theories behind the creation of comets, asteroids, and meteors are part of this curriculum, as well as the understanding of placement of constellations and the constantly evolving landscape of the night sky. Recommended for grades 9-12.

Find out more about High School Physics.
9-9:50 a.m. EST

Why does a car need leverage and a motor to fight gravity? What makes waves move? These are just some of the practical yet fascinating questions explored in High School Physics. This course explores the fundamental concepts of mechanics, heat, kinetic theory, thermodynamics, wave motion, light, and electricity and magnetism. Recommended for grades 9-12.

Find out more about Human/Molecular Genetics.
12-12:50 p.m. EST

This is a must-have course for any student considering a career related to the medical field! What does sheep cloning mean for the future? How can you learn how to predict the likelihood of birth defects? These current-day quandaries are addressed with scientific precision and personal understanding of the inheritance of human traits. Some of the topics covered in the first semester include the Mendelian principles of inheritance and genetic disorders. The second semester emphasizes molecular genetic techniques, cancer, and population genetics. Recommended for grades 10-12.

Find out more about Russian I and II.
8-8:50 a.m. EST and 9-9:50 a.m. EST

Russian I - What do Chekhov, Tchaikovsky, and Baryshnikov have in common? The rich and exciting Russian language and culture! This course will introduce students to the fundamentals of Russian grammar, vocabulary, and daily life. The curriculum includes the Russian alphabet, phonetics, grammatical structure, and common expressions. The language studies are put in perspective with colorful lessons on Russian culture, literature, and history. Recommended for grades 10-12.

Russian II - This Russian course takes students beyond fundamentals and introduces them to more complex grammatical structures -- into the realm of proficiency. There will be a more intense focus on written and conversational Russian. Russian I or an introductory Russian language class is a prerequisite. Recommended for grades 11-12.

Find out general technical information.

PROGRAM COST

$1,000 base fee per (school) site, per high school course -- except AP Statistics

$500 base fee per (school) site, per AP Statistics course (available Spring 2000 only)

$300 additional per student (1-4 total students) *
$250 additional per student (5-9 total students) *
$200 additional per student (10 and above total students) *

This one-time cost includes a full academic year of the distance learning course via two-way audio/one-way video telecommunications technology, all related support materials (**excluding** textbooks), and access to course Web sites.

* The additional per-student fees are waived for Indiana schools.

INFORMATION & REGISTRATION

For more information about this and other exciting Insite distance learning opportunities, or to register, please call (800) 316-3163 ext. 112. Or e-mail insite@bsu.edu. Be sure to include your mailing address if you would

like to be added to our database.

To join our Insite e-mail newsletter for program announcements, updates, and other information, please send e-mail to insite@bsu.edu with the word SUBSCRIBE in the Subject line. (No message is necessary.)

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ELEMENTARY COURSES
HIGH SCHOOL COURSES
ELECTRONIC FIELD TRIPS
PROFESSIONAL DEVELOPMENT
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SOFTWARE APPLICATIONS

PROGRAM BACKGROUND

Since 1996, the Indiana Academy Office of Outreach Programs has been producing **electronic field trips** -- live, interactive, televised broadcasts that transport students and teachers to various locations throughout the United States. Initially, The Field Museum in Chicago was its first educational partner. Today, other educational partners include the Smithsonian National Museum of Natural History in Washington, D.C., and the Newseum in Arlington, Virginia. The 1998-1999 schedule also includes programming with the Holocaust Museum in Washington, D.C. See the national and international awards the electronic field trip broadcasts and the Web sites have received.

Each broadcast is a **live, interactive** journey that allows students at remote sites to call in on a **toll-free telephone number** and talk to the program hosts directly on the air. Students can also communicate with the hosts via **fax**, **e-mail**, and **live Internet chat**. And exclusive **Web sites** are available to supplement each broadcast with virtual museum tours, online classroom activities, Internet resources, and much more. Please note that the registration deadline for each programs is two weeks prior to the broadcast date.

Find out more about electronic field trips with the Smithsonian National Museum of Natural History in Washington, D.C.

Find out more about electronic field trips with The Field Museum in Chicago.

Find out more about electronic field trips with the Newseum in Arlington, Virginia.

Find out more about electronic field trips with the Holocaust Museum in Washington, D.C.

Find out general technical information.

PROGRAM COST

$75 fee per (school) site, per program -- with **no additional cost** per student

(**Lower rates** are available with mass purchases for large school corporations and districts. Call for details.)

This one-time cost includes the two-way audio/one-way video broadcast via satellite technology, all related support materials, and access to exclusive, extensive program Web sites.

Programs also are available in VHS videotape (non-interactive) format.

Web sites also are available in CD-ROM format for both Macintosh and Windows.

INFORMATION & REGISTRATION

For more information about this and other exciting Insite distance learning opportunities, or to register, please call (800) 316-3163 ext. 112. Or e-mail insite@bsu.edu. Be sure to include your mailing address if you would like to be added to our database.

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last updated 01Sep1999
e-mail webmaster

k-12 options

Enrollment in a Distance Education Course

You do not have to be admitted to The University of Texas at Austin or the High School Diploma Program to take Distance Education Center courses. Likewise, enrollment in distance education courses does not constitute admission to the UT Austin High School Diploma Program.

If you are taking courses for credit toward a degree or diploma, the number of courses you take may be subject to the approval of your school counselor, so check with her or him first. We recommend that you enroll in no more than two courses at a time, unless you are participating in home schooling or have other compelling reasons for doing otherwise. You are more likely to complete your course and be satisfied with your study if you can concentrate on one or two courses.

How to Enroll

There are now five ways to enroll:

1. Enroll online, using a major credit card.
2. Submit a enrollment application by mail.
3. Submit a enrollment application by fax using a major credit card or a purchase order number from your school.
4. Call Student Services at (512) 471-7716 or (888) BE-A-GRAD and enroll by phone using a major credit card.
5. Come into our office at 3001 Lake Austin Blvd. and enroll in person.

Click here for our mailing address and phone numbers.

Getting Credit

Credit Toward Your Diploma

> To ensure that your credit will apply, have your school counselor, registrar, or principal sign your enrollment form before you submit it to us for processing. If you enroll online or by phone, please be sure to tell us how we may contact your counselor, so that we may verify your school's consent before processing the enrollment. Consent from your school is important because your school district will actually grant the credit you earn. If you are enrolled in the University Charter School (UCS) or The University of Texas at Austin High School Diploma Program (HSDP), our principal or other official will approve your enrollment.

Dual Credit

> Many high school students take advantage of dual credit options - the opportunity to take college courses that not only will give them college credit, but also will fulfill high school graduation requirements. To enroll for dual credit,

a student must have the approval of the high school principal or another school official designated by the school district.

Students enrolling in college courses for high school credit should be aware that these are university-level courses taught by university faculty. All students, regardless of age or class standing, will be held to the same standards. Grades earned become part of the student's permanent record at UT Austin.

If you are interested in dual credit, please contact Student Services at (512) 471-7716 or (888) BE-A-GRAD for more information.

Distance Education Overseas

If you are going overseas and are planning to take your courses through Distance Education, the best procedure for enrolling is to have your school counselor or other school official prepare a list of courses you will need for graduation. Then, send this list of courses to us along with the counselor's signature.

If at all possible, come to Austin to enroll and pick up the study guides before you leave. Allow time to obtain the course textbooks and receive course materials before leaving the country. Airmail letters and lessons go easily to virtually every country, but packages are slow and may present problems.

Be sure to include your full nine-digit zip code when enrolling so that your course materials can reach you as quickly as possible. You may want to fax your lessons to us in order to decrease the overall time it takes for us to receive, grade, and return your lessons.

Students with Disabilities

If you have a physical disability or an identified learning disability that requires special arrangements, we will make every effort to accommodate your needs. With your request for such arrangements, please provide us with documentation that describes the nature of your disability and the kind of accommodation that your disability requires. Please notify Student Services when you enroll so we can verify that we are capable of providing your approved accommodation. Additionally, if you are a middle or high school student, please send us a signed statement from your Admission, Review, and Dismissal (ARD) committee report or 504 accommodation form describing any special considerations necessary for you to take the course.

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back to College Courses
back to Independent & Distance Learning

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April 30, 1998, Thursday

SECTION: Financial News

DISTRIBUTION: TO BUSINESS, EDUCATION, AND TECHNOLOGY EDITORS

LENGTH: 662 words

HEADLINE: Gentner's AP800 Chosen for Distance Learning Program in State of Indiana

DATELINE: SALT LAKE CITY, April 30

BODY:

Gentner Communications Corporation (Nasdaq: GTNR) today announced that its Audio Perfect(TM) 800 audioconferencing system has been chosen by the Corporation for Educational Communications (CEC) to provide audio for the distance learning programs they provide throughout the state of Indiana.

"CEC's Vision Athena Distance Learning program helps provide schools with technology to give students wider exposure to the world around them," said Ruth E. Blankenbaker, Executive Director for CEC. "The technology enables schools to deliver instruction more economically and to more students, while improving equity among school districts.

"The most critical component of videocommunications is the audio," continued Blankenbaker. "For Gentner to have developed a solution and become the expert on this most difficult aspect of distance learning is phenomenal. Gentner's equipment plays an incredible role in the success of what we are doing. By tapping into the community's resources, students have the opportunity to bring the pages of textbooks alive by experiencing education firsthand."

Students in Indiana now have distance learning opportunities such as interacting with musicians who explain and demonstrate their particular instruments, discussing life in space with astronaut Wendy Lawrence, or going back stage and talking to stage designers at Indiana's Repertory Theatre.

The CEC Vision Athena Distance Learning program has over 160 participating **high schools** and middle schools and over 40 participating content providers. Among the content providers are: Butler University; Indiana Academy; Ballstate University; St. Anthony Medical Center; Children's Museum of Indianapolis; Indiana University; Junior Achievement; Purdue University; Riley Child Development Center; Indiana Repertory Theatre; Indianapolis Zoo; IU Medical Center; University of Notre Dame; and Indianapolis Motor Speedway.

Vision Athena program funding has been provided by Ameritech who has donated $30 million to the CEC to provide grants for the planning, deployment and development of interactive distance learning and other advanced communications services for schools within Ameritech's Indiana service territory.

"The AP800 is the perfect fit for these distance learning applications," said Bruce Krueger, Director, Technology and Implementation for CEC. "It not only provides the echo cancellation, but it also provides the audio processing, microphone mixing, and audio network control for up to eight microphones -- all within one box. By combining these audio devices, installation, set-up and use is much easier. CEC has purchased 250 AP800's to be installed in the participating schools and content provider's facilities between now and August 1998. In addition, as we continue to upgrade equipment in the distance learning classrooms and incorporate new community content providers, it is anticipated the AP8OO will be installed in these sites also."

The sale was made through Video Images and Starin Marketing, a dealer and rep firm (respectively) for Gentner products.

Gentner Communications Corporation provides technology, service, and consulting solutions for the broadcast, telecommunications, corporate, distance learning, court, and assistive listening markets. The Company has a wide product and service mix featuring remote management solutions, audio conferencing products, assistive listening systems, and a nationwide conference calling service.

To the extent any statement presented herein deals with information that is not historical, such statement is necessarily forward-looking. As such, it is subject to the occurrence of many events outside the Company's control that could cause the Company's results to differ materially from those anticipated. Please see the risk factors contained in the Company's publicly filed documents with the SEC.

SOURCE Gentner Communications Corp.

CONTACT: Fran Flood, President of Gentner Communications Corporation, 801-974-3651, fflood@gentner.com; or Ruth E. Blankenbaker, Executive Director, Corporation for Educational Communications, 317-231-6527, rblanken@cec.state.in.us

LANGUAGE: ENGLISH

LOAD-DATE: May 1, 1998

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February 16, 1998, Monday

SECTION: Financial News

DISTRIBUTION: TO BUSINESS AND EDUCATION EDITORS

LENGTH: 961 words

HEADLINE: Students Explore Mysteries of the Deep Through Mote Marine Laboratory's Distance Learning Program Supported by networkMCI Conferencing

DATELINE: ATLANTA, Feb. 16

BODY:

Students of all ages can explore first-hand the mysteries of the deep, even if they are hundreds of miles away from the ocean, through a distance learning program created by Mote Marine Laboratory and enabled by networkMCI Conferencing and MCI Global ISDN.

Mote, located in Sarasota, Fla., and MCI have created a comprehensive, curriculum-based distance learning program that will soon be available as a graduated series for elementary grades through **high school.** Designed for the most effective classroom use, Mote's distance learning program uses undersea creatures kids love to explore marine science in a highly interactive environment. By involving students as primary investigators -- working directly with real data and real scientists -- they learn about everything from sharks, dolphins and manatees to marine toxins and environmental rehabilitation.

Through MCI Global ISDN's (Integrated Services Digital Network) access to networkMCI Conferencing's technology, Mote is offering students and teachers a unique one-to-one learning experience grounded in the thrill of real-world interdisciplinary research and technology. ISDN technology provides access to audio and digital videoconferencing, connecting scientists and students in real time. MCI Global ISDN is available in Europe, the Pacific, Latin America, the Middle East and Africa to enable worldwide consistent distance learning applications.

"Conferencing is an affordable alternative to satellite transmission, and is more intimate than a satellite downlink because it allows for interaction with the instructor," said Tim Reedy, vice president of finance and marketing for networkMCI Conferencing. "It leads to a much more rewarding classroom experience."

"In traditional classes, students don't have access to real scientific research and data sharing -- and those are essential to science," said Julia Mair, Mote 's director of distance learning. "Distance learning makes it possible. Technology is the threshold, enabling students who cross it to explore real problems in the classroom."

According to Mair, distance learning provides students with authentic experiences. For example, students from three locations might take water samples from their separate communities and analyze their data with Mote scientists using videoconferencing technology. Students in one location can then use their data to collaborate with students in other areas via document conferencing.

"Using distance learning technology, students in Florida can collaborate with students in the Bronx, England, or anywhere else in the world," Mair said. "It turns a lab on local water quality into a lab on global water quality."

Each of Mote's modules provides teachers with conventional and technology-based teaching materials including two-way, live distance learning interaction with Mote's scientists via Global ISDN; classroom materials and exercises; state-of-the-art, Internet-based learning and scientific activities; and teacher and

student technology training. Students also participate in Mote's research expeditions, where they are able to accompany scientists via distance learning technology as they tag sharks, rescue sea turtles and study wild dolphin populations.

"We see a real transformation in the students who participate in our distance learning program," Mair explained. "At first, they ask typical classroom questions like 'Why do sharks go for the blood?' then move to more substantive questions about sharks' amazing sensory abilities, showing a deeper understanding of the subject because they've experienced it first-hand."

Mote Marine Laboratory is an independent, nonprofit research organization dedicated to excellence in marine and environmental sciences. Since its inception in 1955, the laboratory's primary missions have been the pursuit of excellence in scientific research and the dissemination of information to the scientific community as well as the general public. Through this research, the laboratory provides a center for the exchange of scientific information, hosting visiting investigators, student interns, seminars and conferences. Public outreach is accomplished through the Mote Marine Aquarium, an educational museum providing marine programs for all levels, from elementary-school children through adults. For more information visit Mote's web page at http://www.mote.org.

networkMCI Conferencing provides multipoint bridging and a single toll-free number for reservations and support. The strategic business unit of MCI Telecommunications Corporation is a leading provider of conferencing services, which currently include audio, video and NET conferencing, equipment sales and support, as well as tele-management services to complement customers' electronic meetings. More information on networkMCI Conferencing can be found at http://www.nmc.mci.com.

MCI, headquartered in Washington, D.C., is a leading provider of local-to-global communication services to business, government and residential users. The company's fast growing portfolio of advanced data, Internet and IT services now accounts for nearly a quarter of MCI's $19.7 billion in annual revenue. MCI operates one of the world's largest and most advanced digital networks, connecting local markets in the U.S. to more than 280 countries and locations worldwide. MCI has agreed to merge with WorldCom, one of the world's fastest- growing communications companies. The merger, which is expected to be completed by mid-1998, will create MCI WorldCom, a company uniquely positioned in the U.S. local and long distance markets as well as the global data and Internet markets.
SOURCE MCI
CONTACT: Judy Epsten of MCI Public Relations, 800-644-NEWS or 312-470-4814; or Lisa Wolfe of Grant

LANGUAGE: ENGLISH

LOAD-DATE: February 17, 1998

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[redacted]

John B. Buxton

10/27/99 11:57:02 AM

Record Type: Record

To: Lana D. Krstich/OPD/EOP

cc:
Subject: FW: Virtual ink*inc

Could you pull these articles when you get a chance? Chronicle of Higher Ed should be on-line and I think their articles are free. If not, the library upstairs may have. Once you find them, let's talk abotu how you might do some work with me on distance learning. Thanks.

---------- Forwarded by John B. Buxton/OPD/EOP on 10/27/99 11:55 AM ----------



"Kaminkow, Julie" <Julie_Kaminkow@ed.gov>
10/21/99 11:11:45 AM

Record Type: Record

To: John B. Buxton/OPD/EOP

cc:
Subject: FW: Virtual ink*inc

> Just FYI, if you haven't already seen it:
>
> The current (Oct 22, 1999) issue of Chronicle of Higher Education has
> several articles on distance education, several of them including a focus
> on the high school level. Themes that emerged that might be of interest
> include:
>
> 1. * "As Distance Learning Boom Spreads, Colleges Help Set Up Virtual High
> Schools: Backers say specialized on-line courses can benefit students in
> low income districts". This article notes the rapid growth of distance
> learning at the high school (as well as the college) level. It notes that
> "Most of these virtual high schools aren't trying to replace traditional
> schools--they focus mainly on AP and college prep courses in the kind of
> courses that many traditional high schools don't have enough teachers or
> money to offer. One provider notes that high schools already know how to
> offer very well their core courses. It is the endpoint areas eg gifted and
> talented, advanced placement, ESL, etc. where the providers are targeting
> to help deal with teacher shortages, overenrollment, etc.
> Raymon Ravalgia, Dept Director of the Stanford GATE program says

> that both teachers and textbook providers are frequently unable to provide
> adequate resources for gifted students. (The textbook providers find such
> niche markets unprofitable.) Stanford began a distance program in 1992
> for grade school, middle school and high school students, providing
> advanced courses (which typically cost $435 per student.) A U of Ca AP
> chemistry course, and Virtual High school are also noted.
> It notes that the courses are so new that little has been done to
> assess the quality and effectiveness of the courses and some fear that
> fly-by-night operators may emerge.
> Among the states whose governments, universities or schools have
> created virtual high schools are Arizona, California, Kentucky,
> Massachusetts, Michigan, Nebraska and Utah. (University of Nebraska has
> created a for-profit spinoff called "Class.com".)
> The article also notes the increasing blurring of once rigid lines
> between "high school" and "college", in part reflecting these
> technologies.
>
> 2. At the State line? "U of Nebraska's Class.com Hooks up with a
> Kentucky School" reports that Ky will purchase courses from Class.com to
> help start the Kentucky Virtual HS. The state will play Class.com $195
> for each student. The Ky VHS will enroll 900 students the first semester,
> with enrollment eventually growing to 4,000 to 5,000 students. Courses
> will include advanced math, science and languages.
>
> 3. Chris Dede's presentation to the Telelearning 99 conference in Austin
> argued that "Distance education can bolster the bottom line". Chris noted
> that a college--if it used space efficiently--could enroll one-third more
> students by holding a quarter of each course's class meetings on line
> rather than in the classroom. "The extra revenue in tuition and fees
> would more than pay for the technology" he said. "It's much more expensive
> to build a building than a virtual building". (Although it is not
> discussed, the implications for teacher time, classroom space, etc. appear
> to hold for elementary and secondary education as well.)
>
> 4. FInally, in the area of customer satisfaction the article "Course
> Evaluations Proliferate on the Web--to the Chagrin of many Professors"
> discusses web sites on which students can post evaluations of professors,
> with some sites putting dozens of courses and colleges up for evaluation.
> Collegestudent.com invites comments frm students at more than 400
> universities. The article goes on to note the unsystematic nature of many
> comments, etc. --but could also be a very interesting emergence of a new
> WWW institution to provide "consumer report" information (as it matures).
>

College

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Kansas City Business Journal

January 9, 1998

SECTION: Vol 16; No 17; pg 18

LENGTH: 1133 words

HEADLINE: Distance learning opens up new educational pathways

BYLINE: Martha Gershun

DATELINE: Kansas City; MO; US; Midwest

BODY:

Ever since the development of the one-room schoolhouse, Americans have considered education to be a social activity. From preschools to universities, we have built academic institutions based on the premise that learning is best achieved in groups rather than in solitude.

Fundamental to this model is the requirement that all members of a learning group be in the same place at the same time.

But advances in technology, from video-teleconferencing to CD-ROMs to the World Wide Web, are challenging that requirement. Today, the concept of distance learning is emerging as a whole new channel for the delivery of education.

Nowhere is that channel more popular than in the world of higher education, where busy adults find it inconvenient, and sometimes impossible, to attend regularly scheduled classes at a predetermined location.

"Our working adult students have really benefited from distance learning as a substitute when their schedule doesn't allow them to participate in a traditional classroom experience," according to Mike Haverty, regional manager of Keller Graduate School's two Kansas City centers.

"Students used to have to come together in a classroom setting to interact," he continued. "Not anymore. Today, new technologies make it possible for students to interact with faculty members, and each other, without everyone being in the same room." Learning teamwork

Keller has recently developed a Distance Learning Center to allow students in the MBA and other master's programs to take individual courses outside of the classroom. The school's Web-based platform uses computer-mediated E-mail and threaded conversations, videotapes, and CD-ROM, according to Susan Raftery, Keller's director of distance education.

"By using a variety of delivery methods, students not only learn and receive feedback from the instructor, but also participate in a variety of group and teamwork activities with fellow students, wherever those students may be," Raftery explained.

Park College also is using distance learning to supplement their classroom offerings. Last year Park offered five courses via the Internet. They were so popular that this year the school plan to offer 21 courses, with 25 sections, serving 600 students, according to Tom Peterman, vice president of distance learning.

Park uses CD-ROM technology with the Internet to provide lectures, graphics, photos, and audio to distance learning students.

"Sometimes we require students to travel to an extension test site so exams can be proctored," Peterman said.

"More often distance learning courses are writing intensive," he said. "This provides for significant written interaction between the student and the instructor, which is used for evaluation over the period of the course."

The University of Kansas is using several different technologies in their approach to distance learning.

According to Michael Henry, manager of distance education at KU's Regents Center on the Edwards Campus, the school is offering courses via television as well as the Internet.

The TV classroom offers full-motion interactivity with KU's Lawrence campus, allowing two-way communication between the two classrooms.

"This way we can bring the traditional KU campus directly to the Kansas City area," Henry said.

The TV classroom format also provides video that can be shipped to students at other locations. For example, if a Black & Veatch employee is transferred to an international location in the middle of the course, the student can continue the class through the videotape process, Henry explained.

At the Center for Academic Development the University of Missouri-Kansas City is presently serving 300 rural Missouri **high school** students with the use of distance learning technology," said Dr. Kay Blair-Patterson, research associate.

The courses, taught by UMKC professors, can be taken for either **high school** or college credit.

In the UMKC program, students have a video of the class, which has activities for them to complete inserted every five to 10 minutes.

The university also has an on-site facilitator trained by UMKC to lead students through the course, help them manage their time, and answer questions.

The program also uses CD-ROMs, E-mail and teleconferencing.

"The rigors of the original course are kept intact," Blair-Patterson said. "The course has planned objectives, goals, and outcomes in place, with the distance learning technology used to enhance the education delivery." Electronic outreach

Several Kansas City area schools are offering complete degree programs through distance learning formats.

Graceland College presently offers an outreach program for Registered Nurses seeking to earn a bBachelor of science in nursing, said Sherri Kirkpatrick, vice president and dean of nursing.

The program, which currently has more than 3,000 students enrolled around the United States and overseas, includes three components:

Directed Independent Study, using video; toll-free phone access to the faculty; and the good, old-fashioned postal service; a Required Residency, involving two-week visits to the Independence, MO campus for course work; and a Clinical experience, involving hands-on nursing in the students' own community.

"Students also use the Internet to participate in less formal activities such as student orientation and chat rooms," Kirkpatrick said.

The program has been so successful that Graceland has also begun offering a master of science in nursing degree, Kirkpatrick said.

The new MSN already has 100 students enrolled.

Ottawa University offers a 12-course master's of human resources through a distance learning format. The program utilizes an electronic classroom format that includes a Web site with e-mail capabilities, course information, an assignment file, and links to other relevant course sites.

Ottawa's program also requires students to spend two days on campus at the beginning of each term. The degree involves three terms each year.

According to Dr. Gus Breytspraak at Ottawa, some of the advantages of the electronic format include enabling students to hold Web-based discussions throughout the term, as well as giving them Internet access to the authors of course textbooks.

This winter UMKC will begin offering a certificate program in labor studies using an interactive video network. The program will involve at lease six three-credit-hour courses, beginning with Labor Law and U.S. Labor History.

"Many students still feel there is no substitute for the face-to-face interaction in a classroom," Keller's Haverty said.

"But when that isn't possible - due to schedule or location or travel constraints - distance learning provides a great opportunity for students to continue to make progress towards their educational goals."

GRAPHIC: Photo

LANGUAGE: ENGLISH

UMI-ACC-NO: 9852815

JOURNAL-CODE: KCBJ BTL

LOAD-DATE: February 13, 1998

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HEA Amendments of 1998: The Advisory Committee Analytic Agenda - October 1998

Distance Learning

Higher Education Community Testimony

"The concern we have with Distance Education deals with gatekeeping, eligibility, and fraud . . . the worry that we have is if we loosen the rules to become Title IV eligible and offer Distance Education, we will see a re-creation of the problems (with correspondence schools) that Congress spent so much time stomping out in 1992. I would encourage the Advisory Committee to focus on issues related to gatekeeping, eligibility and oversight. If the Advisory Committee doesn't do it, it will not get the attention that it needs."

"I'm not quite as enthused about it (Distance Learning) as a lot of people . . . the substance of teaching and learning I doubt will be so enormously affected by technology . . . (however) it is appropriate to experiment on a limited basis to see exactly where this technology can take us . . . and the Advisory Committee is uniquely qualified to really focus on the most complex aspect--whether federal financing should be extended to it, federal financing that has a very specific history, and limitations as to the dollar amounts available . . . The part of this that really scared me--contemplated and frankly pushed by colleagues within the community--was the elimination of the 50 percent rule . . . leaving all principle and good policy aside, a bunch of folks on the inside of something wanting to just blow the gates wide open to see what happens."

"There is not a critical mass within the higher education community on what exactly needs to be done in the area of Distance Education, and still preserve the integrity of the programs. . . There are academic buccaneers who are out to take any advantage of the system and perhaps not deliver quality education to students."

The Advisory Committee's charge focuses on the need to evaluate the implications of distance education for student eligibility and other requirements for financial assistance, including policies to enhance access to postsecondary education, determine institutional eligibility and ensure program integrity, while maintaining access through on-campus instruction. Congress is concerned with balancing the need for advances in technology with the need to protect the integrity of the Title IV programs as explained in the Senate Report:

> "In addition to preserving the strong and effective (program integrity) measures already included in the Act, the committee has taken steps to assure that the problems that have occurred in the past are not repeated. In particular, the committee has developed an approach for dealing with the emerging field of distance education that offers room for innovation while providing for a careful evaluation of the implications such programs hold for student financial aid programs prior to making decisions regarding current restrictions."

Update on Final Changes in the Law

The Distance Education Demonstration Program enacted combines features from both the House and Senate bills.

Participation is limited to institutions that are Title IV eligible and are two- and four-year degree-granting institutions or consortia with a special exemption for Western Governors' University. Secretarial waiver authority for all participants is restricted to provisions related to computer costs, weeks of instruction, percentage of courses offered via telecommunications, percent of students enrolled in such courses, and eligibility requirements. Participation is limited to 15 in the initial year, and may be expanded to no more than 50 institutions.

The Department must notify the public and Congress of the institutions or consortia participating and the statutory and regulatory requirements being waived. Participants are to be selected based on the number and quality of applicants, the ability of the Department to oversee participants, the financial responsibility and administrative capability, the distance education programs offered, and the size, mission and geographical distribution of the institutions.

Also, the Secretary must assure compliance with the statutory requirements not authorized to be waived, provide technical assistance, monitor fluctuations in student enrollment, and consult with appropriate state authorities and accrediting agencies or associations.

The Secretary is required to evaluate student access and outcomes, financial assistance issues, and policies that impede development of distance education. An initial report is due 18 months after enactment, with annual reports thereafter.

quality education to students."

"Speaking from the viewpoint of the Senate, we took very much to heart a number of comments warning that without really getting a grip on where we were going, we risk getting into an 'electronic correspondence school situation' which took substantial efforts in 1992 to try to turn around . . . It would be a shame if, under the guise of Distance Education, something fancier than the 'pen and pencil through the mail' scam should emerge through the airways."

"I endorse the tack that this Congress has taken in going slow in Distance Learning . . . This is an area where we have many more questions than answers . . . about what the demand really is . . . We have very bad data on Distance Learning . . . It may be the case that Distance Learning is serving an important educational need which is something different than postsecondary . . . I caution you to ask hard questions about what the need really is--from students, not from providers."

"Key issues are state licensure, accreditation and sites, the methodology for measuring student financial need, and the relationship between time and content."

"All of my lifetime I have been told that technology would reduce the cost of education and I'm still waiting . . . It seems to me that the driver in Distance Learning is really not technology . . . the social policy involved here is to push the expanding number of students we have into cheaper and inevitably inferior ways of delivering it (education) . . . in other words, Distance Learning is for them, what we have got (now) is for me."

* * *

The independent evaluation of the demonstration programs by the National Academy of Sciences on issues dealing with quality and outcomes for distance education programs was cut from the final bill.

Accreditors are required to include distance education programs when assessing quality. In addition, the Secretary is required to determine the scope of recognition for an accrediting agency, and may include accreditation of institutions offering distance education programs or courses.

Advice from the Higher Education Community

There was general consensus that:

- There is not a standard definition for distance learning.
- The true demand by students is uncertain.
- The Advisory Committee is encouraged to ask hard questions about what the need really is--from students, not from providers--and look carefully into state licensure, accreditation and sites, the methodology for measuring student financial need, and the relationship between time and content.
- Entities are poised to take advantage of technology, deliver substandard education, and thereby undermine program integrity.
- The elimination of the 50 percent rule increases the risk of getting into the same situation as in 1992 which took substantial efforts to turn around.
- Gatekeeping, eligibility and fraud should be the Advisory Committee's focus, and if the Committee doesn't focus on these factors, they will not get the attention that is needed.
- The Advisory Committee is uniquely qualified to focus on the most complex aspect--whether federal financing should be extended to distance learning, federal financing that has a very specific history and limitations as to the dollar amounts available.
- Technology has yet to reduce the cost of education; and the underlying social and educational policy may result in pushing the expanding number of students into cheaper and inferior education.

Final Set of Analytical Issues

The Committee has an interest in creating a broad analytical framework in which distance learning can be addressed along with all other issues directly or indirectly affecting access and program integrity. From the Committee's perspective, the ultimate impact on access to higher education for low- and middle-income students, operating through first order effects on the amount and distribution of need-based aid, is of paramount importance. Consequently, the discussion must be much broader than technological; one that addresses access and institutional eligibility while ensuring program integrity.

The final set of issues in the Distance Learning area are shown in Exhibit 5.



PUBLIC

Home
About Us
Welcome
Press Release
Our Sites
Members
Board
Partners
Star Schools
Tour
JDLC News
Events
Resources
Programming
Site Map
Contact Info

MEMBERS

Login Info
Teachers
Students
Administrators
JDLC Staff
JDLC Board

About Us: Welcome

For the first time in the history of the United States Department of Education Star Program, a five-year grant was awarded to support distance learning initiatives for the juvenile offender population and the adults who serve them. The Justice Distance Learning Consortium (JDLC) is a partnership between the Texas Youth Commission, the New York State Office of Children and Family Services and the Florida Department of Corrections . This Star Schools initiative will provide accessibility, resources and opportunities for students and teachers to use distance learning to literally redefine the educational process in correctional institutions.

JDLC will develop and support a technology-based network, SAFETY-NET (Systems Applications For Educating Troubled Youth Network) for the juvenile offenders and staff in 52 educational facilities located in the three states. SAFETY-NET will represent the integration of two technologies: satellites and computers. JDLC will extend the use of both current and previously developed programming by rebroadcasting selected programs, re-purposing instructional video and print-based materials for use via secure Intranet and videoserver technology, and by providing juvenile offenders and correctional educational staff with access to satellite-delivered programs from selected educational resources. All of this will be delivered via the SAFETY-NET network.

SAFETY-NET will:

- Develop a working consortium for program development and network implementation to maximize the limited resources in all member states
- Increase access to quality educational programs for incarcerated youth
- Increase access to quality professional development programs for faculty/staff
- Support and facilitate forums for staffs to collaborate and share information on successful programs, instructional strategies and any other issues that teachers need to discuss with their colleagues
- Promote and support the utilization of technology in instructional and professional development programs
- Enhance and expand use of previously developed Star Schools and other federally funded programs
- Provide a model for the use of Intranet as well as satellite technology to meet the needs of the juvenile offender populations
- Provide evaluative information on the efficacy of using technology to meet the special needs of the juvenile offender populations through a secure and effective program delivery network.

SAFETY-NET will ensure that teachers and students have access to programs and materials that meet their just-in-time teaching and learning needs and interests, while accommodating the unique structure of the alternative educational settings. Through the incorporation of distance learning technologies, meaningful educational opportunities will be availed to students who, more than ever, must be motivated and challenged to prepare for the future as educated, productive and free adult citizens.

Home • About Us • Tour • JDLC News • Events • Resources • Programming • Site Map • Contact Info

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Legal • Contact: webmaster@safety-net.org

News Release

Media Contact: La Jaycee Brown, (202) 720-9741
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Glickman Awards $13 Million for Rural Schools, Health Clinics, Marks 50th Anniversary of Telecommunications Program

Program Still Vital to Future of Rural America

WASHINGTON, Oct. 28, 1999 -- Agriculture Secretary Dan Glickman today observed the 50th anniversary of USDA's rural telecommunications program by awarding nearly $13 million in grants for distance learning and telemedicine projects in rural areas of 34 states and Puerto Rico. The distance learning grants will provide students in rural schools the opportunity to take classes taught by instructors at other schools or colleges located miles away. The telemedicine grants will allow patients in rural clinics to be examined by medical specialists in distant locations, providing speedier diagnosis.

"Fifty years ago today, USDA helped bring rural America into the 20th century with telephone service, and is now ensuring that these communities continue to thrive in the 21st century with access to the information superhighway," Glickman said. "A new telecommunications revolution is now changing the way the world lives and does business, and USDA is making sure this vital technology is available in rural areas. The grants we are awarding today help ensure that rural residents will not have to settle for inferior education and medical services."

To bring this point home, Glickman interacted on a live video link with the rural Towanda Area School District in northeastern Pennsylvania, where a distance learning program was launched in 1994 with the help of a USDA grant. The project initially involved six rural schools, but has grown to include 300 schools in seven states, as well as 20 museums and 16 colleges and universities. In 1998 99, more than 25,000 students and 5,000 teachers benefitted from expanded learning opportunities thanks to this program.

Glickman also interacted via a live video link with a rural health clinic in Haxtum, Colo., a small farming community 120 miles from the nearest major hospital in Denver. Dr. Greg Holst and two of his patients discussed how they benefit from telemedicine. The clinic in Haxtum is part of the High Plains Rural Health Network, which includes 23 health care facilities in Colorado, Kansas, Nebraska and Wyoming.

"Life-enhancing and life-saving telemedicine technology allows patients in rural clinics to be examined by medical specialists in distant locations, providing speedier diagnosis," said Jill Long Thompson, USDA under secretary for rural development. "Telemedicine also helps compensate for a shortage of doctors in many rural areas and provides educational and teleconferencing services for rural health professionals and administrative support service for clinics."

Working in partnership with rural telephone cooperatives and companies, USDA helped boost the number of rural Americans with telephone service from 38 percent in 1950 to more than 95 percent in 1999. USDA spends about $500 million per year on its rural telecommunications program. Since the program's inception, $11 billion in loans and grants have been made, resulting in more than 1 million miles of phone lines and thousands of miles of fiber optic cable being built.

A list of the Distance Learning and Telemedicine projects receiving USDA funds can be accessed here.

#

introduction

CLASS™ (Communications, Learning and Assessment in a Student-centered System) is a dynamically student-centered learning environment delivered via the World Wide Web. Using innovative technology, the CLASS™ Project maximizes student learning through the use of moving imagery, graphics, sound and text within a seamless navigational system that encourages individualized discovery and learning.

Vision | Goal | Description | Funding | Independent Study High School | CLASS Advisory Council

Vision

This is CLASS™

where discovery- not transmission- of knowledge is the basis for teaching and learning

where students grasp underlying concepts and processes

where the emphasis is on integration, application and performance

where there is respect for diversity of experiences, interpretations, and learning styles

project-based assessment and portfolios emphasize problem solving and reflection on one's own learning.

TOP

Goal

The goal of the CLASS™ Project is to produce a complete, accredited high school diploma sequence on the World Wide Web. In 2001, CLASS™ will have 55 web-based courses available for enrollment.

TOP

Description

This is CLASS™:

- Delivering a dynamically interactive, student-centered learning

environment via the World Wide Web.

- Allowing students to acquire content through moving imagery, graphics, sound, and text within a seamless navigational system that encourages individualized learning, discovery and exploration.
- Helping students manage a multitude of material by providing an electronic "notebook" where students can store and sort everything from video to text.
- Providing the technology needed to support the media.
- Providing students with choices in their own learning paths.
- Requiring students to interact with the materials in an ever-widening understanding of the concepts being presented.
- Allowing students to determine their own mastery of the material through electronically graded practice exams.
- Providing for interaction between learners and instructors.
- Providing learners with access to digital libraries from national, historic, scientific and research centers over the global and national information infrastructure.
- Stressing the development of life and workplace skills, citizenship responsibilities and critical thinking.
- Designing courses to meet the needs of diverse populations, including at-risk and gifted individuals.
- Offering new avenues of educational access through cost-effective alternatives to conventional classroom teaching situations.
- Offering a choice of navigational options including a Contents Viewer, or site map, enabling the student and the teacher to see where the student is, has been, and needs to go within the course.

TOP

Funding

The Department of Distance Education of the University of Nebraska-Lincoln (UNL) is recipient of $17.5 million in federal funding to develop an on-line high school diploma sequence. Beginning in March 1996, the CLASS™ Project was awarded $2.5 million for proof of concept by the General Services Administration. In July 1996, the University of Nebraska-Lincoln's Division of Continuing Studies was notified that it had been awarded a $15 million U.S. Department of Education Star Schools grant. This was a five year win with first year funding beginning on October 1, 1996.

TOP

Independent Study High School

The CLASS™ Project is housed at the University of Nebraska-Lincoln's Department of Distance Education, Division of Continuing Studies, Independent Study High School (ISHS) in Lincoln, Nebraska.

The Independent Study High School:

- Is the only university-based, fully accredited, independent study high school in the United States.
- Has been in operation since 1929.
- Is accredited by both the North Central Association of Colleges and Schools and the Nebraska Department of Education (NDE).
- Currently serves more than 15,000 students annually in 136 countries.
- Offers 151 print-based courses in addition to the CLASS™ electronic courses.
- Offers open enrollment, with students registering throughout the year.
- Has a full staff of certificated teachers, academic advisors and a principal.

The Independent Study High School can help with learner needs such as:

- Accelerated graduation.
- Remediation.
- Scheduling alternatives.
- Summer school options.
- Graduation requirements.
- College entrance preparation.
- Opportunities for homeschooled students.
- Opportunities for homebound students.

Students use UNL's Independent Study High School in various circumstances to meet their educational needs. Among those served are students who:

- Are unable to attend a local school because they live in isolated areas.
- Are in countries outside the United States and are without access to an accredited high school diploma program from a school in the United States.
- Have dropped out of school but want to continue their education and earn a high school diploma.
- Have difficulty coping with the time and place restrictions of a classroom and want to proceed at their own pace.
- Cannot attend a local school because they are homebound.
- Want to accelerate their high school progress.
- Need basic instruction to improve their skills.
- Want a quality education in a home school setting.

Schools, public and private, and adult or community learning centers, use the independent study program in a myriad of ways.

- To supplement their course offerings.
- To meet their obligations.
- To satisfy the education needs of students.

The following types of courses are offered:

- Core courses in all major curriculum areas.
- Special or low-enrollment courses for which a school cannot provide staff.
- Courses needed for college entrance.
- Elective courses to meet the needs of students with a wide range of interests.
- Basic courses for special-needs students.
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Case Studies of the Implementation of the Crossroads Cafe Project - July 1997

D. Characteristics of Distance Learning

Researchers use the terms "distance learning" and "distance education" interchangeably and apply them to a wide variety of programs, providers, media, and audiences. The term "distance education" was first used at the 1972 Conference of the International Council for Correspondence Education after a search for a name that would describe not only correspondence instruction but a whole group of teaching-learning arrangements that had emerged in the 1960s and "had the common characteristic that the learner and teacher were normally separated, geographically and often in time, and the communication that normally in education occurred by word of mouth in a classroom was carried by correspondence and, increasingly, by electronic media" (Moore, 1990a, p. xiv). Verduin and Clark (1991) define distance education as "formal instruction in which a majority of the teaching function occurs while educator and learner are at a distance from one another" (p. 13) and list the following as key features of distance education arrangements:

1. Separation of teacher and learner during at least a majority of each instructional process;
2. Influence of an educational organization, including the provision of student evaluation;
3. Use of educational media to unite teacher and learner and carry course content;
4. Provision of two-way communication between teacher, tutor, or educational agency and learner.

Synchronous vs. Asynchronous Distance Education. The terms synchronous and asynchronous are used to distinguish between two primary forms of communication media used to deliver distance education programs. Whether or not teachers and learners are participating at the same time is what distinguishes between the two (Parrott, 1995; Romiszowski, 1993). Synchronous distance learning programs are characterized by live interactive instruction (e.g., participants in a telephone discussion on-line at the same time). However, although two-way communication between distance learners and teachers can take place via television, telephone, and writing (Davis, 1988), most systems to which the label "distance learning" is applied are actually asynchronous: one-way broadcasting stations which transmit audio and video signals to students at one or more remote sites (Clifford, 1990). The 1992 National Survey on Distance Education Practices reported that the most widely used technology in U.S. postsecondary distance education was broadcast television (Nixon, 1992). Recent developments such as fax machines and electronic mail via computer networks have introduced a new element among telecommunications technologies: rapid asynchronous communication. As it becomes increasingly available, this new form of communication, which is characterized by the participants being separated in time, though not necessarily by distance, is destined to play an increasingly significant role in distance learning systems (Romiszowski, 1993). In summary, synchronous and asynchronous distance education are differentiated the extent to which they do (synchronous) or do not (asynchronous) mimic the live teacher-learner interaction of a regular classroom.

Synchronous Distance Education

- Live interactive, two-way instruction
- Telephone, tele-conference

Asynchronous Distance Education

- One-way instruction (with or without more or less delayed feedback)
- Television, radio, fax, compact disk, electronic mail, Internet

Distance Learning in ESL Instruction. ESL programs for adult learners in the United States have long used various "low-tech" tools associated with distance learning, including audio tapes (in language labs

and for self-study at home) and self-study written materials (for homework or self-study). However, the use of "high-tech" instructional technology such as computers and videotapes is only recently gaining ground in U.S. programs for adults (Gibson, 1992). When the last national study on the topic was done, only 14 percent of all federally supported adult education programs used computer-aided instruction (U.S. Congress, 1993). It is not known what percentage of ESL programs have access to computers. With respect to educational software, there is little software for adult literacy use (Wagner and Venezsky, 1995). The findings are similar for the use of instructional video.

Discussion of the use of video as an aid to teaching English has a long history dating back to the early 1960s; Corder (1960), for example, provided extensive discussion of the integration of videos into English instruction. And, in a number of European countries and in Japan, video was also introduced into programs of ESL in the 1960s (Hambrook 1992, p. 158; Howse 1979, p. 15). By far the best-known producer-distributor of ESL instructional videos, BBC [British Broadcasting Corporation] English has developed its television and video output for more than 25 years as a commercial offshoot of the BBC's external radio broadcast service (Hambrook 1992, loc. cit.).

Obstacles to Distance Learning in the United States. The use of video as a distance learning aid to ESL instruction in the U.S., however, is a more recent phenomenon of the last two decades. On an informal level, ESL teachers have long used network broadcasts as incidental supplementary material to classroom instruction. However, such use lacked systematic control over broadcast content and coordinated written support materials. It was not until the mid-1980s that formal ESL curricula with video components began to be marketed commercially and it was not until the 1990s that the videos available for ESL instruction assumed broadcast quality. As noted by Thomas et al. (1992, p. 127):

> The shortage of high-quality American English ELT [English Language Teaching] videos is attributable in large part to the absence of national organizations with an inglish, whose current catalogue lists 21 instructional video titles.

Perhaps another reason for the late introduction of video into adult ESL instruction in the U.S. is reflected in the following observation by Vanderplank (1993, p. 11):

> It has been evident to me for quite some time that the mainstream perception of the value and uses of television and video for language learning has emphasized the wrong element — its visual nature — and has contributed to the marginalization of television and video as language resources.

Vanderplank notes that on video, the spoken language comes and goes too quickly in most cases for ESL learners to comprehend. And, because of the ephemeral quality of spoken language, it is difficult for the teacher to comment or expand on particular elements of the verbal text. Vanderplank also points out another issue facing the use of videos for ESL instruction both in class and for self-study, namely, that certain genre of broadcasts do not capture the attention of learners and thus fail as instructional media. He specifically names drama, natural history, and closed-caption feature films (Vanderplank 1993, p. 13).

Perhaps more important reasons for the late entry of video as a medium for ESL instruction, however, are those cited by Titsworth and Baum (1993). Specifically, they note that the late entry of video as a medium for ESL instruction has been the result of two factors: cost and resistance to change. In the past, both the initial monetary investment in equipment and training and the cost of the time required to develop instructional videos and materials acted as substantial barriers to the use of video. However, rapid technological changes over the past 20 years have significantly reduced the cost of the technology and placed it within reach of educators.

The second obstacle has been the resistance to change in instructional methods that the use of video entails. In part the result of "technophobia" (fear of technology), the resistance has substantially lessened with the widespread introduction of other instructional technologies such as computers in the classroom.

Recent Efforts. During the 1990s several efforts have been made to develop and implement ESL

curricula using video. For example, the Hacienda La Puente (California) Unified School District worked with the Educational Telecommunications Network to develop an ABE and ESL curriculum delivered over an Adult Learning Channel. Thirteen lessons were developed and received at 30 sites (California State Department of Education, 1993). While some curriculum development efforts have focused on the use of video as a supplement to classroom instruction, for example the "ABC News ESL Video Library" (Englewood Cliffs, NJ: Regents/Prentice Hall and ABC News) and the "Family Album, USA (Glencoe Division of Macmillan/McGraw-Hill), others have been produced for self-instruction in the home, for example, the "Hello America audio-visual program (Breyer et al., 1991).

Advantages and Disadvantages of Distance Learning. Proponents of video as an instructional medium for distance learning point to the following advantages (Berube, 1990):

- exploitation of visuals
- use of student-produced videotapes
- presentations by guest lecturers
- use of simulation
- class management through two-way audio
- accommodation of students' different learning modalities
- rescheduling of canceled classes
- easy to use small size visuals

At the same time, the following disadvantages are noted (Berube, 1990):

- spontaneity is limited
- personal teacher-student rapport is neutralized
- distribution of paper becomes expensive
- visual student-to-teacher feedback is lacking
- mechanical malfunction can waste a class session
- the medium is not yet technologically sophisticated
- learning opportunities are limited
- kinesthetic and tactile learners are at a disadvantage
- everything takes longer

Factors in Effective Distance Learning Programs. Titsworth and Baum (1993) found the following keys to academically sound and productive use of television for instruction: (1) devise an overall strategic plan for reaching students using the best available means, (2) build the support system as the course progresses, (3) design the courses to be learner centered and teacher managed, and (4) maintain the personal touch. They also noted the following guidelines for teacher preparation in the use of video: treat the course as unique and special; be a caring, genuine teacher; reveal oneself; be prepared; encourage student involvement and interaction; honor the student; recognize and prepare for differences in learning styles; and plan to ask how, why, what, or what if.
-###-

[C. Effectiveness of Classroom-based ESL Instruction] PREV UP NEXT [E. Characteristics of Distance Learners]

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Chattanooga Free Press

November 2, 1997, Sunday

SECTION: WEEKEND; Pg. L1

LENGTH: 903 words

HEADLINE: TV Tutoring;
Students in two county schools improve their ACT scores via a "Distance Learning' link

BYLINE: By JAN GALLETTA, Free Press Staff Writer

BODY:

Aiming to major in education at the University of Tennessee at Knoxville, Amanda Moore took the ACT last April when she was a junior at Howard School of Academics and Technology.

Although she posted a perfectly respectable score, Amanda wanted to make an even higher mark and added an ACT preparation course to her senior schedule.

Presently taking the class during the school day's second period, she is honing her reading comprehension, vocabulary and language arts know-how under the tutelage of Tom Randolph, who heads Howard's English department.

But to bolster her skills in math and science, the teen-ager gets help from Tyner **High School's** media specialist, John Marshall, who teaches her by a two-way television link.

Amanda is one of 24 students enrolled in the Distance Learning Program.

Officially launched this autumn, the innovative program currently connects the campuses of Tyner and Howard for daily sessions of electronic reading, writing and arithmetic, all geared to boosting student performance on standardized tests.

Teaming space-age technology with traditional student/teacher interaction, it is an approach to education that offers sky's-the-limit possibilities. But it's also helping pupils with such down-to-earth concerns as getting scholarship money for college.

"Distance learning is a way of providing more educational access to students," says Mr. Randolph.

"It can give students the opportunity to take specialty classes like Japanese, to tune in for guest speakers, to watch demonstrations, to debate other students in other schools and to utilize resources at other schools; it has tremendous potential applications."

"But it doesn't replace teachers," stresses Mr. Marshall. "It's like robots that do not eliminate people's jobs, but allow people to retrain and to replace meaningless tasks with more important ones."

It was in Mr. Marshall's TV production classes that the Tyner/Howard communication bond had its beginnings.

"It started about two years ago with manual operators and the older equipment we then had," he says. "Now that we have the automated equipment provided by ComCast, we'll be hooking up other schools. Red Bank and 21st Century School will be next, and the central office is in the process of being wired for fiber optics.

"Eventually we hope that all 15 **high schools** and 46 middle schools in the county will be linked for Distance Learning."

Establishing those cross-town connections sounds expensive, at first. From desk microphones to cameras to split-screen monitors, it can take as much as $30,000 (about the cost of a single teacher's salary) to completely outfit a classroom, according to Mr. Marshall.

But when that sum is compared to the expense that would be entailed by having -- say, physics teachers, for example -- at every county **high school** where a student needed such a class, the investment in telecommunications seems a cost-effective measure indeed.

Already, the Distance Learning program promises to pay big dividends in another way besides school-budget savings.

"We have some students here at Tyner who make 14s and 16s on their ACTs," notes Mr. Marshall, who adds that 36 is a perfect score and that state colleges require a 16 or higher for admission.

But judging from the grades Distance Learning Program students have earned on the pretests they have taken in his and Mr. Randolph's ACT preparation classes, "We can predict an increase of at least five points, and in some cases 12 to 14 points, in the scores of our students taking ACT preparation."

And those higher marks can translate into higher-education monies.

"A low- to middle-income student who has a 3.0 average and makes a 20-22 ACT score can get a full, four-year scholarship to almost anywhere," says Mr. Randolph.

Even with that cash incentive, not every student is a good candidate for ACT preparation, or for other classes that may be offered later via Distance Learning.

"It requires that the student be highly motivated because he or she has more freedom when the teacher is at a different location," points out Mr. Marshall. "The student must be willing to learn."

A certain amount of self-discipline is also a must, especially with such amenities on hand as individual desk-site microphones to promote pupil participation.

"Order and etiquette are necessary on the student's part," continues Mr. Marshall, who adds that the Distance Learning transmissions are also monitored at the cable site, for which Tyner High's TV production students provide 18 hours of public programming per week.

A couple of other problems remain to be resolved before Distance Learning can become as widespread as Mr. Marshall and Mr. Randolph would like it to be.

Scheduling communal tune-ins on multiple campuses is a particular headache because of staggered bus routes, for example. Some legal issues exist with regard to broadcasting copyrighted material, too.

There is a question as to whether having more than 20 students taking a single class might violate educational regulations. Concern over which schools' budgets covers which shared teachers' salaries may surface as well.

"But there don't seem to be any insurmountable problems," says Mr. Marshall, who has willingly given up his planning period this year to get the Distance Learning Program off to a good start.

"All there is is unlimited potential."

GRAPHIC: Free Press photo by JOHN RAWLSTON Howard School of Academics and Technology students Quona Smartt, James Gladden and Monica Green set the stage for Distance Learning class transmissions.

Free Press photo by JOHN RAWLSTON Preparing to take the ACT, Howard Distance Learning students Amanda Moore, Miranda Moore and Carla Williams hone their problem-solving skills on sample standardized tests.

Free Press photo by MIKE O'NEAL Freda Rucker, Shayla Leslie, Kevin Johnson, Cortez Stokes and Tommy Gilliln watch as ACT preparation instructor John Marshall directs their attention to the Distance Learning Program monitor at Tyner **High School.**

Free Press photo by MIKE O'NEAL With its vast potential applications, Distance Learning represents an innovative and cost-effective way to better utilize educational resources, according to the program's coordinator, John Marshall.

Free Press photo by MIKE O'NEAL Displayed on monitors in the Distance Learning center at Tyner are a math formula and a split-screen vi

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November 19, 1997, Wednesday

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HEADLINE: MCI Takes One Giant Leap into Distance Learning with Milestone Kids-To-Astronaut-To-Shuttle Videoconference;
Last Man to Walk on the Moon Teaches Students about Space and His Legendary Journey Twenty-Five Years Ago

DATELINE: CHICAGO, Nov. 19

BODY:
Commemorating the 25th anniversary of the last manned U.S. lunar landing, the commander of that Apollo 17 mission today brought space science to life for students miles away using state-of-the-art distance learning technology. The commander and last man to set foot on the moon, Captain Eugene Cernan engaged in a live video conference with fifth grade students at the Triton College museum and learning center that bears his name.

"Project: Launch Pad '97," a three-location live video conference provided by networkMCI Conferencing, shuttled guest instructors Cernan from Houston and NASA Official Joel Wells from Cape Canaveral, directly to the students at the Cernan Earth and Space Center outside of Chicago. The students also witnessed the live launch of the Columbia Space Shuttle after an interactive session with their "star" instructors.

"Advances in distance learning technology can provide new experiences and educational opportunities to children like never before, regardless of where they live," said networkMCI Conferencing President and General Manager Phil Knell. "MCI is committed to fulfilling the potential of technology in education."

The video conferencing equipment used in Project: Launch Pad '97 enabled fifth grade students to learn about topics such as microgravity, research developments made in space and what it is like to walk on the moon. Distance learning, the process of using technology to bring information and instruction to individuals from an outside location, is widely used in higher education and corporate settings. Project: Launch Pad '97 demonstrates an application of distance learning technology for elementary through **high school** students.

Project: Launch Pad '97 took off amidst nationwide celebrations of American Education Week. Secretary of Education Richard Riley voiced his support of the project in a video greeting, "Project Launch Pad '97 highlights one of the ways in which you can go beyond your classroom walls to explore and to learn. Today's advanced telecommunications and distance learning technologies offer the opportunity to experience different ways to learn that add to the foundation that teachers are building in the classroom."

As Capt. Cernan recounted his experience walking on the moon, he encouraged students to study math and science. Cernan said, "When I was in the fifth grade memorizing our solar system, I never imagined that one day I would walk on the surface of the moon."

NASA's Wells instructed the students on how Kennedy Space Center workers prepare a Space Shuttle for launch and on the challenges of living and working in a weightless environment. Video footage accompanied his lesson, including Shuttle processing and astronauts floating in space as they performed mission tasks. "Kids are inspired by the images of launch and astronauts floating in space," said Wells.

He added, "By stimulating their youthful imagination, I hope we can spark an interest that leads them to future contributions in space exploration."

MAKE SPACE FOR LEARNING

networkMCI Conferencing initiated Project: Launch Pad '97 and donated all the teleconferencing equipment to accomplish the educational undertaking. In addition, networkMCI Conferencing made a $10,000 donation to the Cernan Earth and Space Center to further support the Center's efforts to boost science education in the Chicago area.

Mrs. Eddye Naylor and her fifth grade class from nearby Matthew Henson Elementary School took part in today's interactive learning experience. An award-winning educator who has taught in Chicago for more than a decade, Mrs. Naylor recently participated in a joint NASA/National Science Teachers Association (NSTA) program that trains select teachers to integrate creative science and math projects into their curriculum.

"Using distance learning technology to bring the launch and space experience to my students in an interactive format reinforces and builds on the lessons I teach," said Mrs. Naylor, "Today, my students got to talk to a former astronaut in Houston and a NASA launch expert in Florida without having to leave Chicago."

Naylor's students engaged in a question-and-answer segment with both Cernan and Wells, asking questions about how astronauts go about their daily activities, what the moon feels like to walk on and how it feels to travel in a space capsule.

The Cernan Earth and Space Center (CESC) is an educational facility for local community members and students on the Triton College Campus. The center features 44-foot diameter dome theater with planetarium star, 360 degree video and laser projection systems. The CESC provides a wide array of educational programs and entertainment on astronomy, space science and earth science. CESC also houses the Space Hall, which carries a variety of related exhibits including the actual space suit and coverall garments donned by Capt. Cernan and other Apollo artifacts.

networkMCI Conferencing offers distance learning solutions to corporations and educational institutions worldwide through its Distance Learning Center. A comprehensive suite of services, the Distance Learning Center enables customers to benefit from high-quality conferencing technologies while ensuring that technology is aligned with educational objectives by including intensive instructor training and certification, project management, peer-to-peer counseling and technical support.

More than 50 percent of higher education institutions already invest in distance learning, and they plan to spend more than 1.5 billion dollars over the next academic year (Source: CCA Consulting, Inc.). In addition to educational institutions, corporations in the U.S. are confronting the dilemma of having to retrain close to 50 million workers. A properly designed distance learning program can reduce training time by 30 to 50 percent and can eliminate costs associated with travel. (Source: Faulkner).

networkMCI Conferencing provides multipoint bridging and a single toll-free number for reservations and support. The strategic business unit of MCI Telecommunications Corporation is a leading provider of conferencing services, which currently include audio, video and document conferencing, equipment sales and support, as well as tele-management services to complement customers' electronic meetings.

More information on networkMCI Conferencing can be found on the MCI Web page at http://www.mci.com.

MCI, headquartered in Washington, D.C., offers the industry's most comprehensive portfolio of communication services. With 1996 revenues of $18.5 billion, MCI ranks as one of the world's largest telecommunications companies. MCI is also the world's second largest carrier of international

traffic and operates one of the world's most advanced Internet networks. Since its founding in 1968, MCI has been a leader in bringing the benefits of long distance competition to businesses and consumers and is now leading the charge to open U.S. local calling markets to competition. On November 10, 1997, MCI announced a definitive merger agreement with WorldCom, Inc. to form a new company called MCI WorldCom.

SOURCE MCI Communications Corp.

following coordinates: Thursday, November 20, 1:00-1:15 p.m. EST; Galaxy 4, Transp. 12, DL 3940, Audio 6.3/6.8./

CONTACT: Ed Bergstraesser or Birgit Wagschal of MCI Media Relations, 312-470-4814 or 800-644-NEWS; or Susan Clark or Teresa Egge of Ketchum Public Relations, 202-835-7276, for MCI

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Fences in higher education

(The Washington Times)

Other than illicit drugs, bombs and prostitutes, there are few products that we forbid Americans to carry across state lines and sell in a neighboring state. Add higher **education** to that list!

Most states now forbid institutions of higher **education** not headquartered within their borders from offering courses and degree programs to their citizens without prior permission. No matter that the "outside" university is fully accredited, and no matter that the program (such as an M.B.A. degree) that it wishes to provide has been given an additional stamp of approval by the national association of business schools. That's not enough. Unless it jumps through numerous hoops, and endures long delays, an institution from one state usually cannot offer its programs at a location in another state.

Unfortunately, where higher **education** is concerned, most states now act like U.S. steel producers who want to keep out foreign steel imports, or American wheat producers who try to prohibit wheat imports from foreign countries. Most Americans (and nearly all economists) understand that the effect of import quotas and tariffs on imported steel and wheat is to reduce consumer choice and raise prices. Yet, this is precisely the behavior that we tolerate from state higher **education** agencies, which typically engage in blatantly protectionist behavior in order to keep out fully accedited higher **education** competitors from other states.

States such as Connecticut, Maryland and North Carolina provide particularly bad examples of higher **education** protectionism in action. In theory, these states say they have an "open market" for higher **education.** In reality, they have erected time-consuming regulatory barriers that act to prevent out-of-state universities from competing with their home state institutions. And they "protect" their citizens from these insidious influences even when the proposed academic programs are fully accredited and the institution in question has a highly favorable past track record in delivering *distance* **education.** Worst of all, they exclude competition from out of state even when their own state offers nothing to rival the proposed new offerings. "We might want to do this in the future," some of them say.

Does Microsoft need to obtain permision to sell Windows '98 in Louisiana? Of course not. The U.S. Supreme Court ruled long ago that states cannot inhibit interstate commerce exept when there are health or safety issues involved (for example, the import of plants with potentially dangerous diseases into states such as California and Hawaii).

Do we really think states are protecting the public health when they construct regulations that essentially exclude accedited universities from other states from providing higher **education** in their states? Of course not. What they are doing is protecting their own territory and sheltering their own colleges from competition.

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Re:	More Dist. Ed. Material	Pages:	27
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Notes:

Kendra,

Here's some more information that I dug up. Hope it helps.

~Varun

P.S. Still waiting to hear the word. Have an appointment in an hours – we'll found out more!



It is ordinary citizens and students who suffer from such policies because they have fewer choices and pay higher prices.

There are states more enlightened. Arizona, Virginia and Washington are among them. They welcome new competition from accredited institutions of higher **education** and understand that their citizens are better off when they have increased access to higher **education.** At a time when the College Board reports college tuition once again has risen more rapidly than the Consumer Price Index, one would think more state legislators and governors would understand increased competition (and the elimination of protected higher **education** turf) is one way to restrain these price increases.

I believe legislators, governors and citizens do not realize how protectionist most state higher **education** bureaucracies have become. My own institution, Old Dominion University, knows this protectionism firsthand. Though we operate the largest televised, interactive **distance** learning system in the United States and this past year recorded more than 15,000 student registrations, and have won a host of national awards, most states treat us like a case of intestinal flu. We are annoying, but they believe we will go away if only they allow enough time to pass without granting us approval. This despite the fact that all Old Dominion programs are fully accredited, up to and including the highest disciplinary bodies in areas such as engineering, business, nursing and **education.**

It may be that technology will allow citizens to do an end run around that state higher **education** bureaucracies; 27 percent of American homes now are connected to the Internet. How can state higher **education** authorities forbid their citizens from receiving academic programs over the Internet? They can't because it is impossible to erect an electronic wall that will keep satellite, cable and telephone line transmissions out of individual homes and offices. Thus, unless state higher **education** authorities want to imitate the East German Stasi and send detection trucks through neighborhoods to find out who is receiving electronic signals from other states, technological advance bodes to trump even the most frustrating regulatory barriers that state higher **education** bureaucracies can construct.

There are signs of hope. Multistate organizations such as the Western Governors University may on a regional basis cut through the regulatory morass that curently prevents competition. What's good for these Western states, however, would be good for the nation.

It's time for American higher **education** to modify the outdated, anti-consumer, monopoly-encouraging regulatory model that so many states have embraced. Why should we treat accredited higher educaiton as if it is dangerous nuclear waste that must be discouraged or stopped at the state line?

James V. Koch is president of Old Dominion University in Norfolk, Va.

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James V. Koch, Fences in higher education., The Washington Times, 03-22-1999, pp A19.

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ADVISORY/National Commission on the Cost of Education Study -- to be Released Jan. 21 -- Provo Reaction From Distance Education Leader

(Business Wire)

(BW) (JONES-**EDUCATION**-NETWORK) ADVISORY/National Commission on the Cost of Higher **Education** Study -- to be Released Jan. 21 -- Provokes Reaction From *Distance* **Education** Leader

Business Editors & **Education** Writers
ADVISORY
--(BUSINESS WIRE)--
On-line **Education** And New Technologies Can Curb Nation's Escalating Tuition Costs, Insists "Cyberschool" Pioneer Glenn R. Jones

WHAT: Leading **distance education** advocate Glenn R. Jones has a solution for the National Commission on the Cost of Higher **Education,** which has been charged with developing recommendations to reduce college tuition, and plans to release its recommendations on Jan. 21 -- incorporate cost-effective **distance education** programs with traditional universities to expand "virtual" universities, or "cyberschools," which use the Internet and new technologies for teaching.

WHO: Jones is chairman of Top-10 cable operator Jones Intercable, author of "Cyberschools," and founder of JEC College Connection, which offers Internet access to accredited degree programs from 13 universities nationwide. Jones has committed $50 million over the last 10 years to found **distance education** entities, which also include JEC Knowledge TV, a 24-hour cable network broadcasting self-empowerment programs and college course worldwide; and International University, one of the first "cyberschools" accepted as a worldwide candidate for accreditation.

WHY: **Distance education** allows students to "attend" college without stepping foot on campus by using the Internet and videocassette or satellite-broadcast courses for learning teacher/student interaction. Incorporating technology into the learning process significantly reduces tuition costs; for example, a master's degree through Jones' International University costs only $5,000. **Distance education**:

-- eliminates the need for construction of new campuses and buildings, since learning takes place in cable space and a

-- attracts new students to higher **education** who had previously been denied access, increasing the revenue stream to universities

-- expands course offerings without increasing costs, by existing instructors to teach **distance education** courses,

OTHER FACTS: -- Jones makes it easy for universities to extend their reach onto the Internet through his JEC College Connection

software, available to any university wishing to go onlin courses. This serves as a convenient, cost-effective tool university looking to reduce costs by putting courses on

-- Two-thirds of higher **education** institutions did not of **distance education** courses in 1995, according to an Octob report by the National Center for **Education** Statistics.

-- Enrollment in **distance education** courses is growing -- estimated 753,000 students were enrolled in the 1994-95 s year (National Center for **Education** Statistics, 10/97), w currently, 1.3 million Americans are involved in electron higher **education** (InterEd Inc.).

-- **Distance education** is becoming a hot news topic, as ev stories in the 12/22/97 issue of Business Week and 11/17/ of the Wall Street Journal.

WHERE: Interviews with Jones available via telephone

WHEN: NOW (Report scheduled to be released on Jan. 21 -- interviews can assist media with stories they may be plan conjunction with the report.)

--30--RJ/la MEM/la

CONTACT: Smith Public Relations, Los Angeles
Diana Soltesz, 310/788-0456
smithpr@aol.com

KEYWORD: CALIFORNIA
INDUSTRY KEYWORD: ADVISORY **EDUCATION** COMPUTERS/ELECTRONICS. INTERACTIVE/MULTIMEDIA/INTERNET

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ADVISORY/National Commission on the Cost of Higher Education Study -- to b Jan. 21 -- Provokes Reaction From Distance Education Leader., Business Wire, 0

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HOTWIRED

LA Makes School Picking Easy

by Andrew Rice

3:00 a.m. 29.Oct.1999 PDT

LOS ANGELES -- One of the most difficult decisions facing Los Angeles parents is a whole lot easier, thanks to a new Web-based school evaluation system.

Los Angeles Unified School District is one of the largest in the nation, and the range of options within its boundaries is tremendous.

Read more in Making the Grade

What's not always obvious, however, is which schools are doing well and which are not. People moving to Los Angeles from other areas, for example, very often depend on their realtor to tell them if a house is in a good school district or not. But what does "good" mean? A computer for every student? High test scores? No shootings?

"It's nice to be able to access that information," said Jan Sandman, PTA office manager and parent of two teenagers. "Usually it's not easy to get, especially the bad things about a school. I would say that anything that gives parents more access to school information is a good thing."

Previously, statistics such as test scores, the number of credentialed teachers, and how much money is spent per student were difficult, if not impossible to find without wading through a morass of beauracracy. Los Angeles Unified's new online school performance meter makes it easy to research a particular school or to compare between two competing neighborhoods.

The University of California at Los Angeles

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Changing technology transforms Iowa State education

(University Wire) *Arlene Birt;* 11-19-1998

U-WIRE

(Iowa State Daily) (U-WIRE) AMES, Iowa -- As technology is used more in classroom instruction, some professors see teaching heading toward a more individualized, Internet-supplemented education.

"[Teaching in the past] was predominantly large group presentations; now we are seeing a very significant transition towards more individual-based activities," said Mike Albright, instructional development specialist. "I think that the transition is going to continue. We've seen this turn before -- the transition to student-centered learning as opposed to teacher-centered learning."

Albright said the increasing use of the World Wide Web in the classroom helps get students more involved in their educations.

"[This kind of] technology creates a more flexible institution," said Scott Chadwick, assistant professor of organizational communication.

Chadwick said the World Wide Web provides teaching tools, such as WebCT and Classnet, that are not available through face-to-face teaching.

"[Programs like] these enable communication that just isn't possible in a regular classroom," Albright said.

Albright said a computerized teaching program called WebCT, which allows teachers to supplement and deliver their curriculum with information from the Web, was licensed to the university last April.

Chadwick said this technology also gives teachers "multiple channels" from which to deliver information to their students. Chadwick said he sees a trend toward more "distance education," which is learning via television or cable.

"I think we have to look at the roles of technology. What does technology allow us to do that is more informational than face to face interaction?" Albright said.

Albright said this technology offers opportunities for simulations and communication.

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[illegible] Center for Research on Evaluation Standards and Student Testing put the system together after Mayor Richard Riordan promised parents a district-wide report card and directed several grants to the Center.

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"I'd say it's more accessible. We have much greater capabilities in terms of graphics and communication; more people have access to it, " said Pete Boysen, senior systems analyst for the Durham Center. "I see more accessible, faster capabilities; we will probably be doing more 3-D kinds of activities [in the future]."

Boysen said in the next 10 years, he expects to see computers doing more of teachers' work.

"Some of the instructional management will be taken over by computers to ease the load off faculty so they can spend more time working with students rather than grading things," Boysen said.

However, some experts said more advanced technology will gradually lead teachers to expect more from students.

"Students information access has gotten much easier, the speed with which students can generate documents," Chadwick said. "But as a result, I think teachers' expectations have risen."

Boysen said students' expectations also will rise.

Some students said personal interaction may eventually become obsolete.

"People depend more on technology than relating to other people," said Brianne Brooks, freshman in architecture.

Kelly Meierkord, freshman in landscape architecture, agrees society is headed toward more computer interaction.

"I think we'll see more logging on to the computer as a way of going to class," she said.

But Boysen said some computer uses, such as e-mail and chat programs, help personal interaction.

"In some cases, it's actually encouraging it," Boysen said.

However, some professors said personal interaction has not changed

"Research shows that if you have people interacting [digitally], they can have the same interaction as when they see each other face to face," Chadwick said.

Albright said it is unlikely that the concept of a university will disappear.

"I don't realistically see that happening till we are all dead and gone. It's not likely that the majority of teaching will take place on the Web until the mid-21st century," Albright said.

Boysen said technology will likely change more in the next decade -- "more than it has in the past 10" -- and ISU needs to keep up with the changes.

"We have to stay up to date with the software and hardware changes and be willing to look at different ways of doing things than we have been in the past," Boysen said. "I think [ISU has] done a fair job, but we could do better and invest more resources in software for use by students."

Albright expects this trend to continue to change.

"Obviously, the World Wide Web didn't exist 10 years ago, so this whole transition towards Web-based teaching has occurred recently," Albright said. "I think when you compare the kinds of learning opportunities that are available now that weren't available then, it's just mind boggling."

(c) Iowa State Daily via U-Wire

Arlene Birt, *Changing technology transforms Iowa State U. education.*, University Wire, 11-19-1998.

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Creative Industries: Have intellect, will travel

(Independent on Sunday)

FIRST some encouraging news for anyone worried about the quality of our **education** system. It is that Britain has the second largest surplus in trade in intellectual capital in the world - second to the US, which dominates the business. Now some lessencouraging news. While the surplus seems secure, we do not seem to be gaining much ground; if anything, our imports of intellectual capital seem to have been growing faster than our exports.

As it becomes standard manufacturing practice to make products locally - to build Japanese cars for the European market in Britain, for example - so trade becomes more and more the shipping of ideas of how to make and market something, and the money todo so. Trade becomes trade in ideas rather than in goods.

Often this is difficult to identify. You can quantify the money coming into or out of a country in direct investment, or the money used to build new plants. But money spent on marketing, product development or on research is much harder to pin down. Youcannot actually see what portion of the value of the product is embedded in research because it is incorporated into the total price for the product. However, there is one key aspect of this trade that is identified separately in the statistics: tradein royalties, licences and patents, which is the nearest thing we can get to trade in intellectual property.

Some numbers of the balance of trade for a selection of countries are set out in the chart. The latest figures are for 1996, collected in the new International Monetary Fund's Balance of Payments Statistics yearbook, and the 1994 figures are includedfor comparison. The most obvious feature is that US dominance increased over the two years. Why?

Well, you have to remember that "intellectual property" includes a lot of things that don't seem particularly intellectual, like the output of the entertainment industries. Part of the US dominance reflects patents and royalties on the output ofacademia, but the big puller is Hollywood.

Once you appreciate this, much of the rest falls into place. Sweden did well in 1994 - a good year for Swedish pop music exports; Norway was pushed into the black in the same year by the TV contract on the Winter Olympics. I have not managed to figureout why South Africa comes number three in the league table of net exporters or why Korea suddenly became such a large importer - there may be glitches in the figures. But the big picture of the US and (far behind) the UK being the two main netexporters and Germany and Japan by far the largest importers seems solid.

The next questions are surely these. What will happen to trade in intellectual capital over the next few years and how might we develop our own reasonably strong position in it?

On the first question, I think that overall trade in intellectual property is bound to grow very rapidly for four main reasons. The first concerns the entertainment industries. The move to digital will create an explosion in TV channels and hence indemand for entertainment products. I suspect that initially most of these

will be more of the same: more Hollywood movies, more high-profile sport. But the rise in demand will eventually generate new types of supply, new types of product. In particular,I would expect a plethora of specialist channels to spring up and be delivered globally.

The second reason is the potential for **growth** in trade in *education*, particularly **distance** learning. Technologies here are racing forward and, paradoxically, situations like the East Asian economic crisis may increase demand for distance learning: it ismuch cheaper to use clever electronics to bring at least part of a syllabus to the students in East Asia (or wherever), rather than bring people to Britain or the US for the whole of their course.

lost

Third, the need for a greater research or knowledge element in all products and services will continue to increase, for this is the only way in which high-wage countries can differentiate their products and services from those made in low-wage ones.

Finally, the development of the Internet has created a new means of worldwide distribution for any product or service which can be converted into bits and bytes. We do not know what those products will be, but in a way that does not matter - for we donot need to know what will sell. All we can do is watch market signals and respond forcefully to them.

So all three existing areas of the trade seem likely to continue growing: entertainment, **education**, and the embedded knowledge in products, typically measured by licences and patents. And there will be entirely new areas of trade, where an improvingInternet will be the shipper.

What does this mean for Britain? The trouble here is that trade in intellectual property is a very segmented market: there are lots of completely different types of product, each of which requires a completely different approach on the part ofgovernment, academia, publishing and so on. There is no magic wand.

The diversity of the trade is caught in the variety of topics covered in this section of the newspaper, but even here there will be bits we haven't fully discussed. So forming policy is very difficult, except on an ad hoc basis. There are a lot ofinteresting ideas in this section, but policy perhaps should be more "let a thousand flowers bloom" than "this is the plan; let's go for it". We probably can do something to encourage more film-making here, but more by removing blockages than handingout taxpayers' money. We can certainly do something about teaching computer literacy, and we are probably not doing too badly on that score. But creating new areas of business has to be a bottom- up process. Nobody planned that Britain should specialisein computer games software: we just have the right mix of aggression, creativity and skills to do so.

The worry, surely, should be "push-back". Look again at that graph. A world so dominated by the US (with the UK as a sort of subcontractor to the US entertainment industry) will create increasing resentment. How long will Germany and Japan be content toimport so much intellectual capital? To what extent will these large and independently minded countries try to restrict such imports? France has been seeking to do so with films.

There are two answers to these concerns. One is to say that everyone tends to resent importers taking over a market, but there isn't much anyone can do about it. The pressure for increased trade in intellectual property is so great, and the advances intechnology that enable it to be delivered instantly around the world are occurring so rapidly, that the boom is bound to continue.

There is, however, a less sanguine response. This would be to say that the freeing of trade in goods is such an established process that it would be very hard to reverse it. But this sort of trade is much newer, and has not yet achieved sufficientcritical mass to carry onwards. Besides, people expect to pay if they buy a car from abroad; they may feel differently about a program they can download over the Internet. One-third of the software used on the world's PCs is in effect stolen.

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Hamish McRae, Creative Industries: Have intellect, will travel., Independent on Sunday, 02-15-1998, pp 5.

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Centra software helps create a virtual training classroom

By Jon G. Auerbach
THE WALL STREET JOURNAL

When Clarke American Checks Inc. installed complicated business software made by SAP AG last year, the big check-printing concern realized it didn't have enough computer trainers to cover each of the company's 20 manufacturing sites.

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Products like Symposium also offer some of the features of TV distance learning — without a need for a camera or a satellite hookup.

HIRING NEW TRAINERS would be costly, and flying 350 employees using SAP to Clarke American headquarters in San Antonio would be costly and didn't make sense either, since doing so wouldn't show the new users how to operate the software in real-life situations.

Clarke American, a unit of British Caradon PLC, decided instead to set up a virtual classroom. Using the Internet and Centra Software Inc.'s Symposium product, Clarke American held online seminars twice a day linking dozens of users around the country.

In an age of complex computer software and shrinking travel budgets, an increasing number of companies are turning to collaborative software from vendors like Centra to link their employees. Beyond training, some outfits are employing the software for computerized sales meetings and other corporate gatherings.

Centra Chief Executive Leon Navickas, a former executive at Lotus Development Corp., calls Symposium a "virtual water cooler" that allows employees to gather in cyberspace. The software is essentially a real-time version of "groupware" such as Lotus Notes or Microsoft Corp.'s Exchange, making possible a new level of long-distance instruction and interchange. Products like Symposium also offer some of the features of TV distance learning — without a need for a camera or a satellite hookup.

Symposium let Clarke American instructors speak live to the students, take questions using a microphone, demonstrate how to perform specific tasks and draw on a virtual chalkboard that all the users around the country viewed at the same time on their PC screens.

"It became very, very beneficial," says Bill Magruder, a Clarke American technology specialist. "It allowed us to be in all our locations at the same time."

Analysts say the market for collaborative training and support software is growing fast because companies realize the need to answer questions quickly in order to stay competitive.

"Instant information is the name of the game," says David Marshak, of the Patricia Seybold Group, a Boston-based technology consulting firm. He credits Centra with realizing early that collaborative software could be used across many business departments. "This is a part of serious business processes," he says.

Analysts say the market for collaborative training and support software is growing fast because companies realize the need to answer questions quickly in order to stay competitive.

Centra, of Lexington, Mass., was founded in 1995 by Mr. Navickas, who had been a top research and development official behind Notes. Lotus, a unit of International Business Machines Corp., has responded to Symposium with Learning Space, a similar product.

Closely held Centra expects revenue of between $15 million and $20 million this year, but isn't profitable. The company has signed up big customers including Fidelity Brokerage Services Inc., Advest Group Inc. and Nortel Networks Inc.

Centra's software costs a minimum of about $30,000 but can sell for $100,000 or more, depending on how many people are using it. Because it doesn't generally use bandwidth-intensive video, Centra says the Symposium product works just fine on a laptop with a dial-up modem, such as those carried by salespeople on the road.

It works like this: An instructor can be designated as a group leader who controls the conversation, presentations and questions. Using computer keys, students can raise their hands to ask questions. When the instructor acknowledges the question-asker, a microphone is activated at that person's computer.

Symposium also allows users to share spreadsheets, slide presentations, text and documents. For example, a sales manager could show salespeople a copy of the latest targets, which would appear on the computer screen of each participant. Individual users could draw or write on the target sheet, and those changes would appear simultaneously on all the users' screens.

Computer experts at Advest, of Hartford, Conn., used to spend a lot of time and money sending trainers around the country to teach its employees how to use new programs. Last year, after evaluating several collaborative software programs, Advest purchased Centra's offering.

Advest is using the Centra product to train its employees to use a new contact-management software package, which computerizes scheduling, meeting and calendar-planning. Advest also is rolling out the product for use in collaborative conference calls and sales meetings.

Learn more about The Wall Street Journal Interactive Edition.

Tricia Reardon, a technology-training supervisor at Advest, says Centra's software is vastly more effective than e-mail, conference calls or a simple computerized-training program. "If there's not enough collaboration, you start nodding off," she says. When Ms. Reardon is instructing a class over the software system, she regularly asks questions that require students to respond. In addition, Ms. Reardon can show

all students an actual copy of the program she is teaching people to use and walk them through its functions. Although some Luddites still resist using a computer for collaboration, Ms. Reardon says most Advest employees "are champing at the bit" to use Centra's software.

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Sunday, September 20, 1998 *Rocky Mountain News – Business section*

Cable pioneer on fast forward

Jones Intercable founder pushes cyber education

By Rebecca Cantwell, Rocky Mountain News Staff Writer

At an age when most people are retiring and ready to mull the past, Glenn Jones, 68, is riveted on the future.

The cable television entrepreneur, who borrowed against his Volkswagen to buy his first system in Georgetown 31 years ago, built Jones Intercable, Inc. into one of the nation's top 10 cable operators.

After three decades helping to build the cable industry from his Denver base, Jones is selling control of Intercable, shedding his systems and their 1.4 million subscribers.

In a $700 million agreement announced last month, Philadelphia-based Comcast Corp. will take control of the systems in a deal expected to close early next year.

That will free Jones to channel his energies into other enterprises in his closely-held companies focused on programming and education.

Long a believer in using television and computer technology for education, or "distance learning," Jones plans to pursue his vision of making all the world a classroom.

He talked recently about his plans in an interview in his Arapahoe County corporate headquarters, in the expansive office he designed that is filled with eclectic paintings, rugs, sculpture and a baby grand piano.

Question: Now that you're selling your cable business, what will you concentrate on?

Answer: We have a lot going on here. We just did a $100 million (private) offering for Jones International networks, and that includes the radio business with 12 different formats – the largest is country music. We have a country music video network and the product information network, which is advertorials.... We have Knowledge TV, the education-oriented network. That company is coming on very strong and I'm looking to getting more involved.

Q: A lot of these business interests are going more global, aren't they?

A: Yes. In Knowledge TV we have 20 million viewers in China an hour a day and we syndicate our programming around the world. We're very dedicated to education. We think that can be instrumental in driving the cost of education down so people can get a

very high-quality degree more conveniently and we can still make money.

Q: Is that business in its infancy or beyond?

A: It is beyond infancy. But it has taken a real long time. We're pioneers in this business of cyber education.

Q: What have been the hardest things to figure out?

A: What the market is. What the market wants. How to do it on a cost-efficient basis, how to acquire students and how to maintain the right relationship with students. And then to get them excited about education and to maintain close contact throughout the process so their experience is successful.

Q: You talk about making Denver the "distance education capitol of the world." What will it take to make it happen?

A: Quality is the cornerstone here as in no other kind of business. If you don't have absolute quality, it could all turn out very badly.

People will draw analogies to correspondence schools and you can't let that happen. We've set up the Global Alliance for Transnational Education to assure quality across national boundaries and eventually rationalize global education in a database – so companies know what to do if someone shows up with a two-year degree from Ceylon in Ireland, so it's related to known standards and someone can make a judgment.

If distance education gets a bad name in any country, that's bad.

Q: Why is this so important to you at this stage of your life?

A: I think education is the great hope of the world. All you need to do is go to the Vietnam Memorial or any number of graveyards or memorials – or go watch *Saving Private Ryan* – and the message is obvious. And I think that people who've been in the service and have the ability and the wherewithal to do something about it really owe it to try to do something.

Q: So you think many conflicts are based on ignorance?

A: Right, and we come at it with a heritage of communications and technology so we have that ability to fuse the technology with education which makes it travel globally. Your class can be composed, for example, of people from Germany, Japan, the U.S. and Mexico. And when you mix people up like that and they learn to respect each other and deal with each other, it develops ties and relationships that people stop and think about before they do stupid things like start wars, which is the world's worst way to resolve any kind of issue.

Q: But we're seeing a tremendous rise in nationalism and xenophobia at the same time as the world grows more global. How do your classes address that?

A: The world is becoming very global and very local at the same time. We don't have courses that address that per se. But at the end of the day it all ends up with people

reacting with people and seeing the strengths and the virtues of other people.

It's not something you cure overnight, it's like chipping granite. But you have to start someplace. The wonderful thing about where we are today is if you fuse the technology and education, you create an entirely new product that travels at the speed of light into your living room. You don't have to go to the education. It comes to you on your schedule at you convenience and oftentimes at your own pace. So you're learning when you feel like learning. It's very student-centered.

Q: The amount of money being spent on computers and networks by companies based in this community to link people together is pretty dramatic.

A: We look at it neurologically. You have a human mind – an electro-chemical device doing a hundred quadrillion functions a second, like the magnitude of a hundred trillion transistors. And when you contemplate what's happening out there, you have these trillion of dollars going into high speed delivery, whether it's fiber, satellites, computers, digital boxes.

When you stand back and look, what's the termination point? It's the three-pound electro-chemical device called the human brain. When you get on the Internet, which is a main membrane of the neurology, you're extending your mind to hundreds of thousands of databases around the world.

You see how that connects when you start delivering education to people instead of requiring people to go to education. Information is a unique kind of asset, unlike a truck you can park in your garage, but not anyone else's. Once the Library of Congress gets a book and it gets digitized, it can be in everyone's garage all at once.

Q: What you're describing may sound to a lot of people like such a massive overload that it's scary and intimidating.

A: That's where companies like us come in. We make it unscary and unintimidating. We make it friendly and usable and comfortable and cozy. Our cyber education, for example, is very accommodating. You can do it in your kitchen. If you get transferred to Akron, your kitchen is still your classroom.

The distribution business is getting to be a huge business. The companies are becoming gargantuan in size and that's probably good for putting together the infrastructure. The TCI/AT&T deal is going to be very good for all of us because it will accelerate the whole process and force others to accelerate.

Q: The acceleration already seems pretty dramatic.

A: And they will get more dramatic. The reason I like this new environment is imagination is king, it doesn't matter how many trucks I have.

Q: Is that an analogy for what you're doing – shedding the business that is trucks, installers and repairers so you can put more energy on the brainpower part?

A: I don't want to say anything negative about that side of the business. But where we need to be in terms of who we are as people and our philosophical basis of the future,

we're more comfortable going forward in the content and education side of the business because we have a higher chance of replicating our success in those arenas.

Q: Why is that?

A: It requires imagination more than physical assets. More than trucks, more than capitol, it requires brainpower and imagination. That is the most powerful tool in this environment: ingenuity and creativity. And those have always been our best arenas as a company. If we can purify the formula, we should do better and better.

We're trying to make Denver the distance learning center of the world. That's not a smokestack industry. The technology we're using has no limitations in an era of limitations. The desktop computer uses about as much electricity as a light bulb. So we're dealing with all the elements that are the big winners tomorrow, but we have to ride the high-speed distribution systems. And the trillions of dollars it takes to put that in place are being spent.

Q: What are some of the other barriers – regulatory or government structures that aren't right for the world we're talking about.

A: A lot of countries are concerned about letting their people have access to the Internet. If they don't, they realize they'll be a real backwater and their people will be peasants of the information age and they can't let that happen. But these are technologies of freedom and it tends to democratize the world, so they're torn. It's a real problem if you're trying to run a dictatorship. This is very empowering technology, but it moves power from governments to individuals.

Q: What about big corporations trying to make a lot of money and looking for ways to charge for that access?

A: When you make a phone call, you pay. I don't think there's anything particularly wrong for charging a reasonable fee for these things. That's the only way it pays for itself. It's not free and we in this country have historically learned that to have the government do all this costs much more in the long run.

Q: Who will make those rules?

A: The marketplace.

JONES INTERCABLE AND BEYOND (BOX)

Comcast Corp., the nation's fourth-largest U.S. cable television company announced [in August, 1998] that it is speeding up its purchase of control shares of Jones Intercable, Inc.

A breakdown of the $700 million deal:

> Philadelphia-based Comcast will acquire about 2.9 million shares of Jones Intercable held by Glenn Jones and affiliates for $200 million in cash, giving it voting control of the company and its cable systems serving about 1.4 million customers in 17 states.

Comcast in May announced it was buying BCI Telecom Holding Inc.'s 30 percent interest in Jones Intercable – and an option on control shares – in a $500 million deal.

After the closing next spring, Comcast is expected to take over the operations of Jones Intercable, which employs 250 people at its Arapahoe County headquarters.

Jones estimates that when the dust clears from the Comcast deal, about 600 of the more that 700 employees who work for his company in metro Denver will still have jobs. Growth is expected in his Jones International, Ltd., a parent for subsidiaries including:

Great American Country, Inc., a 24-hour country music video cable network

Jones Infomercial Networks, Inc., which does business as Product Information Network, airing advertising and product information on cable systems.

Jones Radio Network, a 24-hour music programming format with nearly 1,300 affiliates in 49 states.

Superaudio Cable Radio Service, a joint venture which offers FM stereo music in various formats to cable subscribers.

Jones Entertainment Group, a producer of general audience films including the acclaimed 1996 *Secret of Roan Innish.*

JONES EDUCATION COMPANIES (BOX)

Glenn Jones is retaining those parts of his business involving education. Most are subsidiaries of Jones Education Co., which includes:

Knowledge TV – A cable television network featuring how-to and instructional programs, reaching 22 million television households in major markets including Denver. Programs focus on health, technology, family finances and careers. More information is available at its Web site: http://www.knowledgetv.com

JEC College Connection – a distance learning company that allows students in remote areas and those with other commitments to pursue regionally accredited college degrees and courses through recognized universities from home. Information on the Web: http://www.jec.edu

International University – Launched in 1995, the enterprise delivers courses to adult students around the world via the Internet, cable, satellite, television and videocassette. Information on the Web: http://www.international.edu

E-Education – Produces customized software for colleges and universities that want to put courses on the Internet.

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EDUCATION IS GOING THE DISTANCE

(The Edmonton Sun)

EDUCATION IS GOING THE DISTANCE
BYLINE: PATRICIA SYTNICK, EDMONTON SUN
EDITION: Final
SECTION: News
TYPE: Supplement
MEMO: Live and Learn

When Betty Eaton decided to get a university degree at the age of 28, she didn't want to give up her job.

But she didn't want to crawl along in one or two courses a year either - the typical route for part-time students.

So she opted for home-study through Athabasca University.

"This way I can take four courses at once if I feel really motivated. I can speed up or slow down my progress whenever I feel like it," she said.

That flexibility is why Athabasca University is growing fast. The school's enrolment has jumped 25% in the past two years.

And it's not about to slow down either, said Alan Davis, AU's vice-president.

More and more people with jobs and children are finding it the best way to fit university into a full schedule, he adds.

"This way they're much more in control of their education than in a traditional university because they can choose the times they do the course - instead of having to attend classes - and they can choose the pace as well," said Davis.

For Eaton, it's been worth it.

"It's really different doing it this way," she said. "There's a lot more distractions when you're always at home. "So I have to keep reminding myself of my goals, and I've learned a lot more self- discipline."

Still, she will finish her program in almost half the time it could take at a regular university.

Established in 1970, Athabasca University is Canada's pioneer in *distance education.*

But for much of its existence it quietly worked in obscurity. Few people had heard of it.

And those who had, questioned the value of a "correspondence" university education.

Time and technology has changed that.

The school now has 14,000 English-speaking students across Canada - and almost half live outside Alberta.

They communicate with instructors by phone, fax and e-mail, to name just a few.

The university offers the country's biggest executive MBA program, where students meet in virtual classrooms using the Internet and group software programs.

"Our profile has been raised," said Davis.

"And we have quite a lot of growth now across Canada because flexible distance education is becoming a very popular thing."

Most students hold down a job; and almost none are studying fulltime.

"That's the whole point," Davis said. "It's part-time so it fits in with family and work."

Athabasca University's success has others playing catch-up.

The University of Alberta is expanding its distance education courses, said Dr. Terry Anderson, an education specialist.

"If we don't do it, we're going to start losing students to other places," he said. "It's an area that's growing extremely fast. There is a database in New Brunswick called the telecampus site, that has 20,000 courses that students can take on the Internet."

Anderson said the U of A will always emphasize traditional education, but it's clear things have changed.

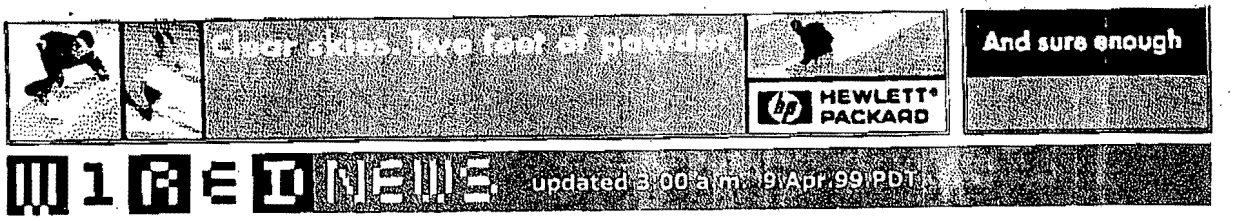
"It's not so much that we're going to abandon campus-based learning but we realize older adults and working professionals are interested in a different kind of learning situation than when they were 18 to 22 years old. The U of A plans to offer more distance-ed courses for adults who already have degrees and careers.

It's building a $16-million facility - the Telus Learning Centre - to open in about a year, that will deliver the courses.

ILLUSTRATION: Photo by Pat Sytnick, Edmonton Sun At 28, Betty Eaton wanted to get a university degree but didn't want to loseher income. She found a solution in home-study.

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PATRICIA SYTNICK, EDMONTON SUN, EDUCATION IS GOING THE DISTANCE., The Edmonton Sun, 01-03-1999, pp S8.



WIRED NEWS updated 3:00 a.m. 9 Apr 99 PDT

Teachers Call Truants' Bluff

by Heidi Kriz

3:00 a.m. 8.Apr.99.PDT

Smoking in the boy's room -- or getting away with playing hooky -- has just gotten harder in seven Chicago public schools.

Sprint PCS just joined up with the Scholl Partners Program of the Chicago Public Schools to arm teachers in these seven schools with a new weapon against truancy -- the PCS phone.

When Lawrence is absent from English for a suspicious third time that week, the teacher can call his home right then and there and talk to his parents or guardian to put some heat on the kid.

Giving the teachers wireless phones minimizes the length of class interruption to make the needed calls. "A teacher in front of a classroom has a teachable moment and a reachable moment," said Dr. Essie Lucas, principal of Tilden High School, one of the seven chosen schools. "This way, those moments are not compromised. She or he can accomplish both."

The schools were chosen because they each had significant attendance problems. Tilden High's has greatly improved -- attendance was about 64 percent four years ago, and now it's about 82 percent -- but the goal for all of the schools is to reach at least 90 percent.

So Sprint, as part of a program started in 1993 by Chicago Mayor Richard Daley to establish ties between local businesses and schools, is giving each school 25 to 30 phones apiece -- one for each freshman and sophomore homeroom teacher. Freshmen and sophomores, perhaps a little freaked out by the rigors of adjusting to high school, are usually the most truant.

Each phone will be programmed with the names and numbers of all the students in the class, and will come with 300 free minutes of Sprint PCS time per month. If teachers need more minutes, Sprint PCS will consider giving them more, said Rus Zitny, Sprint PCS area vice president.

"This is a pilot program; we want to see how it works and then we will consider expanding it into more schools," Zitny said.

But is one more phone call likely to make a difference to a kid who's perpetually truant?

"Of course, the attitude and response of the parent will be the ultimate factor," said Patrick O'Connor, chairman of the City of Chicago Education Committee. "But if we can add one more layer of alert to parents and teachers, in addition to the office of attendance whose job this has mostly been, it's got to help, too."

Related Wired Links:

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Distance learning: Open for business

(Independent)

The Open University's business school has become a leading provider of management *education* and a centre of research excellence, says Maureen O'Connor

When the Open University was founded almost 30 years ago, few of its supporters can have foreseen that as well as becoming the world's most influential "second chance" university it would also become a major provider of management **education.**

The Open University Business School was founded in 1983, beginning with fewer than a thousand students. It now has around 25,000 throughout the world studying in English or in translation. Most are based in the UK or Western Europe, but a growing numberare signing on for OU Business School courses in the former Eastern bloc, Africa and the Far East.

The 170 permanent staff based at Milton Keynes are supplemented by a network of 800 part-time tutors, known as associate lecturers, who are based throughout Europe. Supporting the rising number of overseas students is not easy, as Tony Stapleton,director of external affairs, acknowledged in the school's 1997 Review.

In the UK a network of 28 regional managers, based in 13 regional centres, are dedicated to the support of business school staff and students. They manage the provision of residential schools and other activities for staff and students, the selectionand supervision of academic staff and carry a tutorial and research responsibility as well.

Abroad, various delivery patterns and back-up systems for widely scattered students are being explored, from a partnership in Hong Kong with the local Open Learning Institute, to visits by tutors from Europe to East Africa to organise regular seminarsand clinics. Most students are also expected to use computer-mediated conferencing and the school is experimenting with Internet support for students.

The school began by offering a range of short, self-contained courses, but has become one of the largest business schools in Europe with a full range of management programmes and a substantial research base. More than 140,000 managers have completedcourses. David Asch, the dean, is particularly pleased that his school is one of a handful which have been given an "Excellent" rating for teaching and support systems by the Higher **Education** Funding Council.

The school's activities do not stop at courses for individual managers. Almost 70 per cent of its annual fee income comes from corporate clients who either sponsor employees on courses or use OU materials as part of an in-house management trainingprogramme. Clients include BT, Royal Mail, the Halifax and a range of public-sector organisations.

Business development managers and customer service advisers from the school work with companies to evaluate their training requirements. Courses can be tailored for individual organisations, often using existing in- house training

systems as part of aroute to formal qualifications for staff.

IBM has set up a scheme which encourages its managers in Europe, the Middle East and Africa to progress through the school's certificate and diploma in management programmes to the MBA. This year more than 600 IBM managers will be following OUprogrammes, the majority of them outside the UK. Students will start with an introductory weekend at IBM's own educational centre outside Brussels, which co-ordinates management training.

Maurice Thompson, IBM's senior **education** manager, says that his key requirement is that training should be consistent, no matter where managers are based. "As an international company many of our managers are highly mobile, so training has to beflexible and portable. With the OU, managers can study where and when they want and are supported by tutorial staff throughout Europe and in South Africa."

The Civil Service has also worked with the school on a joint initiative to encourage civil servants to take the "Capable Manager" course. A residential weekend brings civil servants on the course together with managers from industry to share experience.Research is as important to the OU as to any other university and the Business School is no exception. Results are fed immediately into teaching materials. There has been widespread public interest in work at the OU on brand management by ProfessorLeslie de Chernatony, who is arguing for fundamental change in this area of management.

Keith Bradley, professor of international management, has also aroused interest with his work on intellectual capital and knowledge management. He argues that with advanced technology and new employment practices changing the way we work, knowledgewill become a company's greatest asset. The management of knowledge, information and intangible assets will become part of a 30-point course in the MBA programme, Managing Knowledge, in about a year's time. The multimedia course will draw on theresearch being done in this area within the business school. It will cover the management of information, knowledge, information and communication technologies, innovation, organisational learning, human resources, organisational learning, intellectualcapital, brands and intangible assets.

A **growth** area for the school's research focuses on the process of **distance** learning itself in management **education** and the use of new technologies to support that process. Other key areas are public sector and non-profit- making organisations. ProfessorJohn Storey was appointed last year as the school's first professor of human resource management in the Centre for Human Resource and Change Managment. His role includes the development of the human resource aspects of new courses, and consultancy andresearch in these fields.

The School's Centre for Financial Management and the Development of Organisations is finalising research into the cost of capital, exploring how companies calculate the cost of capital in order to raise money and looking at economic value as a means ofvaluing companies. The centre is also looking at how the NHS is managing its financial decisions and how it is facing up to commercial realities.

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Maureen O'Connor, Distance learning: Open for business., Independent,

Education
Question and Answers
August 12, 1999

Q: What is the Administration's position on the Kansas Board of Education's decision not to teach evolution in schools?

A: While the federal government has a significant role to play in ensuring that all our children have access to the high-quality education they deserve, curriculum decisions are appropriately made on a state and local level.

Q: Has the President asked the Department of Education to examine the issue of teaching evolution?

A: The Department is prohibited by law from mandating curriculum. The Department of Education Organization Act says that "No provision of a program administered by the Secretary or by any other officer of the Department shall be construed to authorize the Secretary or any such officer to exercise any direction supervision, or control over the curriculum, program of instruction, administration, or personnel of any educational institution, school or school system..." (Section 103 B 20 US Code 3403 (b)).

Q: But doesn't the Administration comment regularly on what children should learn in school, e.g. reading and math?

A: The federal government plays a critical leadership role in encouraging schools to set high standards for all students – including core academic areas such as reading, math and science – and to support state and local efforts to ensure that students reach high standards. These efforts help ensure that schools focus on results and that all students have the academic preparation needed for success. However, the federal government is not involved in determining the specific content of those standards or in deciding exactly how or what students should be taught. For example, the Administration has encouraged states and school districts to help all children learn to read well and independently by the end of the third grade, but it is up to them to choose the appropriate curriculum and instructional strategy to reach that goal.

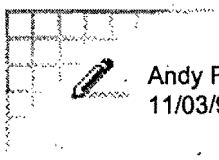
Q: Does the President support the inclusion of evolution in state science standards?

A: Again, the President believes, as he did when he was a governor, that states and localities have primary responsibility for education and must have the flexibility to decide what to teach and how to teach it. He also feels strongly, however, that our children need an educational environment that

promotes scientific and intellectual inquiry. The National Academy of Sciences, in their report *Science and Creationism,* has laid out the compelling scientific evidence supporting the theory of evolution, and the judgment of these experts deserves great weight.

Q: Do the Administration's "Guidelines for Religious Freedom" address this issue?

A: The issue decided by the Kansas Board is one of science curriculum, not one of religious freedom or expression.



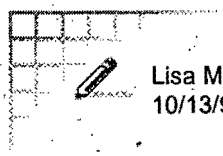
Andy Rotherham
11/03/99 02:27:54 PM

Record Type: Record

To: Kendra L. Brooks/OPD/EOP@EOP

cc:
Subject: Evolution Q's&A's

---------- Forwarded by Andy Rotherham/OPD/EOP on 11/03/99 02:27 PM ----------



Lisa M. Towne
10/13/99 04:33:41 PM

Record Type: Record

To: Andy Rotherham/OPD/EOP@EOP

cc:
Subject: Evolution Q's&A's

Andy--

Thanks for taking time today to discuss. We'll be in touch about developing a coherent policy, but just in case POTUS does get a question on evolution tomorrow, I've taken a quick cut at Q's & A's that you might consider passing on.

Q: What do you think about the recent decisions in KS and KY regarding evolution in their state science standards?

A: Of course, decisions about what to teach are left to states and districts, but I am very concerned that these recent decisions will badly skew science education in our elementary and secondary schools. We know that the scientific evidence supporting the theory of evolution is overwhelming -- this evidence was most recently articulated by the National Academy of Sciences. Evolution is a fundamental principle in biology, and also has significant implications for the teaching of physics, geology, and astronomy. If we fail to teach what we know about evolution in our science classrooms, the age of the Earth, the speed of light, and the appropriate interpretation of fossils -- just to name a few -- would be simply unintelligible to our students. At a time when our nation is facing fierce global competition for high technology industries, such ill-conceived actions put our children at a serious disadvantage.

Q: Do you think that schools should also teach creationism as an alternative theory for how the earth was created?

A: No. Creationism is based on Biblical teachings, and it cannot credibly be called a scientific theory at all. While I believe that faith and faith-based organizations can play a positive role in our schools, they do not belong in our science classrooms. In fact, recent polls suggest that although a vast majority of adults

believe personally that a higher power had a hand in how humans were created, a clear majority also believe that evolution should be taught in our schools. The American people do not confuse science with faith; our schools shouldn't either.

Off to Pittsburgh--go Sox....!
Lisa



Vavon - FYI

February 26, 1999

Maureen McLaughlin
Deputy Assistant Secretary for Higher Education
U.S. Department of Education
7th and D Streets, SW
Washington, DC 20202

Dear Ms. McLaughlin:

Tom Kalil at the National Economic Council suggested that I send you the enclosed paper "Will the Internet Transform Higher Education." This was also the topic of a presentation I made two weeks ago at a retreat for Members of Congress sponsored by the Carnegie Corporation and the Aspen Institute.

Our research plans in this area include developing cost models and understanding the implications of collaboration and/or competition between academic institutions and for-profit entities for Internet-based instruction.

I would welcome your comments on the paper, as well as the opportunity to talk with you about these topics when I am next in Washington.

Sincerely,

Walter S. Baer
Senior Policy Analyst

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