

**ANALYSIS OF FUNDING ISSUES
RELATED TO DISTANCE LEARNING
IN THE NORTH CAROLINA
COMMUNITY COLLEGE SYSTEM**

SUBMITTED TO:

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EXECUTIVE SUMMARY

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The depth and breadth of distance learning course offerings that have been developed throughout the NCCCS in the past few years is impressive. Enrollments in NCCCS distance learning courses in 1999-2000 totaled 44,349, and increase of 11,000, or 33 percent over 1998-99 levels. Even with the rapid growth in distance learning course enrollment, however, total distance learning FTE enrollment is less than five percent of total FTE system wide, reflecting the still early nature of its development.

To date, the NCCCS has used a variety of strategies to respond to the demand for distance learning courses, including (1) the centralized purchase of telecourse programming and services, (2) the ongoing development and implementation of the North Carolina Information Network (NCIN) to provide courses via interactive video, (3) the establishment and implementation of a "Virtual Learning Community" to develop and provide Internet-based courses; and (4) the production of satellite teleconferences and telemeetings throughout the state. The NCCCS has also worked closely with the UNC and its institutions through many cooperative ventures across the state, including the offering of distance learning courses. This cooperation has helped to ensure that there is no unnecessary duplication of course offerings between the two systems, and that the limited resources for distance learning are used in an efficient and effective manner.

The advent of distance learning technologies, however, raises several issues related to student charges that need to be addressed in funding that mode of instruction:

- Should there be a non-resident surcharge for out-of-state students who are enrolled in Internet-based distance learning courses offered within the NCCCS?
- Should there be a general tuition surcharge for any student enrolled in a distance learning course?
- Should there be a technology fee (or some other fee) charged students to cover the specific added costs of distance learning and other instructional technologies?

The report offers two recommendations related to student charges for curriculum instruction courses offered via distance learning technologies:

Recommendation #1: Out-of-state students who are enrolled in Internet-based courses offered by the NCCCS should be charged a tuition rate that is approximately the full (i.e., 100%) cost of instruction.

Recommendation #2: The State Board of Community Colleges should explore alternative funding methods to support distance learning, including technology fees.

A number of findings and recommendations related to how distance learning should be funded by the state also were made, and address both the structure of the funding process and how enrollments and other workloads should be measured.

Recommendation #3: Enrollment (and other workload information) related to distance learning should continue to be captured and reported, to the extent possible, for use in the current formulas.

Recommendation #4: A series of separate funding formulas for distance learning should not be developed at this time.

Recommendation #5: A package of special allotments to support the further development and delivery of distance learning should be provided.

The reliance on current funding formulas will require minor modifications in how enrollments in the distance learning are counted for funding purposes. In general, such changes are necessary due to the difficulty in counting the amount of time that is spent on serving students who are not physically present. The report offers several recommendations calling for the development of new approaches to counting enrollment in specific situations, along with a more general recommendation for flexibility in extending current formulas to distance learning.

Recommendation #6: Funding requirements for curriculum skills labs should be determined on some method other than an enrollment count basis.

Recommendation #7: The NCCCS should develop an alternative enrollment counting approach for basic skills instruction that is based on initial enrollment and attainment of educational outcomes.

Recommendation #8: The Distance Learning Council should continue to monitor and identify situations where traditional methods of enrollment counting tend to provide a disincentive for adoption of distance learning and devise alternative counting approaches as needed.

A final funding-related recommendation pertains to the ongoing need to seek greater coordination among the institutions as distance learning approaches are developed. Indeed, the special provision requesting this report emphasized the need to “promote coordination of distance learning programs among the institutions of the Community College System and The University of North Carolina.”

Recommendation #9: Priority in the use of special allotment funding should be given to those efforts that will promote coordination and contribute to greater cost-effectiveness of distance learning offerings.

This analysis primarily addresses the distance learning needs of curriculum programs and does not specifically address issues related to the development and funding of distance learning courses for Continuing Education. Continuing Education is a separate entity from curriculum with its own set of rules, regulations, course fees, registration procedures, and--most important--its own unique issues regarding Distance Learning courses. For Continuing Education, additional study is warranted at a later time.

In an area as dynamic as distance learning, the need for ongoing study should be expected. The report closes with the identification of several areas where additional study should be undertaken by the NCCCS.

1.0 INTRODUCTION AND OVERVIEW

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1.1 Legislative Interest in Distance Learning in the NCCCS

During its 2000 legislative session, the North Carolina General Assembly passed a special provision requiring the North Carolina Community College System (NCCCS) to conduct a study of funding methods and delivery of distance learning and education programs. The key text of the special provision is included in Exhibit 1-1. The special provision requires that the results of the study be reported to the General Assembly's Joint Legislative Education Oversight Committee and the Fiscal Research Division by January 15, 2001.

EXHIBIT 1-1 STUDY OF DISTANCE LEARNING/EDUCATION PROGRAMS WITHIN THE NORTH CAROLINA COMMUNITY COLLEGE SYSTEM KEY TEXT OF SPECIAL PROVISION

The State Board of Community Colleges shall contract with an independent consultant to study funding methods and delivery of distance learning and education programs. Distance learning and education shall include, but not be limited, to telecourses, two-way interactive video, Internet-based courses, and a combination of these technologies.

The study shall include:

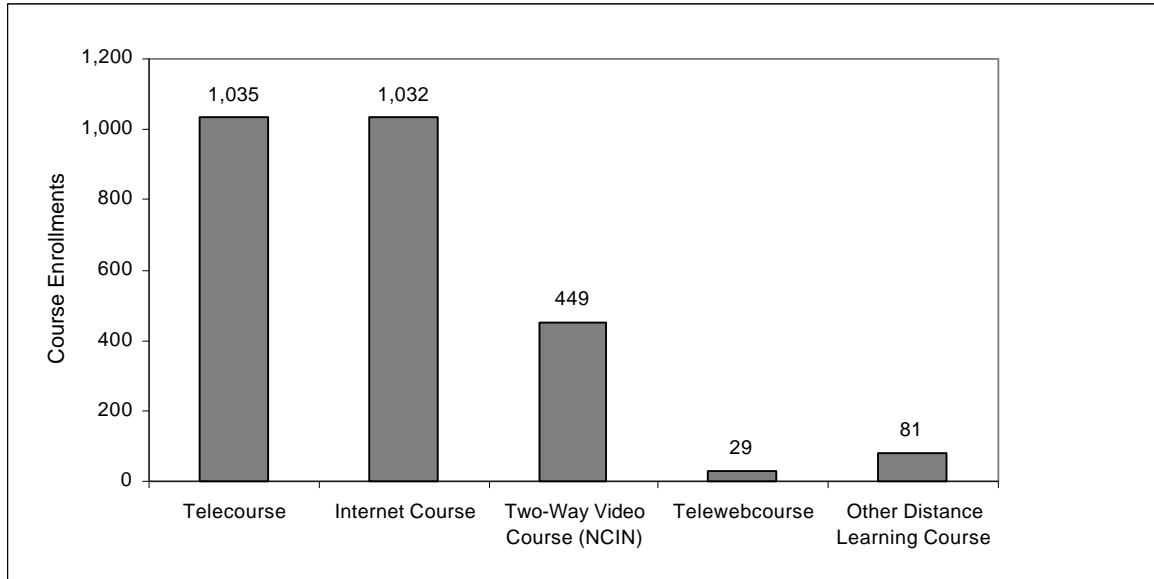
1. An analysis of tuition rates, registration fees, and other related charges for in-State and out-of-state students enrolling in distance course offerings;
2. A survey of current distance course offerings, delivery systems, and sources of funding, including an assessment of the ability of individual colleges to provide and support distance learning now and in the future; and
3. A plan for efficient and effective expansion of course offerings and delivery systems to (i) improve workforce education and training, (ii) avoid duplication within the Community College System and with distance learning programs offered by The University of North Carolina, and (iii) promote coordination of distance learning programs among the institutions of the Community College System and The University of North Carolina.

1.2 Current Distance Learning Activity in the NCCCS

The NCCCS has defined distance learning as “any mode of instruction where either time or place separates the instructor and the student.” The three primary modes used within the System for delivering distance learning classes are:

Telecourses

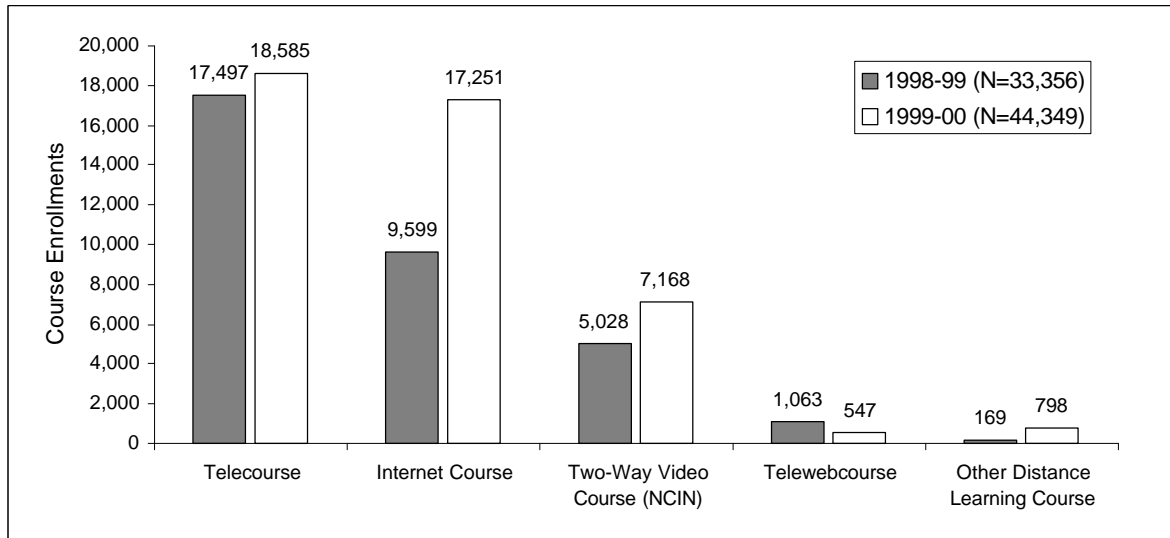
**EXHIBIT 1-2
NUMBER OF DISTANCE LEARNING CLASSES DELIVERED WITHIN THE NCCCS
1999-2000**



Source: NCCCS.

Enrollments in NCCCS distance learning courses in 1999-2000 totaled 44,349, an increase of 11,000, or 33 percent over 1998-99 levels. Exhibit 1-3 shows the enrollment in distance learning courses by mode of delivery for both 1998-99 and 1999-2000. As indicated, the most significant rate of growth (372%) was in “Other” distance learning courses, which includes distance learning courses delivered via multiple modes, including distance learning and traditional modes of instruction. However, overall enrollment growth in those types of distance learning courses represented less than six percent of the total growth. Enrollment in Internet-based courses grew by 80 percent (+7,652), followed by enrollment in NCIN courses (60%, +2,140). Enrollment in telecourses increased only six percent during that period (+1,088), while enrollment in telewebcourses decreased by 49 percent (-516).

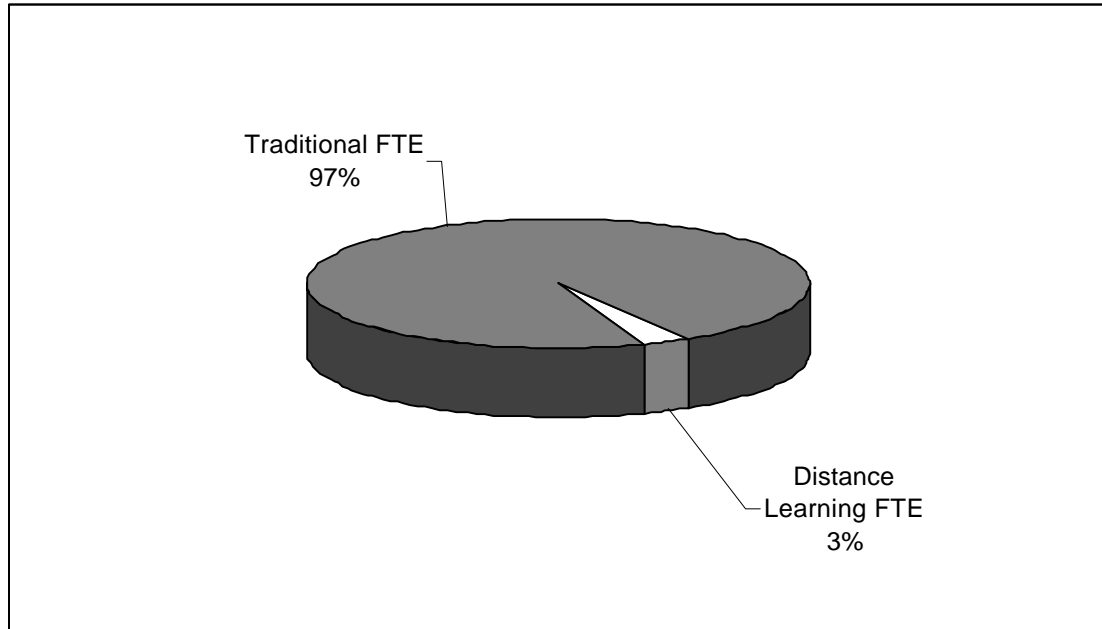
**EXHIBIT 1-3
ENROLLMENT IN DISTANCE LEARNING CLASSES
DELIVERED WITHIN THE NCCCS
1998-99 AND 1999-00**



Source: NCCCS

Despite the consistent growth in distance learning-based courses within the NCCCS in recent years, it is important to remember that the mode of instruction is still in its infancy and currently represents a small portion of the total FTE enrollment system wide. As indicated in Exhibit 1-4 below, annualized FTE student enrollment in distance learning courses in 1999-2000 system wide was only three percent of the total annualized FTE for that year. It seems likely, however, that this percentage will continue to grow in the future.

**EXHIBIT 1-4
DISTRIBUTION OF TOTAL NCCCS 1999-2000 ANNUALIZED FTE ENROLLMENT
BY INSTRUCTIONAL METHOD**



Note: "Distance learning FTE" includes FTE generated through the following – Modem-based Internet courses; Television video courses; Telecourses; TeleWeb courses; Internet –originated courses; and Internet – received courses.

Source: 1999-2000 NCCCS On-line Annual Statistical Reports, Table 59.

1.3 Current Distance Learning Strategies Within the NCCCS

The NCCCS first began offering distance learning courses in the 1970s with telecourse instruction, and then expanded offerings via interactive video and Internet courses as those technologies became available in the 1990s. As the use of distance learning technologies became more available, the NCCCS found it necessary to develop a more systematic policy framework for responding to the increased demand for distance learning courses. In the spring of 1998, the System formed the Distance Learning Council with the task of identifying policy issues relating to distance learning in the NCCCS and to recommend policy changes regarding distance learning. The initial council formed a Funding Policies Work Team (FPWT), that reviewed the current status

of distance learning programs in the NCCCS. During the review, the FPWT found that while distance learning was perhaps more costly than traditional education, the programs expanded choice and access to education and training to many students in the state who would otherwise not have access to higher education.

In June, 1998, the State Board of Community Colleges approved the NCCCS 1999-2000 Strategic Plan which included as Goal 14, the creation of an integrated, system-wide virtual learning environment. The Distance Learning Council then recommended to the North Carolina Community College Presidents Association the establishment of a distance learning consortium to address Goal 14 of the strategic plan. The Distance Learning Council's recommendation was approved by the Presidents Association, and all 58 community colleges agreed to participate in the consortium. The NCCCS Virtual Learning Community was established as a consortium of colleges committed to a collaborative effort to develop and offer Internet-based courses following common policies and guidelines. The goal of the Virtual Learning Community, as stated in the NCCCS Information Resources and Technology Plan, was "...to provide easy access and quality distance learning instruction for students in a cost-effective manner through the sharing of resources".

The major strategies currently used by the NCCCS relative to the application of distance learning technologies – and their benefits -- are described briefly below:

- **Centralized Purchase of Programming and Services—Telecourses.** The North Carolina Community College System has developed a cost-effective process to centralize or “wholesale” the purchase and licensing of telecourses produced by PBS and other producers. The result is a savings of 50 to 65 percent compared to what the cost would be if each college purchased its own licenses.
- **Interactive Video—The N. C. Information Network.** Formerly called the N. C. Information Highway, the N. C. Information Network (NCIN) provides two-way video and data connectivity for 37 community colleges and the System Office. The total number of sites was 46, because some colleges have more than one site on

the same campus or a site at a satellite campus. Colleges are joining the network almost every month. Colleges that do not have NCIN interactive video sites are connected by what is called the Anchor Net T-1 that provides high-speed Internet data and the capability of running IP video. Currently, six colleges plus the System Office have IP or ISDN video capability and numerous others are in the planning stage.

- ***The Virtual Learning Community—Web-based Courses.*** The NCCCS Virtual Learning Community is based on a collaborative model of colleges working jointly to provide quality instruction through Web-based technology. The Common Virtual Course Library (CVCL) contains courses developed using a model that ensures both quality and flexibility while limiting course duplication. The CVCL consists of Internet-based courses that have been collaboratively developed by faculty from member colleges. The CVCL courses are based on a course template design model that includes competencies and content but allows flexibility in tailoring the courses to meet local needs. Any member college may access and adapt any CVCL course following the same policies that govern the Common Course Library course offerings.

To date, the System has selected a software system to develop and deliver the VLC courses, provided training to faculty in the use of this courseware, and have had teams of faculty develop courseware for ten courses for use by all colleges in the System. Fifty courses have been selected for development by the VLC for 2000-01, including all of the courses necessary for Associates degrees in Business Administration and Information Systems.

- ***Production of Programming.*** Satellite teleconferences or tele-meetings are produced and delivered to all 58 community colleges via satellite, as well as to the UNC and public schools throughout North Carolina.

Together, these strategies and technologies provide many benefits for the System and North Carolinians in general, in that they enable community colleges to:

- Increase student access to community colleges.
- Share courses among colleges, thereby realizing economies of scale and other efficiencies.
- Offer Internet-based courses that are not time-bound or place-bound.
- Share faculty and administrative expertise in order to improve productivity system wide.
- Cooperate in the use of facilities and equipment.

- Realize savings through the “wholesale” purchase of licenses for programs and services.
- Participate in interactive tele-meetings, thereby saving on travel expenses.

1.4 Collaboration with UNC in Distance Learning

Communication between staff at The University of North Carolina General Administration (UNC-GA) and the North Carolina Community College System Office is ongoing. Regular Education Cabinet meetings are convened by the Governor for the purpose of coordinating efforts across all the educational agencies. The Joint Board meeting each year addresses issues common to all of education. In 1999 the Joint Board meeting addressed distance education, demonstrating the value of interactive video and hearing from public schools, community colleges, and universities as to how distance education is being used to bring educational programs to students across the state.

To ensure that the universities and community colleges are not duplicating educational programs, UNC-GA has developed a document entitled “Policies and Procedures for Planning and Conducting Degree-Related Distance Education Activities in the University of North Carolina” that is distributed to each UNC chancellor. This document was updated in January 2001 and includes the following statement: “The focus of the UNC distance learning efforts should be at the upper divisional and graduate levels.” The guidelines specify that the universities should give local community colleges the opportunity to offer the lower-divisional courses. Only in special circumstances where the courses are not available through the local community college should the universities offer lower-level courses through distance education. If the local community college is offering courses online, then the university should not duplicate these courses. These guidelines clearly specify that universities are responsible for

upper-divisional and graduate course offerings and the community colleges are responsible for the lower-divisional courses. These guidelines help to ensure that the universities and the community colleges are not be duplicating the courses offered through distance learning.

UNC-GA and NCCCS have an agreement regarding the use of the community college facilities by the universities to offer upper-divisional and graduate programs. UNC-GA and NCCCS staffs review the agreement regularly and provide ongoing coordination and oversight of the site arrangements. UNC-GA reports that 70 baccalaureate and master's degree programs are currently offered at 30 community colleges, an increase from 22 community colleges last year.

Universities and community colleges engage in many cooperative arrangements, several of which were described to the Joint Education Oversight Committee at a meeting in 2000 using distance learning technologies. A few of these examples include:

- the "Appalachian Alliance" where Appalachian State University and ten community colleges cooperate in bringing baccalaureate and graduate programs to students in Western counties;
- UNC-Wilmington and Coastal Carolina Community College's teacher education initiative with the Onslow Public Schools;
- the East Carolina University collaboration with community colleges and public schools; and
- Western Carolina University's arrangements with eight community colleges.

1.5 Remainder of Report

This report consists of five chapters, including this introductory chapter. The remaining chapters are as follows:

- Chapter 2.0 – Overview of Study Methodology
- Chapter 3.0 – Analysis and Assessment of Tuition and Other Student Charges Related to Distance Learning
- Chapter 4.0 – Funding Models for Distance Learning
- Chapter 5.0 – Summary of Findings and Recommendations

Additional detail is presented in the Appendix at the end of this report.

2.0 OVERVIEW OF STUDY METHODOLOGY

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2.1 Creation of Distance Learning Funding Study Group

In response to the General Assembly's special provision passed in the 2000 Session Law, System President Martin Lancaster appointed the Distance Learning Funding Study Group in summer 2000. The study group was comprised of representatives from several colleges, the System Office, the General Assembly, and the Governor's Office. The group was co-chaired by Dr. Brenda Rogers, System Vice President for Administration, and Dr. Delores Parker, System Vice President for Academic and Student Services. A complete roster of the study group members is presented in Exhibit 2-1.

The study group first convened in August 2000, and met a total of four times between August and January 2001. The primary charge to the group was to provide conceptual and methodological guidance to the consultant on the study within the scope of the special provision, as well as feedback on draft deliverables including this report to the General Assembly.

**EXHIBIT 2-1
MEMBERS AND AFFILIATION OF NCCCS DISTANCE LEARNING
FUNDING STUDY GROUP**

Dr. Brenda Rogers, Co-Chair <i>System Office</i>	Dr. Howard Paris <i>James Sprunt Community College</i>
Dr. Delores Parker, Co-Chair <i>System Office</i>	Ms. Michelle Leach <i>Coastal Carolina Community College</i>
Dr. Don Alteiri <i>South Piedmont Community College</i>	Mr. Rob Everett <i>Alamance Community College</i>
Mr. Ray Bailey <i>Asheville-Buncombe Technical College</i>	Dr. Janyth Fredrickson <i>Alamance Community College</i>
Dr. Pat Skinner <i>Gaston College</i>	Ms. Elizabeth Grovenstein <i>Office of State Budget & Management</i>
Dr. Walt Plexico <i>Wilkes Community College</i>	Dr. James Sadler <i>UNC - General Administration</i>
Dr. Harry Cooke <i>Catawba Valley Community College</i>	Mr. Todd Parker <i>System Office</i>
Ms. Betty Smith <i>Fayetteville Technical Community College</i>	Mr. Bob Blackmun <i>System Office</i>
Mr. Steve Woodruff <i>Rockingham Community College</i>	Mr. Kennon Briggs <i>System Office</i>
Mr. Steve Lympany <i>Central Carolina Community College</i>	Dr. Scott Ralls <i>System Office</i>

2.2 Study Group Activities

The work of the Study Group has focused on three distinct sets of activities since its inception:

- refining the key issues to be studied through a review of related literature and prior related work conducted within the System by the Distance Learning Council and others;
- commissioning an analysis of the actual cost of distance learning within the NCCCS; and,
- conducting a survey of state- and system-level policies for funding of distance learning across the SREB region and selected other states.

Further description of the latter two activities is provided below.

Analysis of the Actual Cost of Distance Learning. This study attempted to identify the costs associated with the development and delivery of courses via technology and compared the actual costs with the current funding levels for traditional instruction. The analysis was led by a member of the Study Group, with guidance from the consultant and other members of the group.

The three methods for which cost data were collected include telecourse, Internet, and two-way video delivered over the State's video network. The eight courses included in this study were selected because they were being delivered in the Fall 2000 semester by each of the three methods. The courses were offered by ten community colleges that provided actual cost data for the study. Exhibits 2-2 and 2-3 below list the courses and the community colleges included in the study. As indicated in Exhibit 2-3, the institutions selected covered a broad range of institutional sizes, ranging from the 5th largest to the 2nd smallest (57).

**EXHIBIT 2-2
COURSES SELECTED FOR INCLUSION IN DISTANCE LEARNING COST STUDY**

Curriculum	Course Number	Course Title
English	111	Expository Writing
History	121	Western Civilization I
History	131	American History I
History	132	American History II
Marketing	120	Principles of Marketing
Math	161	College Algebra
Psychology	150	General Psychology
Sociology	210	Introduction to Sociology

**EXHIBIT 2-3
NORTH CAROLINA COMMUNITY COLLEGES PARTICIPATING IN COST STUDY**

Institution	Annualized Average Student FTE Rank¹
Catawba Valley Community College	14
Forsyth Community College	5
Coastal Carolina Community College	10
Martin Community College	54
McDowell Technical Community College	50
Montgomery Community College	57
Pitt Community College	9
Rowan-Cabarrus Community College	12
Southeastern Community College	28
Stanley Community College	39

¹The annualized average student FTE rank refers to the relative rank of each of the 58 institutions within the System in terms of FTE student enrollment, ranging from 1 for the largest and 58 for the smallest.

Source: NCCCS.

Costs for each of the courses were classified according to current funding categories within the NCCCS:

- direct instruction,
- support services,
- other costs, and
- equipment.

The results of the study allowed for a comparison of actual costs for a small sample of courses across delivery methods and with funding rates. While the results of the study will be discussed in more detail in Chapter 4, the overall findings suggest that unit costs do vary according to the delivery method and that costs for the initial development and delivery of distance learning courses exceed the current state allocation provided for curriculum instruction.

Survey of State- and System-Level Policies for Funding of Distance

Learning. MGT conducted a telephone survey of other states and systems to determine if other states have funding policies and practices for courses taught by distance learning technologies that differ from those for traditional instruction. The interview guide was developed in conjunction with the Study Group and covered the following topics:

- Student tuition, fees, and other charges
- Student classification for fee-paying purposes (i.e., classification of out-of-state students)
- State funding for distance learning courses
- Organizational models for the provision of courses via distance learning (e.g., consortia)
- Organizational models for the provision of support services to students engaged in distance learning
- Funding of telecommunications networks

A copy of the interview guide is included in Appendix A at the end of this report.

System President Lancaster sent an introductory letter to community college system heads in each of the 15 other SREB region states, as well as selected other states (e.g., Arizona, California, Wisconsin) describing the study and asking for the name of a contact person. A follow-up request was sent out approximately two weeks later. A total of 11 states ultimately responded to the requests for an interview:

- Alabama
- Colorado
- Florida
- Iowa
- Maryland
- Mississippi
- Oklahoma
- South Carolina
- Tennessee
- Virginia
- Wisconsin

A summary of the key findings of this survey is presented in Appendix B to this report. In general, however, the survey found that with very few exceptions, survey respondents indicated that little differentiation was made currently with regard to the financing of on-campus and distance learning courses. This seems to be primarily the result of a lack of good information on which to base funding decisions for distance learning courses and the limited scale of activity, as opposed to a conscious policy. However, several of the respondents indicated that they were either contemplating, or in the process of implementing, differentiated financing mechanisms relative to distance learning for the future.

2.3 Guiding Principles for the Development of a Distance Learning Funding Model

In any policy-development activity, it is useful to start from a set of guiding principles in order to provide a better sense of focus and clarity to the exercise. The guiding principles adopted by the Distance Learning Funding Study Group are presented in Exhibit 2-4 and are listed in no particular order of importance. For example, the group wants to ensure that any funding model provides incentives for colleges to develop technology-enhanced instruction. Further, the group believes that it is important that the funding model be simple to understand and maintain, and to also be as consistent with the current NCCCS instructional funding model as possible. The model should enable the NCCCS institutions to be competitive with other distance learning providers and encourage their responsiveness to the needs of business and industry within North Carolina.

Clearly, all of these guiding principles are important. However, one that should be reiterated is that the funding model adopted should not be viewed as an end, but instead as a work-in-progress. The fluid nature of educational technologies suggests that there will be an ongoing need for systematic review and refinement to the model during the next several years.

**EXHIBIT 2-4
GUIDING PRINCIPLES FOR THE DEVELOPMENT OF A
DISTANCE LEARNING FUNDING MODEL FOR THE NCCCS**

Goal Based - The funding model should incorporate and reinforce the broad goals of the state and NCCCS in the delivery of distance learning programs and courses.

Incentive-Based – The funding model should provide incentives for institutional effectiveness and efficiency in the delivery of distance learning programs and courses, and should not provide inappropriate incentives for institutional behavior.

Simple to Understand and Maintain – The funding model should be able to be broadly understood by key participants in the state budget process, and should not be overly complex in design for those who maintain the model.

Compatible with Current NCCCS Funding Model for Traditional Instruction – The distance learning funding model should be reasonably compatible with the methodology used for funding traditional course offerings within the NCCCS, either in parallel or as a supplement to the current funding model.

Enables Market Competitiveness and Responsiveness – The funding model should enable NCCCS institutions to be responsive in the development and delivery of distance learning courses, and competitive with distance learning providers from outside of the state.

Reliant on Valid Data – The funding model should rely on data that are appropriate for measuring funding requirements for distance learning programs and courses, and that can be verified by third parties when necessary.

Appropriately Recognizes Course Development and Delivery Costs – The funding model should recognize the significant level of development required at the front end in creating distance learning courses as part of the funding model, as well as the added costs related to the delivery of distance learning courses (e.g., technical support, line charges).

Viewed as a Work-in-Progress – Given the developing nature of both distance learning technologies and this funding model, the NCCCS should periodically review the model for appropriateness and possible refinements.

Strives for Balance – The NCCCS should strive for balance among these sometimes competing principles in the development and application of the funding model.

**3.0 ANALYSIS AND ASSESSMENT
OF TUITION AND OTHER
STUDENT CHARGES RELATED TO
DISTANCE LEARNING**

3.0 ANALYSIS AND ASSESSMENT OF TUITION AND OTHER STUDENT CHARGES RELATED TO DISTANCE LEARNING

3.1 Overview of the Issues

The institutions within the NCCCS, like other community colleges across the nation, have a typical tuition and fee structure for traditional (on-campus) credit instruction which charges differentiated tuition rates for state residents and out-of-state students. In addition, all students at a college are potentially subject to certain general fees (e.g., library, student activity), and some students are assessed special fees for specific courses (e.g., lab fees for some science courses) or other unique activities. The tuition revenues collected are deposited in the State General Fund and serve as an offset to state tax funding provided to the System, while the colleges typically retain local control over the other fees collected, with some exceptions (e.g., occupational extension course “fees” are deposited with the State).

The advent of distance learning technologies, however, raises several issues that need to be addressed in funding that mode of instruction:

- Should there be a non-resident surcharge for out-of-state students who are enrolled in Internet-based distance learning courses offered within the NCCCS?
- Should there be a general tuition surcharge for any student enrolled in a distance learning course?
- Should there be a technology fee (or some other fee) charged students to cover the specific added costs of distance learning and other instructional technologies?

Each of these issues will be addressed in the following sections. It should also be noted that the analysis and recommendations presented in this chapter pertain **only** to distance learning activity in curriculum instruction programs offered through the NCCCS.

3.2 Tuition Charges for Out-of-State Students

As noted earlier, NCCCS institutions currently charge differentiated tuition rates for state residents and out-of-state students. The rate charged to state residents is significantly lower than that charged to out-of-state students given that it is the policy of the System and state of North Carolina to keep tuition as low as possible for state residents in order to facilitate access to higher education. For the 1999-2000 academic year, a full-time state resident enrolled at an NCCCS institution paid \$777 in tuition and required fees on average, while a full-time non-resident paid \$4,781. At the same time, it should be noted that out-of-state students comprise only five percent of the total curriculum instruction enrollment in the System.

The policy of charging a differential rate for state residents and out-of-state students enrolled in community colleges is common throughout the nation, including every state in the SREB region. Many states have a policy of charging non-residents a tuition rate that approximates the “full instructional cost” while subsidizing the cost of instruction for state residents through a lower rate (all students at a college typically pay the same fees). Exhibit 3-1 below compares the full-time tuition and required fees charged to in-state and out-of-state students at community colleges in North Carolina and the 15 other SREB states. As indicated, NCCCS institutions have the lowest tuition charges for state residents in the SREB region, and the sixth highest charges for out-of-state students. The out-of-state rate (multiplier) is more than six times that of the in-state rate, which is the highest differential among all SREB states (the SREB median is 3.9). Further, data from the NCCCS indicates that the current tuition rate charged to out-of-state students exceeds the actual cost of instruction by 15 to 20 percent.

**EXHIBIT 3-1
COMPARISON OF IN-STATE AND OUT-OF-STATE TUITION AND REQUIRED FEES
CHARGED BY COMMUNITY COLLEGES IN SREB STATES
1999-2000**

State	Full-Time Undergraduate In-State Tuition & Required Fees	Rank	Full-Time Undergraduate Out-of-State Tuition & Required Fees	Rank	Out-of-State Student Tuition Multiplier	Rank
Alabama	\$1,650	2	\$3,120	13	1.9	16
Arkansas	1,013	13	2,237	15	2.2	15
Delaware	1,616	3	3,776	8	2.3	14
Florida	1,387	6	5,162	2	3.7	4
Georgia	1,366	7	5,068	3	3.7	5
Kentucky	1,180	10	3,380	11	2.9	8
Louisiana	1,156	12	3,445	10	3.0	7
Maryland	2,310	1	6,540	1	2.8	9
Mississippi	1,000	14	2,754	14	2.8	10
NORTH CAROLINA	777	16	4,781	6	6.2	1
Oklahoma	1,431	5	3,462	9	2.4	12
South Carolina	1,224	9	3,300	12	2.7	11
Tennessee	1,306	8	4,892	5	3.7	3
Texas	930	15	2,200	16	2.4	13
Virginia	1,159	11	4,990	4	4.3	2
West Virginia	1,487	4	4,653	7	3.1	6
<i>SREB Median</i>	<i>\$1,159</i>	<i>-</i>	<i>\$4,484</i>	<i>-</i>	<i>3.9</i>	<i>-</i>

Source: SREB State Data Exchange, 1999-2000.

The question to be addressed is how to treat out-of-state students who enroll in distance learning courses offered through the NCCCS, particularly those that are offered Internet-based. MGT's survey of the 11 states regarding distance learning funding policies found that the majority of the respondents (8) apply the traditional out-of-state tuition surcharges to students enrolled in distance learning courses. Two states (Colorado and Wisconsin) charge the same tuition rate for all students enrolled in Internet-based courses, while the practice varies in Iowa by college. The Virginia Community College System is considering a special "e-rate" for out-of-state distance learning students enrolled in Internet-based courses, but has no definitive policies in place as of yet.

The underlying issue here is how to balance the current practice of charging out-of-state students significantly more than state residents with the guiding principle of market competitiveness that was discussed in Chapter 2. While out-of-state students currently comprise only five percent of the total curriculum instruction enrollment within the NCCCS, the development of the Virtual Learning Community within the System will create a set of courses that could be easily accessed via the Internet from other states and around the world. Further, individuals who previously resided in North Carolina but now live elsewhere (including military personnel) and who had been enrolled at an NCCCS institution as state residents, could be a significant market for these courses given their high level of "brand familiarity" with the System. In short, the pool of individuals from outside of North Carolina who might be interested in taking (and paying for) an NCCCS course Internet-based could grow substantially in the coming years, assuming that the price was competitive with other providers.

At the same time, part of the rationale for charging differential tuition rates to state residents and out-of-state students is to recognize the fact that state residents are

already underwriting (in part) the cost of state and local services through their taxes, while non-residents are not. Further, such a differential also serves to keep non-residents from displacing North Carolinians in the finite enrollment slots available, thereby further promoting access. Thus, to extend the full value of this discount to out-of-state students who are enrolled in Internet-based courses creates inequities for both state residents and out-of-state students enrolled in traditional on-campus programs. The results of the survey suggest that most other states recognize this as well.

Recommendation #1: Out-of-state students who are enrolled in Internet-based courses offered by the NCCCS should be charged a tuition rate that is approximately the full (i.e., 100%) cost of instruction.

If the System adopted this policy for Internet-based courses, the tuition rate charged would be somewhat less than the differential currently charged to non-residents for on-campus instruction, but would not extend an unfair subsidy to those students either. An additional rationale for charging a somewhat lesser tuition rate to out-of-state students enrolled in Internet-based courses is that such students would likely not be utilizing facilities space and support services as would an out-of-state student enrolled on-campus.

If such a policy had been in place for the 2000-01 academic year, out-of-state students enrolled in Internet-based courses offered within the NCCCS would pay approximately \$23 less per credit hour than a traditional out-of-state student enrolled on-campus.

3.3 Distance Learning Course Surcharge

There is a belief that a course offered via distance learning technologies will generally cost more than the same course offered via traditional methods of instruction. This is due to at least two factors: (1) the increased time it takes to develop a distance learning course (at least initially); and (2) the added equipment, supply (e.g., software), and technical support costs incurred in the delivery of distance learning courses. The initial results from the cost analysis of the small sample of distance learning courses conducted as part of this study suggest that these courses do cost more to deliver than

traditional courses. As such, there is some thought that this provides a rationale for assessing a surcharge on top of regular tuition charged for distance learning courses.

However, the results of the distance learning funding policy survey conducted by MGT indicate that such a surcharge is not currently a common practice in other states. Eight of the 11 states surveyed charge the same tuition rate to students enrolled in distance learning courses as those enrolled in traditional courses. In Colorado and Wisconsin, community college students enrolled in Internet-based courses (both state residents and out-of-state students) pay more than students enrolled in the same courses on-campus, with Colorado charging approximately 40 percent more. Beginning in Fall 2001, community college students in Alabama enrolled in distance learning courses will also pay more than students enrolled on-campus. However, these three states are clearly the exception rather than the rule.

Such a surcharge would also conflict with at least three of the guiding principles adopted for the development of a distance learning funding model by the NCCCS:

- First, it could conflict with the principle of reinforcing the ***broad goals*** of the state and System; namely the goal of expanding access for students through distance learning technologies. An additional tuition surcharge for distance learning courses could serve as a financial impediment for those students who the System was trying to reach.
- Second, a special surcharge for distance learning courses could work against the principle of ***not providing inappropriate incentives for institutional behavior*** by encouraging institutions to offer distance learning courses for the express purpose of increasing revenues.
- Finally, a surcharge for distance learning courses would be contrary to the principle of ***enabling market competitiveness and responsiveness*** by making these courses less price competitive when compared to those offered by other providers.

In short, it does not appear as if there is a defensible rationale for a special surcharge for distance learning courses.

3.4 General Technology Fee

As noted in the previous section, there is some evidence that courses offered via distance learning technologies are more costly to deliver (at least initially) than the same courses offered in a traditional setting, due to increased operating costs related to equipment, supplies, and technical support. Thus, it is clear that there will be a need for additional resources to help fund these additional operating costs. Otherwise, NCCCS institutions may face a disincentive for developing and offering distance learning courses.

The issue is clearly one of developing a revenue source that could be targeted to the specific added costs resulting from the use of distance learning technologies without creating disincentives for the state, System, or students. Further, this revenue source should be directly linked to the instructional activity it would support. One option would be a uniform technology fee that was linked to the total number of credit hours taken by distance learning students. However, as indicated in Chapter 1, distance learning course activity currently represents a small portion of total instructional activity generated throughout the NCCCS (3%), which would require that the fee rate be relatively high to generate the revenues required. Thus, if such a fee were only assessed against distance learning students, it would essentially create the same difficulties as the distance learning tuition surcharge previously discussed.

Another option would be to assess a technology fee against **all** students in the System based on the credit hours taken, both those in distance learning and traditional courses. Currently, only seven System institutions assess such a fee, although a 1998 survey conducted by NCCCS Division of Business and Finance found that 77 percent of the 52 institutions without a fee in place (41) would support the establishment of a system wide technology fee. The vast majority of those institutions who support the

establishment of the fee also believed that it should be modest, uniform across the System, and charged on a “per credit hour” basis.

A system wide technology fee for **all** students could be justified for several reasons. First, there is some evidence that instruction is increasingly becoming multi-media, involving a mix of traditional in-class (e.g., lecture) and technologically delivered experiences (e.g., internet, video). In fact, as indicated earlier, this type of instruction grew the most rapidly system wide between 1998-99 and 1999-2000. Thus, all students will increasingly benefit from technology in the classroom, whether or not a course is officially designated a “distance learning” course. Secondly, using all students as the basis for the fee assessment will allow the fee to be at a very modest level (perhaps \$1 per credit hour up to a maximum of \$16 per semester, to be consistent with the current System per credit tuition charge which maxes out at 16 credit hours). Thus, such a fee would not be a significant burden for students. Finally, such a fee is consistent with the guiding principle of keeping the funding model ***simple to understand and maintain***. Institutional administrators will not have to deal with the complexities and ambiguities about what courses or students to assess a fee.

However, the State Board of Community Colleges is concerned about increasing the cost of attending a community college and is committed to keeping tuition and fees as low as possible. The State Board prefers not to finance distance learning through increasing tuition and fees but through regular State allocations. However, the State Board will study alternative funding methods, including a modest technology fee for curriculum students, in order to achieve the strategic plan and goals of the System.

Recommendation #2: The State Board of Community Colleges should explore alternative funding methods to support distance learning, including technology fees.

4.0 FUNDING MODELS FOR DISTANCE LEARNING

4.0 FUNDING MODELS FOR DISTANCE LEARNING

4.1 Overview of Funding Models and Their Purpose

A variety of approaches have been developed in North Carolina and other states to provide operating support from state tax funds for colleges and universities. For the most part, however, these approaches were designed with more traditional instructional delivery models in mind. The purpose of this chapter is to review current approaches used by the state to provide funds for its community colleges and assess their appropriateness for supporting an expanded program of distance learning.

Like most states, North Carolina relies heavily on formula-based models to determine the need for state support for community colleges and to distribute available funds among the institutions. Additionally, some funds are justified and allocated on an individual programmatic justification basis in the form of special allotments. A short review of the purpose of each of these two broad funding approaches follows.

4.1.1 Purpose and Use of Formula Approaches

Formula-based models are widely used by states and systems to fund public colleges and universities. In their simplest form, a funding formula multiplies a measure of workload (e.g., the number of students at a college) times a funding rate (e.g., dollars per student) to determine the total funding requirement. In application, the workload variable is measured annually and automatically updated for the funding calculation while the funding rate variable, which often combines a staffing ratio and a salary rate, is subject to policy debate by the state legislatures. For instance, the funding rate may be adjusted to reflect broad policy on salary increases for state employees while the staffing ratio is held constant.

The literature on higher education finance identifies a number of reasons for the popularity of formulas, including:

- *Formulas provide greater predictability in funding levels.* If a college's enrollment increases by three percent, it can expect at least a three percent increase in funding.
- *Formulas provide equitable treatment across colleges.* Enrollment of 100 students at one college typically generates the same funding as 100 students of the same type at a different college.
- *Formulas provide adequate funding to colleges.* When the funding rate variable in a formula is properly calibrated (e.g., staffing ratios, competitive faculty salary rates), colleges receive enough funding to fulfill their assigned missions.

Individual experience with certain formulas may challenge some of these claims of formula value, but formulas are widely believed to provide a sound basis for determining the need for funding for colleges and universities.

Despite their widespread use, formulas are recognized to be appropriate in certain situations but not in others. Formulas are best suited where:

- broad agreement exists on the definition of the workload variable and how to measure it, and
- sufficient understanding of the function exists to establish an appropriate funding rate.

As a result, formulas typically enjoy their greatest support in relatively stable situations where routine procedures can be put into place to measure workload equitably across institutions and to adjust funding rates based on market conditions.

4.1.2 Purpose and Use of Special Allotments

The focus in the special allotment approach to funding is on the relative merit of the proposal under consideration. Generally, the request involves both the justification of the need for the program or activity and the documentation of how the funding will be used in responding to that need.

Special allotment funding is an especially appropriate funding model for new programs where a high level of individual attention is needed to understand workload and resource requirements. In some cases, the new program becomes sufficiently routine over time that a formula approach can be developed. In other cases, and especially where the program activity does not widely exist across a number of colleges, the resource requirements are reviewed annually on an incremental funding basis.

4.2 Structure of Current NCCCS Formula Models

Most state support for the North Carolina Community College System is determined through the use of a series of formulas. Many of these formulas have been updated in recent years as part of an ongoing review of the NCCCS funding model. Among the formulas currently used are those for:

- Instruction
 - Curriculum Instruction
 - Basic Skills
 - Occupational Extension
 - Other Costs
- President's Allotment
- Academic and Instructional Support
- Equipment
- Library Resources

Each of the formulas has some type of workload factor (typically an enrollment measure) and a funding rate. Additionally, most of the formulas recognize the impact of economy of scale through use of a set of funding rates that provide a somewhat lower rate of funding per student as college size increases. Exhibit 4-1 provides an overview of how the current instruction and support formulas are calculated. These formulas are used both for traditional instruction (which was assumed during their development) and for distance learning.

**EXHIBIT 4-1
NORTH CAROLINA COMMUNITY COLLEGE SYSTEM
FORMULA BUDGET COMPUTATION**

College: NORTH CAROLINA CC

BUDGETED CURRICULUM FTE:		BUDGETED CONTINUING EDUCATION FTE:	
REGULAR CURRICULUM	2,191	OCCUPATIONAL	211
CONTRACTED INSTRUCTION	0	BASIC SKILLS	238
TOTAL CURRICULUM:	2,191	TOTAL CONTINUING EDUCATION	449
		TOTAL BUDGETED:	2,685

INSTRUCTION:

REGULAR CURRICULUM

First	500	FTE @	\$3,167.39	\$1,583,693
Above 500	1,691	FTE @	\$2,642.80	\$4,468,980

Total Regular Curriculum \$6,052,673

CONTRACTED CURRICULUM INSTRUCTION

0 FTE @ \$1,926.94 \$0

CONTINUING EDUCATION

First	211	FTE @	\$2,046.59	\$431,830
Above 500	0	FTE @	\$1,720.63	\$0

Total Occupational Extension \$431,830

BASIC SKILLS BLOCK GRANT \$590,609

TOTAL INSTRUCTION \$7,075,112

PRESIDENT'S ALLOTMENT:

PRESIDENT'S SALARY		\$90,240
FICA AT	7.65%	\$5,003
RETIREMENT AT	8.83%	\$7,968
HOSPITALIZATION AT	\$1,735.20	\$1,735
TOTAL PRESIDENT'S ALLOTMENT		\$104,946

ACADEMIC AND INSTRUCTIONAL SUPPORT ALLOTMENT:

BASE ALLOTMENT - FIRST 750 FTE		\$1,536,710
ENROLLMENT ALLOTMENT @	\$1,056	\$2,043,360
ACADEMIC SUPPORT SUPPLEMENT	PER FTE IN EXCESS OF 750 2.90% OF CURRICULUM	\$175,528

TOTAL ACADEMIC & INSTRUCTIONAL SUPPORT ALLOTMENT \$3,755,598

TOTAL FORMULA ALLOTMENT \$10,935,656

4.3 Assessment of Adequacy of Current Formulas for Distance Learning

The special provision calling for “an independent consultant to study funding methods and delivery of distance learning” arose from a belief that this emerging instructional delivery method has significantly different cost patterns from the more traditional instructional methods on which the current formula is based. Also, there were concerns that the unique arrangements used to develop and deliver courses by distance learning technology do not directly align with the formula structure.

4.3.1 Perceived Issues in Current Formulas

One of the initial tasks of the Distance Learning Funding Study Group was to identify concerns with how distance learning is currently funded in the NCCCS. Despite earlier claims many years ago that distance learning would lead to the more efficient delivery of instruction, the current impression is that distance learning is a more costly approach to deliver instruction than traditional methods.

Members of the Study Group perceived that distance learning costs more to deliver than traditional instruction in at least five ways.

- *Need for Specialized Equipment and Technology.* Even though traditional learning is now much more sophisticated than a faculty member at a lectern or chalkboard in front of students sitting at arm desks, distance delivery approaches have significantly greater requirements for equipment and supporting technologies. In particular, distance learning approaches make greater use of telecommunications and computing technology than traditional instruction.
- *Requirement for Technical Support.* Because of the reliance on equipment and technology in the delivery of distance education, faculty members are often not capable of operating independently. Technical support personnel are needed to develop and maintain web sites, operate video control booths, etc.
- *Training of Faculty and Support Staff.* Faculty members who have experience only with traditional modes of instruction need to learn when and how to make use of distance learning technologies. Even

the support staff require significant training to keep up with the rapid rate of change in emerging technologies.

- *Course Development.* Distance learning courses typically require a much greater front-end investment in course development than traditional courses. Time is needed to develop electronic versions of resource materials, package materials into instructional units and enhance the visual quality of materials.
- *Time Requirement for Faculty per Course.* In some approaches to distance learning, and especially Internet-based courses, faculty members may actually have much more one-on-one interaction with individual students than in traditional circumstances. Some students are much more likely to ask a question by e-mail (which requires faculty time to respond) than to ask a question in a classroom setting or to stop by during office hours.

In some of the instances above, these different types of costs may replace costs that otherwise would have been incurred, but in most cases distance learning is believed to entail additional costs.

4.3.2 Results of Cost Analysis

As introduced in Chapter 2.0, a major part of the study of the funding of distance learning was the analysis of costs of a sample of distance learning courses at a sample of colleges. The results of the cost study were then compared to the funding rates in the current formulas used by NCCCS for instruction and support.

A summary of the results of the cost study is presented in Exhibit 4-2. To a large extent, the cost study confirmed the perceptions of the members of the Study Group (discussed above) that distance learning does currently cost more than traditional instruction. Although some variance is seen by type of distance delivery method (e.g., telecourse versus web-based), the broad conclusion is that the sampled courses cost more to deliver under distance learning than through traditional modes.

**EXHIBIT 4-2
COMPARISON OF INSTRUCTIONAL COSTS PER FTE STUDENT
BY TYPE OF DELIVERY METHOD TO FORMULA FUNDING RATES**

Cost Category / Delivery Method	Distance Learning Course / Codes								Average All Courses	Funding Rate	Difference
	101	102	103	104	105	106	107	108			
Direct Instruction											
Telecourse	\$ 4,918	\$ 672	\$ 2,668	\$ 672	\$ 3,158	\$ 672	\$ 2,903	\$ 4,101	\$ 2,471		
NCIN	n/a	\$ 1,957	n/a	\$ 622	\$ 3,523	\$ 3,500	\$ 4,014	\$ 3,138	\$ 2,792		
Internet	\$ 3,309	n/a	\$ 4,842	\$ 5,862	\$ 3,174	\$ 3,929	\$ 5,021	\$ 1,033	\$ 3,881		
Subtotal									\$ 3,033	\$ 2,750	\$ 283
Support Services											
Telecourse	\$ 3,292	\$ 2,470	\$ 2,494	\$ 2,470	\$ 4,164	\$ 3,086	\$ 3,292	\$ 1,239	\$ 2,813		
NCIN	n/a	\$ 196	n/a	\$ 823	\$ 2,804	\$ 11,392	\$ 2,101	\$ 1,232	\$ 3,091		
Internet	\$ 1,153	n/a	\$ 3,701	\$ 1,706	\$ 1,153	\$ 1,706	\$ 1,661	\$ 3,871	\$ 2,136		
Subtotal									\$ 2,667	\$ 1,089	\$ 1,578
Other Costs											
Telecourse	\$ 1,229	\$ 773	\$ 773	\$ 773	\$ 1,102	\$ 1,323	\$ 449	\$ 23	\$ 805		
NCIN	n/a	\$ 1,691	n/a	\$ 694	\$ 3,458	\$ 1,994	\$ 1,707	\$ 914	\$ 1,743		
Internet	\$ 562	n/a	\$ 285	\$ 35	\$ 562	\$ 54	\$ 35	\$ 560	\$ 299		
Subtotal									\$ 905	\$ 175	\$ 730
Equipment											
Telecourse	\$ 33	\$ 12	\$ 12	\$ 12	\$ 30	\$ -	\$ 44	\$ 17	\$ 20		
NCIN	n/a	\$ 1,478	n/a	\$ 1,561	\$ 5,448	\$ 928	\$ 1,631	\$ 1,000	\$ 2,008		
Internet	\$ 195	n/a	\$ 202	\$ 8	\$ 195	\$ 8	\$ 8	\$ 83	\$ 100		
Subtotal									\$ 615	\$ 353	\$ 262
Total \$ / FTE Student											
Telecourse									\$ 6,109		
NCIN									\$ 9,634		
Internet									\$ 6,416		
Average									\$ 7,219	\$ 4,367	\$ 2,852

4.3.3 Interpretation of Results

Three major points need to be taken into account before any attempt to interpret the results of the cost study and its implications for the NCCCS funding models.

- The evolution of distance learning as a mature instructional delivery model has far to go. As documented earlier in this report, distance learning has hardly advanced beyond the experimental stage of its long-term development. Not all colleges even offer courses by each type of distance learning yet and, of those colleges that do, many are offering their initial course or only a small number of courses. Clearly, the NCCCS is still at the front end of the learning curve with respect to distance learning and higher costs are to be expected at this stage of development.
- The volume of activity in distance learning is typically quite small compared to traditional methods. As such, the colleges are yet to be able to benefit from economy of scale to any significant extent. Given the equipment and technology intensive nature of distance learning, significant economies in per-student costs might be forthcoming as the volume of activity increases.

- Finally, the sample of courses and colleges in the cost study was small and not fully representative. The cost study was thorough and well done given the time constraints under which it operated, and the results listed above are reasonable estimations of cost for the courses and colleges that were studied. However, there should be no jump to the conclusion that these results are reflective of the costs throughout the system. The colleges and courses were not selected on a random basis, but instead to capture as much information as possible in a limited amount of time. Beyond being a small sample numerically, the courses selected from those now offered via distance learning are not representative of the mix of programs offered throughout the system. In particular, the current distance learning courses are almost exclusively in the liberal arts and sciences, and not in the often more costly technical and occupational areas.

Even with these major limitations, useful information can be gleaned from the results of the cost study.

When analyzed according to component of cost, one of the major differences between traditional and distance delivery comes in “support services.” This category includes the salaries for the technical support personnel who support distance learning. Well over half of the difference in total cost per FTE (\$1,578 of \$2,852) between distance and traditional delivery is related to support services. That is, a major priority in addressing the incremental costs of distance learning should be focused on the support services area.

The next biggest difference in costs is in the “other costs” area, representing \$730 per student or over 25 percent of the total difference. This category includes a variety of expense items, including telephone line charges and license fees. The “other costs” category also should be a high priority in any strategy to provide appropriate funding for distance learning.

The category with the smallest percentage difference in costs between distance and traditional delivery is “direct instruction.” The major component of this category is faculty salaries. The cost study results suggest that distance learning costs just over 10

percent more than traditional instruction in this category. This difference can be expected to lessen somewhat as faculty become more experienced in teaching via distance delivery methods, especially with respect to course development expense when they are able to re-use materials previously developed.

Recommendation #3: Enrollment and other workload information related to distance learning should continue to be captured and reported, to the extent possible, for use in the current formulas. Colleges should not lose state funding as an unintended byproduct of offering some courses by distance learning rather than by traditional means. Even though the current formulas were developed to accommodate traditional instruction, they should continue to be used for courses taught by distance delivery until other funding strategies are developed.

Recommendation #4: A series of separate funding formulas for distance learning should not be developed at this time. The stage of evolution of distance learning in the NCCCS (and elsewhere) is not such that routine operations can be reduced to formula. A follow-up cost study as soon as next year, and certainly in the following year, is likely to yield significantly different results due to the ability to achieve economy of scale and to invest less in faculty and staff development.

In essence, the effect of these two recommendations is to maintain the current approach for funding distance learning. A key element in the current model has been the use of special allotments to support extraordinary costs incurred in the development and initial delivery of distance learning courses. For instance, the current budget request submitted by the State Board includes \$6,158,267 for this purpose. As itemized in Exhibit 4-3, these monies would be used both for infrastructure support and direct instruction, and include both recurring and non-recurring items.

**EXHIBIT 4-3
DISTANCE LEARNING EXPANSION BUDGET
NORTH CAROLINA COMMUNITY COLLEGE SYSTEM**

Item	Description	Non-Recurring	Recurring
<i>Infrastructure</i>			
Interactive Video	Line charges, equipment, coordination	\$ 1,040,000	\$ 2,293,267
Internet Service Centers	Web servers, data access, technicians	\$ 540,000	\$ 1,125,000
Central Support	Network support staff and services	\$ -	\$ 237,500
	<i>Infrastructure Total</i>	\$ 1,580,000	\$ 3,655,767
<i>Instructional</i>			
Development	Course authoring	\$ -	\$ 112,500
Professional Development	Faculty training		\$ 100,000
Operation	License and fees	\$ -	\$ 710,000
	<i>Instructional Total</i>	\$ -	\$ 922,500
	Total	\$ 1,580,000	\$ 4,578,267
	Total Budget Request		\$ 6,158,267

Recommendation #5: A package of special allotments to support the further development and delivery of distance learning should be provided. Despite the limitations of the cost study already noted, there is strong evidence that distance learning does cost more than traditional instruction *at the current time*. If the General Assembly supports the efforts of the NCCCS to fulfill its mission through expansion of access via distance learning, additional funding will be needed, at least in the short term. Given the uncertainties about how long additional funding will be needed, a special allotment approach should be used instead of separate formula models. The State Board's current budget request identifies special funding categories that are deserving of special allotments.

4.4 Issues Related to Enrollment Counting Procedures

Even though no recommendation is being made at this time for one or more new funding formulas to cover distance learning efforts, minor refinements in the several of

the existing formulas do appear to be in order for them to address the differences in distance delivery. In particular, modifications in the approaches used to count enrollment (i.e., the workload variable) in the formulas for the curriculum skills lab and basic skills instruction are needed.

4.4.1 Curriculum Skills Labs

Curriculum skills laboratories provide supplemental instruction to students needing additional time outside of a specific class to improve their mastery of foundational skills in computation and writing. Colleges can measure the activity in the curriculum skills labs according to the amount of time that students physically spend in these labs, and then equate time spent in the lab to a fraction of an FTE student for funding purposes.

Not all colleges have elected to report hours and FTE enrollments for curriculum skills labs. During the past year, almost one-third of the colleges did not submit FTE counts in this category. The costs incurred in maintaining accurate counts is reportedly not worth the limited extra funding to these colleges.

When distance learning students require services similar to those provided in the curriculum skills lab, they do not go to the physical location of the lab but rather they access such services via the Internet or some other technology-based means. Given this lack of physical presence, there is no reliable procedure to measure time and, thus, to count FTE enrollment. As a result, the efforts devoted to serving students needing support of the curriculum skills lab via distance learning do not generate funding under the existing formulas for instruction and support activities.

Recommendation #6: Funding requirements for curriculum skills labs should be determined on some method other than an enrollment count basis. Since there is no practical or economical means to count students who receive the services of curriculum skills labs via either traditional or distance technologies, an alternative strategy for funding this workload is needed. The NCCCS should appoint a study group to assess alternative approaches for funding curriculum skills labs for all types of students.

4.4.2 Basic Skills Instruction

Basic skills instruction is an important mission of the NCCCS. Offered primarily to returning adults and others who need remediation, this instruction focuses on developing core competencies needed to participate in modern society and the world of work.

Similar to the curriculum skills lab, FTE enrollment for basic skills instruction is measured on contact hours spent in the classroom. When basic skills instruction is offered through distance learning means, traditional methods for counting enrollment are inadequate.

Recommendation #7: The NCCCS should develop an alternative enrollment counting approach for basic skills instruction that is based on initial enrollment and attainment of educational outcomes. As part of its planned review of the overall funding approach for basic skills instruction, the Basic Skills Advisory Committee should develop a specific method for equating program outcomes to FTE enrollment. This approach not only would address concerns about the inability to measure contact hours for distance learning students in basic skills instruction, but also would make the funding model more consistent with new federal guidelines that emphasize performance measurement. Special attention should be given to measuring intermediate outcomes as well as program completion.

4.4.3 Other Special Situations

As the use of distance learning expands, the colleges are likely to find additional situations where traditional methods of counting enrollment for funding purposes no longer work as well. Generally, this is most likely to occur wherever the enrollment counting methods rely on clock hours, such as the procedure for immured populations.

Recommendation #8: The Distance Learning Council should continue to monitor and identify situations where traditional methods of enrollment counting tend to provide a disincentive for adoption of distance learning and devise alternative counting approaches as needed.

4.5 Shared-Cost Activities

The creation and expansion of distance learning opportunities in the NCCCS has led to many situations where the individual colleges are able to share costs. When this is possible, lower overall costs for the system are the typical result.

Examples of ways in which the NCCCS system office and member colleges have shared costs are numerous, including:

- Course Development
- License Fees
- Telecommunications Network
- NC Live
- Professional Development (through the Virtual Learning Community)

Initial success in sharing costs and resources has created an environment where willingness to engage in further cooperative endeavors is engendered.

Recommendation #9: Priority in the use of special allotment funding should be given to those efforts that will promote coordination and contribute to greater cost-effectiveness of distance learning offerings.

A danger in the special allotment approach to funding, as proposed in Recommendation #5, is that resources will become part of the recurring commitment and cease to be “special.” In the case of distance learning, many opportunities exist to invest special allotments in ways that will yield returns in future years. In particular, priority should be given to efforts that promote sharing of resources among the 58 community colleges and with the University of North Carolina. These coordinated efforts should contribute both to expanded access (including populations who are physically challenged) and to more cost-effective course delivery.

In summary, the funding model for distance learning over the next several years should consist of the continued use of current formulas even though they were developed for traditional instruction, refined methods for counting enrollment in distance learning courses, and reliance on special allotments for shared-cost activities. After several more years of development, the NCCCS may wish to review whether this funding approach remains viable or whether separate formulas for distance learning should be adopted.

5.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

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5.1 Progress to Date by NCCCS

The NCCCS is to be commended for the depth and breadth of distance learning course offerings that have been developed throughout the system in a relatively short period of time. Enrollments in NCCCS distance learning courses in 1999-2000 totaled 44,349, an increase of 11,000, or 33 percent over 1998-99 levels. The largest proportion of the actual enrollment growth was in Internet-based courses (+7,700), with the most significant rate of growth (372%) being in "Other" distance learning courses, which includes courses delivered via multiple modes of instruction, including distance learning and traditional modes of instruction. Even with the rapid growth in distance learning course enrollment, however, total distance learning FTE enrollment is less than five percent of total FTE system wide, reflecting the still early nature of its development.

To date, the NCCCS has used a variety of strategies to respond to the demand for distance learning courses, including:

- the centralized purchase of telecourse programming and services;
- the ongoing development and implementation of the North Carolina Information Network (NCIN) to provide courses via interactive video;
- the establishment and implementation of a "Virtual Learning Community" to develop and provide Internet-based courses; and
- the production of satellite teleconferences and telemeetings throughout the state.

The NCCCS has also worked closely with the UNC and its institutions through many cooperative ventures across the state, including the offering of distance learning courses. This cooperation has helped to ensure that there is no unnecessary duplication of course offerings between the two systems, and that the limited resources for distance learning are used in an efficient and effective manner.

5.2 Findings and Recommendations Related to Tuition and Other Student Charges

The institutions within the NCCCS, like other community colleges across the nation, have a typical tuition and fee structure for traditional (on-campus) credit instruction which charges differentiated tuition rates for state residents and out-of-state students. In the case of the NCCCS, the tuition rate charged to out-of-state students is approximately 120 percent of budgeted instructional cost. In addition, all students at a college are potentially subject to certain general fees (e.g., library, student activity), and some students are assessed special fees for specific courses (e.g., lab fees for some science courses) or other unique activities.

The advent of distance learning technologies, however, raises several issues that need to be addressed in funding that mode of instruction:

- Should there be a non-resident surcharge for out-of-state students who are enrolled in Internet-based distance learning courses offered within the NCCCS?
- Should there be a general tuition surcharge for any student enrolled in a distance learning course?
- Should there be a technology fee (or some other fee) charged students to cover the specific added costs of distance learning and other instructional technologies?

MGT's recommendations related to curriculum instruction courses offered via distance learning technologies are presented below:

Recommendation #1: Out-of-state students who are enrolled in Internet-based courses offered by the NCCCS should be charged a tuition rate that is approximately the full (i.e., 100%) cost of instruction.

If the System adopted this policy for Internet-based courses, the tuition rate charged would be somewhat less than the differential currently charged to non-residents for on-campus instruction, but would not extend an unfair subsidy to those students either. An additional rationale for charging a somewhat lesser tuition rate to out-of-state students enrolled in Internet-based courses is that such students would likely not be utilizing facilities space and support services as would an out-of-state student enrolled on-campus. If such a policy had been in place for the 2000-01 academic year, out-of-state students enrolled in Internet-based courses offered within the

NCCCS would pay approximately \$46 less per credit hour than a traditional out-of-state student enrolled on-campus.

Recommendation #2: The State Board of Community Colleges should explore alternative funding methods to support distance learning, including technology fees.

We do not recommend a special tuition surcharge for students enrolled in distance learning courses to cover the added costs of such courses as we believe that it would serve as a barrier to access for students. Further, such a surcharge could make distance learning courses offered by NCCCS institutions much less competitive with those offered through other providers in the marketplace.

5.3 Findings and Recommendations Related to Funding Model

A number of findings and recommendations related to how distance learning should be funded were made. These related both to the structure of the funding process and how enrollments and other workload factors should be measured.

With regard to the structure of the funding model, we found that the existing formulas do not provide adequate funding to compensate for costs as currently incurred. There is some belief that the per-student costs of distance learning will moderate as enrollments increase and the colleges gain more experience with the new technologies, but additional costs may persist for some course delivery methods.

In recognition of the early stage of development of distance learning and the known differences in costs, three recommendations were offered that relate to funding models:

Recommendation #3: Enrollment and other workload information related to distance learning should continue to be captured and reported, to the extent possible, for use in the current formulas. Colleges should not lose state funding as an unintended byproduct of offering some courses by distance learning rather than by traditional means. Even though the current formulas were developed to accommodate

traditional instruction, they should continue to be used for courses taught by distance delivery until other funding strategies are developed.

Recommendation #4: A series of separate funding formulas for distance learning should not be developed at this time. The stage of evolution of distance learning in the NCCCS (and elsewhere) is not such that routine operations can be reduced to formula. A follow-up cost study as soon as next year, and certainly in the following year, is likely to yield significantly different results due to the ability to achieve economy of scale and to invest less in faculty and staff development.

Recommendation #5: A package of special allotments to support the further development and delivery of distance learning should be provided. Despite the limitations of the cost study already noted, there is strong evidence that distance learning does cost more than traditional instruction at the current time. If the General Assembly supports the efforts of the NCCCS to fulfill its mission through expansion of access via distance learning, additional funding will be needed, at least in the short term. Given the uncertainties about how long additional funding will be needed, a special allotment approach should be used instead of separate formula models. The State Board's current budget request identifies special funding categories that are deserving of special allotments.

The reliance on current funding formulas will require minor modifications in how enrollments in the distance learning are counted for funding purposes. In general, such changes are necessary due to the difficulty in counting the amount of time that is spent on serving students who are not physically present. Several recommendations calling for the development of new approaches to counting enrollment in specific situations were offered, along with a more general recommendation for flexibility in extending current formulas to distance learning.

Recommendation #6: Funding requirements for curriculum skills labs should be determined on some method other than an enrollment count basis. Since there is no practical or economical means to count students who receive the services of curriculum skills labs via either traditional or distance technologies, an alternative strategy for funding this workload is needed. The NCCCS should appoint a study group to assess alternative approaches for funding curriculum skills labs for all types of students.

Recommendation #7: The NCCCS should develop an alternative enrollment counting approach for basic skills instruction that is based on initial enrollment and attainment of educational outcomes. As part of its planned review of the overall funding approach for basic skills instruction, the Basic Skills Advisory Committee should develop a specific

method for equating program outcomes to FTE enrollment. This approach not only would address concerns about the inability to measure contact hours for distance learning students in basic skills instruction, but also would make the funding model more consistent with new federal guidelines that emphasize performance measurement. Special attention should be given to measuring intermediate outcomes as well as program completion.

Recommendation #8: The Distance Learning Council should continue to monitor and identify situations where traditional methods of enrollment counting tend to provide a disincentive for adoption of distance learning and devise alternative counting approaches as needed.

The final funding-related recommendation pertains to the ongoing need to seek greater coordination among the institutions as distance learning approaches are developed. Indeed, the special provision requesting this report emphasized the need to “promote coordination of distance learning programs among the institutions of the Community College System and The University of North Carolina.” In particular, this recommendation relates to how special allotments can encourage and support greater coordination while expanding access and becoming more cost-effective.

Recommendation #9: Priority in the use of special grant funding should be given to those efforts that will promote coordination and contribute to greater cost-effectiveness of distance learning offerings.

A danger in the special allotment approach to funding, as proposed in Recommendation #5, is that resources will become part of the recurring commitment and cease to be “special.” In the case of distance learning, many opportunities exist to invest special allotments in ways that will yield returns in future years. In particular, priority should be given to efforts that promote sharing of resources among the 58 community colleges and with the University of North Carolina. These coordinated efforts should contribute both to expanded access (including populations who are physically challenged) and to more cost-effective course delivery.

5.4 Issues for Further Study

In an area as dynamic as distance learning, the need for ongoing study should be expected. Not surprisingly, our analyses have identified several areas where additional study should be undertaken by the NCCCS. Topics for further study include:

- assessment of the potential need for a technology fee for continuing education courses,
- further investigation of the costs of distance learning, and especially to compare the costs by delivery method and to ascertain enrollment levels necessary for per-student costs to equate with traditional instruction,
- development of alternative enrollment counting methods or funding arrangements for curriculum skills labs,
- development of a performance-based approach for recognizing enrollment-related workload in basic skills instruction, and
- investigation of potential ways to support adaptive and/or assistive technologies necessary for the physically challenged to access distance learning courses.

The NCCCS should continue to work through its effective structure of inter-institutional committees and to engage external support as necessary to continue study in these important areas and to bring forward additional recommendations to the State Board.

APPENDICES

APPENDIX A

APPENDIX A

SURVEY OF STATE- AND SYSTEM-LEVEL POLICIES FOR FUNDING OF DISTANCE LEARNING

North Carolina Community College System Fall, 2000

I. Respondent Information

Name of Organization: _____

Types of Institutions Represented:

- Community Colleges
 Universities
 Both Colleges and Universities

Name of Individual Responding: _____

Title of Individual: _____

Telephone Number: _____

Email address: _____

II. Issue: Student Tuition, Fees and Other Charges

Background: Since courses that are taught via distance learning impose different types of costs on the college than traditional, on-campus courses, some believe that different policies on student charges should apply to the two categories of courses.

Information Requested:

Is tuition for credit programs charged by the hour or by the course? _____

Is tuition for continuing education charged by the hour or by the course? _____

Do all community colleges in your state charge the same rates? _____

By placing an "X" to record your responses, please indicate whether students enrolled in distance learning courses in your state pay the same or different rates as for traditional, on-campus courses for each of several types of required student charges. Optional fees, such as parking, are not to be considered. *If your system employs several different types of distance learning approaches and the tuition and fee policy varies by type, please respond for each type separately.*



Students Enrolled in Distance Learning Courses Pay:

TYPE OF CHARGE	SAME RATE AS ON-CAMPUS	DIFFERENT RATE (MORE OR LESS)	IF DIFFERENT, PLEASE PROVIDE RATIONALE
General Purpose Tuition			
Continuing Education Fee			
Student Activity Fees			
Building Fees			
Technology Fees			
Distance Learning Fees			
Other ()			
Other ()			
Other ()			

III. Issue: Student Classification for Fee-Paying Purposes

Background: Distance learning courses, especially those that are web-based, break down geographic barriers for students and are likely to attract greater numbers of students from other states than traditional programs. Unlike traditional programs where additional students require additional investment in bricks and mortar, out-of-state students enrolled in certain types of distance learning courses would appear to be served on a marginal cost basis. These factors, along with competitive pressures, raise a question about the appropriateness of applying the traditional out-of-state tuition surcharge to distance learning students.

Information Requested:

Does the traditional out-of-state tuition or fee surcharge apply to distance learning students in your state?

- Yes
- No

If No, please describe the difference and identify the distance learning approach(es) for which it applies: _____

Do any of the following types of students qualify for a waiver from out-of-state tuition or fee charges?

- Military
- International
- Others (please list: _____)

IV. Issue: State Appropriations for Distance Learning Courses

Background: Many state higher education systems, including the North Carolina Community College System, use formula approaches to request and/or distribute state appropriations. Often, there are separate formulas or guidelines for instruction, academic support (libraries, media and computing), student services, general



administration, and physical plant operations. Distance learning courses are likely to cost more in some of these functional categories (e.g., academic support) but less in others (e.g., physical plant). Some believe that traditional funding models are not well suited for distance learning.

Information Requested: By placing an “X” to record your response, please indicate whether appropriations models in your state differentiate between traditional instruction and distance learning. *If your system employs several different types of distance learning approaches and the funding method varies by type, please respond for each type separately.*

Distance Learning Courses Receive State Funding at:

FUNCTIONAL AREA	SAME RATE AS ON-CAMPUS	DIFFERENT RATE (MORE OR LESS)	IF DIFFERENT, PLEASE PROVIDE RATIONALE
Instruction			
Continuing Education			
Academic Support			
Student Services			
Institutional Support			
Plant Operations			
Equipment			
Other ()			
Other ()			

V. Issue: Special Organizational Models for Distance Learning

Background: The development of distance learning courses requires specialized expertise that may not be available at the individual program level or in smaller colleges. One strategy for overcoming this obstacle is to establish either consortia to share specialized resources or even new organizational units that provide needed curriculum support services.

Information Requested:

Does your state utilize consortia or special organizational units to assist colleges in developing distance learning courses?

- Yes
- No

If Yes, please describe the arrangements and how they are funded: _____

Does your state secure licenses for software or courses on a statewide basis?

- Yes
- No

If Yes, please describe the arrangements and how they are funded: _____



VI. Issue: Special Student Support Models for Distance Learning

Background: Since many students who wish to enroll in distance learning courses are not on campus, the provision of student support services can be a challenge. Strategies for meeting the needs of such students include adaptation of existing services to serve off-campus clientele or even the creation of special support units.

Information Requested:

Do students enrolled in distance learning courses in your state have access to special student support services for:

- Admissions
- Registration
- Academic Advising
- Disabled Student Services
- Help Desk

VII. Issue: Funding of Telecommunications Networks

Background: Many distance learning delivery methods rely on telecommunications networks that are operated centrally, perhaps by the system office or a statewide telecommunications authority. In some states, legislation and/or regulation requires the telecommunications industry to provide financial assistance to such networks.

Information Requested:

Does a central agency maintain the telecommunications network to support distance learning courses offered by individual colleges in your state?

- Yes
- No

If Yes, how does this agency receive its funding? _____

- Direct state appropriations to a postsecondary education agency
- State appropriations to other state agency (e.g., telecommunications office)
- User fees paid by institutions
- Other (please explain) _____

Does either legislation or regulatory authority in your state address support of distance learning by the telecommunications industry?

- Requires industry support
- Neutral
- Specifically prohibits industry support

If support is required, please describe the arrangements in your state:



APPENDIX B

APPENDIX B

SURVEY OF STATE-AND SYSTEM-LEVEL POLICIES FOR FUNDING OF DISTANCE LEARNING

Summary of Key Findings

Responding States (11)

- Alabama
- Colorado
- Florida
- Iowa
- Maryland
- Mississippi
- Oklahoma
- South Carolina
- Tennessee
- Virginia
- Wisconsin

Overall Findings

- With very few exceptions, survey respondents indicated that little differentiation was made currently with regard to the financing of on-campus and distance learning courses. This seems to be primarily the result of a lack of good information on which to base funding decisions for distance learning courses, as opposed to a conscious policy.
- However, several of the respondents indicated that they were either contemplating or in the process of implementing differentiated financing mechanisms for the future.

Key Findings on Student Tuition, Fees, and Other Charges

- Every respondent indicated that tuition for credit programs is charged by the hour.
- The largest number (5) of respondents indicated that tuition charges vary for continuing education courses in their state – some colleges charge by the hour and some by the course. Most respondents also indicated that continuing education courses were expected to be self-supporting.

- The majority of respondents (6) indicated that community colleges in their state charge the same basic tuition rate.
- The majority of respondents (8) indicated that students enrolled in distance learning courses pay the same tuition and fee rates as on-campus students. In Colorado, students enrolled in “CCC On-line” pay approximately 40 percent more than students enrolled on-campus. Alabama also noted that tuition for distance learning courses will be different next academic year (DL students will pay more starting in Fall 2001).

Key Findings on Student Classification for Fee Paying Purposes

- The majority of respondents (8) indicated that out-of-state tuition surcharges apply to distance learning students. Colorado and Wisconsin charge the same tuition rate for in-state and out-of-state students enrolled in on-line courses/programs, while the practice varies in Iowa by college. Virginia is considering a special “e-rate” for out-of-state distance learning students enrolled in on-line courses, but has no plans as of yet.
- Four respondents provide out-of-state waivers for military personnel living in their state and one respondent provides waivers for international students. Both Alabama and Tennessee have provisions for providing out-of-state waivers for students in contiguous states who live within a certain radius of the college.

Key Findings on State Funding for Distance Learning Courses

- The majority of respondents (10) provide state funding for distance learning courses at the same rate as on-campus courses. Mississippi has plans to go to a model in FY 2001-02 whereby distance learning courses would receive 75 percent of the funding rate provided to on-campus courses.

Key Findings on Special Organizational Models for Distance Learning

- The majority of respondents (9) utilize consortia to assist colleges in developing distance learning courses. Three of these respondents receive state funding for the consortial activities.
- The majority of respondents (9) secure licenses for software/courseware on a statewide basis. Only two of these respondents receive state funding for these activities, with the remaining five being funded by participating institutions.

Key Findings on Special Student Support Models for Distance Learning

- Four respondents (Colorado, Florida, Oklahoma, and Tennessee) provide special student support services for students enrolled in distance learning courses. Florida's services can be accessed through the following website – www.facts.org. Several of the remaining respondents indicated that such services were “under consideration”.

Key Findings on Funding of Telecommunications Networks

- The majority of respondents (9) noted that there was a central agency in the state that maintained a statewide telecommunications network. All of the respondents noted that the network was supported through a combination of state appropriations and user fees paid by institutions.
- The majority of the respondents (10) noted that their state law was neutral on the issue of support of distance learning by the telecommunications industry. Tennessee's regulatory agency for telecommunications does levy a tax on providers for support of technology.