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STUDENT SERVICES IN DISTANT LEARNING ENVIRONMENTS

Nancy Aden
University of Nebraska - Lincoln

Ward Sybouts
University of Nebraska - Lincoln

Roger Wess
University of Nebraska - Lincoln

WHITE PAPER

STUDENT SERVICES IN DISTANT LEARNING ENVIRONMENTS

NN21 DISTANCE LEARNING/OUTREACH ACTION TEAM

Authors

Nancy Aden - University of Nebraska at Lincoln

Ward Sybouts - University of Nebraska at Lincoln

Roger Wess - Chadron State College (Lead Author)

Introduction:

*At the end of the millennium in which the idea of the university has blossomed, population growth is outpacing the world's capacity to give people access to universities. A sizable new university would now be needed every week merely to sustain current participation rates in higher education....***Sir John S. Daniel, Vice Chancellor of The Open University**; 6; p. 1

Traditional higher education institutions will probably be successful in the distance learning market if these two services are carefully developed and maintained:

1. provide quality learning experiences for students.

2. provide quality STUDENT SUPPORT SERVICES.

With the expansion of learning opportunities for students at a distance from the campus, student support systems must be developed for these distant students. Three general service areas have been found to contribute to successful distance learning experiences: timely student feedback, on-site support, and access to library materials. 4; p. 44 This white paper will explore, in some detail, successful strategies to meet these three major needs.

The surge in development of distance education technologies and programs is a symptom of the rapid changes occurring in our society and technical support systems. Given these changes, most humans must become lifelong learners more dependent upon formal learning environments than was the norm in previous generations. While most initial formal learning may still be traditional educational experiences in a classroom with an instructor from early childhood into high school; later formal learning experiences may not always be possible by gathering groups of learners and instructors together in one location. The difficulties related to grouping learners often begin when specialized learning experiences become too costly to be provided in small high schools and later when family and job responsibilities as well as financial constraints confine learners to situations far away from traditional learning experiences. For most people, continued education and training are part of maintaining their employment situation, necessary to change or enhance job opportunities, prepare for a new job when a current one is lost, or for personal gratification.

These students respond to most of the same principles of learning and have many of the same social and physical needs as students in a campus setting. Therefore, secondary and post secondary institutions choosing to provide distance learning experiences must be prepared to provide student support services of EQUAL QUALITY to both campus and distance students. There will be some difference in the services needed by the two groups, but distance students should, in no way, feel they are SECOND CLASS STUDENTS! Student support systems in secondary and post secondary institutions have evolved over many years to include: assessment, recruitment, admissions, registration, orientation, student centers, advisement, referral services, bookstore, library/media, technology, financial aid, tutoring, transfer of credit, career planning and placement, alumni services, and the list goes on.

Life long learners must have access to the best educational experiences in or near their geographic location. Given the possibility of multiple providers of

such services, students are moving into an improved education consumer position. Education and training in many instances is moving from a very centralized to a more distributed delivery system giving students more choices and opportunities. This shift toward decentralization puts more pressure on traditional education providers to be more cognizant of on and off campus consumer demands: STUDENT SERVICES ARE A MAJOR FACTOR IN THE SUCCESS OR FAILURE OF AN INSTITUTION'S ON CAMPUS PROGRAMS AND WILL BE CRUCIAL FOR DISTANCE STUDENT LEARNING AND RETENTION EFFORTS! Nebraska post secondary and K-12 institutions providing learning at a distance must very carefully develop institutional support systems and, possibly more important, must be prepared to cooperate and form partnerships with other post secondary schools, K-12 districts, libraries, hospitals and other entities in distant communities to provide support services. Representatives from the various groups involved in the delivery of distance learning will have to form working committees, agreements of understanding, policy handbooks, and the other procedures necessary to coordinate learning in many distance sites to the benefit of the distance students. This is probably analogous to operating the airline system in this country. In the past, each institution was independent and could assign classes and instructors with students in one location - the INSTITUTION CONTROLLED MOST ITS OWN RESOURCES. Now institutions are delivering courses to other locations which they do not control. Arrangements must be negotiated for rooms, times, equipment, support personnel, etc. INSTITUTIONS MUST NOW COOPERATE, AS NEVER BEFORE, TO MAKE THE SYSTEM WORK.

As education and training become more important to our citizens as life long learners, education is becoming a more attractive business opportunity. Dolence and Norris in their provocative book "Transforming higher Education: A Vision for Learning in the 21st Century", estimate the amount of learning required by every information-age worker by the year 2000 will be equivalent to 30 credit hours every seven years or a master's degree every decade. [4; p. 44] Corporate universities and other business ventures have recognized this need and are beginning to provide distance learning experiences. One has only to look at the programs provided by the University of Phoenix as well as Motorola, Xerox, and other corporate universities to note what might be termed competition from the private sector. These factors should make traditional education providers entering the distance learning arena more conscious of student needs or face the possibility of private profit oriented provid-

ers taking a large portion of the popular education and training experiences from tradition providers.

Who are Distance Learners?

Students in K-12 distance learning experiences are usually in a school setting with the traditional support services of this environment. They will usually be in the upper teen age group and still living as a dependent in a family situation. The major support issues will be those of coordinating and communicating among the K-12 districts involved in the distant learning experience and keeping communications open with parents.

When higher education institutions are faced with providing support services to students at a distance, different groups may have very different needs. The needs of students on campus taking learning experiences from sources outside the campus will vary greatly from students not on a campus setting involved with the same learning experiences.

Students in a campus setting may be taking distant learning experiences because of course conflicts on their home campus, cooperative arrangements among campuses to aggregate student numbers for low enrollment experiences, experiences not provided on the home campus, and similar reasons. These students can take advantage of traditional campus support services such as the admissions, registration, financial aid, library, advising, tutoring, and similar services. The main additional student service needs fall in the areas immediate feedback from the instructor and students at a distance as well as the reliability and ease of using the technology supporting the learning experience.

Students not on a campus setting probably will not need the traditional dormitory, food, and related living accommodations. They will need support in the areas of admissions, registration, financial aid, advising, tutoring, library services, reliable and easy to use technology, timely interaction with instructor and other students, along with any other services related to successful learning at a distance. This group of students will require expansion of existing resources and additional resources needed for extended student support services.

This latter group further subdivides into subgroups with unique support needs which may spell the difference between student success or failure. One sub-

group which may require significant and unique approaches to support services are those who have not taken post secondary classes or have not had formal learning experiences for a great many years. These students may have realized the importance of furthering their education after leaving high school for a job, getting a GED, being downsized from a job held for many years, having a midlife crisis and wanting to change a life style, and similar situations; the bottom line being, they are not experienced learners in a post secondary setting. In addition they are geographically confined because of job, family, and/or other responsibilities. These students may be very fragile because they may lack study skills; have not developed time management skills; and/or may experience physical, cognitive, or social challenges. Support services in the form of assessing cognitive and affective skills, advising, tutoring, possible counseling, and similar resources may be needed to insure a success ratio equivalent or superior to students on a campus setting. When viewed in relation to the number of students who are not successful in the campus setting during their freshman year, one can appreciate the vulnerability of this group of students at a distance.

Another subgroup may include students who are again geographically confined because of job, family, and/or other responsibilities but are actively engaged in on-going professional and/or training programs. These individuals are usually academically skilled and highly motivated students, therefore they may not require the level of support required by inexperienced students.

Other subgroups may have special physical and/or learning challenges which will require special technologies or support personnel. An example of a special group would be incarcerated learners. Direct contact with these individuals by post secondary representatives may be more difficult, the mix of backgrounds and motivations may vary greatly, and the ability to perform some class activities may be very restricted. If the goal of the prison system is to return reformed and contributing members back into society, distance learning may be a major element toward meeting that goal.

Delivering Student Services at a Distance

Existing Support Services

Learning Centers

Several Nebraska post secondary institutions operate satellite centers in communities across the State. Chadron State College, for example, has centers in Alliance, in partnership with the Alliance High School, and Scottsbluff, in partnership with Western Nebraska Community College. These centers are staffed by personnel on the Chadron State College payroll. Chadron State also partners with Western Nebraska Community College in Sidney and North Platte Public Schools along with the Nebraska Division of Administrative Services to provide courses to students in these communities. Chadron State maintains a network of contact persons in other communities in the Chadron State College service area which is most of western Nebraska. Partnerships with other education, community, and state entities are an essential component to providing efficient and effective student support services. The University of Nebraska, Metro Community College, Central Community College, Western Nebraska Community College, MidPlains Community College, Peru State College are among those having developed partnerships and/or fund distant centers. The support services available to students vary greatly among existing centers.

Community support for a COLLEGE CENTER concept is becoming popular in Nebraska. A community/extension service partnership was the foundation for the Grand Island College Center. This structure and its programs are adjacent to the Central Community College campus. The staff schedule courses and programs from the Community College, State College, and University Systems and provide an array of student support services similar to a traditional campus such as library, laboratory, computer lab, advising, and other student services. A College Center building has just been completed in Alliance, and a college center in existing facilities is being planned in North Platte. Given the presence of Western Nebraska Community College, University of Nebraska Learning Center at the former Hiram Scott College site, and the Chadron State College programs in both locations; Scottsbluff can probably claim college center status. Student support services from several higher education providers must be smoothly integrated for students attending these centers.

Nebraska Educational Service Units have a long tradition of partnering with post secondary institutions and K-12 districts to provide distance learning experiences. This support includes the development of distance learning consortiums among school districts and with connectivity to higher education resources. As of 1997, six distance learning consortia are operating with sev-

enty-eight school districts, eight service units, and with direct connection to five post secondary institutions as well as the ability through Neb*Sat to connect with other post secondary institutions. Seven other distance learning consortia were funded in 1998 which will link one hundred twenty-seven school districts, five service units, and direct connections to seven higher education institutions as well as others though Neb*Sat. One more consortium is seeking funding as well as the districts of Lincoln and Omaha. Districts wanting to join exiting consortia could possibly add another 33 K-12 districts to the distance learning mix. 3 A distance learning infrastructure that includes two hundred and five K-12 districts connected to educational service units and post secondary institutions is a student support system of mammoth proportions and more institutions will probably continue to join. Student support services include a mix of services among K-12 districts, advanced placement experiences for high school students, professional development for K-12 staff, and learning experiences for citizens in these communities in a variety of programs.

The Extension Service and Experimental Agriculture Centers maintain offices and learning facilities across Nebraska. These facilities and the personnel who manage them provide a potential support source for learning experiences beyond those related to agriculture.

Large and small hospitals across Nebraska have established or are exploring distance learning related to medical issues. These centers along with support staff may be another source for learning experiences beyond the needs of the medical community.

Other opportunities for distance learning centers with support staff from the business sector, private for profit learning centers in urban areas, and the community library system may all become part of this mix of learning centers which students at a distance may use to access continuing education.

As this mix of centers and support personnel connect students with learning experiences, the personnel in the centers will need access to all the policies, forms, contact persons, library support, and related issues for each K-12 district and post secondary institution providing services through that center. They will also need to provide technical support and relay other support issues to each providing institution. In reality, a generic combination of all the above will probably occur. A possible model would be the Western Governors

University. Each WGU member state is to develop at least one local center and encouraging member states to encourage the establishment of more centers located in communities where WGU students live and work. Personnel in these centers will assist students by providing access to the online WGU SmartCatalog™ and, in some cases, by making WGU courses available through videoconferencing, a satellite downlink, etc. Each local center will use a generic website and registration form for all students, have access to contracts for centralized library and bookstore services, but will also refer students back to post secondary institutions for some support services regarding courses and programs. More information may be obtained at "http://www.wgu.edu"

Given this mix of distance learning opportunities, it is very possible for many communities in Nebraska to establish a college center along with the high school or some other distance learning center. A crucial component to the success of these distance learning centers will be the training of the personnel and policies to support the distance learner whether they be elementary, middle school, high school, or post secondary students.

Existing Support Services

The Internet, Voice Telephone, and U.S. Mail

Centers operated by trained personnel give students a place with faces to relate to when there are questions. There will also be many instances when students will be far from a center, home bound, or choose not to use center services because in these instances they are interacting with a learning experience in their home. They may be receiving information by Internet, U.S. Mail and/or some package service which might include printed materials, CD ROM discs, tapes, and similar materials. Support services for these students will need to be oriented toward a technology system connected back to a campus or a consortium of providers to obtain support in a timely fashion. Along with access to the voice telephone, mail, and package services; Internet connections are becoming available in most Nebraska communities. To provide rapid student response, it will be necessary for all providers to maintain either twenty-four hour technical and academic support services or at least services at times when they can be available to students. These support services can take many forms and a combination will most likely be the norm.

1. There will need to be printed manuals with procedures and common questions that are sent or can be downloaded and printed at the beginning of the class. Another option is the 800 telephone number.

2. A well designed voice processing system can be designed to answer common questions but a human to talk to is very important for other information.

3. E-mail and a well designed Internet web site is another option for providing technical and academic support.

The last two options are very important to students and will require staffing at hours other than the usual academic day. Smaller institutions may find efficiency by forming consortia and partnerships to share these support needs. Technical problems may require a visit by a technician. Technicians will probably be part of a local center staff or a private vendor contracted to provide support in some remote area. These technicians will need to be cross trained to provide support for different operating system., browsers, software delivery options, and similar issues. Cooperation among Nebraska education and training providers will be crucial for efficient support of distant students.

New support services

1. More student support centers will be needed in communities across Nebraska in addition to those already in existence. These centers will require staffing and the training of personnel. Communities, K-12 districts, and post secondary institutions need to explore partnerships to support new and existing staff resources at the community level since personnel usually the most costly portion of any educational budget. The Western Governors University is in the process of developing guidelines for centers. Centers would have personnel trained to provide admission, and similar services as well as being well connected electronically to support from all participating institutions. Centers would also have several different levels of technology and staff to support distance learning technology, library services, and other support needs. For

more information on the development of these standards, contact the Western Governors University at "http://www.wgu.edu/wgu/contact.html".

2. In the author's opinion (Roger Wess) the distance learning services in Nebraska tend to be somewhat fragmented. A lack of formal cooperation in some areas would be to the detriment of the student at a distance. As new learning pods are formed, those responsible need to carefully assess whether the standards of the technology being considered are compatible with those of surrounding pods and the State networks. As stated earlier, there needs to be a state-wide coordination of these services to encourage compatibility so that the boundaries of distance learning pods do not become barriers to students in adjoining pods.

3. As stated earlier, new partnerships may need to be forged with K-12 school districts, libraries, and similar institutions to provide services in existing bricks and mortar facilities. Staff in these facilities may be retrained to help students learning at a distance. By providing services to the adult population, local schools become more important to taxpayers who do not have children in these institutions.

4. A sophisticated Inter/Intranet service may need to be instituted and maintained listing all courses, programs, certificates, as well as admission, enrollment, and other academic procedures for all participating institutions. This would be a massive undertaking and would be somewhat costly. One option would be a cooperative effort on the part of Nebraska K-12 learning pods and post secondary institutions to provide an Internet catalog of learning experiences and school policies. In support of post secondary programs, this might be a part of the Western Governors University SmartCatalog; although only institutions affiliated with the WGU can be listed on this site. The SmartCatalog is found at "http://www.wgu.edu/wgu/index.html"

What Types of Support Services are Necessary?

Assessment

Assessment is one of the key aspects for determining what learning experiences to offer at a distance, we cannot know what is needed, where, and to what extent without going to the time and expense of finding out. Assessment is a many faceted process requiring different techniques and instruments. One of the first assessment questions is determining what programs, courses,

training options, and similar learning experiences are needed by the various student populations. A system needs to be in place to survey potential students and employers in area, regional, state, national, and international settings to determine the learning experiences needed in distance as well as traditional campus settings. This information will help curriculum planners develop courses for programs and training sequences which will help students make long range plans with certainty that they have access to the necessary learning experiences. Achievement of employment, advancement, or whatever goal they set for themselves at the end of a particular learning sequence requires this type of assessment. Frequent assessment of needs is necessary to make curriculum changes and develop new learning experiences in a rapidly changing society. One source of some of this information is the Center for Rural Community Revitalization & Development and the Nebraska Rural Poll at "http://www.ianr.unl.edu/rural/ruralpoll.htm" As this is a yearly event, this group might be persuaded to include more questions regarding educational needs.

Another aspect of assessment is to provide students and instructors valuable academic information which can be used to enhance the success rates of distant students. First, students may need to know their affective styles, cognitive styles, interests, and other characteristics which could impact their success as learners. A key assessment element is readiness for the learning experience such as an appropriate background in mathematics and language arts. Readiness should be determined before taking courses as well as readiness for specialized academic learning experiences. Many of these instruments can obtained from sources such as the Educational Testing Service and their assessment products can be viewed at " http://etsis1.ets.org/body.html ". Formative or diagnostic experiences are needed to check concept, generalization, and/or skill development during the learning experience. Finally summative, outcome, or achievement measurements are needed to determine a valid and reliable final outcome of the learning experience.

Recruitment

Courses to be offered in K-12 distance learning pods should be determined early in the academic year prior to the session in which they are offered. This information should be available to counselors, students, and parents when student schedules are developed for the next semester or academic year.

The development of two or more year schedules would be of even greater value to students.

Through the use of Internet, news releases, mass mailings and similar strategies; all citizens in Nebraska should have access to the classes, programs, and training sequences offered by all post secondary institutions in Nebraska whether these be on or off-campus experiences as well as those offered beyond the State boundaries. These types of activities are occurring, but not in a coordinated fashion. The college or university catalog or bulletin as well as the current schedule of learning experiences should be part of the institutions web page. Most of these institutions already have staff to develop recruitment materials, answer telephone and mail inquiries, visit high schools and attend regional recruitment experiences, as well as actively recruit talented individuals for academic and athletic opportunities. Resources invested in recruitment will need to promote distance learning experiences to prospective students along with the campus programs. This promotion needs to emphasize advantages to the targeted student groups along with the the support services for these groups. Academically talented students at a distance should be as actively recruited as students for campus experiences. Again, consortia and/or partnerships among post secondary institutions may provide a richer and more efficient set of recruitment and orientation services for the learner at a distance. Probably the major changes here will be more emphasis on web site development and promotion through alumni groups to reach a broader prospective student population.

Admissions, Registration, and Orientation

Awareness of programs and individual learning experiences by distance students should be followed with orientation programs to help students make good choices among education opportunities and obtain a good overview the learning experience to prepare for the demands of the learning environment. Most K-12 districts provide orientation experiences for students as they progress from elementary to junior high or middle school and then when they enter the high school experience. K-12 districts in distance learning pods may want to cooperate in the development of an orientation program to prepare students for distant learning experiences using the support systems in that pod.

Most post secondary schools have invested heavily in terms of personnel and resources to provide orientation experiences for on-campus students. Distance students who express an interest or enroll in a learning experience, especially students with little post secondary experience, may benefit from an orientation experience just as freshman and transfer students starting campus programs. Students may be encouraged to attend orientation programs on campus, have a multimedia presentation sent to them or a nearby college center, and/or interact with an orientation program on the Internet. Student handbooks and the policy manuals for the various segments of the institutions should be easily located on the institutions web page. In all of these possibilities, it is important that distance students have an opportunity to interact with admissions staff and program specialists to answer questions and be fully aware of support services available on and off campus such as assessment of personal learning characteristics. These admissions, registration, and orientation programs should eliminate redundancy of forms and data entry tasks. They need to provide the information needed in the most effective and timely manner with plenty of opportunity for personal interaction regarding questions and help with data entry. The Western Governors University has developed a registration form which meets the legal requirements of the states currently affiliated with the WGU. Access to this form and other WGU services of this type can be found at " http://www.wgu.edu/wgu/admission/index.html ".

Student Center

Some high schools and most post secondary schools have some physical facility and associated staff support where students and staff can meet for social purposes. It usually includes some food service facilities, meeting rooms, lounge areas, and similar features. This is the institutional living room for students and staff.

Providing this type of support at a distance is not always practical and students at a distance may not require as much of this type of support in a setting at or close to their homes.

Secondary schools are often close enough to have social gatherings of all students in a course once or twice during the experience. The use of e-mail and telephone contacts may also provide social contacts.

Social interaction among post secondary students, their instructors, and others may be an important component of learning for students at a distance. College centers may provide a physical location and some of the abbreviated support systems of a campus student center. These locations would have to be augmented by the following electronic options. Attention should also be given by course planners and campus student services personnel to the provision of listservs, e-mail addresses, videoconferencing, and similar electronic avenues to social interaction among students. An example would be the "Student Union" developed for the University of Nebraska Lotus Notes doctoral program in higher education administration. Information about this program may be found at "http://hou-edadone.unl.edu/welcome.htm". The Western Governors University is developing an approach called the CAFE at " http://www.wgu.edu/wgu/union/cafe.html "

Advisement and Referral

Students in K-12 distance learning situations will probably be able to rely on traditional advisement and referral support in the school. This would include home bound students at this level. Post secondary students in distance settings need to be assigned an academic advisor just as they would in a campus setting. In addition, they will need to have easy access to their advisor using technologies such as the telephone, e-mail, desktop conferencing, and of course face-to-face contact if necessary. The Western Governors University has developed an advisory system for the programs certified by the WGU.

Students often have other physical, emotional, and cognitive needs which require resources beyond the academic advising process. The K-12 and campus environments have nurses and counselors, these professionals can be refer students to other resources. Referral beyond the district and campus level is usually at the expense of the student and/or family, not the institution. Students at a distance in the post secondary environment may need referral services in relation to their academic activities and need access to traditional campus support services. This may be one of the most difficult student support issues. The most practical approach is to help students locate quality resources in their area. Then students will have to decide whether they want to contact and pay for these sources themselves. Lists of support services

available in Nebraska communities may need to be available in the traditional campus referral environments in order to make referral suggestions to students. 6; pp. 1 -14.

Bookstore

This is usually not a major component of the public K-12 environment. Books are usually purchased by the district and used from year to year. Some of these texts may be need to be shared among two or three other districts. Other supplies are usually purchased in the student's community.

Post secondary institutions usually have bookstore facilities to sell textbooks, writing materials, computer hardware as well as software, clothing, souvenirs, and similar items. College and university bookstores may need to consider establishing electronic catalog services with online purchasing as well buying back texts at the end of the learning experience. At the very least, they will need to have a well publicized e-mail address as well as 800 number to answer questions and sell supplies to distance learners. Common items such as writing materials can be purchased locally by the distance learner.

Most items such as textbooks, computers, and software can be purchased directly over the Internet or by 800 numbers from large bookstores and manufacturers. All of the textbooks used in my classes (This is not the case for all instructors.) at Chadron State College can be purchased from "http://www.amazon.com" and the students will usually receive them in two to three days. Not buying back texts at the end of a learning experience is probably the main drawback of dealing with this type of bookseller.

Library and Media Support

When students are interacting with learning experiences, it is vitally important they have ready access to quality and current library resources. Students at a distance have the same needs as students in a campus setting.

Courses which are offered frequently in the same distant locations may warrant the purchase and placement of duplicate library and media resources in the library or support service area at the distant locations.

Cooperation among local libraries and college libraries will be very important in regard to interlibrary loan services. These services need to be supported by e-mail addresses and fax numbers allowing service to students in hours convenient to both student. The Nebraska Library Commission Interlibrary Loan Code for Nebraska developed by the Nebraska Library Commission can found at "http://www.nlc.state.ne.us/ref/tnebill.html". The Western Governors University has established a library support system which can be viewed at "http://www.unm.edu/~wguclr/overview.html"; a detailed view of this support facility requires a student ID number.

Virtual or electronic libraries on the Internet are becoming more comprehensive and should be utilized where possible by instructors in course bibliographies and by students. The Nebraska Library Commission maintains a source list at "http://www.nlc.state.ne.us/nsf/nel.html". Most of the post secondary and many of the larger public libraries also provide electronic listings. The electronic library can be used to locate resources and, as full text books and periodicals become more common, access complete documents. Access to full text resources usually requires a fee structure paid as part of tuition, library service paid by taxes, or by the student as they access materials.

The Internet is a vast source of information if used properly. There is little effort to monitor the quality of information presented on the Internet, therefore students need instruction regarding the use of search engines and how to judge the quality of information accessed on the Internet.

Accessing the Internet for resources poses special problems for K-12 educators regarding many morally objectionable sites, games, advertisements, misinformation, and low quality material children and adolescents may access. Parents and taxpayers expect a safe monitored environment for their children in the K-12 setting and will hold school staff responsible if students access objectionable sites. Librarians and staff in the K-12 environment will have to rely on some combination of screening software, Internet license signed by the student, Internet monitoring software, and similar measures to protect students and themselves.

Specialty publishers are another means to provide students at a distance with access to a variety of information resources. Instructors using these services identify resources needed to complete the learning experience and the publisher negotiates with the copyright holder for the clearances and costs to use

the material which is then compiled, printed, and purchased by the student. Large amounts of printed material can also be placed on CD ROM and sold to the student in a more compact form. Another advantage of CD ROM is the ability to have the material become unreadable after a set period of time.

In general, the role of librarians has not changed, but the tools used by library staff have changed. Librarians are still in the business of "....selecting, producing, providing access to, identifying, retrieving, organizing, providing instruction in the use of, and preserving recorded expression regardless of the format or technology. The library professional links people with information, knowledge, opinions and stories...." A more detailed description of these services by the Nebraska Library Commission can be found at "http://www.nlc.state.ne.us/freedom/elecaccess.html".

Providing library resources at a distance requires knowledge of copyright law. Creators of intellectual real estate require compensation or at least recognition for their work. Going to central storage locations such as libraries afforded a system that producers and users understood and have been in place over a long period of time; library services at a distance will require the establishment of some new procedures to protect intellectual property.

Technology Support

Technology is a major support component of the learner at a distance; it should be easy to use and as transparent as possible. The learner's task is to concentrate on the learning environment, not learning a technology support system. If the technology supporting the learning environment is difficult to operate, not reliable, and/or has poor quality media components such as sound or video; the learner may have a trying experience at best or, worse, experience failure.

Electronic/mechanical systems will break down over time. The key support issues are the installation and contracting for servers, CODEC equipment, switches, carriers, and other key components which are durable and these essential items are duplicated in inventory which is costly. In the event of a malfunction, technical help must be close at hand to repair the problem

quickly along with the ability to provide backup services such as tapes of missed lectures and similar support systems. Technical support can be provided through contracted services with local vendors, placing school or state salaried support personnel in central locations and cross-train them to support the common learning support technologies. Training of support technicians will be a continuous process as technologies change and evolve.

The technical delivery systems must be oriented to the needs of the user, not the user fitting the needs of the technology. Put another way, instructors and learners need to be consulted when technology systems are installed and upgraded to assess the ease of human interaction; what may look logical to a system designer and/or installer may may be very cumbersome to a learner.

When human beings are not directly in charge of a learning environment, many initial as well as day-to-day information items and procedures can become major barriers. Simple items such as e-mail accounts, policy issues, directions for using listserves, steps needed to operate equipment and software, as well as other operational details must be available immediately when a student begins a learning experience and continue to be available as needed through manuals, help screens, as well as human support at learning centers.

There will be instances where classes and other learning experiences need to be delivered using technology systems with which a student may not be familiar. This may include a student, having little computer knowledge or experience, enrolled in an Internet class delivery system with support components that may need to be downloaded. Prerequisite learning experiences must be available for these students to learn to use the technology prior to becoming involved in a learning environment supported by the technology in question.

Some students at a distance will have cognitive or physical challenges which will require special hardware as well as software and/or additional human support. This may include subtitling and signing for deaf students, Braille materials for visually impaired students, as well as special graphics tablets and pointing equipment for the physically impaired. This list could be expanded and the costs of meeting special needs could be significant. Often the cost of special equipment and personnel will be absorbed by rehabilitation and other programs. In cases where special equipment is not supported by outside agencies, it may become necessary for Nebraska K-12 and post secondary

institutions to partner in the purchase and sharing of specialized equipment and personnel. There is a World Wide Wed Consortium developing guidelines for accessibility. The web site is "http://www.w3.org/TR/1998/WD-WAI-PAGEAUTH-0203".

Financial Aid

Financial aid is primarily a post secondary concern and, again, most campuses have physical facilities and personnel allocated to providing these services for students in a campus setting.

Federal financial support for students at a distance was greatly impaired several years ago because of improprieties involving several correspondence schools in the early 1990's. As a result, for post secondary schools to receive funding under the Higher Educations Act's Title IV, they cannot offer more than fifty percent of their courses through distance education and bars students from getting aid at institutions where more than fifty percent of the student are enrolled at a distance. Telecommunications courses are considered to be correspondence courses under current interpretations. 5; p. A 30.

There is pressure to change the federal guidelines and these changes will hinge to a great extent on regional accrediting agencies developing standards for distance education. The Western Governors University has had meetings with the regional accrediting agencies represented by IRAC, the Inter-Regional Accrediting Committee, to develop standards for distance education courses and accredit the Western Governors University competency based degrees. The Western Governors University recently received "eligibility for candidacy" status as the first step toward full multi regional accreditation. 7; p. 2

Post secondary financial aid guidelines naturally are strongly influenced by federal guidelines. An example are the guidelines proposed at Chadron State College for Internet courses:

> Internet classes may qualify for Title IV assistance providing the following conditions are met:
>
>> 1. The class(es) MUST count toward a student's degree program.

2. The class(es) MUST be offered concurrently with a term/semester with the same begin and end dates as a regular term/semester. This will meet the requirements for measuring Satisfactory Academic Policy.

3. The class attendance MUST be measurable as to meet the requirement for determining a student's last date of attendance.

In addition to Federal support, distance students need access to information about scholarships and other traditional campus financial support systems. This information should be available in electronic formats such as easily located web pages which are part of the post secondary provider's web page. This information should also be available at college centers in some accessible format and personnel in these centers should have some training to assist students in this process. New and current scholarship providers should be contacted regarding the restrictions placed on scholarship recipients if these restrictions exclude distance learners. Such restrictions may have been unintentional and therefore should be changed.

Tutoring Services

No matter how well a synchronous (real time experience that meets with an instructor on a set schedule) or asynchronous (not in real time and does not meet with the instructor at a particular time, more like a correspondence course) learning experience is prepared, students differ in how they learn, may have to be absent at times, and/or may experience stresses which interfere with the learning process. Campus learning environments have instructional staff available in offices, may have established tutoring centers, and students can gather together in various campus locations to deal with these problems.

The bottom line - instructors of distance learning experiences will need to establish some combination of tutoring support systems with the instructor; another person with the necessary course background; through a technology based student discussion group; and/or a technically enhanced tutoring system available by phone, fax, network, Internet discussion group, or similar means to assist students with temporary barriers to learning.

School districts should be able to work together and identify local teachers or other persons in a community who are trained in good pedagogical practice as well as the material to be learned. Their names and means of contact should be available as part of the learning experience. Post secondary tutoring support may require the learner and/or the staff in learning centers to identify local school and community talent to provide tutoring support. The learner may also have to bear the cost of these tutoring services.

The development of technology-based tutoring systems which include extra problems and guided experiences on the Internet, CD ROM, and similar media will require considerable instructor time and production resources. Instructors and production staff should continually monitor the support materials being commercially produced in the various areas of learning as an alternative to developing tutoring materials locally. Again, all or part of the cost of access to these tutoring materials may be passed on to the student.

In most cases, the most effective tutoring service will be the instructor setting aside specific times to talk with students by phone, answer e-mail in a timely fashion, participate in online discussion formats and similar student/teacher interactions.

Transfer of Credit

Usually transfer of secondary credits is not a big problem among high schools. On the other hand, one of the most discouraging aspects of transferring from one post secondary school to another is transferring credits from the transcript of the former to the latter school. It is not uncommon for a post secondary institution not to accept courses from another institution which may have the same accreditation status as well as courses with the same general names and content as that of courses being offered at the receiving institution. There are many reasons given for this type of rejection ranging from individual professors and departments protecting their"turf" to real concerns about the quality of work done in courses outside the institution.

Students at a distance don't know or care about campus turf issues. They also need access to criteria which will indicate a minimum level of quality for the learning experiences they need. Post secondary institutions in Nebraska need to develop transfer agreements among all levels of schools. As an example, over a number of years Chadron State College has developed transfer of credit agreements with Nebraska Community Colleges. [2] This will require

representatives from the public and private institutions to take the time to meet and develop transfer agreements as well as expend the resources necessary to provide traditional and/or state accreditation of learning experiences. Finally, this information must be accessible to students at a distance through electronic means as well as traditional print formats such as college bulletins.

It must also be very obvious to students at a distance that they should check transfer agreements among schools and possibly obtain, in advance, written permission to transfer courses from one institution to another.

Career Planning and Placement

Most students in a K-12 setting will have the support of their school counseling program to assist with career choices as well as training and post secondary education decisions. A change in K-12 services may be more access to distance learning and training opportunities prior to and after high school graduation. High school guidance counselors may need further professional development opportunities for this role.

A post secondary student in an extended campus setting will most likely need to identify a Nebraska post secondary institution for transcript, credential, and placement services. These services are part of a traditional campus support system. Transcript and credential services will probably not be required to make great changes in operating procedure other than processing requests for services, recommendations, and similar activities through electronic response systems. Authenticating requests and recommendations will require the establishment of procedures to check the identity of persons making requests and submitting recommendations.

Placement services may require more extensive planning to serve patrons at a distance. Databases of employment opportunities may need to be maintained in an Internet web page requiring a password or sent by e-mail. Job fairs and interview days will need to be advertised by traditional print sources, web page and/or e-mail to clients. These activities may need to be scheduled in more than one location and access to information about similar activities sponsored by other institutions may become more important. Cooperation among post secondary providers will be necessary to make students aware of these opportunities.

Electronic alternatives for learners at a distance may include audio and videoconferencing opportunities on job fair and interview days. The use of technology to provide direct communications between prospective employers and employees will probably become more common placement processes.

Alumni Services

Students may take courses from several institutions in the process of obtaining degrees and training certificates. Therefore several individual post secondary institutions may contact these students providing information about the institution and, most likely, ask for financial support and some students may find this attention irritating. Post secondary institutions may need to be more concerned about the number of institutions contacting a former student and whether they were a primary provider of learning experiences in a student's career.

On the other hand, access to sports and cultural events, reunions, and other activities may be important to former students even if they attended only one learning activity at a distance. These affiliations may need to be determined through alumni surveys and very clear criteria may need to be established as to what constitutes alumni in good standing.

Nebraska post secondary institutions may want to develop a common database of alumni activities for all or most institutions to efficiently deal with contacts between students and institutions.

Conclusions

The Legislature as well as administrations, faculties, and support staffs of K-12 districts and post secondary institutions must change their concept of campus from physical locations scattered about the State to that of a state-wide campus with various K-12 districts, community colleges, colleges, universities, and corporate universities providing instructional services across this vast campus. All these groups must at least recognize this development and/or embrace, cooperate, and support it with reallocation of existing resources and possibly new resources. These groups along with the students in the extended campus need to prepare for a steep learning curve and a number of new problems. The problems will be remedied and we will provide for the extended campus; this is not a question of "if it will occur", it is a question of "when it will occur".

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