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2+2 via Distance Education:
The Support Challenge

**Key Concept:** Using information technology to support new distance learning programs

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Indiana State University (ISU), located in Terre Haute, Indiana, provides baccalaureate and graduate programs as a general, multipurpose institution of higher learning. Its major categories of endeavor are instruction, research and service. Fields of instruction include undergraduate, graduate, and adult education programs serving the academic, cultural, professional, and vocational needs of nearly 11,000 students. Degree programs are offered in a broad range of disciplines at the associate, baccalaureate, master’s, and doctoral levels. The major academic units within the University are: the College of Arts and Sciences; the School of Business; the School of Education; the School of Health and Human Performance; the School of Nursing; the School of Technology; and the School of Graduate Studies. ISU is governed by the Board of Trustees composed of nine persons, including a student member, appointed by the Governor of the state of Indiana. The University is accredited by the North Central Association of Colleges and Secondary Schools, as well as other accrediting entities in specific fields.

**Abstract:** Indiana State University is implementing “Degree Link,” a new 2+2 transfer articulation program that will significantly expand the University’s program of distance education by providing community-based bachelor degree-completion opportunities to Hoosiers who have completed associate degrees at a two-year partner institution. The design and success of the program depends upon providing the full range of University services, in addition to the curriculum, to students throughout the state. A variety of options will be used to provide these services, including on-site staff in select locations, cooperative use of facilities of other institutions, and a range of media and technologies. This paper will address the challenges faced in developing and delivering from the “base” campus the support services – registration, advising, financial aid, bookstore, computing, library, faculty “office hours,” etc. – required to make the program successful. The paper will present planning and preliminary implementation information. The presentation will occur after the first full semester of Degree Link implementation, and will include lessons learned.
2+2 Via Distance Education: The Support Challenge

I. Background

Although I do not believe that the human condition will ever advance to such a state of perfection as that there shall no longer be pain or vice in the world, yet I believe it susceptible of much improvement...and that the diffusion of knowledge among people is to be the instrument by which it is to be effected. Thomas Jefferson

It is generally recognized that there is a direct relationship between education and the strength and well-being of the state, its citizens, and its businesses and industries. In light of this knowledge, it is significant that educational attainment in Indiana falls far below national averages in the percentage of its adult population who possess postsecondary degrees, ranking 47th in the nation. This statistic is particularly alarming in light of the greater societal momentum away from an agricultural and industrial economy, toward an information economy characterized by technology and service industries. In this new environment, three out of four jobs require postsecondary education.

Over the past few years, the concept of providing broader access to under-served postsecondary students in Indiana has been a priority of the Indiana Commission for Higher Education, the Indiana General Assembly, and the Governor's office. This has been evident through their actions and state policies centered on workforce development. In 1987, the Commission for Higher Education issued guidelines for articulation between state universities and the statewide technical college system. Workforce development legislation was passed in 1992, which included a provision requiring credit transfer of 30 credit hours of general education courses between postsecondary institutions, including the technical colleges. About two years ago, a new state policy on associate degree programs was established which encouraged the development of transfer programs between two-and four-year institutions.

In response to these actions, Indiana State University developed a plan to serve place- and time-bound, and resource-limited students through partnerships with Indiana's two-year institutions, Ivy Tech State College and Vincennes University. This plan, DegreeLink, directly addressed postsecondary participation access issues through the establishment of 2+2 degree programs made available to students in the communities where they live and work, through the use of distance education technologies.

Established in 1865 as Indiana Normal School, today Indiana State University is a comprehensive, residential institution in Terre Haute, offering baccalaureate and graduate degrees to a student population of 11,000. Ivy Tech was established in 1965 as Indiana's first statewide technical college, and now includes 22 campuses throughout the state serving 62,000 students who can earn one-year technical certificates or two-year associate degrees. Vincennes University was incorporated in 1806 as the first university in the Indiana Territory, which today is a fully state-supported, junior college serving students at four primary sites in the state.

Course delivery via distance education technologies in Indiana has been commonplace since 1967, when the Indiana Higher Education Telecommunications System (IHETS) was established as a video network linking all main and regional campuses of Indiana's publicly funded universities as well as some nearby hospitals. Today the IHETS network utilizes satellite transponder technology to transmit televised courses to 300 locations throughout the state. In recent years, the explosive growth of the Internet has resulted in an expanding number of distance education courses delivered in whole or in part via computer technology.

2 American Demographics, 8/96, p. 34.
After garnering the support of ISU’s Deans, Faculty Senate, and Board of Trustees in the summer and fall of 1996, DegreeLink was presented to the Commission for Higher Education in the spring of 1997. In April of that year, the Commission authorized Indiana State University to deliver eight new baccalaureate programs to Ivy Tech State College locations throughout the state. The arrangement allowed graduates of Ivy Tech associate degree programs to transfer 100 percent of their credits to related ISU baccalaureate programs. In June, the Commission approved two new A.S. degree programs to be offered at Ivy Tech statewide to articulate to corresponding B.S. degrees from ISU. Also that month, Vincennes University indicated its intent to partner with ISU by participating in DegreeLink.

In May, the Indiana Legislature approved an appropriation of $1,900,000 in state funds to begin the implementation of DegreeLink during the 1997-99 Biennium. Since this represented 56% of the $3.4 million requested for the project, ISU decided to roll out just three of the eight degree programs during the first year of implementation. A portion of the requested funds had been earmarked for the establishment of learning centers at strategic locations throughout the state to provide local points of contact and support for DegreeLink students. The original six learning centers proposed were scaled back to three after the budget appropriation was finalized. The State Budget Committee released the DegreeLink funds to ISU in September. This was followed by a televised, statewide announcement in October. DegreeLink applications are currently being processed for spring registration in the three initial degree programs.

The goals set forth for the DegreeLink initiative were: to expand access of postsecondary educational opportunities to Indiana citizens, to extend the reach of our faculty beyond time-and-place-bound course offerings, and to enrich the educational experience through the thoughtful use of a range of pedagogies and technologies. In its implementation of DegreeLink, Indiana State University sought to adhere to the Guiding Principles for Distance Learning published by the American Council on Education.3

The constraints of time and place have been reduced by thoughtful uses of telecommunications and computers in teaching and learning. To offer baccalaureate degree opportunities to Hoosiers where they live and work, Indiana State utilizes a range of information technologies to facilitate communication between faculty members in Terre Haute and students around the state. These technologies include video, audio, and computer tools and are available at each designated two-year institution campus.

The primary focus of DegreeLink, however, is on teaching and learning. Students and faculty together match learning styles, teaching styles, and available educational and technological resources to effectively serve students' specific educational goals and career needs. A critical component of DegreeLink is the development of ISU’s faculty, our most valuable resource. All faculty members who teach students at a distance are provided opportunities to learn about using a range of educational technologies and pedagogies, which may be used in various combinations for single courses. Faculty have a greater diversity of teaching options to facilitate learning, particularly for students whose needs are not readily accommodated by the traditional lecture method, and courses in which the content is best addressed by utilizing a variety of educational resources.

Central to DegreeLink is the provision of a full range of student services, so that it is as easy to register and participate in ISU courses for distant students as it is for on-campus students. A range of services is provided to enhance the students' educational experiences and increase their opportunities for success. These services interface to the distant students primarily through remote site facilitators, who are located at each designated two-year campus. Included are instructional support services, administrative support services, technical support services, and a local point of contact for various marketing activities.

In summary, the education and skills of the citizens of Indiana need to be re-tooled for the Information Age, the state needs a more broadly postsecondary educated workforce to prepare to meet the rapidly evolving needs of today's economy, and powerful technology is available at a reasonable cost which enables connections to be made

3 American Council on Education, The Center for Adult Learning and Educational Credentials, "Guiding Principles for Distance Learning in a Learning Society."
from ISU’s academic center in Terre Haute to people across Indiana. The DegreeLink initiative is the means by which Indiana State University can significantly address the life-long learning needs of the state of Indiana.

Intra-Institutional Relationships

Responsibility for planning and managing the DegreeLink initiative at the macro level resides with Continuing Education/Instructional Services (CE/IS) at Indiana State University. CE/IS has, among its missions, distance education and off-campus credit programs. Obviously, however, an initiative of this magnitude, which relies upon a majority of university administrative and academic units, also requires significant cooperation from Information Services. The Information Services mission incorporates computing, telecommunications, and library support for the administrative and academic units of the university.

DegreeLink was, in large part, the brainchild of Lou Jensen, Dean of Continuing Education/Instructional Services. From the outset, Lou worked to assemble a team within his unit to plan and implement DegreeLink, which included many of the existing personnel as well as new expertise. From the former group, the Director of Distance Education and the Director of the Evening and Weekend Programs were tapped to lead DegreeLink planning teams. To these existing resources were added a Director of Transfer and Articulation from the faculty senate curriculum committee, and a Director of Planning and Faculty Development coming to ISU with faculty development and marketing expertise. These two new additions to CE/IS, and the dean, also led DegreeLink planning teams. Many individuals from the CE/IS organization participated formally or informally in the planning and implementation of DegreeLink.

II. Special Computing Issues

The development of the DegreeLink project presented some special challenges and opportunities for both academic and institutional computing services, including:

- Integration of DegreeLink activities into the conversion to new administrative computing software
- Development of processes for remote access to both academic and institutional computing resources and services
- Development of media-friendly classrooms
- Conversion of curricula, including content, delivery, and scheduling
- Adaptation to changing statewide delivery media
- Improvement of the Indiana State University technology infrastructure

Each of these items had to be addressed for the DegreeLink project to be successful.

Integration Of DegreeLink Activities Into The Conversion To New Administrative Computing Software

Indiana State University has been converting from SCT’s IA product to the BANNER product since 1993, to provide an integrated platform for the full range of administrative computing applications. At the initiation of DegreeLink discussions, the Alumni/Advancement component of the system was fully operational. During the development of the DegreeLink project, the Accounting and Human Resources/Payroll conversions were completed, and plans were well underway for the conversion of the Student Information System, which includes Admissions, Financial Aid, Registrar, and Student Accounts Receivable functions. All of these components were originally designed to accommodate a traditional and static view of the university and its constituents: primarily campus-centered, traditional-age, undergraduate and graduate students, with scheduling, advising, registration, and billing systems based on the traditional academic calendar, and local faculty, staff, and support services. The DegreeLink discussions challenged many of these assumptions, raising the awareness that most – if not all – of these systems would need substantial modification to provide seamless integration of DegreeLink students and programs into the matrix of university functions.

For example, DegreeLink remote-site support staff – who will provide a broad range of services to students and faculty local to that site – require the ability to use BANNER Accounting to purchase supplies and manage budgets; access to Payroll to report hours and generate paychecks; and access to Student for advising, registration,
and financial aid. Remote students require access to their own records for advising, registration, and financial aid; remote faculty require access to information for student advising and scheduling. Since most on-campus offices were still not comfortable with the operation of the new BANNER systems, and since – in the cases of Accounting and HR/Payroll – the systems themselves were not yet wholly reliable and stable, the idea of modifying either/both systems and processes to accommodate the needs of DegreeLink was particularly daunting.

Modifications have been made, especially in the development of the Student system, to “flag” students as DegreeLink participants, to modify fee calculations for participants, and to support reflection of degree articulation agreements on the ISU transcript. We anticipate that additional changes will be required in Student and other systems as we learn more about the requirements of remote sites and DegreeLink participants.

Development Of Processes For Remote Access To Both Academic And Institutional Computing Resources And Services

The remote learning centers have a variety of network connections and a broad range of types and vintages of computing equipment, which has complicated the coordination of delivery of academic and administrative resources and services. As part of the cooperative agreement among the institutions, each remote site has at least a 56K network connection. However, in some cases these connections are to the statewide backbone, and in other cases are intranet connections within an institution. In addition, because multiple institutions are participating, the protocols are not consistent among institutions. Most of the sites have PC equipment available, which is preferred for access to the administrative system, but the configuration and applications of the machines vary greatly, from 386-class machines with 8MB RAM and very small hard drives, running Windows 3.1; to Pentium-class workstations with significant RAM and hard-drives, running Windows 95.

Some effort has been made to inventory the equipment available at the remote sites, and to develop relationships between ISU computing personnel and those at remote sites, but the efforts have not been wholly successful. In part, the efforts have been hampered by lack of in-house inventories of equipment at each site, and the constant changes in equipment types and locations at each site. To further complicate the situation, not all sites have an experienced technical staff member available; the computing resources may be managed by a non-technical staff member with limited interest or experience in the details of computing.

At the sites where ISU will have a dedicated presence, the coordination is simplified, as ISU will be providing staff with appropriate equipment, and the participating institution provides T1 connection to the statewide backbone. The current recommended configuration for administrative functions is:

- PC with at least a 486 processor (Pentium preferred)
- 16 MB RAM (24 - 36 is recommended where multiple windows need to be open at the same time)
- 800x600 video
- 2 gigabit hard drive

ISU will also provide extensive training in both BANNER and general productivity software for the staff at the dedicated sites, and will provide telephone support for troubleshooting of both equipment and hardware.

Processes for providing support to remote students are not yet well established. The issues and preliminary decisions are discussed in the implementation section below.

Development Of Media-Friendly Classrooms

ISU has, because of its traditional patterns, had a limited number of classrooms equipped to support media-enhanced pedagogy. Across the campus, three classrooms are equipped for broadcast television using the IHETS system, but most classroom buildings have limited access to media support, including computers, video projectors, sound systems, visualizers, and the potential for IHETS television or network-based video activity. The situation is similar at the remote learning centers. Each of those sites has at least one IHETS-capable classroom, but the availability of other media support is inconsistent, both in quantity and type.
Significant funds, from both the special allocation to DegreeLink and general institutional appropriations, are being allocated to upgrade media access, with the bulk of the funds being spent at the ISU Terre Haute campus. Plans include upgrading a total of 24 classrooms over a three- to four-year period, on a modular basis, from basic mobile or fixed computers, sound and projection systems, VCRs or appropriate video systems, to full IHETS and/or network-based 2-way video capability with the associated infrastructure. ISU will spend more than a million dollars on classroom enhancements, which will benefit both on-campus and remote pedagogy. The selection of classrooms for these upgrades, and the scheduling of classes in the renovated spaces, has required substantial discussion among academic units, Facilities Management, and the Registrar, as well as requiring coordination between Information Services and Continuing Education/Instructional Services for the development of infrastructure, the selection and installation of equipment, and training and certification of faculty in the use of the technologies.

Other participating institutions have also committed to ensuring that, as required, media capabilities will be upgraded to meet the needs of DegreeLink pedagogy.

Conversion Of Curricula, Including Content, Delivery, And Scheduling

As part of the development of DegreeLink, faculty at the participating institutions devoted a great deal of attention to program articulation. These agreements are being included in the ISU Degree Audit Reporting System (DARS) program, so that students participating in DegreeLink can be provided with accurate advising and tracking of progress toward degree completion. Course delivery will be, in most cases, a mix of mediated technology, including IHETS, audio- and videotape, email and chat interactions, Web-based “classrooms,” and – on an experimental basis for an electronics course – POTS-based personal videoconferencing. Management of scheduling and sequencing of courses is based at the departmental level, but is coordinated by the Registrar through the BANNER Student system, which has required special attention.

The more significant elements of curricular conversion are those involving pedagogy and academic content – highly charged issues among faculty. These elements are discussed in detail in the implementation section that follows.

Adaptation To Changing Statewide Delivery Media

In addition to all of the local and inter-institutional computing issues related to DegreeLink, the environment was further complicated by plans to significantly change the statewide backbone network, and a proposal to change the funding structure for the IHETS television system. With phased implementation beginning in January 1998, the network used by most of the Indiana colleges and universities is changing from a higher-education dominated and managed structure – effectively a Virtual Private Network – to an ATM backbone with participants including most K-12 school systems and public libraries and many state agencies. The network will be “owned” by Access Indiana and managed by IHETS, and there has been substantial discussion and concern regarding the role of the higher education community in “controlling” the nature and functions of the network. The location of initial ATM nodes around the state was based on political considerations, as well as technical and usage factors. DegreeLink locations and anticipated usage figured in these discussions, and one of the initial nodes is located at ISU. The initial implementation will support data delivery only, with support for video delivery anticipated in mid-1999. DegreeLink sites will be among the early-implementers of network-based video delivery. Use of the network for voice delivery will be considered following video implementation.

In October 1997, a proposal was issued by IHETS staff that would significantly shift the funding mechanism for delivery methods from fully funding the satellite-based television system to an institutional-fee system of some sort for the broadcast system, permitting higher levels of subsidies for other delivery technologies. There is not, at the time of writing, agreement on changes in the funding patterns. DegreeLink will be affected by any change in funding for delivery, and changes in media and associated pedagogy may be required to maintain cost-effective delivery.
The ISU technology infrastructure has been continually modified and upgraded with general advances in technology. The present Novell-based data network, using both switched and routed electronics, has been sufficient to support on-campus needs. However, with the expanded demands that will be placed on the infrastructure by DegreeLink, together with changes in the statewide backbone, plans are underway for review – and, potentially, significant redesign – of the campus infrastructure. Other factors are also contributing to the infrastructure reconsideration: a multi-million dollar improvement to the tunnel systems will require relocation of telecommunications equipment and provides funding for improvement; the phone system is older technology and is at full capacity, so that infrastructure redesign will involve inclusion of the voice system into the overall fabric of the infrastructure. Consultants are providing support for infrastructure planning, which includes video – presently a separate system – as well as data and voice components, as the media converge into digital formats.

III. Planning Phase

As we began the planning process for DegreeLink, the first step included the identification of the issues that would need to be addressed within the context of the initiative. These issues were grouped into five categories for ease in developing the tactical plans to address each area. The five areas were curricular issues, administrative issues, technical issues, instructional issues, and evening and weekend opportunities.

Secondly, the Continuing Education people identified to lead the development of tactical plans in each of these five areas performed an environmental scan to understand the internal and external challenges and opportunities. These findings were shared and corroborated during an off-site planning retreat, which provided a focal point for launching the more detailed planning.

A scan of the environment in which ISU exists was important to understanding the internal and external forces, which were expected to impact the DegreeLink initiative. The environmental analysis presented included the accomplishments (internal strengths) of the university with respect to factors that affected DegreeLink, the historical issues within ISU that could negatively impact DegreeLink (internal challenges/weaknesses), the unique opportunities that were present in the environment external to the university (external opportunities), and the potential hazards to DegreeLink within the broader environment (external concerns). These environmental considerations were classified according to the five strategic focus areas of DegreeLink.

It was decided that each of the five strategic areas should be addressed by a task group which was composed of faculty members representing each of the professional schools and the College of Arts and Sciences. In addition, administrative staff persons with expertise in specific areas were also invited to participate in the task groups. This approach necessitated the direct involvement of over 100 faculty and staff, which later greatly facilitated the acceptance, adoption, and implementation of DegreeLink.

Planning for the DegreeLink initiative focused on the development of strategic goals and tactical plans for the five areas:

Curricular Issues

Strategic Goal
ISU sought to develop partnerships with a variety of accredited institutions of postsecondary education within the state of Indiana, as well as nationally and internationally, with the goal of providing opportunities for students to attain baccalaureate degrees. At the outset, partnerships with Ivy Tech State College and Vincennes University were developed, which provided for the transfer of A.A.S. coursework (transfer) and A.S. degrees (2+2 articulation) to ISU.

Tactical Plans Addressed
+ ISU partnerships with Ivy Tech State, Vincennes, and others
2+2 BS/BA completion program
+ First year experience
+ Selected doctoral programs via distance education (provision of terminal degrees for two-year institution faculty members)
+ 2(Tech prep) + 2(AA/AS/AAS) + 2(BA/BS) programming
+ General education
+ Accreditation
+ Students outcomes assessment
+ Correspondence/Independent Study courses

**Administrative Issues**

**Strategic Goal**
The provision of a full range of student services to distant learners was deemed essential to the implementation of DegreeLink. Because the ease of interfacing with these services needed to be a primary consideration, local points of contact at each two-year campus were established. The student services that were to be provided as part of DegreeLink included instructional support, administrative support, and technical support.

**Tactical Plans Addressed**
+ Advising
+ Admissions
+ Registration
+ Financial Aid
+ Fees Payment
+ Books
+ Enrollment and retention
+ Tuition and fees
+ Inter-institutional administration
+ Faculty incentives
+ Student services coordinator staffing

**Technical Issues**

**Strategic Goal**
DegreeLink courses were planned to be delivered using telecommunications and computers for teaching and learning activities. Specific technologies span video, audio, and computer domains, including broadcast video, two-way video conferencing, videotapes, audio conferencing, audio tapes, electronic mail, World Wide Web applications, computer conferencing, and CD-ROMs. They were to be made available at each designated off-campus site.

**Tactical Plans Addressed**
+ Technical support (trouble-shooting, operational issues, computer support)
+ Equipment (cameras, monitors, sound system, computers, control system, telephone conference bridge)
+ Facilities (studios, computer laboratories, remote site classrooms)
+ Technical issues associated with the provision of electronic library services
+ Communication (e-mail, WATS, Internet, and WWW)

**Instructional Support Issues**

**Strategic Goal**
A critical component of DegreeLink is the development of ISU faculty. All faculty members who teach students at a distance are provided opportunities to learn about using a range of educational technologies and pedagogies, which may be used in various combinations. Particular emphasis is placed on the development of anytime, anywhere...
courses. Faculty development is followed with course development assistance, both in terms of instructional design and media production. Numerous other instructional support issues were targeted to be addressed, to assist both faculty members and students involved with distance education courses.

Tactical Plans Addressed
+ Faculty development
+ Course development
+ Course development and delivery support
+ Library services
+ Copyright (ownership and fair use)
+ Assessment (instructional and student services effectiveness)
+ Marketing (announcement, public relations, publications, promotions, advertising, target marketing strategies)

Evening and Weekend Issues

Strategic Goal
This initiative also re-examined the role of the ISU evening and weekend program, which offers opportunities to take courses for those unable to attend during traditional daytime hours. The particular needs of citizens and employers within a two-tier county radius of Terre Haute were identified, so that the curricular options and student services associated with evening and weekend courses could be designed to meet those needs.

Tactical Plans Addressed
+ Review of evening and weekend programs available
+ Needs assessment
+ Curriculum identification
+ Student services identification
+ Marketing identification
+ Instructional support identification
+ Grant opportunities

Budget Issues, With Emphasis on Information Technology

The implementation of such a significant program required new funding, and the participating institutions sought a special allocation of funds from the Indiana Legislature to underwrite the costs of DegreeLink. Funding became a highly charged political issue, and the final amount of the allocation was substantially below the amount originally requested. Recognizing that there would be benefits to on-campus ISU students as well as remote DegreeLink students from improvements in information technology, Information Services and Continuing Education/Instructional Services coordinated efforts to present a proposal that included funds from the general institutional appropriation, as well as DegreeLink appropriation and grant funds. While it is difficult to allocate exact costs on the basis of anticipated benefits, the following is a general summary of funds:

General Institutional Appropriations Coordinated by Information Services
- Upgrades to classroom equipment and infrastructure - FY98 $300,000; FY99 $344,000
- Enhancements to remote access - FY98 $60,000; FY99 $95,000

DegreeLink Appropriations and Grant Funds Coordinated by Continuing Education/Instructional Services
- Personnel - FY98 $387,000; FY99 $387,000
- Equipment and supplies - FY98 $241,000; FY99 $122,000
- Technology equipment and services - FY98 $654,000; FY99 $10,000
- Course development - FY98 $188,000; FY99 $74,000
IV. Preliminary Implementation

Developing Integration

While each of the institutions, and participating units within the institutions, entered DegreeLink with high expectations and good intentions of cooperation, actually achieving cooperation and integration has required a great deal of discussion, collaboration, and compromise. Program articulation has been agreed upon, and formal structures are in place to continually monitor and revise those agreements. At the sites where ISU has DegreeLink staff, integration of those staff into both the ISU and local institutional structure has been accomplished through a combination of technological linkages, training and support, and general goodwill. Details of information technology integration continue to be worked out, generally on a location-by-location basis, as issues arise. Integration of DegreeLink participants into the general academic programs of ISU has not been fully achieved as, so far, only a limited number of courses have been offered, but this is recognized as an area that will require future attention. Overall, integration is well underway, but will be refined and developed as DegreeLink matures.

Course Transformation Academy

The Course Transformation Academy (CTA) is a faculty development program designed for faculty members preparing to teach distance education courses. It includes both a faculty development experience and a course development opportunity to facilitate the preparation of courses that are specifically geared to distance delivery. The goal of the CTA is to provide faculty members the time and resources to investigate, create, and utilize alternative instructional strategies by exploring ideas about teaching, learning, course design, and educational technology.

The CTA is premised on the idea that change will best be accomplished when faculty members have opportunities to learn from their colleagues about effective teaching and learning through technology. The expertise of faculty leaders is utilized throughout the CTA, and a cascading effect is planned as each “class” of CTA graduates gains experience teaching students via distance education then serves as mentors to successive participants.

There are three major phases of the CTA: a 10-session faculty development period, a portfolio development period, and a course development period. During the faculty development portion, participants learn about and have hands-on opportunities to use an array of technologies, which are used for distance education. They explore the latest research on learning styles and teaching strategies, and consider course design alternatives. Faculty participants hear information about the characteristics of distance education students and explore the latest research on effective ways to meet the needs of adult learners.

During the portfolio development period, faculty members are encouraged to spend a week doing intensive course structuring with instructional designers and media development specialists. The portfolio portion commences with small group meetings with support staff to discuss ideas about course design approaches. From these meetings, a development plan is created for each course. Faculty members then work intensively with resource persons to develop their courses. The focus of activity during this week is on formalizing a plan for structuring the course and developing a class session or course module for the course. This work is compiled in a course portfolio and submitted for review and feedback.

In the final course development period, faculty members work on their own schedule to complete the development of their course. They consult with course development and media production personnel as needed to develop the various components of the course. Practice in the IHETS television classrooms may be scheduled, and logistical arrangements for various technology-related items (such as setting up listservs) can be finalized.

A nucleus of six ISU faculty and staff members has assumed responsibility for designing and facilitating the Course Transformation Academy. This group includes persons with pedagogy expertise, technology expertise, and distance education expertise. A wider circle of resources contribute to the CTA, including experienced distance education faculty members, professional staff across the university who are involved with course development and
support functions, and outside experts who can provide information about specific aspects of teaching and learning via distance education.

Faculty members are encouraged to attend the CTA one year in advance of the start of their distance education course, so they have ample time to consider teaching and learning strategies, and to design and develop their distance education courses. Participating faculty members receive a two-part stipend from Continuing Education. The first part ($500) is issued as faculty members finish the faculty development workshop series and complete the course preparation building blocks that are part of the workshop experience. The second part ($500) is issued to faculty members upon completion and peer review of a course portfolio. (A more comprehensive faculty incentive structure was in the approval process at the time of this writing.)

Coordination Between Continuing Education/Instructional Services and Information Services

As is clear from the preceding sections, much of the ISU component of DegreeLink implementation requires coordination between CE/IS and IS. Specifically, significant attention has been paid to implementation of classroom improvements, support for asynchronous instruction, and support for both staff and users at remote sites. The two units did not have a strong history of cooperation and collaboration, so planning and implementing DegreeLink support in these areas has required changing established behaviors.

Originally, each unit focused on issues related to its specific areas of responsibility and expertise, working with the Planning Committees to develop a series of questions to be answered and processes to be implemented. It soon became clear, however, that some of the distinctions between the units were based on older patterns of technology and thinking, and that new patterns needed to be developed. As part of this shift, the Faculty Computing Resource Center, which had formerly been administratively assigned to Information Services, became a part of Continuing Education/Instructional Services, with an expanded role in training and supporting faculty in the conversion of curricula to new pedagogies. In addition, a joint team was formed, specifically charged to develop procedures for meeting student, faculty, and staff support needs, especially in the area of computing.

As a result of the work of the joint team, it was agreed that an instructional server provided by Information Services be partitioned to specifically support the needs of DegreeLink, including email and chat communication, Web-based coursework and homepages, and other instruction-specific needs that might develop. It was agreed that the ISU modem-pool be expanded to meet the needs of nearly local DegreeLink participants; an early proposal to provide an 800-number for dial-in to the network was found to be prohibitively expensive. The team established a detailed protocol for handling computing queries, both general and troubleshooting, from remote sites and students. The team had preliminary discussions regarding personnel assignments to support DegreeLink, but delayed a final decision until actual experience was available. The team recognized that ongoing coordination will be required to accommodate changes based on actual experience in DegreeLink implementation, and changes in the statewide environment and the technology itself.

Overall, the cooperation between the units has been effective, but has required careful management and has occasionally been problematic. The difficulties have been a combination of differing philosophies, expectations, and personal styles. Overcoming the difficulties has required establishing a common service vision and continual fine-tuning of both processes and relationships.

Managing Special Concerns

Because the initial pool of DegreeLink students and courses has been small, most of the areas of special concern – registration, financial aid, advising, course sequencing, and general education course availability – have been well managed. Modifications in the BANNER Student system have provided needed tracking, billing, and reporting functions for DegreeLink students. Faculty have been very cooperative in working with individual students to provide appropriate advising for DegreeLink participants, and training of staff at the remote learning centers has so far been sufficient to address questions of financial aid and advising. Plans for course sequencing and delivery of required higher-level general education courses are well advanced.
V. Remaining Issues and Concerns

As in any complex project, no matter how intensive the planning and preparation, issues remain that can only be addressed in the actual implementation. For the DegreeLink project, these issues include:

- Regularizing DegreeLink as a part of standard university functions
- Incorporating video more effectively into the information technology infrastructure
- Improving service patterns and attitudes
- Migrating administrative functions to Web-based interfaces

To this point, DegreeLink has been a “special” project, with high visibility and significant participation, but essentially outside the normal patterns of university academic and administrative functions. To be fully successful, DegreeLink courses and participants must be integrated into the standard patterns of departmental activities, including scheduling, sequencing, advising, and pedagogy, rather than handled *ad hoc* or as exceptions. While some work has been done to incorporate DegreeLink into administrative services, full integration remains an elusive goal.

With the convergence of information technology formats into digital as a universal base, the traditional pattern of video delivery as a separate function must be re-examined. Efforts have been made, through cross-unit teams and projects, to ensure that video capability is included in the fiber and electronics of the network infrastructure, but these have been hit or miss. It is not yet clear how this situation will be resolved.

Most ISU administrative offices operate on the assumption that students are available to conduct business during “normal” office hours: weekdays from 8 to 5. These service hours will not adequately meet the needs of DegreeLink students, most of whom will be evening and weekend students. Efforts are being made to provide a high degree of self-service for these functions, and to provide personnel at remote learning centers to answer questions and resolve problems. However, not all student needs will be met through these efforts, and offices will need to adjust hours and types of services to meet the needs of the DegreeLink clientele. In addition, as DegreeLink participants will be primarily non-traditional students, with a strong consumer orientation, it will be important that administrative personnel receive additional customer service training.

As the number and variety of DegreeLink programs and locations increase, it will be difficult to install and maintain required client software at remote sites. Once the administrative systems are stable, we anticipate implementing Web-based interfaces to the various BANNER components, to enable both staff and students to access data and services from a variety of platforms and locations, including from home or work computers via local ISPs.

VI. Updates for the Presentation

Spring Semester 1998 will be the initial implementation of DegreeLink courses. The semester will have been completed shortly before CUMREC98, and we will be able to substantially update the live presentation to include:

- Experiences of the initial implementation
- Discussion of both successes and problems actually encountered
- Review of changes to be made to improve DegreeLink implementation