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INSTITUTION	Texas Education Agency, Austin. Div. of Migrant Education.
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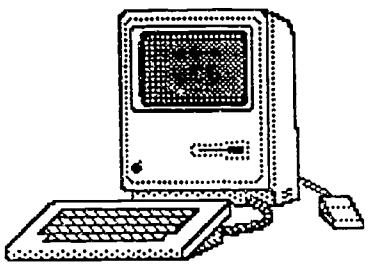
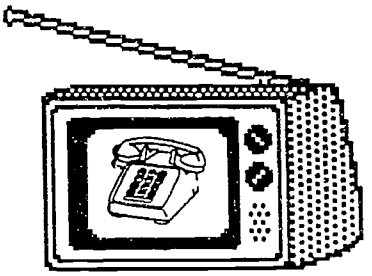
IDENTIFIERS	*SMART Project TX; *Texas

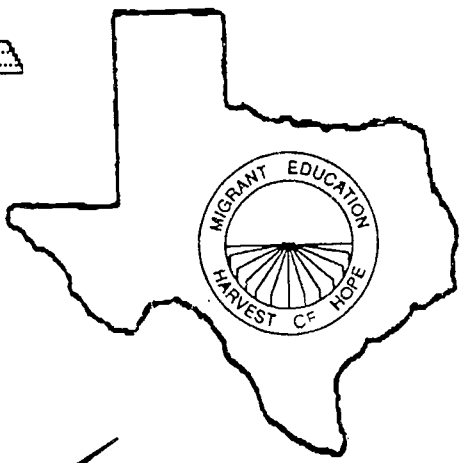
ABSTRACT

The SMART (Summer Migrants Access Resources through Technology) project provides Texas migrant students with supplemental instruction using a multi-media, nontraditional approach. Migrant students who remain in Texas during the summer are taught in their homes or other sites via televised instruction with additional instructional support from locally employed facilitators. Texas migrant students living temporarily out of state may also access the programs. Instruction focuses on problem solving within a developmental context at the early elementary level, problem solving in mathematics at elementary and middle-school levels, and personal finance through a credit course at the high school level. This document covers project goals and rationale, course descriptions, programming schedules, maps of regional education service centers and numbers of students served in the regions, a list of central-stream distance learning project sites, and a workshop guide on distance education. The workshop guide includes: (1) a chart comparing the advantages and disadvantages of different technologies; (2) a narrative describing issues in distance education and the use of distance education to deliver Chapter I services; (3) a glossary of terms; (4) a list of resources; (5) a "test" on perceptions of distance education; and (6) transparency masters. (KS)

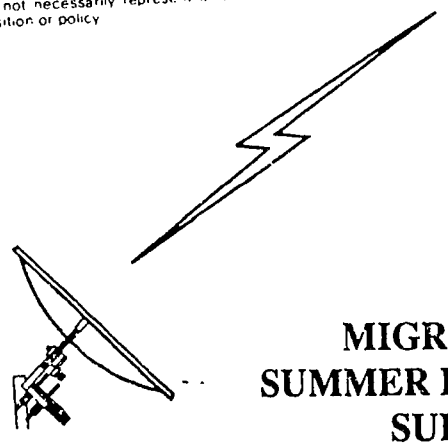
Project SMART
(Summer Migrants Access Resources Through Technology)







School



MIGRANT EDUCATION SUMMER PROGRAM PLANNING SUB-COMMITTEE

Mr. Ramon Billescas
Dr. Sylvia Castro
Ms. Norma Davis
Ms. Hilda Escobar
Mr. LeRoy Jackson
Dr. Tadeo Reyna
Mr. George Rivas
Mr. Art Sepulveda
Mr. Tomas Yanez

PROJECT SMART COMMITTEE MEMBERS

Irma Becerril
Ramon Billescas
Sylvia Castro
Joe Ceballos
Norma Davis
Homero Diaz
Hilda Escobar
Ignacio Garcia
David Gomez
Judy Horn
LeRoy Jackson
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George Rivas
Bruce Roark
Joe Sanchez
Art Sepulveda
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Dora Zavaleta

TI-IN NETWORK

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President

Robert Nelson,
Senior Vice President

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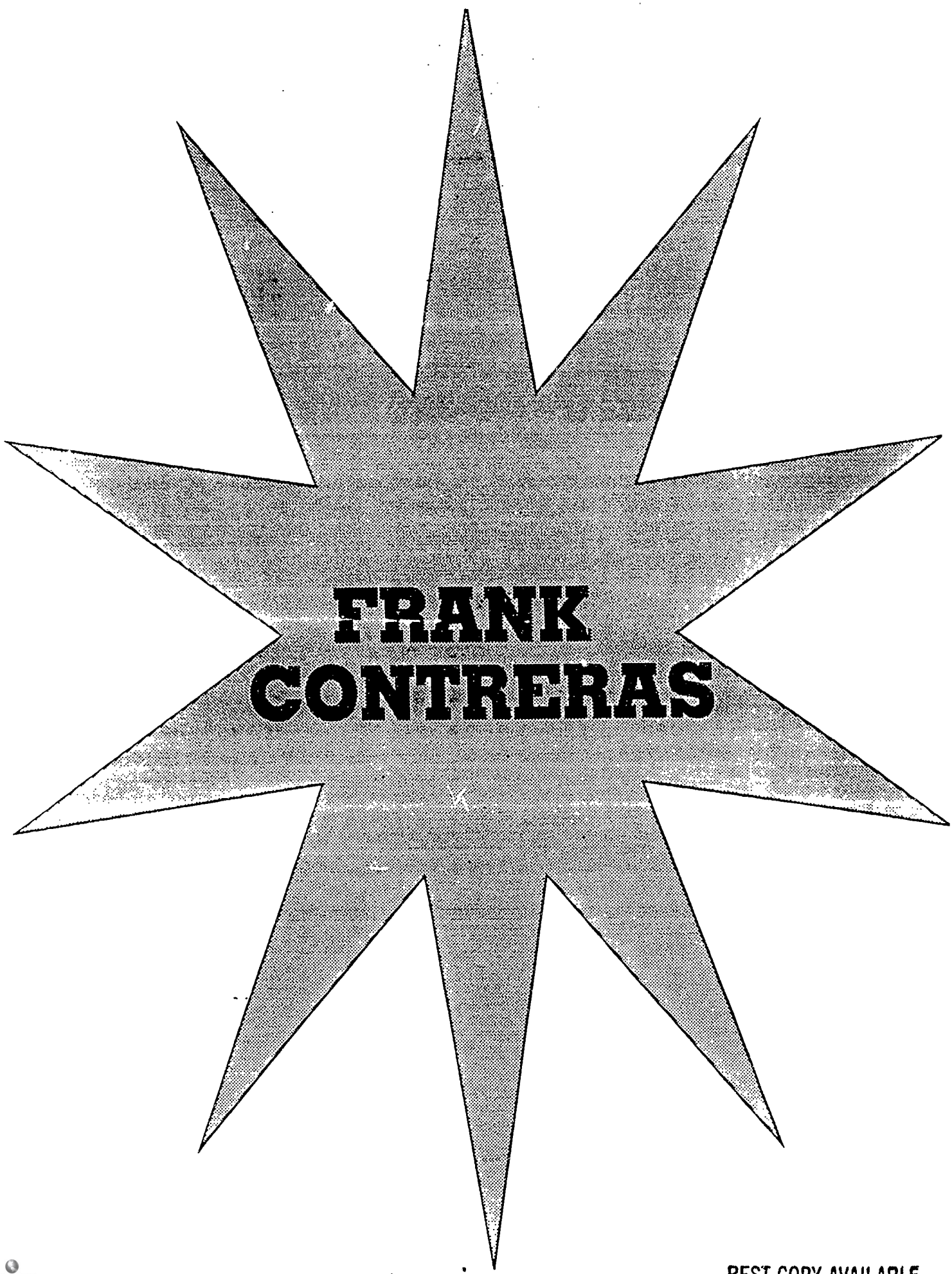
Belinda Cortez, Early Elementary Instructor
Graciela Glenn, Elementary Instructor
Camille Moody-Jennings, Secondary and Middle School Instructor



Project SMART

(Summer Migrants Access Resources through Technology)

Program Description:

The SMART project is designed to meet instructional needs of Texas migrant students regardless of summer travel patterns or living arrangements. Blending television technology and innovative instructional design, the SMART project will target two groups of students. First, migrant students who remain in Texas during the summer will be taught in their homes (or, if needed, at other sites such as community centers, libraries, or schools) via televised instruction with additional instructional support from locally employed teachers/facilitators. The second group consists of Texas students living temporarily out of state and participating in established summer educational programs for migrants. Remarks on these pages relate to the first group of students, remaining in Texas for their instruction.

Project Goals:

- to offer program access to as many migrant students as possible by offering cost effective instruction through technology
- to provide students with high quality supplemental instruction to accelerate learning through the summer months

- to support developmentally appropriate practices for young children and involvement of parents in early childhood education
- to improve performance on math problem solving for TAAS at the elementary and middle school levels
- to offer a credit course for high school students

Project Rationals:

It is generally recognized that one of the chief detriments to student success among the children of migrant workers in the United States is the lack of instructional continuity. Moving from state to state and changing schools frequently results in mixed and confusing curriculum requirements. The resulting pattern is sometimes poorly coordinated educational opportunities for this population. Nationally available distance learning offers tremendous potential in addressing this educational dilemma. Students can move from school to school and still take the same curriculum from the same teacher.

In Texas, large numbers of migrant students do not participate in any kind of summer program. A recent needs assessment determined that migrant students who travel out of state appear to perform at a higher level academically than students who are home-based or travel within Texas. Because of this alarming fact, the SMART model for in-state students was developed. Through the leadership provided by the Division of Migrant Education at the Texas Education Agency, this project was planned and developed by representatives from local

school district, education service centers, the Program Coordination Center (PCC), and the Texas Migrant Interstate Program (TMIP).

Instructional Focus:

Televised instruction and instructional support materials for students and facilitators will be available from participating districts. The program will run from June 4 through August 19, 1993, with broadcasts from June 8 through August 19, 1993. Four levels of students will be addressed as shown below. All times are for live broadcasts in the Central Time Zone.

Early Elementary (P3-1)	Elementary (2-6)	Middle School (7-8)	High School (9-12)
9:30-10:00am Tues. Wed. Thurs.	10:30-11:00am Tues. Wed. Thurs.	4:30-5:00pm Tues. Wed. Thurs.	8:00-9:00pm Mon. Thurs.

All instruction will be built around the migrant students' homes, families, and community experiences. Lessons will be crafted and designed for relevancy to the students' daily experiences. In addition, materials and resources easily available to the student will be used as centers of suggested follow-up activities. Local education agency teachers/facilitators will be responsible for monitoring student progress.

At the high school level, Project SMART will offer a credit course on Mathematics of Money: Personal Finance (MOM). Students

successfully completing this course will be eligible to receive 1/2 math credit in Texas. This course may be used in one of two ways: to satisfy 1/2 credit of the three math credits required for graduation or to serve as elective credit for students on an advanced place or for students in need of electives. Lessons will be built around the migrant students' daily experiences, especially those involving money and economics. For each of the 11 modules planned, assessment activities will be recommended.

At the middle school and elementary levels, instructional objectives addressed in SMART will be directly related to TAAS problem-solving skills in mathematics, using the integrated approach across curriculum areas and incorporating reading and writing components, with special emphasis on higher order thinking skills.

The early elementary instruction will focus on problem-solving skills within developmental contexts (social, cognitive, cultural, and physical). Once again, the emphasis will be on higher order thinking skills and the integration of oral language development, reading, writing, and literature.

Project Implementation:

Broadcasts, originating at the TI-IN Network in San Antonio, Texas will be available via Channel 60 (PBS) throughout the Rio Grande Valley in Texas and KLRN throughout the Region 20 ESC area. Other areas, that cannot receive broadcasts by cable, may receive

instruction by satellite. Another alternative would be for migrant staff at Education Service Centers to video tape the broadcasts for use by area school districts at designated times and sites.

SMART Project 1993 MATHEMATICS OF MONEY: PERSONAL FINANCE CURRICULUM SCOPE & SEQUENCE

	MOMBB		TAAS Prob Solv Obj
MODULE 1			
Migrant trip	1	Review basic math skills & problem solve with time, distance, money	10-13
Pick & plan	1, 2A	Find gross income (piece) in migrant work & compute hours worked	10-13
MODULE 2			
Earning money	1, 2A,D	Find gross income (salary, hourly, overtime) in various professions	10-13
Earning money	1, 2A,B,C,D	Find gross income (commission) & evaluate fringe benefits in various professions	10-13
MODULE 3			
Spending money	1, 2A	Find net income (deductions: FICA, withholding, insurance)	10-13
Spending money	1, 3D	Buying food; Make unit pricing decisions with real data	10-13
MODULE 4			
Spending money	1, 3D	Price/Cost Comparisons; Make purchase decisions with real data	10-13
Budgeting	1, 3C	Create a *personal* budget	10-13
MODULE 5			
Checking accts	1, 3A,B	Choosing a bank/Using checks	10-13
Checking accts	1, 3A,B	Making deposits; reconciliation	10-13
MODULE 6			
Savings accts	1, 5A	Compute return on passbook accounts	10-13
Savings accts	1, 2K,5B	Solve compound interest problems	10-13
MODULE 7			
New car buy	1, 3E	Evaluate new car down payment, installments,	10-13
Used car buy	1, 3E	Evaluate used car down payment, installments	10-13
MODULE 8			
Auto ops/maint	1, 3E	Evaluate auto operation & maintenance costs	10-13
Auto Insurance	1, 3E	Compare auto insurance costs	10-13
MODULE 9			
Credit cards	1, 4A	Solve problems comparing costs of credit card purchases	10-13
Credit cards	1, 4A	Solve problems of credit card avg daily balances, finance charges, annual fees, etc.	10-13
MODULE 10			
Income Tax	1, 2E	Investigate income tax system.	10-13
Tax Forms	1, 2E	Investigate income tax forms.	10-13
MODULE 11		REVIEW	

Developed by Camille Moody Jennings

COURSE DESCRIPTION

Mathematics of Money: Personal Finance Credit: 1/2 Unit

Grade Level: 9-12

This half credit course addresses the needs of students to apply simple and sophisticated mathematical concepts to issues relating to personal finance. major topics included in the Mathematics of Money: Personal Finance are problem solving/decision making, earning money, spending money, borrowing money and investing money. Within each of these topics, essential elements relating to personal finances have been chosen for this course.

The format for course instruction is multi-faceted. Twenty two hours of live televised instruction is the critical instructional component. In some areas of Texas, students will have access to televised lessons in their homes. Texas certified teachers, hired by local districts, will monitor student progress at home and will assist students if problems and questions arise. In addition, students remaining in Texas will have access to instructional assistance via a toll free hot line, staffed by migrant educators.

Texas students in out-of-state migrant programs will be receiving the televised and ancillary instruction in centers or schools which operate educational programs for migrant students. They will have the

opportunity to interact directly with the television teacher during classes on a rotating basis.

The instructional design includes eleven modules, each addressing a unique topic and objectives, build on essential elements. Each module will include the following components: televised instruction, student warm-up activities to be completed by the student before class, practice activities for students to practice after class and an assessment activity. Projects, some pencil and paper tasks, and other performance based activities will comprise the assessment. Evaluation and student assessment will be the responsibility of the teacher partner. Assessment to determine student mastery will be done at the completion of each module.

All student activities, materials and instruction will reflect the teaching of problem solving strategies and higher order thinking skills. Drill and repetition will be low priorities in the design, while application of knowledge and concepts will be highly emphasized. The lessons will build on the natural curiosity students at this age have for money . . . . its power and management. Lessons will be build around the migrant students' daily experiences, especially those involving money and economics. Every attempt will be made to make the lessons relevant to the students' daily experiences. Students requiring additional instruction can receive it from either the home-based teacher partner in Texas or their center-based teacher.

Materials will be available for both students and teacher partners. Since there are no state adopted textbook or learning materials for the MOM course, materials will be developed specifically with this format and design in mind. Student materials will include a packet of student-centered activities and problems along with criteria and answers for self checking. Teacher partners will be provided an implementation guide and assessment instrument guidelines.

Training teacher partners both in-state and out-of-state will be critical to the student achievement levels in this course. In addition to televised training, local training will be done for teacher partners in and out of state.

SUMMER PROGRAM GOAL

To provide statewide supplemental instruction via multi-media, non-traditional approach.

PROJECT SMART GOALS

- To offer program access to as many migrant students as possible by offering cost effective instruction through technology

- To provide students with high quality supplemental instruction to accelerate learning through the summer months

- To support developmentally appropriate practices for young children and involvement of parents in early childhood education

- To improve performance on math problem solving skills for TAAS at the elementary and middle school levels

- To offer a credit course for high school students

INSTRUCTIONAL FOCUS

Math (TAAS Objectives)
incorporating the language components
of
listening, speaking, reading, and writing
with special emphasis
on
problem solving,
decision making,
and
higher order thinking skills

I. Integrated Curriculum
Math across the curriculum areas of literature, science, history, and social studies

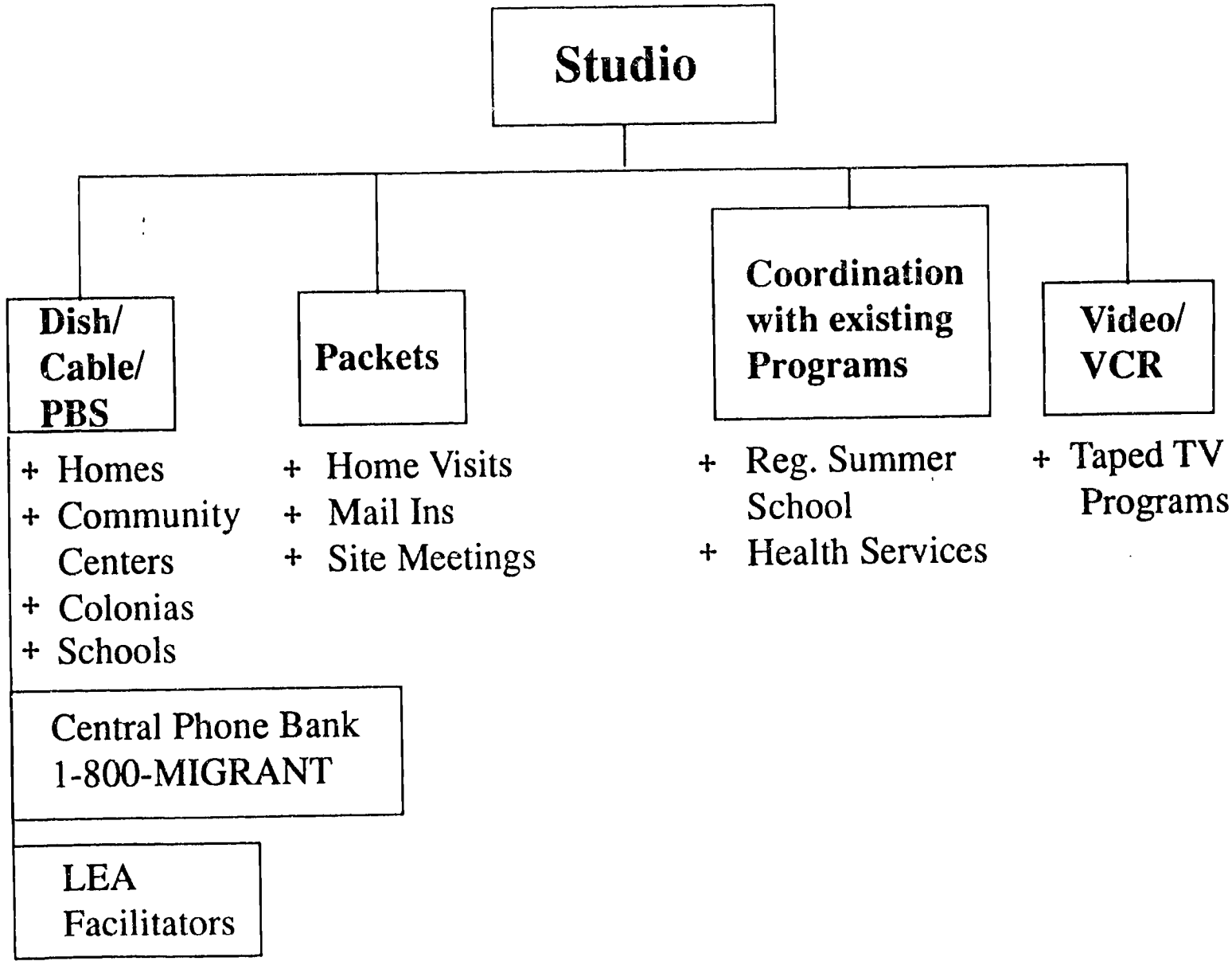
Beyond the textbook/Life skills

II. Personalized Curriculum

Focus on strengths, talents, interests
Relevant and meaningful instruction
Migrant lifestyle
Time/Money Management

III. Higher Order Thinking Skills

All age groups
Problem solving
Recognition of patterns
Application, synthesis
Decision making


Studio
Dish/ Cable/ PBS
+ Homes
+ Community Centers
+ Colonias
+ Schools
Packets
+ Home Visits
+ Mail Ins
+ Site Meetings
Coordination with existing Programs
+ Reg. Summer School
+ Health Services
Video/ VCR
+ Taped TV Programs
Central Phone Bank
1-800-MIGRANT
LEA Facilitators

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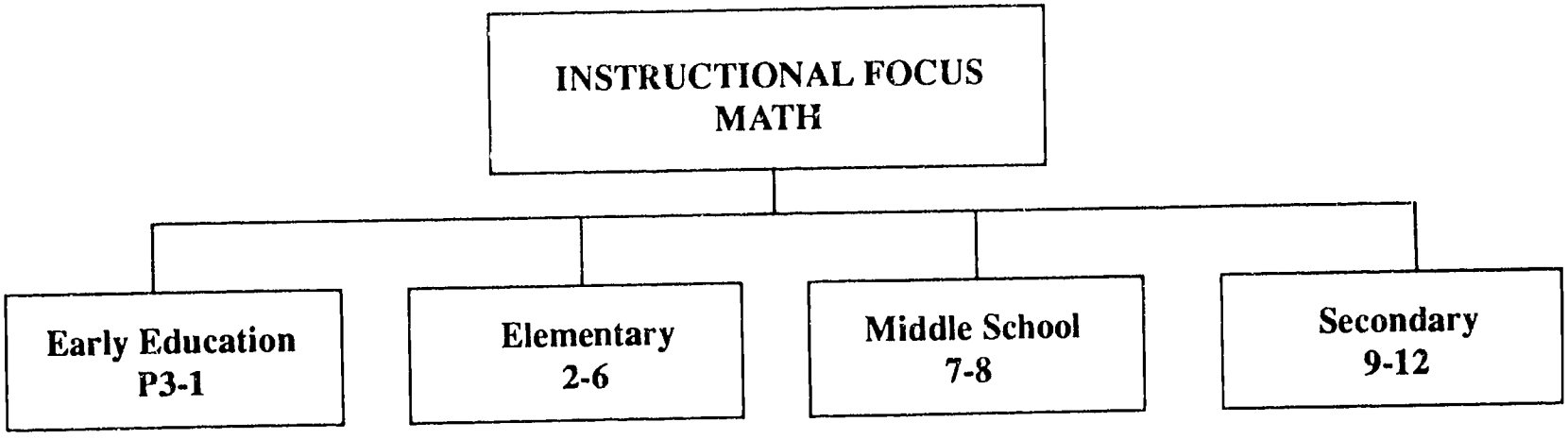
Programming Schedule
for
Project SMART (Intrastate)
(Summer Migrants Access Resources Through Technology)
Monday, June 7 - Thursday, August 19, 1993



Early Education P3-1	Elementary 2-6	Middle School 7-8	Secondary 9-12
9:30-10:00 a.m.	10:30-11:00 am	4:30-5:00 p.m.	8:00-9:00 p.m.
Tuesdays	Tuesdays	Tuesdays	Mondays
Wednesdays	Wednesdays	Wednesdays	Thursdays
Thursdays	Thursdays	Thursdays	

Revised 2/23/93

Proposed Programming Schedule for Project SMART in KLRN Viewing Area

	TI-IN/ESC Region 20		KLRN Broadcast Television Channel 9		
	Feed Days	Feed Dates	Air Days	Air Dates	Air Time
Early Educ. (P3-1)	Tuesdays	6/8 thru 8/17	Wednesdays	6/9 thru 8/18	2:00 to 2:30 pm
	Wednesdays	6/9 thru 8/18	Thursdays	6/10 thru 8/19	2:00 to 2:30 pm
	Thursdays	6/10 thru 8/19	Mondays	6/14 thru 8/23	2:00 to 2:30 pm
Elementary (2-6)	Tuesdays	6/8 thru 8/17	Wednesdays	6/9 thru 8/18	2:30 to 3:00 pm
	Wednesdays	6/9 thru 8/18	Thursdays	6/10 thru 8/19	2:30 to 3:00 pm
	Thursdays	6/10 thru 8/19	Mondays	6/14 thru 8/23	2:30 to 3:00 pm
Middle Sch. (7-9)	Tuesdays	6/8 thru 8/17	Wednesdays	6/9 thru 8/18	3:00 to 3:30 pm
	Wednesdays	6/9 thru 8/18	Thursdays	6/10 thru 8/19	3:00 to 3:30 pm
	Thrusdays	6/10 thru 8/19	Mondays	6/14 thru 8/23	3:00 to 3:30 pm
Secondary (10-12)	Mondays	6/7 thru 8/16	Tuesdays	6/8 thru 8/17	2:00 to 3:00 pm
	Thursdays	6/10 thru 8/19	Fridays	6/11 thru 8/20	2:00 to 3:00 pm

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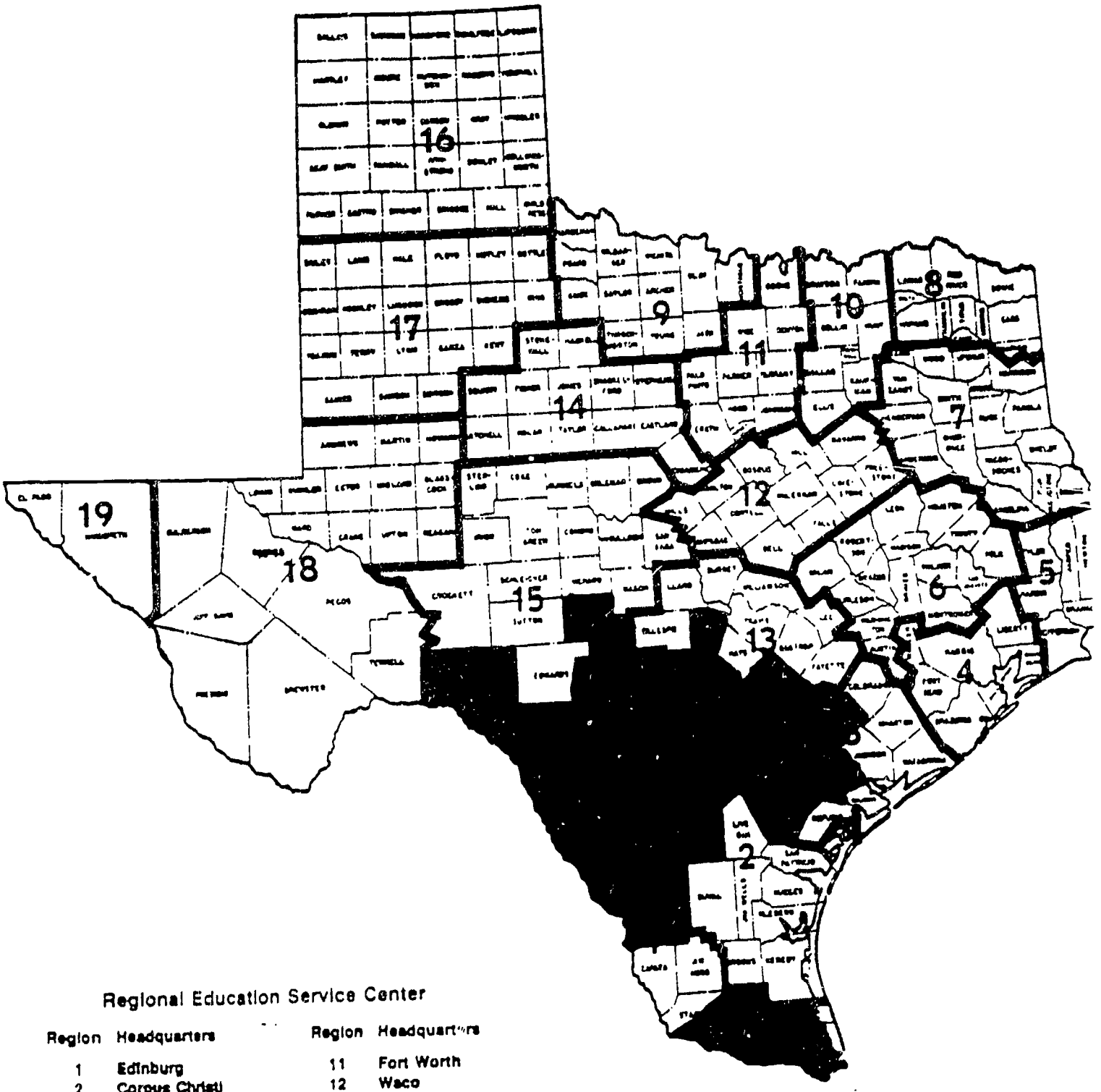
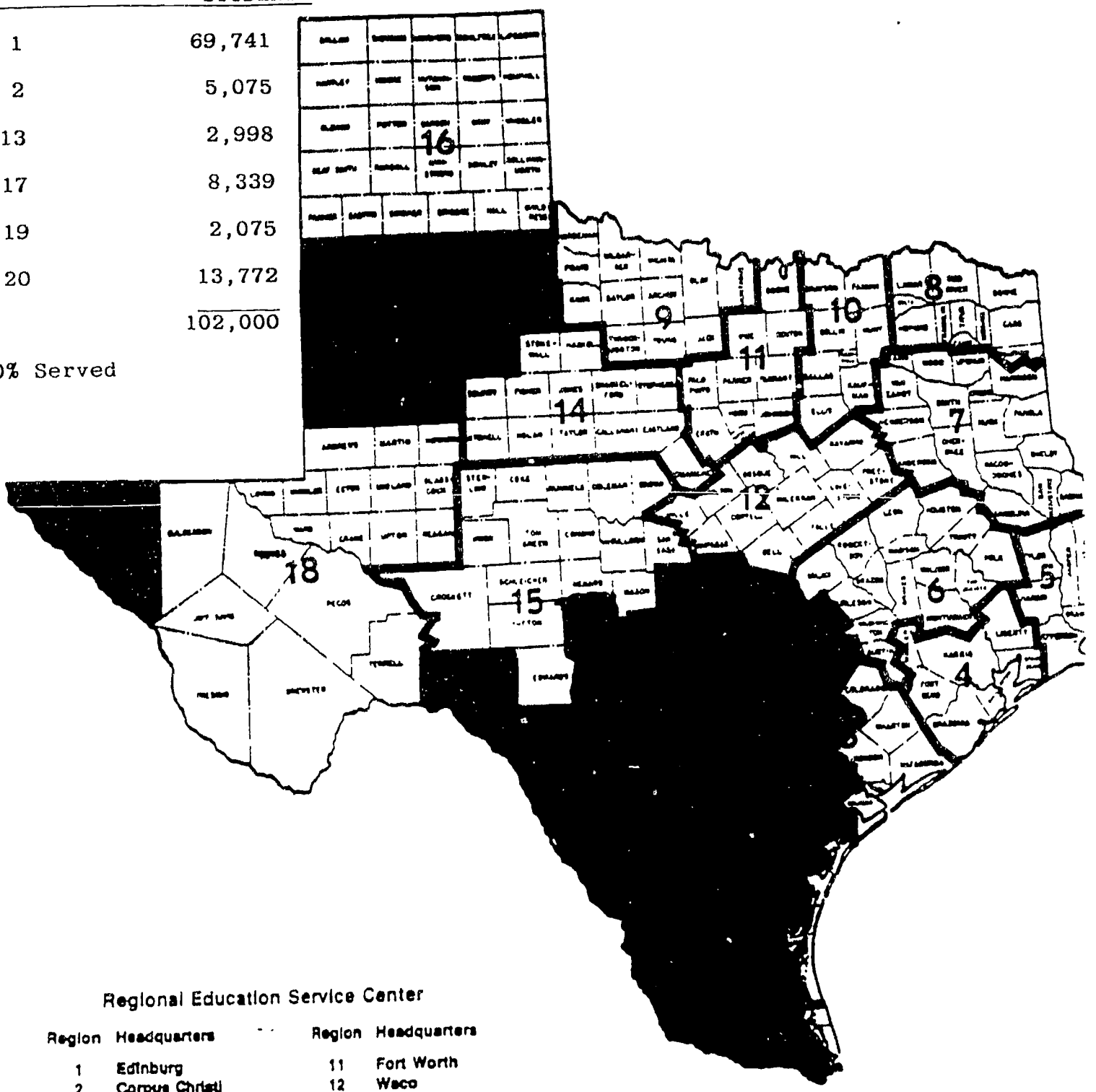


Regional Education Service Center

Region	Headquarters	Region	Headquarters
1	Edinburg	11	Fort Worth
2	Corpus Christi	12	Waco
3	Victoria	13	Austin
4	Houston	14	Abilene
5	Beaumont	15	San Angelo
6	Huntsville	16	Amarillo
7	Kilgore	17	Lubbock
8	Mount Pleasant	18	Midland
9	Wichita Falls	19	El Paso
10	Richardson	20	San Antonio

REGION	TOTAL # of STUDENTS
1	69,741
2	5,075
13	2,998
17	8,339
19	2,075
20	13,772
	102,000

80% Served



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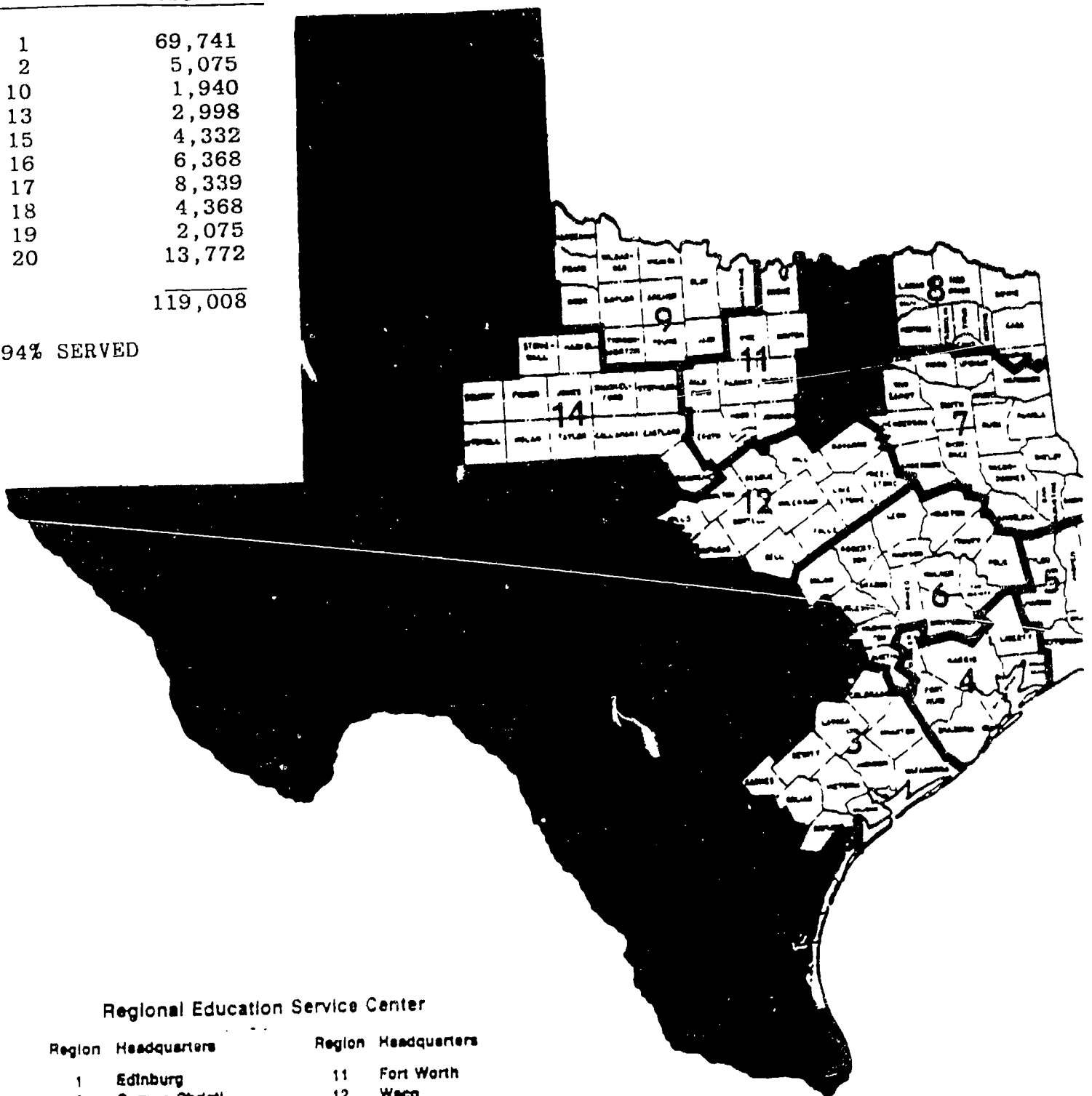
8	Mount Pleasant	18	Midland
9	Wichita Falls	19	El Paso
10	Richardson	20	San Antonio

REGION	TOTAL # OF STUDENTS
1	69,741
2	5,075
10	1,940
13	2,998
15	4,332
16	6,368
17	8,339
18	4,368
19	2,075
20	13,772
	119,008

94% SERVED



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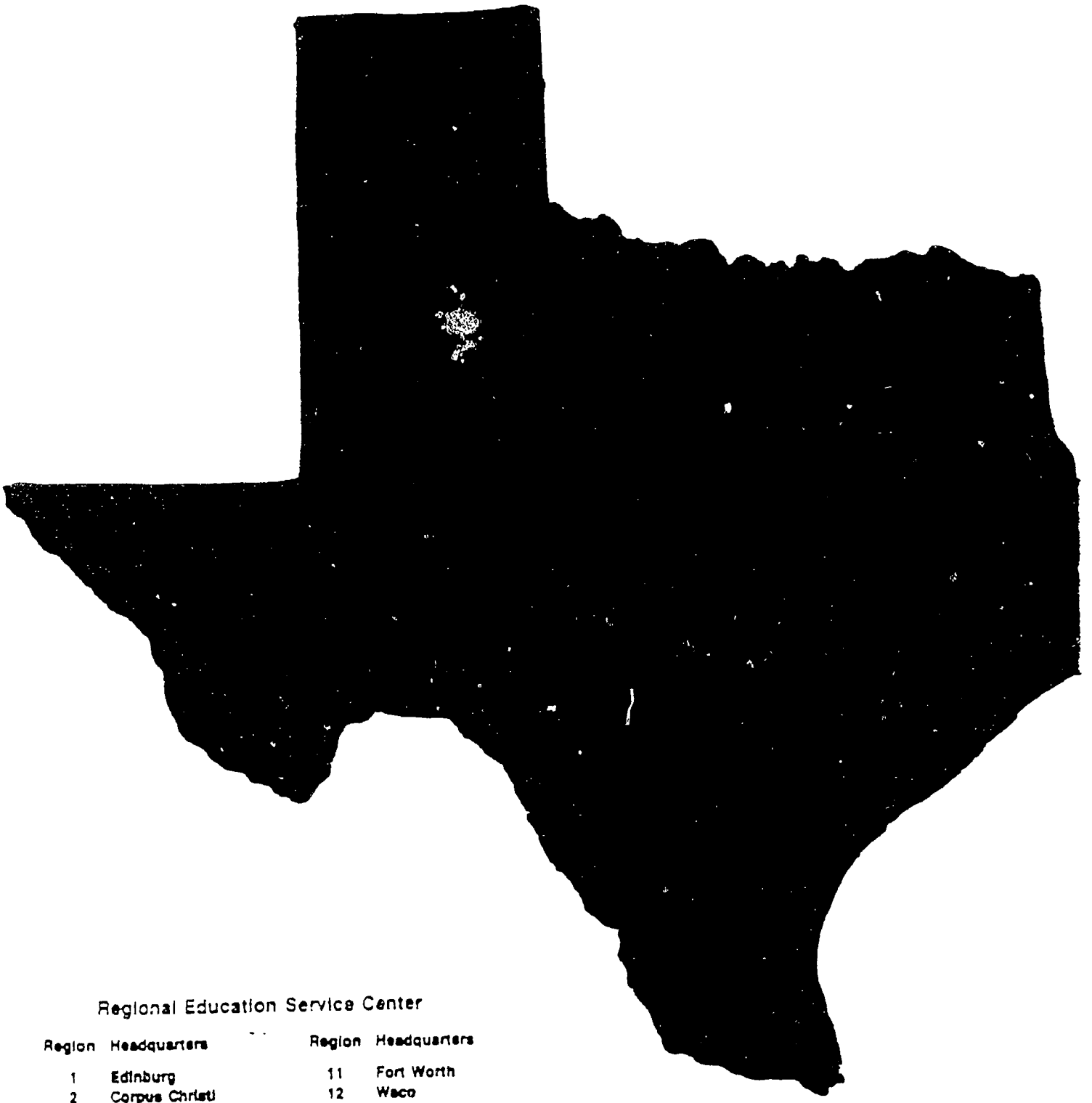

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8	Mount Pleasant	18	Midland
9	Wichita Falls	19	El Paso
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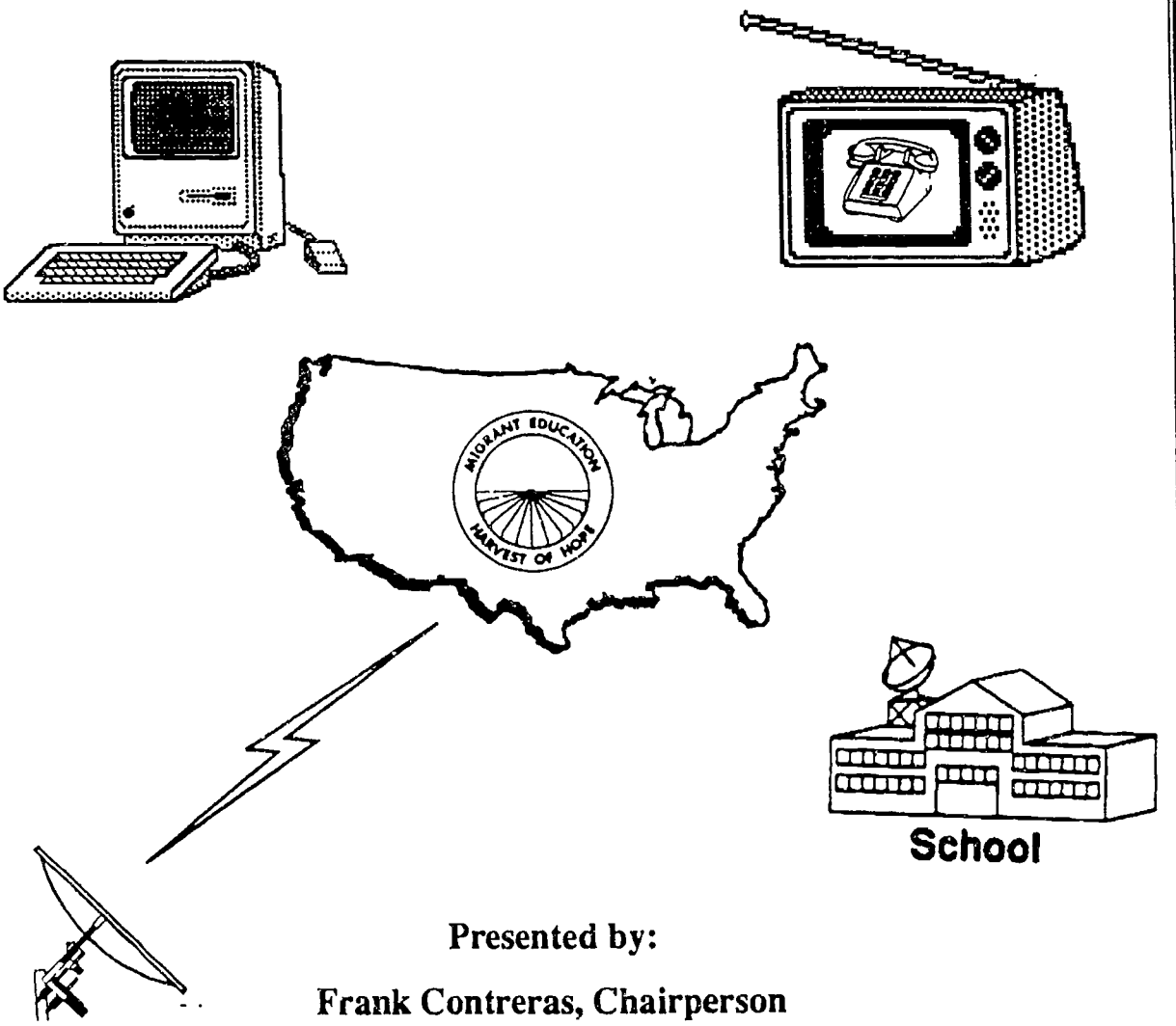
National Distance Learning Committee Report
for the
National Association of State Directors of Migrant Education

Highways in the Sky



Presented by:

Frank Contreras, Chairperson

Cecilia Santa Ana (Michigan)
Al Wright (Louisiana)
Manuel Recio (Pennsylvania)
Raul de la Rosa (Washington)
Margaret Sarkis (Colorado)
Brenda Pessin (Illinois)
Louis T. Marsh (Florida)
Angela Branz-Spall (Montana)
Tom Lugo (California)

DLC GOAL

To design, develop, implement and evaluate a National Distance Learning Service to improve the quality of educational and support services of migrant children and their families.

DISTANCE LEARNING COMMITTEE OBJECTIVES

1. To identify funding mechanisms (including legislative authority)

2. To identify available resources

3. To define goals and objectives for Distance Learning

4. To plan pilots for 1992-93

5. To market Distance Learning

6. To develop national programming based on needs assessment and pilots

7. To plan utilization of Distance Learning services

8. To disseminate information on Distance Learning

9. To inform ourselves of current technologies

National Distance Learning Network Objectives

1. To provide continuity of instruction for interstate students.

2. To provide instruction especially designed for migrant student which incorporates their language and culture

3. To provide needed instruction services not otherwise available

4. To utilize instructors of exceptional ability and their specialized skills effectively to teach migrant children through live interactive televised instruction

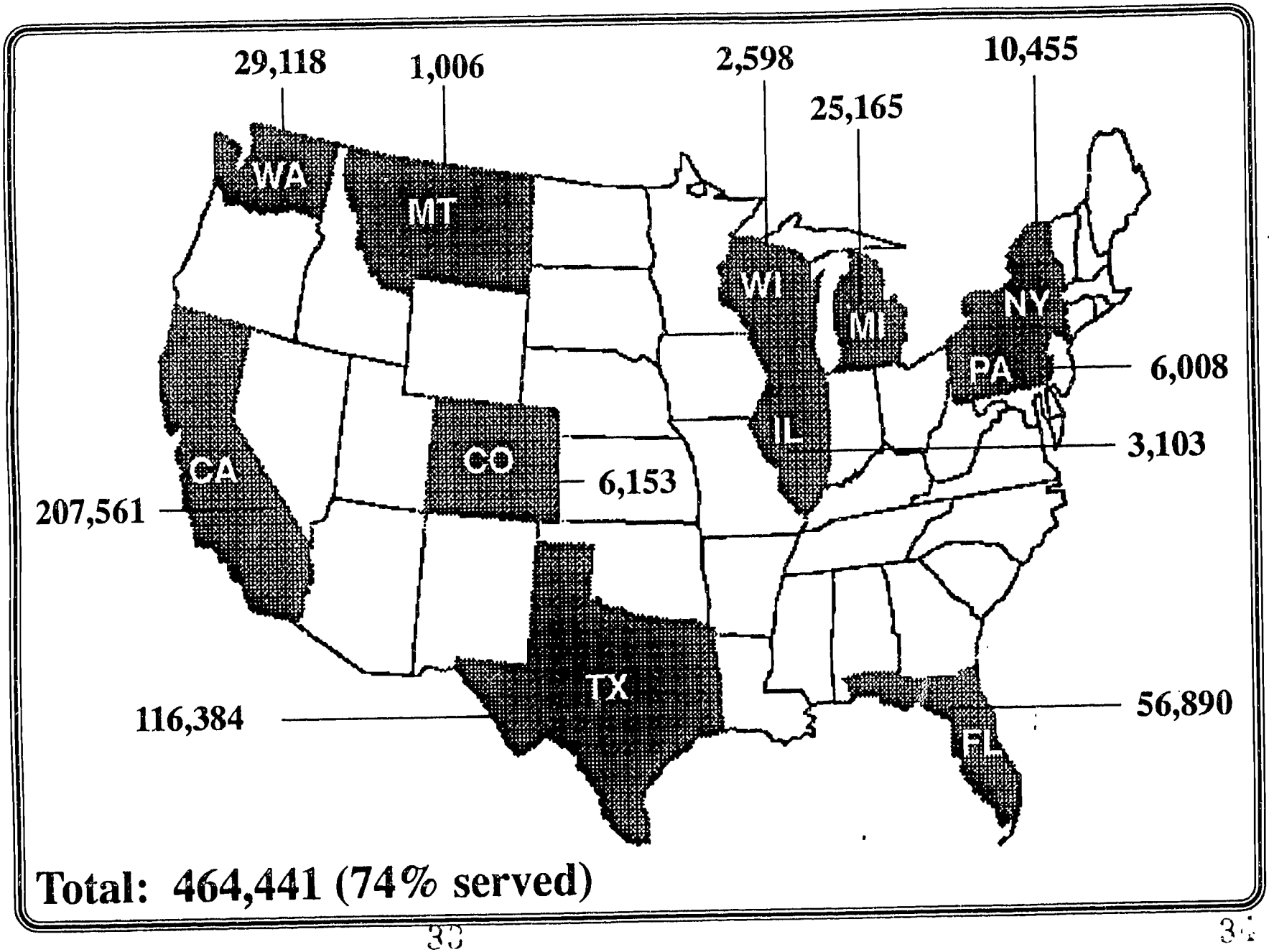
5. To support and strenghten efforts of all instructional personnel to service migrant children

6. To exchange essential information/news among migrant students and families

7. To design and implement pilot projects during the current year 1992-93 (Summer 1993)

Eight Areas of Programming

- Programs relating to Secondary Credit
- Homebase Specific Curriculum
- Programs related to Langauge Development
- Core Curriculum
- Early Childhood
- Parental Involvement Program
- Staff Development for Migrant Personnel
- Special Communications/Documentaries, etc.


29,118
1,006
2,598
25,165
10,455
WA
MT
WI
MI
NY
PA
6,008
IL
3,103
CA
CO
6,153
207,561
TX
116,384
56,890
FL
Total: 464,441 (74% served)

HIGHWAYS IN THE SKY
MIGRANT ITV BROADCAST SCHEDULE
JUNE 8 - AUGUST 19, 1993

TIME ZONE				STRANDS AND DAYS OF INSTRUCTION	INSTRUCTIONAL FOCUS
Pac	Mtn	Cen	East		
7:30a to 8:00a	8:30a to 9:00a	9:30a to 10:00a	10:30a to 11:00a	Early Education (P3-1) Tue, Wed, Thurs	Family Math (Essential Elements)
8:30a to 9:00a	9:30a to 10:00a	10:30a to 11:00a	11:30a to 12:00n	Elementary (2-6) Tue, Wed, Thurs	TAAS Objectives
2:30p to 3:00p	3:30p to 4:00p	4:30p to 5:00p	5:30p to 6:00p	Middle School (7-8) Tue, Wed, Thurs	TAAS Objectives
6:00p to 6:30p	7:00p to 7:30p	8:00p to 8:30p	9:00p to 9:30p	Secondary (9-12) Mon, Thurs.	Mathematics of Money: Personal Finance (1/2 unit of credit)

For more information contact:

WESTERN STREAM

Ms. Nilda Garcia Simms
1-800-234-4330

CENTRAL STREAM

Dr. Tadeo Reyna
1-800-338-4118

EASTERN STREAM

Mr. Robert Levy
1-800-451-8058

To order ITV Instructional Modules at $10.00 per student enrolled in any strand call TMIP (Texas Migrant Interstate Project) at: 1-800-292-7006

Central Stream
DISTANCE LEARNING PROJECT SITES

MICHIGAN

Saginaw Public Schools
550 Millard St.
Saginaw, MI 48607
Contact Person: Raul Rio
Phone #: (517) 759-2281
Fax #: (517) 759-2315

Bay City Public Schools
910 N. Walnut
Bay City, MI 48706
Contact Person: Dr. Jose Valderas
Phone #: (517) 686-5268
Fax #: (517) 685-2680

Newaygo Public Schools
360 South Mill Street
Newaygo, MI 49337
Contact Person: Maridza Westra
Phone #: (616) 834-5639
Fax #: (616) 652-6505

Hart Public Schools
300 Johnson Street
Hart, MI 49420
Contact Person: Jane Thocher
Vern South
Phone #: (616) 873-4740
Fax #: (616) 873-7472

Van Buren ISD
701 S. Paw Paw
Lawrence, MI 49064
Contact Person: John Dominguez
Phone #: (616) 674-8726
Fax #: (616) 674-8726

ILLINOIS

Western Illinois University
Dept. of EducationFoundation
80 Harrabin Hall
900 West Adams
Macomb, IL 61455
Contact Person: Dr. Betty Sunday
Phone #: (309) 298-1183
Fax #: (309)

Princeville Summer Migrant Prog.
602 North Town Avenue
Princeville, IL 61559
Contact Person: Roy Ramos
Phone #: (309) 385-4994
Fax #: (309) 385-2518

*Illinois State University
Program Satellite
School & North Street
Normal, IL 61761
Contact Person: Roy Ramos
Phone #: (309) 385-4994
Fax #: (309) 385-2518

Eastern Illinois University
Center for Educational Studies
210 Buzzard Building
Charleston, IL 61920
Contact Person: William Phillips
Phone #: (217) 581-5025
Fax #: (217) 754-2402

*Proposed site not yet determined

WISCONSIN

Berlin Area School District
Berlin High School
289 East Huron Street
Berlin, WI 54923
Contact Person: David Ziemann
Phone #: (414) 361-2000
Fax #: (414) 361-1432

Tri County Area School District
Tri County Schools
P.O. Box 67
Plainfield, WI 54966
Contact Person: Julie Vargas
Phone #: (715) 335-4654
Fax #: (715) 335-6365

Wild Rose School District
Wild Rose Elementary School
P.O. Box 276
Wild Rose, WI 54984
Contact Person: Claude Olson
Phone #: (414) 622-4204
Fax #: None

Wautoma Area School District
Dafoe School
116 East Elm Street
Wautoma, WI 54982
Contact Person: Mary Jane Erickson
Phone #: (414) 787-4577
Fax #: (414) 787-1389

TEXAS - all local districts are able to participate in Project Smart

SMART SUMMER FUN!
GUIDE FOR RECEIVING STATES

SMART PROGRAM
- ✧ description
- ✧ goals
- ✧ instructional design
- ✧ instructional format
- ✧ schedule

SMART STUDENTS
- ✧ who are they?
- ✧ materials and resources
- ✧ assessment
- ✧ procedures for tracking students who move

TECHNOLOGY PRIMER .... BE BRAVE!
- ✧ general description of satellite technology
- ✧ glossary of terms

ACTION PLAN & PROCEDURES
- ✧ getting started
- ✧ communications between teachers partners
- ✧ instructional procedures
- ✧ keeping things going

STAFF (SMART PARTNERS)
- ✧ selection suggestions
- ✧ responsibilities
- ✧ training schedules

WHO'S WHO IN SMART .... "Who're ya' gonna' call????????"
- ✧ (a listing of staff and key players with general responsibilities, telephone numbers and FAX numbers)

QUESTIONS AND ANSWERS
- ✧ Q/A of questions which might arise and which are not covered any place else

WORKSHOP GUIDE

DISTANCE EDUCATION

TRANSPARENCIES

prepared by:

RMC RESEARCH CORPORATION
1512 Larimer Street, Suite 540
Denver, Colorado
80202

WHAT IS DISTANCE LEARNING?

Distance learning refers to live, simultaneous transmission of a master teacher's lessons from a host classroom or studio to multiple receiving site classrooms in distant locations.

DISTANCE LEARNING CAN:

- serve isolated schools
- offer advanced and specialized courses in schools where teachers are not available or the courses are too costly to provide for a limited number of students
- offer training for teachers where experts are difficult to obtain
- link learner communities with each other
- meet state mandates for required courses.

WHO IS PROVIDING DISTANCE EDUCATION?

- school districts
- regional educational cooperatives
- state education agencies
- higher education institutions
- public television stations
- museums and science centers
- federal agencies
- private business.

ONE-WAY AND TWO-WAY TECHNOLOGIES

	Audio	Video
One-Way	radio	public TV
Two-Way	CB telephone	interactive TV

KEY COMPONENTS OF A SUCCESSFUL PROGRAM:

- preparation
- humanization
- interaction
- cooperation
- evaluation.

T- 13

Different Technologies: Advantages and Disadvantages

Technology *	Configuration	Advantages	Disadvantages	Trends
Terrestrial broadcast	One-way broadcast of audio, video, and possibly data; possible audio return	No special receiving equipment or converters; reaches most schools and homes	Limited channels and air time; reception limited by geography; high transmission equipment and production costs	Increased use of data/text transmission
Cable television systems	One-way broadcast or two-way point-to-point audio, data, and video	Wide availability; low delivery costs	Limited capacity; can be difficult to interconnect; not usually designed for interactivity	Capacity increases using fiber; more addressability and two-way capability
Instructional Television Fixed Service (ITFS)	One-way broadcast or point-to-point audio data, and video; possiblitiy of audio return	Low-cost delivery of video	Crowded frequencies, especially in cities; FCC licensing required; limited transmission range; line of sight required	Digitalization may triple channel capacity; wider coverage areas using repeaters; rebroadcast of satellite-delivered programming
Satellite	One-way broadcast of voice, data, and video; possibility of audio and data return	Wide coverage transmission cost is distance insensitive	Expensive uplinks; high transmission costs; FCC licensing of uplinks; receive site microwave interference (C-band) or rain fade(Ku-band)	More use of Ku-band; possible transponder shortage; increased use of data; increased interactive capabilities
Public Switched Telephone Network (PSTN)	Two-way voice; limited data and video	Wide coverage; low initial cost; high quality and capacity of fiber optic links; others handle repair and upgrades	Quality is spotty; limited transmission of data and video; cost is distance-sensitive	Expanding fiber installation; digitization of network increasing; increasing intelligence in the network
Audiographics	Two-way computer conferencing with audio interaction	Low cost; easy exchange of graphics; uses PSTN	Visual interaction limited to graphics/still video	More powerful computers; better software and peripherals increase capabilities
Microwave	Two-way point-to-point audio, data, and video	Low cost transmission time; no rights-of way needed	Must be FCC-licensed; tower space or location may be difficult to get; difficult and costly to expand channels; crowded frequencies; line of sight required	Use of higher frequencies is expanding
Fiber optic	Two-way audio, data, and video	High capacity/speed; channel capacity easily expandable; high-quality signal	High installation cost; rights-of-way may be required to lay new cable	Costs are declining rapidly; fiber deployment is expanding rapidly

*Technology systems do not have to operate independently; they are often combined in "hybrid" systems.

SOURCE: Office of Technology Assessment, 1989.

Distance Learning: Issues

from Linking for Learning, U.S. Congress Office of Technology Assessment

Distance learning affects the educational process in a number of ways:

- Students report having to take greater responsibility for their own learning and that their experience helps them make the transition to higher education.
- Students report that they benefit from exposure to a greater range of ideas, peers, and teachers made possible by the expanded educational community.
- Students report that distance learning is harder. When the group is large, students complain about difficulties in raising questions and obtaining help during class time.

Most distance learning applications to date have been with academically advanced high school students and independent adult learners. These populations generally already possess strong study skills, high motivation and discipline. Whether the medium of distance learning works well with young or academically weak students, and under what conditions, needs further study.

Distance learning has been found to be an effective teaching media for learners in business, industry and the military, and for adult learners in education. Evidence is incomplete for K-12. Studies point to the need for competent teachers, valid instructional models, and appropriate institutional support.

The research on distance learning has shown that there is no single best model. The quality and effectiveness of distance learning are determined by instructional design and technique, the selection of appropriate technologies, and the quality of interaction afforded to learners.

The research has shown that effective "tele-teachers" used student names; set out clear statements of purpose; made use of printed materials; encouraged discussion; and did not speak in a monotone.

Effective "tele-techniques" include: humanizing the teaching experience by creating rapport with the students; to encourage participation by ensuring teacher-student and student-student interaction; to attend to message style by varying tone of voice and volume, using video and other visual aids; and to provide regular feedback to all participants by monitoring student interest.

Due to the physical separation between the teacher and the students, tele-teachers need to establish ways for students in the remote classrooms to feel comfortable contacting them. These arrangements vary with type of distance learning project, the technology used, distances and the number of students involved. These include:

- meeting in person with students in each of the distant classes early in the course;
- arranging for all the students to meet together at least once, ideally at the beginning of a class;
- asking students to send in pictures of themselves to personalize their responses to questions on the air;
- having telephone office hours when students can call and discuss the lessons with them, or with teaching assistants;
- setting up assignments for students to handle as members of learning groups;
- using electron : keypads to gauge students understanding during the lesson, allowing the teacher to assess if the material is understood before moving ahead in the lesson; and
- assigning computer activities that give students the opportunity to move along at their own pace, with feedback enabling the teacher to assess each student's strengths or trouble spots.

Specific educational issues to be considered are instructional design, teaching techniques and various kinds of interaction that affect learner outcomes.

The technology removes barriers due to geography, and expands opportunities for learning, but the teacher teaches. Teachers of distant learners find that they are often required to change their method of teaching. Specific teaching issues to be considered are: advanced preparation; student interaction; visual materials; activities for independent study; and follow-up activities.

Staff have also identified needs for differences in teaching methods for distant learners. The primary differences leading to these needs stem from the facts that:

- information technologies are primarily a visual medium rather than the textual and auditory environment of the conventional classroom;
- the affective content of technology-mediated messages is muted compared to face-to-face interaction;

- complex cognitive content can be conveyed more readily in electronic form because multiple representations of material (e.g., animations, text, verbal descriptions, and visual images) can be presented to give learners many ways of understanding the fundamental concept.

Based on these differences, teachers have identified certain staff development needs if they are to become effective tele-teachers. These include:

- determination of the time needed to prepare and teach distance delivered courses;
- methods to establish and maintain effective communication with distant students;
- learning from experiences of other faculty members;
- strategies for adding visual components to audio courses;
- strategies for increasing interaction both among students and between students and faculty;
- planning and management of organizational details involved in distance delivery; and
- strategies to encourage group cohesion and student motivation.

Classroom facilitators are usually responsible for operating the receiving equipment, monitoring student behavior, evaluating or distributing homework and materials, supervising testing, and assisting with educational activities as assigned by the teachers. Under ideal circumstances, the distant teacher and facilitator work as a team. Before classes start, they meet in person or electronically to discuss the teacher's goals for the class, instructional techniques, and most importantly, how the facilitator can contribute to the students' learning experience. Often classroom facilitators also have training needs.

Another area of concern is the evaluation of distance education courses. Evaluation would be most usefully concentrated on practical questions about educational quality, such as what are the learner outcomes of various teaching techniques and technology models.

The next five years...present a critical window of opportunity, while investment decisions are being made, for evaluation of and experimentation on distance education in K-12 settings. Research on design and innovative approaches, and applications of cognitive theory represent good investments of the Federal Government in order to meet the long term needs of the field.

The Use of Distance Education to Deliver Chapter 1 Services

Summary

The Region 5 R-TAC received approval to conduct a pilot study to explore the use of distance education as a means of delivering Chapter 1 services to rural schools. This innovative project was unique in its use of interactive television to provide Chapter 1 math instruction to third and fourth graders. Services were offered to eligible students who would otherwise not receive supplementary instruction.

The pilot sites were located in Oklahoma and Kansas. The R-TAC offered training to selected teachers and facilitators in effective strategies for teaching mathematics and teleteaching techniques, and provided consultations on curriculum development, enhancing support for the project from the Board of Education, the community, and parents. R-TAC staff also designed and conducted the evaluation of the pilot.

Formative evaluations were conducted through the use of classroom observations and student, teacher, and parent surveys. Summative evaluations were conducted through the use of criterion-referenced tests and student attitude measures.

Conclusions

Overall, evaluations of this special pilot project were positive. Distance education is a viable Chapter 1 instructional delivery system. This conclusion is supported by the following data:

- Student achievement was measured by criterion-referenced tests indicate that students in the ITV classes learn as much or more as their peers in traditional classrooms. Statements from interviews, classroom observations, and surveys support this finding.
- Interactive television was successful in actively engaging the students over the course of the semester or summer program. Interaction was promoted through the use of manipulatives and hands-on activities, cooperative learning groups, questioning strategies, and special activities designed to build rapport.
- No relationship was found between learning styles and any academic outcomes or attitude measures.
- When the technology is already in place, the cost for Chapter 1 delivery via distance education is comparable to or slightly less than the cost of a traditional Chapter 1 program.

- Advantages of using the distance education delivery system include visual clarity of objects, staff development through modeling, the sharing of human and material resources, and increased teacher support through networking. Issues that need attention by districts considering distance education include the necessary commitment of time and money, the need for specific teleteaching training, the difficulty of establishing a schedule, the limitations of the classroom environment, and the differences in classroom management.

- Teleteachers, facilitators, superintendents, and parents responded positively to the ITV project in surveys and interviews.

Recommendations

This pilot has shown distance education to be an effective service delivery model for Chapter 1 elementary students. Future use of distance education for Chapter 1 elementary students should include consideration of the following:

- Considerable community preparation should precede any distance education project to establish coordination and support.

- All groups affected by the choice of service delivery model, including teachers; should be involved in planning.

- Parents and community members should be actively involved.

- If possible, a coordinator or cooperative should assist in coordination and support efforts.

- School districts using distance education should have staff observe a master teacher presenting a lesson, engage in brainstorming sessions, and participate in staff development activities to enable them to be effective teleteachers.

- Teleteaching training should be provided for teachers and facilitators using the system. No previous experience using technology is necessary.

- Facilitators need not be certified teachers, but do need training in classroom management and instructional strategies.

- Teleteaching training should include strategies for establishing rapport, increasing interaction, using the new media, preparing lessons that take advantage of the media, and practicing on the system.

- Summer appears to be the optimal time for Chapter 1 program delivery via interactive television since there are fewer scheduling conflicts. Transportation, however, may be difficult to arrange.

- Elementary programs benefit from the use of hands-on activities and cooperative learning strategies.

- Distance education may be a good alternative for Chapter 1 program delivery to isolated rural areas, migrant programs, private schools, and/or any district that shares resources with surrounding districts.

- State and federal government should take a more active role in promoting the use of distance education to deliver services otherwise unavailable to educationally disadvantaged students.

Glossary

ACTS (Advanced Communications Technology Satellite): A National Aeronautics and Space Administration Ka-band satellite that is scheduled for deployment in the early 1990s.

Addressable converter: A device connected to a television set that allows cable television operators to turn on or block individual subscriber access to pay-per-view services.

Amplifiers: Electronic devices, spaced at intervals (cascaded) throughout a cable television system, used to boost the strength of the cable signal as it passes from the headend to the subscriber. In coaxial cable systems, amplifiers are needed approximately every 1,500 feet.

Analog communication: A communication format in which information is transmitted by modulating a continuous signal, such as a radio wave. *See also* Digital communication.

Asynchronous communication: Two-way communication in which there is a time delay between when a message is sent and when it is received. Examples include electronic mail and voice mail systems.

Audio bridges: Electronic devices that connect and control multiple telephone lines for audio and data applications, allowing many callers to be connected as a group simultaneously. Used for audioconferencing.

Audioconferencing: An electronic meeting in which participants in different locations use telephones to communicate simultaneously with each other.

Audiographics: An advanced computer application in which computer interaction is augmented by two-way, real-time audio communication. Audio, data, and graphics are shared over regular telephone lines, allowing users in different locations to work on the same application simultaneously.

Bandwidth: The width of frequencies required to transmit a communications signal without undue distortion. The more information a signal contains, the more bandwidth it will need to be transmitted. Television signals, for example, require a bandwidth of 3 million hertz (cycles per second), while telephone conversation needs only 3,000 hertz.

Bit (BInary digiT): the smallest unit of information a computer can use. A bit is represented as a "0" or a "1" (also "on" or "off"). A group of 8 bits is called a byte. Bits are often used to measure the speed of digital transmission systems.

Bell Operating Companies (BOCs): As a result of the divestiture of AT&T in 1984, the original Bell telephone system was divided into 22 local Bell Operating Companies that now provide local telephone service across most of the country. These companies are controlled by the seven "Baby Bells," the Regional Bell Operating Companies (RBOCs).

Bulletin board service (BBS): A computer service that allows remote users to access a central "host" computer to read and post electronic messages. Communication is usually asynchronous.

C-band: The designation for satellite communications operating at 6 GHz (billion cycles per second) uplink and 4 GHz downlink. These frequencies are also used for terrestrial microwave transmission.

Coaxial cable: Shielded wire cable that connects communications components together. It is commonly used in cable television systems because of its ability to carry multiple video (or other broadband) signals.

Codecs: The abbreviated form of "coder-decoder." Electronic devices that convert and compress analog video signals into digital form for transmission, and convert them back again on reaching their destination.

Compact disc-read only memory (CD-ROM): An optical storage system for computers that only allows data to be read off the disc. New data cannot be stored and the disc cannot be erased for reuse.

Compressed video: A video signal requiring less information to transmit than broadcast quality or full-motion video. Digital technology is used to encode and compress the signal. Picture quality is generally not as good as full-motion; quick movements often appear blurred. Compressed video requires transmission speeds between 56 kbps and 2.0 Mbps.

Computer conferencing: Allows individuals at different locations to communicate directly with each other through computers. Communication may be in real time or delayed.

Digital communications: A communications format used with both electronic and light-based systems that transmits audio, video, and data as bits ("1s" and "0s") of information (*see* Bit). Codecs are used to convert traditional analog signals to digital format and back again. Digital technology also allows communications signals to be compressed for more efficient transmission.

Digital video interactive (DV-I): A system that combines audio, data, and limited-motion video on an optical disc. DV-I will run on a personal computer, allowing the user to control interactive programs.

Direct broadcast satellites (DBS): Satellites that operate in the 12.2 to 12.7 GHz frequency band. These satellites

are designed to broadcast programming directly to small (1 meter) home receiving dishes. No such services are currently operating in the United States.

Downlink: An antenna shaped like a dish that receives signals from a satellite. Often referred to as a dish, terminal, Earth station, TVRO (television receive only).

Downstream: The direction a signal travels as it moves from the transmitting (origination) site to the receiving sites.

Electronic blackboard: A computer application that allows graphics to be shared among many computers simultaneously. Each user can see and annotate the graphics as needed. The results will be visible to all users.

Facsimile machine (fax): A telecopying device that electronically transmits written or graphic material over telephone lines to produce a "hard copy" at a remote location.

FCC: Federal Communications Commission.

Fiber optics: Hair thin, flexible glass rods that use light signals to transmit audio, video, and data signals. Signals can be sent in either analog or digital format. Fiber optic cable has much higher capacity than traditional copper or coaxial cable, and is not as subject to interference and noise.

Footprint: The area on the Earth's surface to which a satellite can transmit. Different satellites cover different areas and have different footprints. Satellite footprints generally cover all the continental United States (full conus) or only half of it (half conus coverage).

Freeze frame: One method of transmitting still images over standard telephone lines. A single image is transmitted every 8 to 30 seconds. Also referred to as slow scan.

Frequency: The number of times per second an electromagnetic wave completes a complete cycle. A single hertz (Hz) is equivalent to one cycle per second.

Full-motion video: A standard video signal that can be transmitted by a variety of means including television broadcast, microwave, fiber optics, and satellite. Full-motion video traditionally requires 6 MHz in analog format and 45 Mbps when encoded digitally.

Gbps: Giga (billion) bits per second. *See* Bit.

GHz: One billion hertz (cycles per second). *See* Frequency.

Graphics tablet: A computer device resembling a normal pad of paper that users draw or write on. The graphics tablet converts hand-drawn images into digital information that can be used and displayed by a computer.

Headend: In a cable television system, the headend is the central transmission office from which programming is distributed to subscribers.

High definition television (HDTV): An advanced television system that produces video images as clear as high-quality photography. HDTV is still experimental in the United States.

Instructional Television Fixed Service (ITFS): A band of microwave frequencies set aside by FCC exclusively for the transmission of educational programming. Allows broadcast of audio, video, and data to receive sites located within 20 miles. Receive sites require a converter that changes signals to those used by a standard television set.

Integrated Services Digital Network (ISDN): An end-to-end digital network that will allow users to send voice, data, and video signals over the same line simultaneously. Narrowband services now in operation give users up to 24 channels to send voice and data information, with a combined capacity of up to 1.544 Mbps. In the future, broadband services available over a public ISDN are expected to offer full-motion video services as well.

Ka-band: Satellite communications frequencies operating at 30 GHz uplink and 20 GHz downlink.

Kbps: Kilo (thousand) bits per second. *See* Bit.

KHz: Kilohertz; thousand cycles per second. *See* Frequency.

Ku-band: Satellite communications frequencies operating at 14 GHz uplink and 12 GHz downlink.

Light emitting diodes (LEDs): Used as transmitters in some fiber optic systems. They transmit digital bits as pulses of light along a fiber optic strand.

Limited-motion video: *See* Compressed video.

Mbps: Mega (million) bits per second. *See* Bit.

MHz: Megahertz; million cycles per second. See Frequency.

Microwave: High-frequency radio waves used for point-to-point and omnidirectional communication of audio, data, and video signals. Microwave frequencies require direct line-of-sight to operate; obstructions such as trees or buildings distort the signal.

Modem (modulator/demodulator): A device that converts digital computer signals into analog format for transmission.

Modification of Final Judgment (MFJ): The 1984 agreement that brought about the divestiture of AT&T, and limited the Bell Operating Companies' involvement in manufacturing and designing equipment, as well as their ability to provide long distance and information services.

Modulation: The process of encoding audio or video signals onto a radio wave (carrier frequency) for transmission.

Multiplexer: A device that combines multiple signals for simultaneous transmission over a single channel.

Multipoint distribution services (MDS): Also MMDS: Multichannel Multipoint Distribution Service. Also known as "wireless" cable. A telecommunications service that uses microwave signals to transmit video entertainment and data.

Public Switched Telephone Network (PSTN): The public telephone network.

Real-time communication: Two-way simultaneous communication, as opposed to asynchronous.

Repeater: A device used to extend the range of a communication signal.

Reverse flow amplifier: In two-way cable television systems, these devices move video and audio signals from the receive sites back to the cable headend.

Signaling System 7 (SS7): A recent development in control systems for the public telephone network. It allows telephone company computers to communicate with each other, making telephone call processing faster and more efficient and enabling more services to be made available to consumers.

Slow scan: *See* freeze frame.

Steerable dish: A satellite receive dish that uses motors to rotate the dish to receive signals from many satellites. "Fixed" dishes are stationary, always pointed at the same satellite, unless realmed by hand.

Switched network: A type of system where each user has a unique address (such as a phone number), which allows the network to connect any two points directly.

T1 rate: A digital transmission speed of 1.544 Mbps.

Teleconferencing: A general term for any conferencing system using telecommunications links to connect remote sites. There are many types of teleconferencing including: videoconferencing, computer conferencing, and audioconferencing.

Television receive only (TVRO): Satellite dishes only capable of reception.

Touch screen: A computer screen that allows data to be entered by using a specialized pen to write on the screen, or by making direct physical contact with the computer screen.

Transponder: The electronic equipment on a satellite that receives signals from an uplink, converts the signals to a new frequency, amplifies the signal, and sends it back to Earth. Satellites are usually equipped with 12 to 24 transponders.

Uplink: A satellite dish that transmits signals up to a satellite.

Upstream: The direction a signal travels as it moves from a receive site back to the site of original transmission. Used especially in two-way cable television systems.

Vertical blanking interval (VBI): The unused lines in a standard television signal. The VBI appears as a black band at the top or bottom of a television picture. Often used for closed captioning.

Very small aperture terminals (VSATs): Satellite receive dishes, approximately 1.8 to 2.4 meters in diameter, that are capable of sending and receiving voice, data, and/or video signals.

Videophone: A telephone combined with a video screen, allowing callers to see each other as they speak.

Resources

The following resource materials may be helpful in providing background information on distance education. The materials are referenced in appropriate places in the text of the workshop guide. Contact the Region 5 R-TAC office (1-800-922-3636) if you would like copies of any of these resources.

R - 1 Jason Ohler, "Why Distance Education?" AAPSS *Annals* 514 (March 1991): 22–34.

R - 2 Austin D. Swanson, "Role of Technology in the Education Reform of Rural Schools: Implications for District Consolidation and Governance," *Journal of Rural and Small Schools* 3, 1 (Fall 1988): 2–7.

R - 3 Francine E. Jefferson and O. K. Moore, "Distance Education: A Review of Progress and Prospects," *Educational Technology*, September 1990, 7–12.

R - 4 Scott S. Schiller and Barbara J. Noll, "Utilizing Distance Learning in a Large Urban School System," *Tech Trends* 36, 1 (1991): 23–27.

R - 5 Don E. Descy, "The KIDS Network: Two-Way Interactive Television in Minnesota," *Tech Trends* 36, 1 (1991): 44–48.

R - 6 "Interactive TV Strengthens Rural Curriculum," Beaver County Interactive TV Cooperative (c/o Beaver School, Box 580, Beaver OK 73932).

R - 7 William D. Milheim, "Implementing Distance Education Programs: Suggestions for Potential Developers," *Educational Technology*, April 1991, 51–53.

R - 8 Barry Willis, "Integrating Technology and Distance Education: Planning for Success," *Educational Technology*, April 1990, 32–33.

R - 9 Dianna Lawyer-Brook, *Region 5 R-TAC Special Activity: The Use of Distance Education To Deliver Chapter 1 Services* (Final Report). Denver: RMC Research Corporation, August 20, 1991.

R -10 Sally M. Johnstone, "Research on Telecommunicated Learning: Past, Present, and Future," AAPSS *Annals* 514 (March 1991): 49–57.

R -11 Susan M. Zvacek, "Effective Affective Design for Distance Education," *Tech Trends* 36, 1 (1991): 40–43.

In addition, the following resources provide general information on distance education:

American Journal of Distance Education (any issue)

Thomas E. Cyrs and Frank A. Smith, *Teleclass Teaching: A Resource Guide*, 2nd ed. (available from: Center for Educational Development, Box 3CED, New Mexico State University, Las Cruces NM 88003. 505-646-2204. $35 plus $3 postage & handling)

Office of Technology Assessment, *Linking for Learning: A New Course for Education* (available from: Superintendent of Documents, GPO, Washington, D.C. 20402-9325. Call 202-783-3238 to check price. GPO stock no. 052-003-01170-1)

PUBLICATIONS

Barker, Bruce O.,(1992). The Distance Education Handbook - An Administrator's Guide for Rural and Remote Schools. Clearinghouse on Rural Education and Small Schools, Appalachia Educational Laboratory, P. O. Box 1348, Charleston, WV 25325
($14.00)

Congress of the United States, Office of Technology Assessment (1989). Linking for Learning - A New Course for Education (Summary), Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325
($9.00)

Congress of the United States, Office of Technology Assessment (1989). Linking for Learning - A New Course for Education, Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325
($9.00)

Congress of the United States, Office of Technology Assessment (1988). Power On! - New Tools for Teaching and Learning, Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325
($11.00)

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- Monterey 100C receiver
- Delivery and installation
- TOTAL COST $4,995.00

- Prodelin 3.7 meter C/KU antenna with polar mount
- Monterey 100C receiver
- Delivery and installation
- TOTAL COST $5,995.00

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SOME THINGS TO CONSIDER WHEN SCORING THE "GREAT LIES OR TOUGH TRUTHS" TEST:

This "test" has been designed to examine the perceptions which have surrounded distance education as teachers, students and administrators look for ways to determine if distance education is right for their organization and circumstances. As you review your answers, it is important to remember that every situation in which distance education is going to be employed is unique. This means that, to be totally accurate, the correct response to *each* of these questions is going to vary from case to case. On first glance, there may seem to be some clear-cut true or false answers -- yet even in these apparently true or false situations one should be aware that the circumstances surrounding each set of circumstances under which a distance education project is implemented require that one not make "leaps of faith" based upon someone else's data, experiences or sterotypes. From this point of view, there really *are* no right or wrong answers to the test. The power and potential for distance education to solve difficult problems of equity and access should not be minimized by the folklore which has come to surround its implementation. Even so, it is pointless to ask questions such as these without providing *some* direction for discussion. Answers have been provided and point values assigned to score your responses. A "tongue in cheek" scale has also been provided to help gauge where you fit along the "Distance Education Perceptions Continuum."

1) **TRUE, but . . .** It is very likely that distance education is going to be just as effective as is traditional education. In many cases it may actually be more effective, since more time and care may be taken to develop materials for delivery over interactive television systems. In cases where care is *not* taken to reformat traditional instructional materials, or to provide instructionally sound "wrap-around" sessions to support broadcasted programming, it is possible that distance education may not be as effective as is traditional education. However, this is due more to faulty instructional practice than it is to distance education, per se. (Give yourself the following points for your answer: T= 0, F = 5).

2) **FALSE, but . . .** Teaching at a distance is likely to be comparable to teaching in face-to-face situations. Some teachers and students may have difficulty adapting to the tools and techniques of distance education if they do not acknowledge the differences to be encountered in distant learning situations by virtue of geographic separation. In these cases, distance education may not be as effective as traditional education, but the difference in effectiveness is due more to the users' ability to adapt than it is to the methods of instructional delivery. (Give yourself the following points for your answer: T = 5, F = 0.

3) **FALSE, but . . .** Teaching and learning at a distance will require adaptation of traditional classroom materials, familiarity with the technology being employed in the classroom and will require some practice to become comfortable with the cameras, the microphones and the techiques for getting students to interact. These changes will require some additional preparation time, but this does not necessarily mean that teachers and students will find that it takes a lot of extra time to be effective. Depending upon the teacher, the students, the subject being taught, the technologies and the circumstances under which distance learning is to be used, the time to adjust will vary. Some may need only a little extra time to prepare, where others may need substantially more time and preparation. (Give yourself the following points for your answer: T = 5, F = 0)

4) **FALSE, but . . .** It is highly unlikely that distance education will replace teachers, although it is very likely that it will alter the

role and the function of teachers in the classroom. Depending upon the specific situations, some teacher roles may be changed dramatically, and this may result in some reassignments of duties and responsibilities. Teacher replacement, if it does occur, is more likely to arise from district staffing, personnel or policy decision than directly from distance learning methods. (Give yourself the following points for your answer: T = 5, F = 0)

5) **FALSE, but...** It is not likely that all teachers, or all students, will be successful in distance learning situations — the fact is that not all teachers or all students are successful in traditional instructional situations. However, this is going to be largely dependent upon how one defines "success" — and depending upon how distance education success is defined in any single organization, one may see all students and all teachers being successful in distance education. (Give yourself the following points for your answer: T = 0, F= 5)

6) **FALSE, but...** It is not likely that every conceivable class is a good candidate for delivery at a distance, although it is possible to design each and every learning experience to account for any number of instructional variables, of which distance is simply one variable. Depending upon the context, the need and the circumstances, any class can be re-designed for delivery at a distance. The relative success of its delivery will depend in large part upon the outcomes expected at the end o f each class being delivered at a distance and how those outcomes are going to be measured. (Give yourself the following points for your answer: T = 0, F = 5)

7) **FALSE, but...** Distance education very well may save schools money by sharing resources, sharing teacher expertise and reducing travel. It will also cost schools money to buy necessary new technologies, to pay for the reformatting of courses, to provide teacher and student in-service training and to provide for site facilitation. Whether on not a district realizes an overall savings due to distance education will depend upon how dollar values are assigned to both tangible and intangible variables associated with educating students in that particular district. It is more important to remember that the *cost benefit* of distance education may enable schools to serve the needs of its students, teachers and administrators more effectively by providing better access to information, more equitable access to instructional opportunities and a catalyst for encouraging the development of technological proficiencies which will be necessary to succeed in contemporary society. (Give yourself the following points for your answer: T = 0, F = 5)

8) **TRUE, but...** While concern for instructional quality may very well be the motivating factor supporting the decision to employ distance education in a district, other variables, such as competition for resources among regional districts, interests in providing technologically based learning experiences, return on investment and other non-instructional considerations may very well encapsulate the overall reasons for actually deciding to implement a distance learning program in a district or within an organization. (Give yourself the following points for your answer: T = 0, F = 5)

9) **FALSE, but...** Interactive technologies provide opportunities for improving the interaction between teachers and students as well as among students with others students, but the technologies do not guarantee that instructional interaction will occur. Interaction is an attribute of well planned and well implemented instruction, whereas interactivity is more likely to be an attribute of a specific variety of technology being employed. Nevertheless, the ability to encourage interaction as a consequence of interactive instructional systems may prove to be catalytic in improving the interpersonal communications between teachers and students, both in the classroom and at a distance. (Give yourself the following points

for your answer: T = 0, F = 5)

10) **FALSE, but...** The hardest part of getting a new innovative project underway is not likely to be the decision to get involved. Generally speaking, it is easier to plan for change than it is to actually implement change in an organization. However, depending upon the organization, it may require more energy to get people to start changing their expectations than it is to do things differently. In these cases, once the decision has been made, the implementation falls in place with fewer headaches. Depending upon your organization, you may find that the anticipation of change is more difficult to confront than is change itself. (Give yourself the following points for your answer: T = 0, F = 5)

IF YOU SCORED BETWEEN 0 AND 15 POINTS:

You are an idealist! Your enthusiasm for distance education will serve you well, especially during the implementation phase of your project. However, you need to guard against being disappointed if – and when – those "real life" variables that accompany every innovative technology application project begin to appear. You may end up running into a some surprises -- but your faith in your project will pull you through.

IF YOU SCORED BETWEEN 16 - 35:

You are a pragmatist – with an eye toward the future but with your feet firmly planted on the road to getting your project underway. It is very likely that you will be able to anticipate many of the issues which may potentially affect your distance education project, so that you will have your solutions

IF YOU SCORED BETWEEN 36 - 50:

You may need to do something about your attitude before proceeding much further with your distance education project! You may have a tendency to see problems where they may be none – and in anticipating potential difficulties in implementing your project you may inadvertently bring these anticipated problems to your project in spite of your good intentions. While it is always a good idea to go into a technology application with your eyes open, a little bit of faith will go a long way in seeing you through otherwise tough times.

References

NOTE: The Perceptions Test and related materials were featured in the Pacific Mountain Network's videoteleconference, FarView, which was held on January 18th, 1991.

Abraham, J. (1990). private communication, December 13, 1990.

Hall, G. E. & Hord, S. M. (1987). Change in the Schools: Facilitating the Change. Albany: State University of New York.

Hannafin, M. H., Dalton, D. W., and Hooper, S. (1987). Computers in education: Ten myths and ten needs. Educational Technology, October, 1987 pp 8 - 14.

Rummler, G. A & Brache, A. P (1990). Improving Performance: How to Manage the White Space on the Organizational Chart. San Francisco: Jossey Bass.

Wagner, E. D. (1990). Looking at distance education through an educational technologist's eyes. American Journal of Distance Education. 4(1)

Perceptions of Distance Education: The "Great Lies or Tough Truths?" Test

_____ 1. Distance education is just as effective as traditional education.

_____ 2. Teaching at a distance is dramatically different from traditional teaching.

_____ 3. Teaching at a distance requires a lot of additional preparation time.

_____ 4. Distance education will replace teachers.

_____ 5. All teachers can teach effectively at a distance; all students will succeed in a distance education class.

_____ 6. Every class is a candidate for delivery at a distance.

_____ 7. Distance education will save schools money.

_____ 8. Concern for instructional quality is the single most important driving force behind technological and programmatic decision making in distance education.

_____ 9. The technologies used for distance educational program delivery promote interaction by means of their two-way, "real-time" transmission capabilities.

_____ 10. Once the decision to get involved in distance education has been made--after the needs assessments have been completed, the data analyzed, the recommendations made, the strategies developed--the hardest part of the project is over.

From Ellen D. Wagner, "Separating Myth from Reality in Distance Education"