DOCUMENT RESUME

ED 050 803 24 PS 004 536

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TITLE Preschool Instruction Mobile Facilities: Description and Analysis. School Practices Report No. 3.
INSTITUTION Southeastern Education Lab., Atlanta, Ga.
SPONS AGENCY National Center for Educational Research and Development (DHEW/OE), Washington, D.C. Division of Educational Laboratories.
BUREAU NO BR-6-2869
PUB DATE 71
CONTRACT OEC-2-7-062869-3077
NOTE 134p.
AVAILABLE FROM Southeastern Education Laboratory, 3450 International Boulevard, Atlanta, Georgia 30354

EDRS PRICE EDRS Price MF-$0.65 HC-$6.58
DESCRIPTORS Cost Effectiveness, Demonstration Programs, Elementary Education, Flexible Facilities, Instructional Staff, Migrant Education, *Mobile Classrooms, *Mobile Educational Services, Preschool Curriculum, *Preschool Programs, *Program Descriptions, *Program Evaluation, Rural Education
IDENTIFIERS Appalachia Educational Laboratory, Early Learning Program, Readimobile Project

ABSTRACT

This report on the use of mobile facilities in preschool instruction programs is divided into four parts. Part I describes the three major mobile preschool instruction programs. The Appalachia Preschool Program and Southeastern Education Laboratory's Readimobile Program are being field tested as possible strategies for the delivery of instructional services to rural children while the Florida Mobile Early Learning Program represents an approach to the preschool education of migrant children. Information presented includes background, physical description of the unit, description of the population, program operation, staffing and curriculum, evaluation, cost analysis, and a line drawing of the unit. Part II of the monograph deals with mobile preschool training programs. Part III describes selected elementary school mobile programs and one quasi-mobile preschool program. Part IV contains general conclusions and recommendations and attempts to deal with some of the major issues germane to mobile education, to synthesize the programs reviewed and give some idea of the state of the art in mobile preschool instruction, and to formulate some of the unanswered questions pertinent to the future development of similar programs. (Author/AJ)

PA-24
BR-6-2869
OEC-2-7-062869-30

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PRESCHOOL INSTRUCTION MOBILE FACILITIES:

DESCRIPTION AND ANALYSIS

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School Practices Report No. 3

1971

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ACKNOWLEDGMENTS

I would like to express my appreciation to the following individuals who helped in the preparation of this document:

The largest debt of thanks is due to Mrs. Elaine Green, an extremely competent administrative assistant, for her support in the organization and execution of the difficult and sometimes frustrating information gathering phase of this project and for her excellent preparation of the manuscript.

Mr. Rex Toothman, Consultant for Southeastern Education Laboratory, helped with the preparation of the Readimobile draft; Mrs. Linda O'Neall, Florida State University, spent many hours locating the references used in the bibliography; Mr. Bill Coulton and his staff at Southeastern Education Laboratory provided technical assistance, especially in the area of line drawings.

Thanks also goes to Mr. William M. Payne, Superintendent, Wakulla County Schools, for allowing me release time to work on this project.

Finally, my thanks to Dr. Ron Parker, for his continued confidence in the progress of the monograph, and for many suggestions that were incorporated into the final document.

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This document was developed under the auspices of the Southeastern Education Laboratory, a private non-profit corporation supported in part as a regional educational laboratory by funds from the United States Office of Education, Department of Health, Education, and Welfare.

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INTRODUCTION

The purpose of this document is to present information regarding the use of mobile facilities in preschool instruction programs. Descriptions contained here will give the reader a reasonably detailed picture of the operation of such programs. Mobile preschool staff training programs and related elementary programs whose design holds positive implications for the preschool mobile area are reviewed.

Organization of the Report

This report is divided into four parts. Part I -- Major Preschool Mobile Programs, describes the only three such operations apparently being carried out in the nation at the present time: The Appalachia Preschool and Readimobile Programs are being field tested as possible strategies for the delivery of instructional services to rural isolated children; the Mobile Early Learning Program represents an approach to the preschool education of migrant children. Issues relevant to both of these populations will be discussed later in this introduction.

For each of these major programs, the information presented includes background, physical description of the unit, description of the population, program operation (recruitment, locations, time in operation, contact hours, daily schedule, etc.), staffing and curriculum, evaluation, cost analysis, and a line drawing of the unit.

Part II of the monograph deals with mobile preschool training programs. In these programs, instruction of the preschool child is carried out for demonstration purposes in order to facilitate training of prospective personnel in the area of early childhood education. Not a great deal of information was available about these projects, but they were included because mobile training labs per se are a virtually unexploited resource in early childhood education. The possibility of incorporating a training component into an already functioning preschool instructional program should be explored. In addition, the mobile training lab would provide an excellent facility for recruitment and preservice training of paraprofessionals.

Part III describes selected elementary school mobile programs (and one quasi-mobile preschool program) that could have implications for the general expansion of mobile services at the preschool level.

Part IV contains conclusions and recommendations and attempts to deal with some of the major issues germane to mobile education, to synthesize the programs reviewed into some idea of the state of the art in mobile preschool instruction, and to formulate some of the unanswered questions pertinent to the future development of similar programs.

Appendix A contains a list of contacts for programs presented in this document; Appendix B lists commercial

manufacturers of vehicles used for the programs described in Part I. The bibliography is the result of a literature review to locate additional preschool programs and related elementary programs.

Information Gathering Process

Since information about mobile programs was not available from a central source or sources, written inquiries were mailed to the Preschool and/or Elementary Education Consultant in each State Department of Education and the Trust Territories. Inquiries were also sent to the information officers of the Regional Educational Laboratories.

These requests consisted of a letter explaining the information being sought, the reason for wishing to compile such information, a specification of deadline dates, and a stamped postcard with the author's address. This postcard had three categories for reply: (1) the respondent could indicate that no mobile facilities were being used in the particular state, (2) the respondent could request to be telephoned for further information, and (3) the respondent could indicate the name and address of a probable contact person.

A total of 54 persons received the described letter. As shown in Table I, 18 (33.3%) of the State Departments of Education personnel did not respond. Another 22 (40.7%) gave a negative response (i.e. no such programs existed), and the

TABLE 1

RESPONSE BREAKDOWN FOR LETTERS OF INQUIRY

Department of Education	Date Inquiry Sent	Positive Response Preschool Data	Positive Response Elementary Data	Negative Response	No Response Received
Alabama	10-9-70	X			
Alaska	10-9-70			X	
Arizona	10-9-70				X
California	10-9-70				X
Canal Zone	10-9-70			X	
Colorado	10-9-70	X	X		
Connecticut	10-9-70				X
Delaware	10-29-70				X
Florida	10-1-70	X			
Georgia	10-12-70	X			
Guam	10-12-70			X	
Hawaii	10-12-70		X		
Idaho	10-12-70			X	
Illinois	10-12-70				X
Indiana	10-12-70			X	
Iowa	10-12-70			X	
Kansas	10-12-70		X		

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TABLE 1 (continued)

Department of Education	Date Inquiry Sent	Positive Response Preschool Data	Positive Response Elementary Data	Negative Response	No Response Received
Kentucky	10-12-70				X
Louisiana	10-12-70			X	
Maine	10-12-70			X	
Maryland	10-12-70	X			
Massachusetts	10-12-70			X	
Michigan	10-12-70			X	
Minnesota	10-12-70				X
Mississippi	10-12-70				X
Montana	10-12-70				X
Nebraska	10-12-70				X
Nevada	10-12-70			X	
New Hampshire	10-12-70		X		
New Jersey	10-12-70				X
New Mexico	10-12-70		X		
New York	10-12-70	X			
Missouri	10-12-70				X
North Carolina	10-12-70			X	
North Dakota	10-12-70				X

TABLE 1 (Continued)

Department of Education	Date Inquiry Sent	Positive Response Preschool Data	Positive Response Elementary Data	Negative Response	No Response Received
Ohio	10-12-70			X	
Oklahoma	10-12-70			X	
Oregon	10-12-70			X	
Pennsylvania	10-12-70		X		
Puerto Rico	10-12-70			X	
Rhode Island	10-12-70			X	
South Carolina	10-12-70	X			
South Dakota	10-12-70			X	
Tennessee	10-12-70				X
Texas	10-14-70				X
Utah	10-14-70				X
Vermont	10-14-70				X
Virginia	10-14-70			X	
Virgin Islands	10-14-70				X
Washington	10-14-70			X	
West Virginia	10-14-70	X			
Wisconsin	10-14-70			X	
Wyoming	10-14-70			X	

remaining 29.6 percent provided information about preschool or elementary mobile programs. (The State Department of Education in Colorado provided information about both preschool and elementary programs.) Overall, the response rate was considered good although some difficulty was encountered later in obtaining detailed information from programs that were reported.

Statement of the Problem

The last part of this introduction will attempt to formulate a statement about the current need for mobile facilities in preschool education. For reasons of space and time, this formulation will deal with delivery of services to the two populations described in Part I: isolated rural Appalachian and Florida migrant preschoolers.

Appalachia. This region includes sections of Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. Data cited here will describe the number of children under six currently being served by some type of preschool program.

There are approximately 2.2 million children under six years of age in the Appalachia region. Roughly 129,000 or 6 percent were being served by some type of day care program as of July, 1969. Of these 129,000, approximately 13,975 (11%) were enrolled in private institutions, 9,561 (7%) in volunteer programs sponsored by nonprofit agencies or churches, 5,950 (5%) in Office of Economic Opportunity (OEO) Programs other than Headstart, and 99,576 (77%) in Headstart Programs. Headstart programs in Appalachia enroll 4.6 percent of the total preschool population.[1]

Based on 1960 census data, OEO estimates that 924,958 or 43 percent of Appalachia's 2.2 million children ages three to six could be classified as disadvantaged.

One can assume that the 99,576 four- and five-year-old children enrolled in Appalachia Headstart were recruited from this pool of disadvantaged preschoolers. The same could be said for the 5,950 children participating in other OEO-sponsored projects. Thus, only 105,526 (11%) out of a total number of 924,958 disadvantaged children are being served. This should be coupled with two facts: (1) Headstart participation in Appalachia decreased 15 percent from 1967 to 1969,

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[1]Irving Lazar, "Organizing Child Development Programs," Appalachia, Vol. 3, No. 4, (January, 1970).

and (2) Headstart programs are designed to serve children from ages three to six, and there still are no comparable programs for the children of the region who are not yet three years of age.

It is beyond the scope of this brief statement of the problem to cite figures on public school dropout, or the education level, income and occupational status of Appalachian adults. Many studies have documented the fact that socioeconomic status of the parents is the single best predictor of the future success of the child.

Poverty is more widespread in rural than urban areas. However, factors such as the high visibility of city ghettos and the increased militancy of the disadvantaged urban population lend a great deal of potency to the issues of urban poverty. However, one need only visit the remote coal mining hollows of the West Virginia hills or the rural slum areas of the Southeastern United States to understand the importance and urgency of the problems of rural America.

Migrant Children. Florida is the home base of many East Coast migratory workers due to the large volume of agricultural products and the long winter growing season. In 1969 Dr. E. John Kleinhart conducted a study of migrant children in Florida. Information cited here is taken from his report issued by the University of Miami. Of the total migrant sample interviewed, over 81 percent considered themselves "from

Florida." The growing season, depending on weather conditions and other variables, usually starts in November and begins to slack off in April.

This means that the agricultural worker spends the greater part of the year at one or more migrant bases in the south and central regions of the state. For school age migrant children, this means late enrollment, the possibility of one or more school transfers, and an early withdrawal from an academic program.

There were approximately 23,287 school age (Grades K-12) migrant children in Florida as of June, 1969. Of this number, about 1,155 of the five year olds were enrolled in public kindergarten programs. The number of kindergartens available to pupils in Florida has greatly increased due to an appropriations bill passed in the 1968 Special Session of the State Legislature. However, the need still remains to provide educational programs for children four years of age and below. As of June, 1969, there were 6,409 migrant children in Florida who were four years old or younger. This represents 27.05 percent of the total migrant children, ages 0 to 17.

There are thousands of active preschool day care centers in operation throughout Florida. In the five largest counties alone, there are 1,258 such facilities. Unfortunately, only a fraction of preschool migrant youngsters is served by these centers. In a sample of 9,073 migrant workers less

than four percent indicated that their children had received day care services, while a number of parents expressed a need for such services.

In most cases, migrant preschoolers are left in the care of older siblings (who stay home from school to assume this responsibility) or perhaps a neighbor. Frequently, these young children are left to fend for themselves in the deleterious environment of the migrant camp.

The only educational service currently reaching a substantial number of migrant preschoolers is the Early Learning Program, sponsored by the Florida Department of Education for migrant children. Out of 46 counties reporting migrant children, the 21 counties in which migrant Early Learning Programs are located enroll for 91.9 percent or 5,887, of the children in the 0-4 age bracket. The total Early Learning Program is comprised of 160 units, 100 of which are mobile and 60 of which are portable. Half of these units are designated for work with children starting at age 3.9, and the remaining units with children starting at age 4.9.

The fact that 80 Early Learning vehicles provide services to a maximum enrollment of 20 each means that 1,600 migrant children are receiving a daily educational program. This figure represents 24.9 percent of the total number of children in the 0-4 age bracket.

The plight of the migrant child stems not only from a severe degree of socioeconomic disadvantagement, but from the

fact that the entire migrant culture faces the immediate problem of occupational obsolescence. With inventions such as the portable bean grader and mechanized tomato harvester, field jobs that previously required 200 to 300 laborers per day now require only 20 or 30.

Estimates regarding mechanization of harvesting show that great numbers of migrant workers will be replaced by machines in the next eight to fifteen years. This fact means that large numbers of migrants with little education and virtually no skills will be left without jobs.

It seems critical then for public schools to increase their holding power for migrant pupils, who at present have a dropout rate 42 percent higher than any other population. The provision of educational day care services for all migrant children four and younger would not only free older siblings from babysitting chores but would hopefully provide the skills necessary for the academic success of the migrant preschooler upon his entry into the public school system.

PART I

MOBILE PRESCHOOL INSTRUCTION PROGRAMS

APPALACHIA EDUCATIONAL LABORATORY:

EARLY CHILDHOOD EDUCATION PROGRAM

The Appalachia Educational Laboratory (AEL) serves 876 school systems in 6 of the 12 states in the Appalachia area: West Virginia, Kentucky, Tennessee, Pennsylvania, Ohio, and Virginia. The goals of the Laboratory are to develop programs for:

1. Preschool education
2. Occupational vocational education and guidance
3. Cooperative school systems in rural areas
4. Improvement of state and local planning.

Located in Charleston, West Virginia, the Lab established the Appalachia Early Childhood Education program as a viable alternative to the traditional nursery school/kindergarten program for preschool rural children. Development proceeded according to a five year time table. A planning period ran from October, 1967 to August, 1968; field demonstration began in September, 1968 and will continue through May, 1971. The final year will be spent in data analysis and interpretation.

A new regional approach to preschool education was deemed necessary for several reasons. The population is sparse, widely scattered, and extremely isolated from mainstream culture. There are few preschool programs in the region. Of the total number of children entering first grade in West Virginia, 2.4 percent had been enrolled in kindergartens; in Tennessee, 2.9 percent; and in Kentucky, 6.2 percent.

Yet to establish kindergarten programs for the remaining 93.8 percent to 97 percent of the children in need, would have required an increase of more than 10 percent in present public school facilities, equipment, and staff, or about $15 million dollars.[2] Considering the inadequate regional tax base, patterns of population dispersion, and lack of training personnel, it is clear that some alternative was needed.

The AEL Early Childhood Education Program currently serves 450 preschool children by means of three delivery systems: (1) a daily television broadcast which lasts for one-half hour, (2) weekly home visits by trained paraprofessionals which last approximately one-half hour, and (3) weekly mobile classroom instructional sessions with a teacher and an aide, for approximately one and one-half hours.

Background

In September of 1967, a proposal was submitted to the AEL Board of Directors, outlining the development of a preschool program for children, three, four, and five years of age. This proposal emphasized a multi-media, multi-method approach and a design that would increase the abilities of children to learn, to continue to adjust to changing conditions,

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[2]Appalachia Educational Laboratory. Appalachia Preschool Program: A Process (Charleston, West Virginia: 1970).

and to function in an ever-broadening environment. (Process, p. 2) Curriculum content would be designed to cover language, cognitive, and social-emotional development. The program was to be located in a rural area of Appalachia for a three-year pilot test.

A planning conference in October, 1967 resulted in the development of a framework of program objectives and a strategy for program implementation. As a consequence of this planning with early childhood educators, a subcontract was negotiated between AEL and the West Virginia University the following month.

Under the terms of the contract, the University's Division of Family Resources agreed to (1) conduct a literature review to locate materials and projects relevant to AEL program planning, (2) study the demographic characteristics of the Appalachian population, and (3) prepare a list of behavioral objectives pertinent to the normative development of the Appalachian preschooler.

The literature revealed that little attention had been given to the study of the Appalachian child. The demographic study was carried out with a sample of 160 families and included variables such as income, education, occupation, number of siblings, as well as several attitudinal indices. In addition, children were assessed on a battery of tests which measured intelligence, cognitive style, visual perception, psycholinguistic abilities, and performance on

Piagetian tasks. The assessment instruments were Peabody Picture Vocabulary Test, Stanford-Binet Intelligence Test, Kagan's Matching From Familiar Figures Cognitive Tasks, Kagan's Draw A Line Motor Inhibition Tests, the Illinois Test of Psycholinguistic Abilities, and the Frostig Test of Visual Perception. Results of this assessment revealed a picture of cultural diversity rather than uniform cognitive deficits.

The objectives written for the Appalachian preschooler pertained to orienting and attending skills, motor activity, language, and cognition. The results of the analysis carried out by the University of West Virginia are contained in the publication, The Initial Phase of a Preschool Curriculum Development Project, final report by F. H. Hooper and W. H. Marshall.

Other aspects of the planning period included securing television facilities and necessary personnel. The date for initiation of television program production was set at July 1, 1968. The field test sites, representative of rural Appalachia, were established after a series of meetings with interested local school superintendents. Four West Virginia counties were selected for participation: Fayette, Mercer, Raleigh, and Summers.

Description of Population

Demographic data presented here are from the Hooper-Marshall study previously mentioned. The sample consisted

of 160 families from two counties in West Virginia; part of the group was rural farm, and the remainder were rural nonfarm.

The average rural family in this sample is stable and intact, with 90 percent of the homes having both parents present. Eight percent of the population is black, and 92 percent white.

Income data reveal that 68 percent of the families earn less than $4,000 annually. About 45 percent of the parents interviewed had completed 11 or 12 grades of school, and 65 percent of the parents wanted their children to attend college.

In order to check the reliability of the initial data, the Hooper-Marshall Questionnaire was later readministered to parents involved in each of the three treatment groups. This was done by the paraprofessional home visitors during 1969-70 posttesting.

Data from 1969-70 do not vary significantly from the original study. About 90 percent of the treatment families were intact, and from Tables 2 and 3 one can see that about 65 percent of the mothers completed grades 11 or 12, and about 25 percent finished less than grade 11. For the fathers, about 62 percent completed grades 11 or 12, and about 25 percent finished less than 11 grades.

Table 2

MOTHER'S LAST GRADE COMPLETED

Education Level Grade	TV Only Percentage	TV-HV Percentage	Package Percentage
3-4			
5-6			
7-8	3.44	4.16	10.60
9-10	24.13	11.11	18.18
11-12	65.51	69.44	62.12
13-16	3.44	12.50	9.09
Over 16	3.44	2.77	

Table 3

FATHER'S LAST GRADE COMPLETED

Education Level Grade	TV Only Percentage	TV-HV Percentage	Package Percentage
3-4			1.53
5-6			3.07
7-8			7.69
9-10		10.44	20.00
11-12	20.00	56.71	55.38
13-16	4.00	19.40	12.30
Over 16		1.49	

Table 4 presents data on family income. About 15 percent of the families received less than $3,000 annually, while 12 percent earned between $4,000 and $5,000, and 73 percent earned more than above $6,000. Information on number of children in the home revealed that about 47 percent had one or two offspring, 41 percent had three to five, and 10 percent had more than five children.

Table 4

FAMILY INCOME

Income Dollars	TV Only Percentage	TV-HV Percentage	Package Percentage
Under 1,000	3.44	1.51	
1,000-2,000	6.89	3.03	3.84
2,000-3,000	6.89	15.15	3.84
4,000-5,000	3.44	10.60	21.15
6,000-9,000	20.68	37.87	36.53
9,000 above	41.37	31.81	34.61

Physical Description of Mobile Unit

The process of designing the mobile classroom began with a draft submitted by a consultant experienced in mobile facility

design. A panel of early childhood experts made suggestions which were then incorporated into a second version, and the AEL curriculum materials team made some additional improvements in keeping with program goals. The final design (Figures 1 and 2) was drawn up by a professional designer for a commercial firm manufacturing mobile equipment. This final design was sent to the manufacturer in July, 1968, and due to several unavoidable delays, delivery was not made until February, 1969.

The AEL mobile unit resembles a small aluminum classroom, mounted on a truck chassis. The body of the unit is 22' x 8' for a total of 176 square feet of floor space. Overall length of the unit is 28 feet, and the height of the body is 11 feet. The body is demountable and capable of being transferred to a new chassis. Total cost of the unit was $20,329.

The interior is woodpaneled, fully carpeted, electrically heated, air conditioned, has an accoustical tile ceiling, a self contained twenty-gallon water supply, and a chemical toilet. A kitchen area consists of a 2.4 cubic foot refrigerator, a cooking unit and a sink. All furnishings and equipment are securely attached to the classroom unit by either permanent or semipermanent means.

Furnishings include low tables, eight preschool size chairs, and two teacher's chairs. One large cabinet 48"

General Dimensions

OVERALL WIDTH	8	FEET
OVERALL LENGTH	30	"
OVERALL HEIGHT	10	"
INTERIOR WIDTH	7½	"
INTERIOR LENGHT	22	"
INTERIOR HEIGHT	7½	"

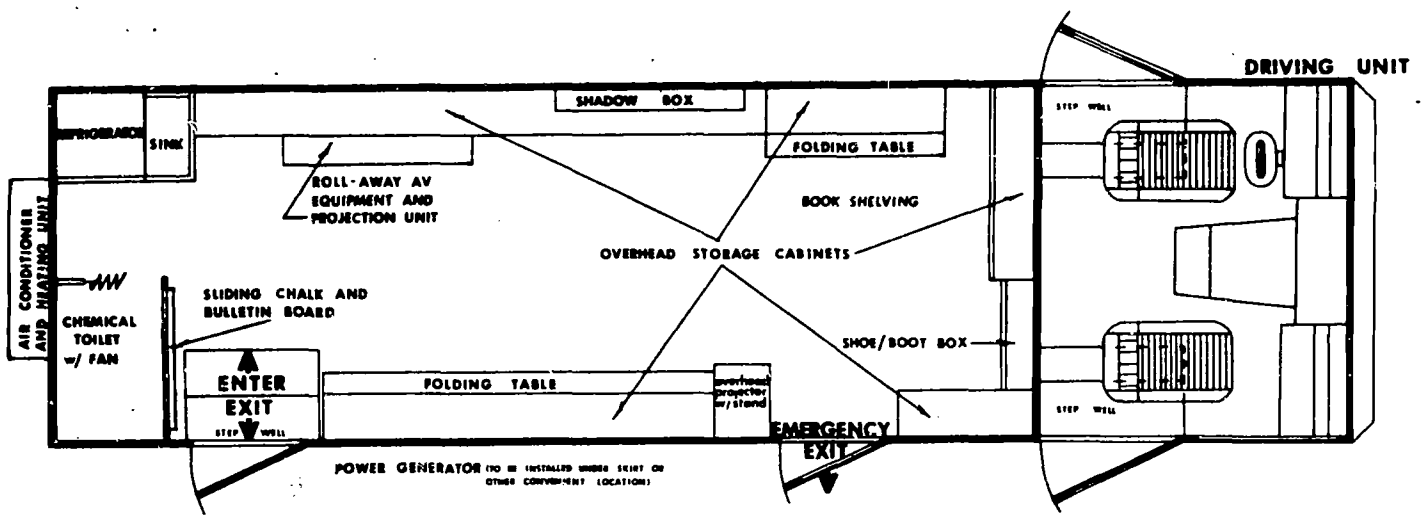
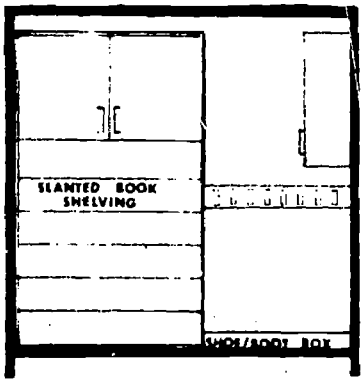


Figure 1

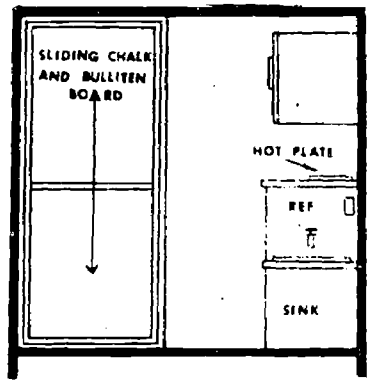
EARLY CHILDHOOD EDUCATION
Student Mobile Classroom

Scale 1" = 2'

Appalachia Educational Laboratory, Inc.
Charleston, West Virginia 25325



FRONT



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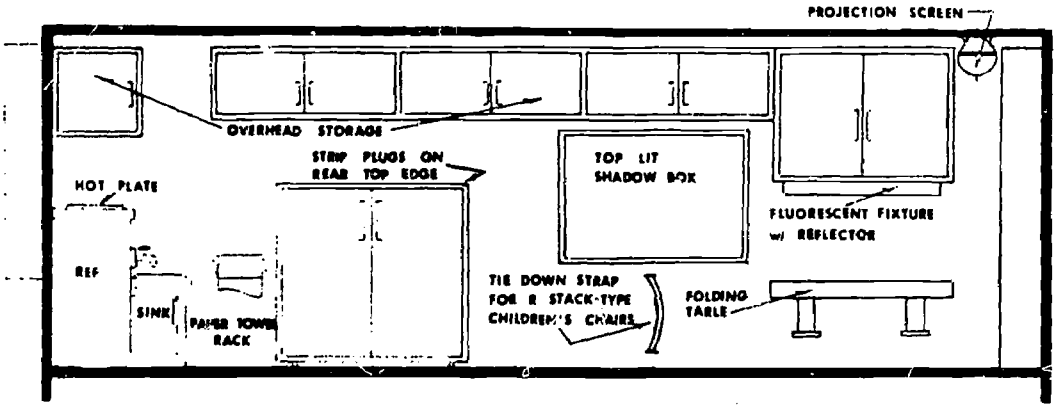
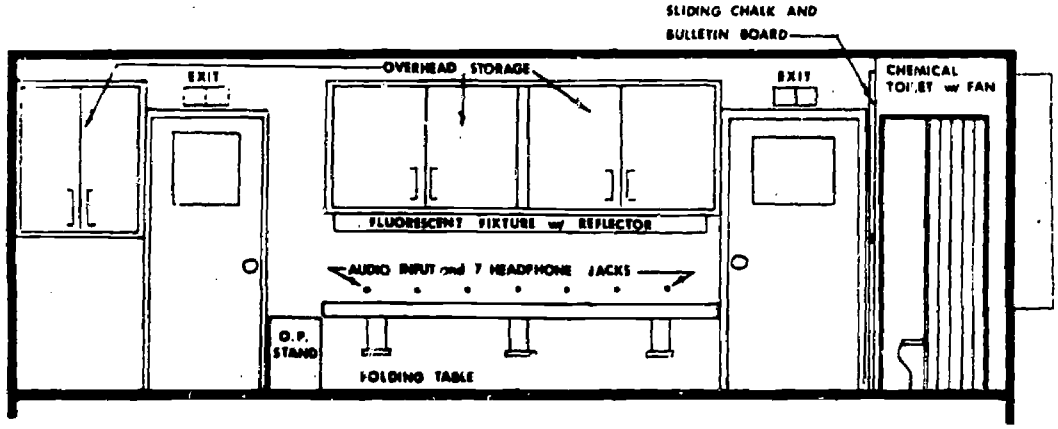


REAR

FRONT

LEFT ELEVATION



FRONT

REAR

RIGHT ELEVATION

/Figure 2

EARLY CHILDHOOD EDUCATION

STUDENT MOBILE CLASSROOM

SCALE 1/4" = 1'

Appalachia Educational Laboratory, Inc.

Charleston, West Virginia 25325

No. CMC-1-2
ECE STU MOB CLRM

ERIC

wide by 43" high by 18" deep provides storage space for audiovisual equipment: 16mm projector, carousel projector, record player, tape recorder, and a variety of records, tapes, films, and supplies.

Other equipment and furnishings include an overhead projector, planetarium, clock, electric sweeper, three cans of spray paint to match interior colors, a projection screen, six headsets, and a sliding chalk/tack board.

A special lighting unit was installed to separate audio input from tape recorder or record player into component frequency beams. In this way, the volume, tone, and rhythm of speech or music are translated into variations of color, hue, and brightness. The unit consists of four adjustable spotlights which can be fitted with a variety of colored filters.

Electricity for the unit is supplied by hook-up with a 220 volt power supply. Fifty feet of power supply cable and an automatic reel are mounted in the rear of the unit.

AEL preschool personnel have subsequently recommended these modifications in the present mobile classroom. As a space saving measure, the floor of the unit has been raised to eliminate wheel wells. It is now felt, however, that these wells did not require critical space, and that in terms of stability it would be better to leave the floor at the original height, thus lowering the center of balance of the unit. For safety reasons, all tables in the mobile unit should

have rounded corners.

The mobile unit was not equipped with a generator. Power was supplied by a metered outlet specially installed at each location. This caused two problems: (1) the electrical connector and outlet (mounted on the rear of the unit) frequently became clogged with water and ice during winter months, and the apparatus was awkward for the van staff to handle; (2) the cost of installing metered connections restricted the van sites to the initial schedule of stops, since to change a location required additional funds.

Due to these factors, AEL staff recommended a self-contained power plant, which would eliminate the need for power pole installation and permit schedule flexibility.

Program Operation

The program operation is divided into three distinct components for field test and evaluation purposes. These components are (1) home visitation by trained paraprofessionals, (2) television broadcast, and (3) mobile classroom instruction with a certified teacher and a paraprofessional aide. Because these delivery systems are interrelated, each will be described separately; the mobile classroom component will be dealt with in more detail.

A total of 450 preschool children participate in the AEL program: 150 participants receive the total package described above, 150 receive television broadcasts and home

visits, and 150 receive television broadcasts only.

Program recruitment was carried out by home visitors through a door-to-door campaign covering eligible families. Less than five percent of those eligible declined the invitation to join the project.

After selection of participants, each of the eight home visitors was assigned about 30 families, making the total number of children served about 300. On the average, each family is visited once per week for a half-hour session. During this time, the home visitor explains the content and the materials needed for next week's television shows and suggests activities to complement the broadcasts.

In the early stages of the program, the home visitor concentrated her attention on working with the mother or adult in the home, since it was felt this was the only reasonable way to maximize home training. This approach was modified, however, and now the home visitor spends most of the time working directly with children in selected activities. This provides modeling behavior for the parent and seems to be more effective than the verbal explanation previously used with parents.

"Around the Bend," the television show, is broadcast daily over a commercial station from 9:00 to 9:30 a.m. The program is written by the curriculum materials team and produced by AEL staff. Content of the shows is based on the behavioral objectives specified by program staff. A

weekly program guide sent to home visitors and mobile teaching staff describes the topics to be covered each day and specifies materials necessary for children to actively participate in the broadcast.

The mobile classroom schedule was initially set up to serve 10 sites per week, with an enrollment of 15 per site, or 150 participants. Delivery of the mobile unit took place February 3, 1969, and the program continued through May of that year. The regular program operates from September through May.

Instructional sessions are scheduled in the morning from 10:15 to 11:45 a.m., and in the afternoon from 1:00 to 2:30 p.m. Time between sessions is taken up with travel, and the morning session could not begin until participants had finished viewing "Around the Bend."

Each session is divided into three time periods for a total contact time of 90 minutes. Time Period I, which is 35 minutes long, consists of a variety of individual activities such as painting, making toys, working puzzles, listening to tapes, and listening to stories read aloud by the teacher. The last 10 of these 35 minutes are used as a transition into Period II, snack time, which takes 20 minutes. The first 10 minutes of the final 35 minute instructional period are used to allow children to move freely from snack period into a group activity related to the television program.

Staffing

Two personnel teams are responsible for program operation: the Curriculum Materials Team and the Field Team. The former produces all curriculum materials needed for the program and handles basic planning. The latter works directly with target children.

The Curriculum Materials Team members are production manager, program manager, on-camera teacher, research teacher, artist-photographer. The responsibilities of this team include planning and executing television shows, and coordinating curriculum between shows, the mobile classroom, and the activities of the home visitors.

The Field Team is composed of one certified teacher and one paraprofessional aide, who carry out the mobile classroom program, and eight home visitors. The teacher was selected from one of the counties in which the program was to operate through recommendations from local school administrators and screening by AEL personnel.

Qualifications for paraprofessional applicants include (1) 20 years of age or older, (2) high school diploma or equivalent, (3) valid driver's license, (4) a car available to carry out their responsibilities. Again, applicants are screened by AEL personnel.

Paraprofessional field team members were all female, ranged in age from 20 to 60, and ranged in formal education from GED diploma to three years of college. Previous

positions included teacher aide, substitute teacher, clerical worker, and housewife.

A three-week preservice training session was sponsored by AEL for the Field Team staff. This included two weeks of introduction and orientation to AEL, the preschool program, the study of child growth and development, and the use of available and appropriate instructional media. In addition, paraprofessionals learned a variety of activities appropriate for use with young children. The third week was devoted to sensitivity training, designed to help staff cope with situations they might encounter.

Curriculum

Curriculum planning for all three delivery systems was carried out by the Curriculum Materials Team. Behavioral objectives were divided into language, cognition, motor skills, and orienting and attending skills. Objectives under these categories were grouped together, and specific lessons were planned.

Field Team curriculum materials were written after group planning for a specific television lesson took place. These materials were printed in Charleston, shipped to the field office, and given to home visitors and mobile classroom teacher.

These materials had to be completed at a minimum of three weeks before the date of the particular television broadcast to allow for typing, art work, duplication of 300 copies, and

field delivery. The home visitors needed the materials one week before the scheduled telecast date, to prepare mothers and children for "Around the Bend."

During the first year of operation, in order to plan curriculum on the mobile van, a daily lesson plan covering ideas from five television lessons was provided for the teacher. This form detailed activities and required feedback from the mobile unit. However, the essential responsibility for daily planning rested with the teacher.

One of the unique aspects of AEL staff curriculum planning and development was the provision of a Feedback Loop. This Feedback Loop provides a system for reporting the response of the target child to each broadcast of "Around the Bend," so that the Curriculum Materials Team may vary its programming to fit the children's needs. Feedback is obtained from the written report of the home visitor who watches each television broadcast with one child. This information is relayed back to the Curriculum Materials Team, summarized, and used as input for future program planning.

Evaluation

Field test results for 1968-69 were published in March of 1970. The mobile classroom was in operation during only four months of the 1969 field test, but the remainder of field test data covers the other two components from September to

May. The evaluation effort was very extensive, but only two phases of it will be dealt with here: program performance and cost analysis.

The sample population consists of 450 children in a four-county area within television broadcast range. This group is divided into three treatment groups: Group 1 (10 groups of 15 each) received all three treatments (TV-HV-MC); Group 2 (N=150) received TV instruction and home visits (TV-HV); Group 3 (N=150) received TV instruction only (TV). Thirty subjects from each condition were tested. Group 4 (N=24) was the control.

Program performance was defined theoretically as learning which occurred in the target population as a result of the AEL Early Childhood Education Program.

The principal measure of language growth was a comparison of pre and posttest scores on the Illinois Test of Psycholinguistic Abilities. Cognition was measured by the Peabody Picture Vocabulary Test (PPVT) and the Appalachia Preschool Test of Cognitive Skills.

Of the twelve ITPA subtests, subtest 5, verbal expression, was directly related to the three following behavioral objectives specified by the curriculum materials team:

1. To identify and describe an object in terms of its physical characteristics.
2. To identify and describe an object in terms of its function.

3. To identify and describe an object in terms of its location.

Subtest 5 specifically measures the child's ability to express concepts verbally. The score, according to ITPA Test Manual specifications, is derived from the number of discrete, relevant and approximately factual concepts expressed. Results showed that the group receiving all three program components scored significantly higher than the two other treatment groups and the control group.

Table 5

GAINS IN VERBAL EXPRESSION

Group	Units Gained
1. TV-HV-MC	4.37
2. TV-HV	0.05
3. TV	1.41
4. Control	1.63

Results from other subtests were erratic, and AEL suggested that the reason for this is that the other subtests were not directly related to language objectives used

in the first year. AEL considers the data insufficient for a comprehensive analysis. It should be noted that the pretest was administered 60 days after the field test had begun.

A study of the language development of five year olds was conducted by Dr. William T. Griffen, Institute on School Learning and Individual Differences, George Peabody College for Teachers, Nashville, Tennessee. Language samples from three, four, and five year olds were gathered by AEL staff and compared with language samples of five-year-old children in a Tennessee kindergarten. Conclusions were

1. The language samples reflected the children's lack of fluency.

2. The five year olds in the AEL sample generally exploited the syntactic resource of the language as proficiently as did the conventional kindergarten children. (AEL Evaluation Report, p. 14)

Intelligence level was measured through responses to the Peabody Picture Vocabulary Test (PPVT). The assumption was made that verbal ability and mental ability were directly and positively correlated. Overall, the general intelligence level of target children increased significantly. There was a gain of about 8.4 IQ units among all treatment groups in a six-month period. However, since the control group gains were highest, these data do not support any claim that the AEL program contributed to the increase in intelligence.

Cognitive growth was measured by means of the Appalachian Preschool Test of Cognitive Skills, a 95-item instrument developed specifically for the AEL curriculum. These 95 items concerned number and symbol recognition and associative ability. Results showed that the TV-HV-MC Group and the TV-HV Group responded correctly to 45 percent of the items. Children in the other two groups (TV and control) responded correctly to 33 percent of the items. AEL estimates that this difference represented a 36 percent gain in cognitive behavior. No significant difference was found between the TV-HV-MC group and the TV-HV group; there was a significant difference in the TV group over the control group.

Throughout the reading of these results one must remember that the mobile classroom was in operation for only the last four months of the school year, and that its basic function was to strengthen orienting and attending skills.

Summarizing, the data indicated:

> The thirty-minute daily television program did have a true effect on cognitive behavior and the weekly half-hour home visit had an additional effect. No additive effect was produced on cognitive behavior by the mobile classroom, but a significant effect was discerned in growth in verbal expression with the addition of the mobile classroom. (AEL Evaluation Report, p. 15)

Parents participated in the program primarily through interaction with the home visitors and to some extent through visitation to the mobile classroom. Parental attitudes towards the program were measured by means of questionnaires and

attitudinal scales. Interestingly the highest positive influence on parents seemed to come from home visitations. Data were not collected regarding the performance of the mobile classroom teacher.

Cost Analysis

Two types of cost analysis have been prepared by AEL staff: developmental costs and operational costs. The sum of $68,600 expended for background research and development of learning objectives is not included since both activities took place before the actual field test was initiated. Per pupil cost is derived in terms of total number of eligible children residing in the field test area.

Developmental costs were divided into the three components, and these components are further broken down by line item cost. Total cost for the TV component was $150,680, almost three times as much as the other two components. The Home Visitation component cost $53,165, and the Mobile Classroom component cost $58,709, bringing the total for the three components to $262,554.

Since the Early Childhood Education Program is a regional feasibility study, AEL staff have worked up program costs for the eight-county field site area, based on student population. These eight counties contain 374 school administrators, 489 first grade teachers, 21,470 families, and 25,000 three-, four-, and five-year-old

children, all of whom would be affected by the extension of the present program.

Operational costs are based on delivery of program services to approximately 25,000 children ages three, four, and five that reside in the eight-county field test area. It should be pointed out that television broadcasts already covered this entire area, so that the services of this component to 25,000 children represent no increase in cost.

To extend the services of the mobile classroom component to 25,000 children would require 167 units (van, teacher, aide) based on the figure of one unit per 150 children. To extend the home visitor component would require 668 paraprofessionals, based on a figure of four home visitors per 150 children. Cost figures for this replication are cited in Table 6.

The total program per pupil cost is $261.35; the cost per pupil for the television component is $5.50; for the home visitation, $109.62; and for the mobile classroom, $146.23. It should be noted that these are rough estimates and other expenditures such as materials and additional and permanent staff facilities cannot be approximated. Other considerations are that more flexible scheduling would permit the unit to serve up to 200 pupils, and that the cost of the mobile classrooms would be reduced through bulk purchasing.

Table 6

ESTIMATED ANNUAL COST OF THE AEL EARLY CHILDHOOD EDUCATION PROGRAM BY COUNTY SCHOOL SYSTEM

School System	Number of 3-, 4-, and 5-year-old children	Estimated Cost in Dollars
Fayette	4,350	$1,136,872
Raleigh	5,490	1,434,811
Monroe	690	180,331
Nicholas	1,860	486,111
Mercer	4,560	1,191,756
Wyoming	2,880	752,688
McDowell	4,740	1,238,800
Summers	990	258,737
	25,560	$6,680,106

In summary, the total annual cost for replication with 25,000 children would be $6.5 million or $261.35 per pupil, a figure which is 50 percent less than the cost of educating a child in a conventional classroom in the AEL area. (AEL Evaluation Report, p. 30).

SOUTHEASTERN EDUCATION LABORATORY:

READIMOBILE PROJECT

The mission of Southeastern Education Laboratory (SEL) is to alleviate educational deprivation in the Southeast. The Readimobile project was conceived as a strategy for delivering educational curricula to rurally isolated, economically disadvantaged children.

The basic goals of the Readimobile project as stated by SEL are

1. To provide readiness experiences for children that make them more receptive to formal school programs and to benefit more fully from formal instruction.

2. To establish communication with isolated groups so that they can gradually become aware of other programs (health, education, legal, etc.).

3. To expose children to other cultures, so that they can become aware of the dimensions of the world and their own place in it.

4. To help children develop awareness of their surroundings and a feeling of their identity through group discussions on films and books.

5. To help children realize their creativity through art, music, drama, games and crafts.

6. To condition children and parents to the needs of a changing society where education means survival.

The Readimobile program delivers a structured curriculum to rurally isolated children ages three to five by means of a remodeled school bus. Staffed entirely by paraprofessionals, the program is currently operating in four counties in Georgia, Florida, and Alabama.

Background

The prototype vehicle was developed by Mr. Mort Schindel of Children's Caravan, Inc., Weston Woods, Connecticut. This corporation, formed in 1963, had as one of its six major goals the development of educational and day care facilities, primarily mobile in nature, that could be used in the instruction of preschool children ages three to five. Schindel, a producer of children's films and filmstrips, had originally designed the caravan to serve as a sort of traveling theater for children's movies.

In 1966, Schindel and his associates entered into a contract with the U. S. Office of Economic Opportunity (OEO) for the design and manufacture of eight cinemobiles based on the prototype vehicle. These eight mobile units were then used for a variety of OEO-sponsored experimental programs for disadvantaged children in Appalachia, northern Michigan, and southern New Jersey where there were heavy concentrations of migrant workers.

In 1967, OEO officials in Washington communicated to the Division of Educational Laboratories their interest in making a limited number of these caravans available for experimentation and research in educational settings. This information was relayed to the Regional Educational Laboratory directors, and the decision was made by Southeastern Education Laboratory staff members that the

most productive use of this type of unit in the Southeast would be for the delivery of a preschool program to rurally isolated children. Negotiations were then undertaken between Children's Caravan and SEL, and notification was received in the fall of 1967 that three caravans would be made available to SEL on an experimental basis.

The Lab established four criteria in the selection of pilot demonstration schools:

1. rural isolation
2. high percentage of educationally disadvantaged children
3. little or no public preschool opportunities available
4. commitment by public school officials for providing preschool education.

Three county school systems were selected, and in November, 1967, the first unit was installed in Chattooga County, Georgia. The second unit was located the following month in Wakulla County, Florida, and the third was sent to Choctaw County, Alabama, in January, 1968. In the fall of 1968, three additional Readimobiles were given to SEL and assigned to Twiggs County, Georgia, Williamsburg County, South Carolina, and Claiborne County, Mississippi. At present, SEL holds title to six mobile units. Of the remaining two of the original eight vehicles, one is attached to the Brooklyn Children's Museum, the other to the New York City Department of Parks and Recreation.

Description of Population

Demographic data were tabulated from Family Information Forms filled out by Readimobile personnel at the county level.

Table 7

AGE, SEX, RACE OF SUBJECTS
1968-69

Site	# Subjects	Age (Years)							Sex		Race	
		2	3	4	5	6	7	Unknown	M	F	C	N
A	168	0	12	53	80	3	1	19	74	94	121	47
B	82	0	3	15	42	6	0	16	44	38	30	52
C	174	2	9	74	68	7	5	9	82	92	70	104
D	137	0	3	40	91	1	0	2	67	70	15	122
E	83	0	14	57	4	0	0	8	52	31	59	24
F	126	3	18	70	22	1	1	11	56	70	0	126
Total	770	5	59	309	307	18	7	65	375	395	295	475

Table 8

INCOME OF PARENTS
(Per Household)

Site	Under $3,000	$3,000 - $5,000	Over $5,000
A	54	90	24
B	43	27	0
C	61	100	13
D	133	2	0
E	40	26	17
F	124	2	0
Total	455	247	54

Tables 7 and 8 show that 80 percent of the participants were four or five years of age. The majority of five-year-olds came from counties where public kindergarten has not yet been initiated. Males and females were evenly distributed, and 61.7 percent of the participants were black, while

38.3 percent were white. Income data revealed 7 percent of the parents earned $5,000 or more, 32 percent earned somewhere between $3,000 and $5,000. All participants were drawn from rurally isolated populations. The income of at least 61 percent of 1968-69 participating families was below the poverty level, based on 1969 OEO standards which set the poverty level at $3,600 per year.

Demographic data for 1969-70 were collected by the same method as the 1968-69 data. Data were tabulated only for counties designated for pre and posttesting. From Table 9,

Table 9

AGE, SEX, RACE OF SUBJECTS
1969-70

		Age				Sex		Race	
Site	#	3	4	5	6	M	F	C	N
A	114	15	41	58	0	46	67	80	30
B	71	0	16	54	1	37	34	21	50
C	63	12	49	2	0	32	31	30	33
Total	248	27	106	114	1	115	132	131	113

92 percent of the 248 subjects were four or five years of age. Sites A and B represent counties which do not have public kindergartens. Site C, which served only two five-year-olds has had public kindergarten for three years. In terms of total participation, subjects were almost evenly divided by (a) race, and (b) sex.

Table 10 presents data on the education of parents. Figures were reported for a total of 448 parents, 230 mothers, and 218 fathers. Of the total number of mothers responding, 10.86%

Table 10

EDUCATION OF PARENTS
1969-70

	Mother's Grade Completed			Father's Grade Completed			
Site	-8	8-14	14+	-8	8-14	14+	Total
A	0	89	6	0	84	4	183
B	8	56	2	29	35	1	131
C	17	50	2	23	40	2	134
Total	25	195	10	52	159	7	448

had an education level of less than eighth grade, 84.7 percent ranged between eighth grade and two years of college, and 4.35 percent had attained over two years of college. Of the total number of fathers, 23.85 percent had less than an eighth grade education, 72.93 percent ranged between eighth grade and two years of college, and 3.21 percent had attained two or more years of college.

Table 11 presents the income of parents in three categories: less than $3,000, between $3,000 and $5,000, and over $5,000. Based on information reported, 28.57 percent of the parents received incomes of less than $3,000, 32.24 percent of the parents earned between $3,000 and $5,000, and 39.18 percent earned more than $5,000.

Table 11

INCOME OF PARENTS
1969-70

Site	Under $3,000	$3,000 - $5,000	Over $5,000	Total
A	15	38	58	111
B	32	20	18	70
C	23	21	20	64
Total	70	79	96	245

Table 12 presents data on the number of people in the home. The 2-5 category represents families with a maximum of three children (2 adults and 3 children), while the 6-8 category would represent between 4 to 6 children in the home. According to available data, 50.64 percent families were in the 2-5 category, 45.02 percent had between 6-8 occupants, and 4.33 percent had 9 or 10 occupants.

Table 12

NUMBER OF PEOPLE IN HOME
1969-70

Site	2-5	6-8	9-10	Total
A	61	45	3	109
B	23	36	6	65
C	33	23	1	57
Total	117	104	10	231

Physical Description of the Unit

The Readimobile is a regular school bus that has been converted into a theater-style classroom through dramatic interior and exterior modifications. Original seats were removed from the interior and replaced with thick red carpet. Steps were built in the front half of the interior to provide seating which can accommodate about 15 preschool children comfortably. Space under these bleacher-type seats is utilized for storage. The rear of the bus is designed and wired for the storage and use of audiovisual equipment including tape recorder, record player, film projector, and filmstrip projector. A screen can be pulled down from the ceiling, and built-in gold mesh curtains can be manipulated to give the effect of a real theater. Windows have been removed and the interior walls are covered with pegboard, facilitating the display of various pictures and posters.

The exterior of the bus has been painted red and white, and an awning has been built in to cover the entrance and exit in case of rain. Each unit is equipped with heating and an air conditioning unit mounted over the cabin of the vehicle, but does not have a self-contained power system and must hook up to a 220-volt outlet. Inside toilet facilities are not a part of the unit.

The dimensions of the unit are 31' x 6' 20" including the cabin, and the actual floor space is 23' x 7' 3" or 167.9 square feet.

Cost of the prototype vehicle was as follows: the basic vehicle (1958 school bus) cost $2,000; remodeling costs including the removal of seats and windows, wiring, installation of heat and air conditioner came to $6,000; cost of equipment (including all audiovisual materials and equipment) was $2,000, for a total prototype cost of $10,000. This cost could be considerably reduced due to the recent development by Children's Caravan of a Conversion Kit. This kit would provide blueprints, instructions, and selected materials that would enable school systems or other preschool projects to convert used school buses into the vehicle just described. The cost of this Conversion Kit is approximately $3,000.

Figures 3 and 4 are line drawings of the Readimobile unit.

Program Operation

Readimobile operations were established through cooperative agreement between SEL and local educational agencies. In keeping with Lab goals which call for demonstration of exemplary curricula, financial commitment on the part of school boards was essential.

School systems had responsibility for selecting staff, setting staff salaries, recruiting participants, maintaining the unit, and promoting the program in various communities.

ERIC

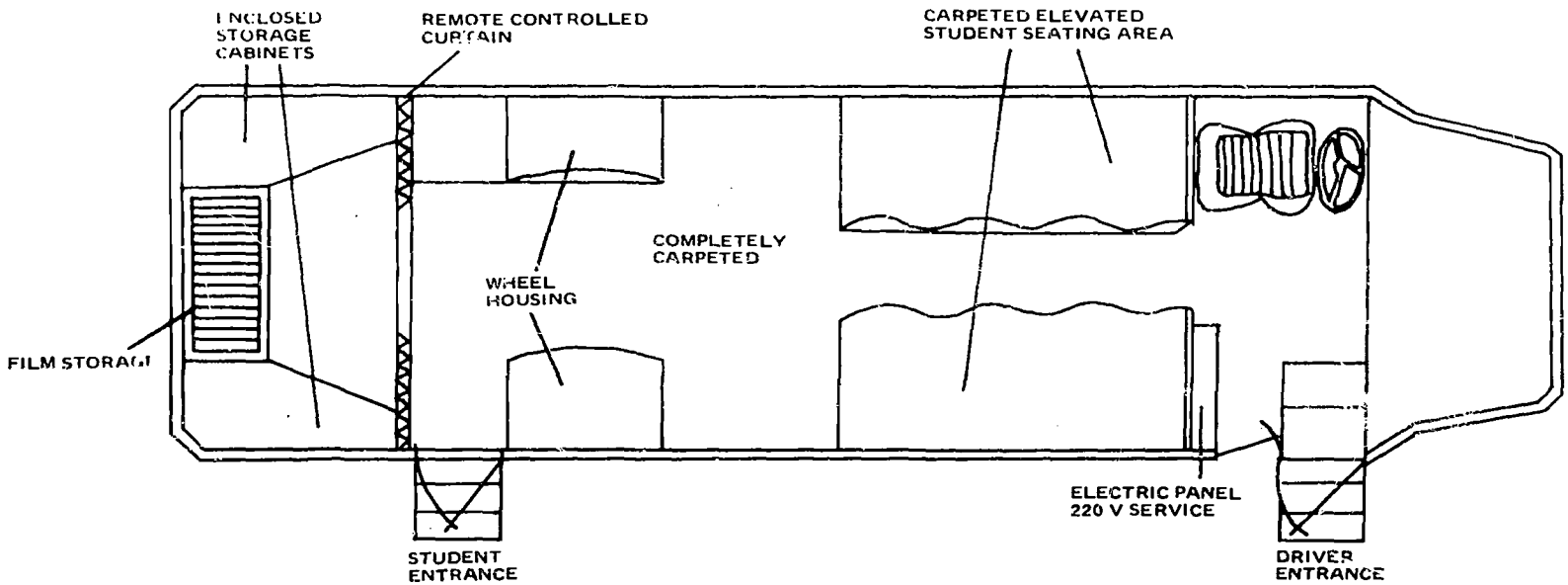


Figure 3

SEL READIMOBILE

Southeastern Education Laboratory
3450 International Blvd.
Atlanta, Ga.
30354

Scale 1" = 4'

GENERAL DIMENSIONS

Overall Width	8½'
Overall Length	31'
Overall Height	11'
Interial Width	8'
Interior Height	6'

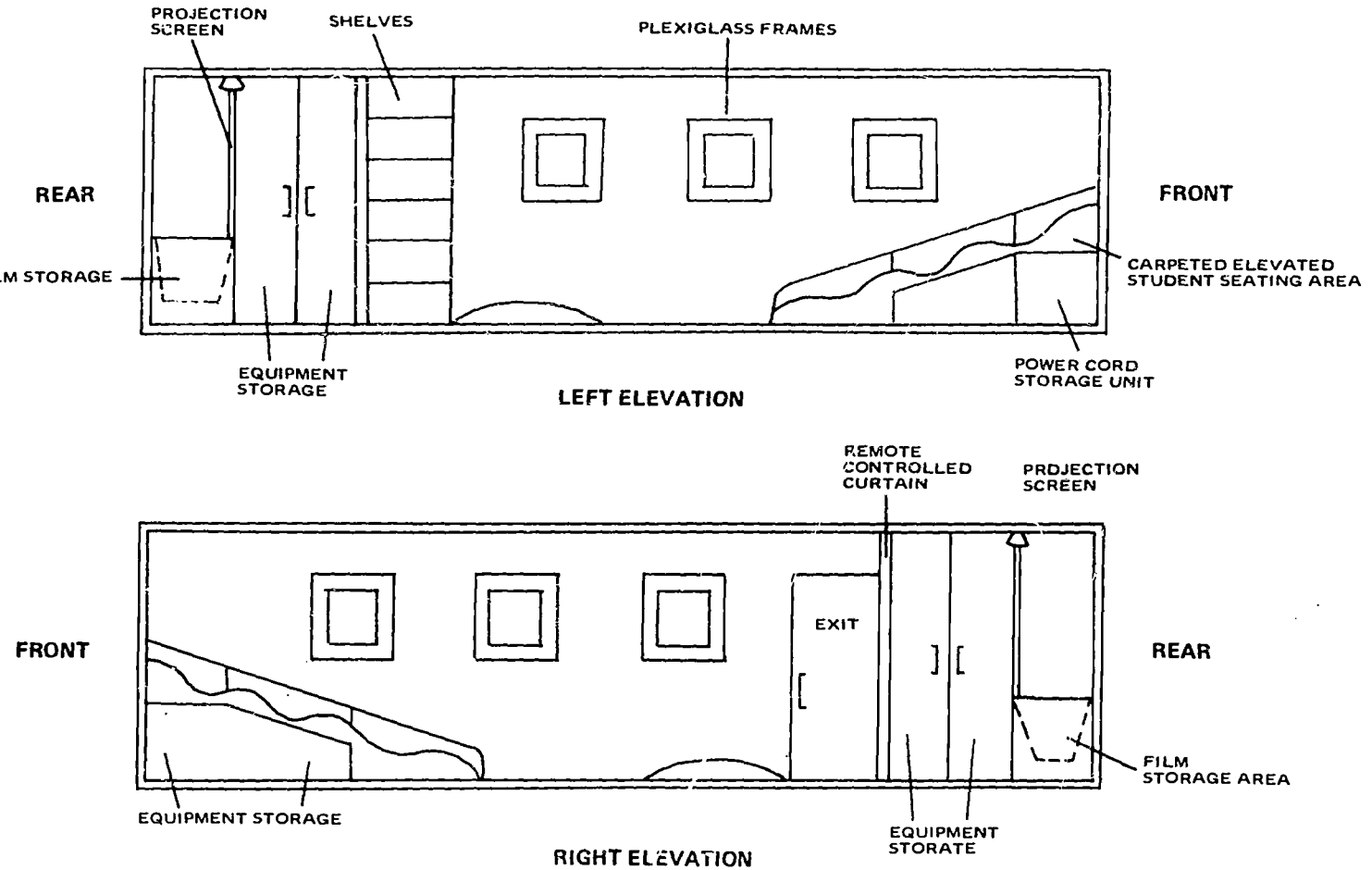


Figure 4

SEL Readimobile Unit

The Laboratory provided pre- and inservice training of staff, curriculum materials, and program evaluation.

Site selection in the counties was based on three criteria:

1. Availability of children not currently participating in any other preschool or day care program
2. Availability of toilet facilities
3. Availability of 220-volt electrical power source.

Selected sites included churches, abandoned schools, community buildings, and existing schools.

Instructional sessions were scheduled in the morning and afternoon if distance between sites was not prohibitive. For the 1969-70 school year, the weekly mileage for all units combined averaged 152 miles (round trip). The longest distance from the Readimobile garage to a site was 19 miles.

A typical day's schedule began at 8:00 a.m. and required approximately one-half hour travel time from the garage to the site. Another half hour was required to park the bus, put out the steps, roll down the awning, hook up the power supply, set up the heating/cooling system, and get out materials for the daily lesson. Structured time was usually scheduled for two 45-minute sessions with a break in between for milk, outside activity, and use of restroom facilities. Scheduling had to take into account the fact that children arrived and left the unit by several different means. Some walked, others were picked up by their parents, and others rode in carpools,

which often meant a fifteen or twenty minute deviation in their arrival and departure times. The same schedule was followed in the afternoon.

One afternoon per week was used as planning time for the Readimobile staff. This allowed preparation for the following week, cumulative evaluation of the past week, and time for home visits.

In 1968-69 instructional contact time was two hours weekly per site, but in 1969-70 this time was extended to four hours per week at some locations, in order to evaluate the effect of contact hours on participant performance.

No formal attempt was made to develop a parent involvement component in the Readimobile project. However, home visits were made occasionally by the staff, and parents were often engaged in conversation as they came to pick up their children at the Readimobile site. Local staff members adopted a policy of discussing only positive aspects of each child's performance with parents.

Staffing

Local Readimobile staff consisted of two paraprofessionals (usually female): a Presenter and a Technician. The Presenter planned daily activities and taught the curriculum materials, while the Technician operated audiovisual equipment, kept records, and served as driver of the Readimobile. (It should be pointed out that these roles frequently interchanged.)

Staff were selected by county school boards on two major criteria: (1) they were indigenous to the community, and (2) they had the ability to work well with children. The average Readimobile paraprofessional was married, 29.6 years old, had completed 12.1 years of school, and made $302.50 per month.

Staff Training

During the first year of program operation, Children's Caravan was responsible for staff training. This included developing staff proficiency in the use of audiovisual equipment, learning the "rolling cinema" concept, and understanding the logistics of vehicle operation.

The first SEL-sponsored inservice conference for all local Readimobile staff was held in Tallahassee, Florida, August 27-29, 1968. The conference resulted in the production of a handbook which established guidelines for 1968-69 program operation. Plans were formalized for assigning personnel from the three new units to an internship with those from the three experienced units, following the conference. In addition, special concepts for preschool children, emphasizing cognitive aspects of learning, were identified. Films and filmstrips were placed in sequence to cover 34 sessions of a General Enrichment approach to be followed by all six units during the 1968-69 school year.

In terms of current program direction, the pivotal inservice training conference, held in Tallahassee, Florida,

September 2-5, 1969, and dealt with the skills needed by Readimobile staff in order to function effectively in a structured curriculum framework. During these three days, Readimobile staff went through intensive training in (1) the construction and evaluation of behavioral objectives, (2) the rationale and application of positive and negative reinforcement techniques, and (3) the use of the objectives checklist (Figure 5) at an internal evaluation instrument. A follow-up conference was held in Atlanta in January, 1970.

Curriculum

During 1967-68, a Children's Caravan Program was used which included the presentation of selected films and filmstrips, coordinated with children's books. After viewing the films, children were introduced to a hardback book which duplicated the story seen on film. Children were encouraged to talk about the story, and their comments were recorded and played back. At the conclusion of the session, the children were given paperback copies of the story to take home. Related activities, such as art and music, were planned to give additional emphasis to the story.

A General Enrichment curriculum was developed in 1968-69 which attempted to sequence the films and filmstrips to emphasize cognitive aspects of learning. Thirty-four sessions were set up as a General Enrichment approach to be followed by the six units. Also in 1968-69, the Peabody Language

SOUTHEASTERN EDUCATION LABORATORY
READIMOBILE

PEABODY OBJECTIVES CHECKLIST

County_____ Lesson No. 45 Session No._____

Site_____ Date_____

Objectives

A-1 The child makes at least one suggestion during the guessing game.

A-2 The child uses the complete sentence pattern as indicated in the manual at least once during the game.

B-3 The child can name at least one thing which is smaller than he is.

B-4 The child participates in singing the song.

OBSERVATIONS AND ATTAINMENT OF OBJECTIVES

Child's Name	A-1	A-2	B-3	B-4	Summary

Observations:
- C = Correct response
- I = Incorrect response
- P = Positive reinforcement
- S = Silent negative
- N = Negative reinforcement
- NR = No response

Summary:
- A = Absent that day
- C = Correctly responds to all objectives
- N = Needs additional work

Figure 5

Development Kit, Level P, was used at two sites in Wakulla County, Florida, as part of a feasibility study (see Evaluation Section). As a result of comparative evaluation, Peabody curriculum was designated for use in four counties in 1969-70 and the General Enrichment approach was phased out.

During the 1969-70 school year the Peabody curriculum was accompanied by the behavioral objectives checklists developed for each lesson. Prepared by SEL staff, these checklists provided local Readimobile staff with instant feedback as to the success of each child on each objective of the lesson. These checklists were also used for evaluative purposes during weekly planning time.

With a weekly contact time of two hours during a ten-month period, the units covered an average of fifty Peabody lessons. Sites with four-hour conditions covered an average of 75 lessons in 1969-70. There was no requirement placed on local staff to complete a certain number of lessons, the pace being determined by the ability of the children at any particular site, absentee rate, etc.

Evaluation

Evaluation of the Readimobile project will be discussed in terms of attendance data, standardized test results, and criterion test results.

Attendance data for the 1968-69 school year show a total participation of 770 children at 41 different sites, for an

average of approximately 19 participants per site. Average attendance per session was approximately 11. SEL preschool staff were encouraged by the number of program participants who consistently attended the program despite certain logistical problems.

The 1969 evaluation of the Chattooga County, Georgia program involved the use of 21 children with 21 controls by age, race, sex, and socioeconomic status. The Caldwell Preschool Inventory and the Metropolitan Readiness Test were administered at the end of treatment. Overall results showed no significant difference between the groups; however, there were significant differences on the associative vocabulary subtest of the Caldwell.

In the Choctaw County, Alabama 1969 evaluation with a design involving twenty matched pairs, no significant difference was found between groups on the Metropolitan, but Readimobile children scored higher on two concept subtests of the Caldwell (the sensory and numerical). In all cases, children who received General Enrichment did not score significantly higher than those who did not participate in the program.

The most extensive evaluation to date was carried out in the summer of 1969 by Dr. Ronald K. Parker at the Wakulla County field site.[3] Funded by the Small Grants Program of the

[3]Ronald K. Parker. The Effectiveness of the Wakulla County Program (Atlanta: Southeastern Education Laboratory, 1970).

U. S. Office of Education, and the Research Division of the Office of Economic Opportunity, the study was to compare the effectiveness of a General Enrichment Curriculum to that of the Peabody Language Development curriculum.

Four-year-old children in three groups of eight attended the Readimobile preschool program. Group A, an all-white predominantly middle class group, received traditional General Enrichment curriculum with Weston Woods films and related activities for nine months. Group B, an all-black lower socioeconomic group, received Peabody Language Development Kit curriculum for nine months. Group C, an all-black lower socioeconomic group, received Peabody curriculum for three months. Three distal control groups were used with subjects matched for age, sex, race, and socioeconomic status. Control children were taken from nearby rural areas that had no preschool program.

Five tests were administered: the Illinois Test of Psycholinguistic Abilities (ITPA), the Metropolitan Readiness Test, the Caldwell Preschool Inventory, the Engleman Concept Inventory, and the Stanford-Binet. The ITPA, Stanford-Binet and Caldwell were administered twice, each at two-week intervals; black testers were used for black subjects and white testers for white subjects. Analysis of variance using scores from the second test administration indicated:

> The Peabody nine-month group (P9) surpassed its control group on total Caldwell and Binet scores, while the General Enrichment group (GE) performed

> better than its control group on the total ITPA. The Peabody three-month (P3) group did not perform better than its control group on any measures. When different curricula groups were compared, the P9 group and GE group did not differ on total scores of the Binet and Caldwell. The GE group did surpass the P9 group on total ITPA score, but there was no difference between scores of the P9 group and the GE control group, which scored higher than the two Peabody control groups and the P3 group. (Parker, p. 1)

The Parker study concludes with several recommendations regarding program development and evaluation. Among these were suggestions that performance objectives be specified for each lesson, and that a criterion test be developed and used in program evaluation. This first recommendation was incorporated into the 1969-70 curriculum design; and in the spring of 1970, implementation of the second recommendation was begun.

A criterion test covering the first 50 lessons of the Peabody curriculum was developed in order to evaluate the program more closely and see if children were learning specific curriculum content or were simply showing higher standardized test scores due to adult contact and maturational factors.

All concepts taught in the first 50 lessons were listed, and potential test items were randomly selected from this list. Test items were designed to require some transfer from what was taught in the PLDK, Level P. For example, in identification items more realistic representations

were used in place of the line drawings and artificial items used in the Kit.

The initial pilot administration of the Criterion Test involved a total of 43 children. From a partial analysis of results Group A showed a mean correct response of 69.54 out of a possible score of 96; Group B had a mean score of 57.14 correct responses. From these results it was concluded that although the test would require modification, it did have potential as an evaluative measure, and that it successfully sampled the areas covered in the first 50 Peabody lessons.

Cost Analysis

Table 13 presents approximate program costs for one Readimobile unit capable of serving 120 participants. The figure of $139.46 per pupil reflects all initial program expenses. This figure would be reduced considerably once capital outlay costs were absorbed.

Table 13

COST ANALYSIS DATA-READIMOBILE

Program Expenditure	Unit Cost
Basic Vehicle	
1 new school bus (without seats)	$ 5,900.00
Remodeling of Vehicle	
1 conversion kit	3,000.00
Staff	
2 paraprofessionals for 9 months	6,400.00
Intangible tax	559.00
Materials	
Peabody Language Development Kit, Level P; Supplementary materials	200.00
Maintenance	
Bus and Equipment $30.00 per month times 9	270.00
Gasoline and oil $45.00 per month times 9	405.00
TOTAL COST	$16,734.00
Number of Participants (10 sites times 12 pupils)	120.00
Total Cost Per Pupil	$ 139.46

FLORIDA STATE DEPARTMENT OF EDUCATION:

EARLY LEARNING PROGRAM

The Florida Migrant Program began the delivery of services by means of mobile units in the Fall of 1969. While there are several other aspects of the Migrant Program, such as vocational counseling and Right to Read components, this description will focus on the preschool and kindergarten programs which work with migrant children ages four to five in mobile home trailers especially designed for this purpose.

The objectives of the Migrant Education Program are

1. To improve the health of the participants
2. To improve nutritional status
3. To improve language development
4. To improve social development
5. To improve personal development
6. To improve physical development.

The Early Learning Program, sponsored by the Florida State Department of Education, is currently serving 2,000 preschool age migrant children by means of 100 mobile units. Staffed by a certified Early Childhood Education Teacher and two indigenous paraprofessionals, each mobile unit in the program operates from 7:00 a.m. to 5:00 p.m. daily.

Background

Initial planning for the Early Learning Program was carried out through an Advisory Committee with representation from the State Migrant Education Office, early childhood representatives from state universities, county school system supervisors, and kindergarten teachers. State Board of Health and State School Food Service staff also provided technical support in the program planning and design phase.

In the 1967-68 school year, the migrant program operated at the kindergarten level in a conventional classroom. During the last half of 1968 and 1969 plans were made to provide for the participation of four year olds.

In August of 1969, preservice training was carried out for the teachers who were to work in the migrant program. In September of 1969 a pilot program for four year olds was carried out in five counties and totaled 61 classes. The ongoing program for five year olds by this time included 104 classes in 15 counties.

At present the program has 100 mobile units located in 21 counties in Central and South Florida.

Description of Population

Demographic data on current participants were not available because migrant staff felt parents would be embarrassed if asked questions about income, education, etc. Based on Department of Education estimates, about 60 percent

of the participants are Negro, 25 percent Spanish-speaking, and 15 percent Appalachia white.

A detailed study of Migrant Children in Florida (1968-69) by Dr. E. John Kleinert for the Florida Migratory Child Survey Center at the University of Miami revealed the following information. There are approximately 6,409 migrant children four years of age or younger, whose families spend most of the years in Florida. This figure represents about 27.05 percent of all children 17 years of age or less. The mean education level of the average migrant male adult is 6.2 years, and 6.9 for the female adult (Kleinert, p. 164). Of the three ethnic groups, Spanish-American adults average less education than their black or Anglo counterparts.

Income data reveal that the average migrant male earns approximately $73.70 per week; and the average female, $50.78. The average annual income when both parents are working is $4,700. This figure must be weighted with additional factors such as number in the home, weather conditions, weeks of unemployment, and health of workers (Kleinert, p. 155).

Of the adults interviewed, 60 percent reported stable marriages, 19 percent were single, and 21 percent reported an unstable marital situation. The average migrant male was 37 years old, and the female, 34 years old. The size of the household averaged 4.7 persons.

Information gathered about language spoken in the home revealed that English was spoken in 67.7 percent of the homes, Spanish in 27.7 percent of the homes, and both English and Spanish were alternated in 4.39 percent of the homes.

Physical Description of Unit

Early Learning mobile units are 12' x 65' or 780 square feet, which is more than the maximum of 700 square feet required by Florida's Kindergarten guidelines. The units are completely self-contained. Standard features include lavatory facilities for children and teacher, child's bathtub, isolated first aid room, and complete kitchen facilities. A large storage closet and an instructor's station are located at one end of the unit. At the other end of the unit is a large indoor-outdoor carpeted instructional area which is surrounded by student-height individual storage areas, overhead storage, and a large picture window on the 12-foot wall. The exterior of the unit is constructed of heavy gauge aluminum.

The power supply (220 volt/150 amp) is obtained from a hook-up with utility poles installed at specified locations. A heating/cooling system with ceiling ducts is also part of standard equipment. Figure 6 is a scale drawing of the unit.

The mobility factor was built into the Migrant Program, not to shift program location on a daily or regular basis, but to follow the population in case of an agricultural-center

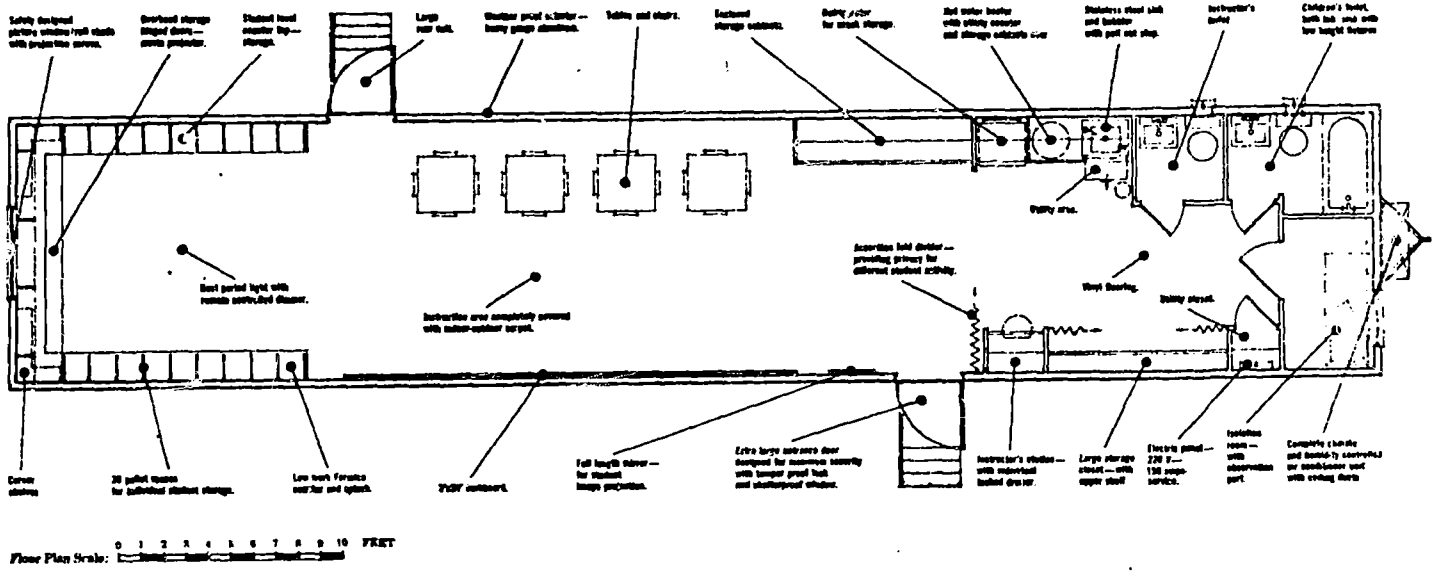


Figure 6

EARLY LEARNING MOBILE UNIT

FLORIDA MIGRANT EDUCATION PROGRAM

shift or the relocation of a migrant camp. Other advantages in the semi-mobility of the units are (1) comparative inexpensiveness in terms of square footage ($10.91 per square foot compared with $17.00, a conservative estimate for public school facilities); (2) additional options in the choice of sites at locations where permanent buildings would not have been feasible; and, (3) unrealistic costs associated with renting and/or renovating permanent structures. To date, six units have been transported from one county to another, a task that was accomplished with no great difficulty.

Operation

Migrant units are allocated to counties on the basis of percentage of migrant population. Program guidelines stipulate that the State Department will provide mobile units or portable classrooms if the local education agency has no available facilities, and that these units are to be located within a one-mile radius of migrant camps or communities. Site locations are subject to the approval of the State Department of Education.

To be eligible for the program, a child must (1) cross state, county, or school district lines with his parent or guardian, who is in pursuit of agriculture employment, and (2) be between the ages of 3.9 and 4.9 years of age. A child is eligible up to five years after his parents or guardian have been reclassified non-migratory.

The program budget allocates funds for salaries of instructors, aides, and coordinators, cost of basic vehicle, materials, equipment, supplies, installation costs, and ancillary services.

In addition to a regular instructional program, several ancillary services are provided. Meals (breakfast, type A lunch, and mid-morning and mid-afternoon snacks) are served daily in the unit. Each participant receives a physical examination as well as a blood test and innoculations recommended by the local health department. Dental examinations are given and major problems are referred to appropriate local agencies.

Since units are under the direct supervision of local educational agencies, details of program operation vary from county to county. For the most part, however, operation procedures are fairly standard and the biggest differences come in the area of curriculum content and quality of program supervision.

The units begin operation at 7:00 a.m. and end at 5:00 p.m., a schedule which allows parents to take advantage of as many working hours as possible. In terms of contact hours, this means a maximum range of 10 hours per day, 5 days per week, or 50 hours, compared to a regular public school schedule, which encompasses 6 hours daily for 5 days, or 30 hours of involvement.

Units must be located within a one-mile radius of the migrant camps. Some units are located on school campuses, while others are located within the migrant camps. Once located, these units are more or less permanent fixtures, unless some unforeseen circumstance requires them to be transferred to another site. If they are transported, the carrier truck must be approved by the Interstate Commerce Commission.

There is no formally organized parent involvement component in the Migrant Program. Opportunities are provided for parents to talk to teaching staff about program goals and the progress of their children. In addition, many serve as volunteers in the program, assisting and participating in class activities. Parents are sometimes asked to contribute information related to their cultural backgrounds, for example recipes for the preparation of ethnic foods.

The program operates nine months, from September to May, with a maximum enrollment of 20 children per mobile unit. With enrollment in 100 mobile units, the program currently serves 2,000 participants. Combined mobile unit and portable classroom enrollment capacity is 3,200 children. Enrollment varies considerably according to the harvest schedule and full enrollment is not usually reached until mid-October and begins tapering off in April. In some locations, children may shift their enrollment from one center to another during the nine-month period.

Staffing

Personnel on mobile units include one teacher, certified in early childhood education, and two assistant teachers. These assistants are recruited from the migrant population under the assumption that their indigenous status equips them for better communication with the parents of participants.

Florida guidelines for teacher assistants include suggested qualifications such as good health, love for children, ability to read and write, the ability to speak standard English and Spanish, and personality traits such as patience, cooperativeness, friendliness.

One of the teaching assistants is responsible for opening a unit at 7:00 a.m. and supervising children until the regular teacher arrives at 8:00. The other assistant supervises the children from the time the regular teacher leaves at 3:30 p.m. until closing time at 5:00.

Duties of the teacher assistant are noninstructional and include assisting children in bathing, washing and toileting activities, assisting with nap period, meals, snacks, and performing other general housekeeping tasks. Duties of the teacher include program planning and instruction of children.

For every five mobile units in a county, the Migrant Education Program provides one curriculum coordinator. Smaller counties must provide their own supervisors.

A month of preservice education for teachers and assistant teachers was provided in 1969-70 at the University of South Florida. Three inservice films were developed through the cooperation of the State Migrant Office and University of South Florida which were entitled: "Health and Nutrition," "Language Development," and "Overview." Inservice training is provided through on-the-job consultant services and through topics presented at local staff meetings.

Curriculum

Many aspects of the migrant child's development and background were taken into consideration in curriculum planning both at state and local levels. These include increased number of health problems due to inadequate living conditions, malnutrition, use of non-standard English, lack of experience with material trappings that constitute a type of school readiness orientation, limited social skills due to lack of contact with cultures other than migrant, and poor self-concept due to the social discrimination acted out on the migrant population.

Other planning considerations were ethnic grouping and sporadic enrollment and departure of the children in the program. The migrant curriculum has been designed to implement the six program goals previously stated. Overall the curriculum is flexible and unstructured, focuses on the teachable moment, and stresses the development of the

whole child.

An extensive array of materials was provided in each trailer at an average cost of $4,500. Materials included audiovisual equipment, record player, tape recorder, filmstrip projector and screen, movie projector, table radio, television set and accompanying records, tapes, films, art supplies, toys, puzzles, books, blocks, child-size cooking equipment and housekeeping items, science equipment such as an aquarium and a microscope, as well as all furnishings for the trailer and a regular refrigerator and oven. Each trailer receives the same equipment and materials, and there is so much coverage that any conceivable program would have appropriate resources.

While comprehensive program plans and curriculum suggestions are made at the state level, it is the direct responsibility of local level personnel to make final content and implementation decisions. The following description of curriculum process employed in Dade County is condensed from Fascinating Fives, Curriculum Bulletin, 20-8, 1970.

Monthly goals statements are sent to teachers under the broad headings of language arts, music, art, arithmetic, physical education, and science. For example, the Language Arts Section will list a general goal and then break this down into separate skills and suggested activities to build these skills.

A handout sheet would look like this:

Language Arts	Suggested Activities
II. Develop speaking skills	
A. Develop ability to hear and repeat the sound of language	A. Fingerplays, nursery rhymes, poetry
B. Expand speaking vocabulary	B. Use words pertinent to the situation (seasonal words, "present," "tree," "ornament," etc. for Christmas season).

The regular program begins at 7:00 a.m. as the teacher assistant greets the children, sets them up in some sort of indoor play activity, and sets up materials for the day's activities. At 8:00 the regular teacher arrives, and the time until 9:00 is used for taking attendance, singing songs, eating breakfast, and cleaning up.

Roughly one hour, from 9:00-10:00, is devoted to instruction. This block of time is specified under different headings in the various sample schedules from which this composite was drawn. Illustrative headings are Language Development -- Circle Time, Learning through Play, or Instruction Time and specified activities tend to be very similar. These activities include singing, saying nursery rhymes, listening to tapes and records, doing finger plays, as well as having opportunities for development of social skills such as sharing, cooperation, and leadership.

Another feature of the program is that the trailer contains interest areas such as a library center, science center, housekeeping center, and large toy center. Another block of time characteristically allows a quasi-Montessori approach to learning, i.e., the child is allowed to choose the interest center where he wishes to spend time. With the interest center approach, the teacher and teacher assistant are free to work with children on an individual basis. Other aspects of instruction time might cover arithmetic and science skills implemented through discussion, films, a nature experience, etc.

From 10:00 to 10:30, the children have a play period, either outdoors or indoors, depending on the weather. The block of time from 10:30 to 11:45 is taken up with lunch, toileting, brushing teeth, singing or games, and a quiet activity such as a film, record, or story.

While the children nap from 11:45 a.m. to 1:45 p.m., teachers and teacher assistants eat lunch, engage in daily planning, or perhaps make a home visit. From 1:45 to 3:00, children go through a waking-up routine, receive a midafternoon snack, engage in an indoor activity such as music or art, or perhaps go outside.

Most pupils leave at 3:00 as older siblings pick them up, and the regular teacher departs at 3:30. The teacher assistant and the remaining children stay until 5:00.

Table 14

BREAKDOWN OF DAILY SCHEDULE

Sample Schedule	Necessary Routine Time	Instructional Time	Indoor Play	Outdoor Play	Total Minutes Daily (60 x 7)
I	255.00	50.00	65.00	50.00	420
II	235.00	75.00	60.00	50.00	420
III	245.00	90.00	55.00	30.00	420
IV	240.00	60.00	75.00	45.00	420
Average	243.75	68.75	63.75	43.75	420

Table 15 shows the percentage of total minutes represented by each of these categories. It can be seen that over half (three hours) of the daily time is spent in routine tasks; a little over one hour, or 16.3 percent of the day, is spent in instructional time; about one hour, or 15.18 percent of the day, is spent in indoor play; and about 45 minutes, or 10.42 percent of the day, is spent in outdoor play.

During this late afternoon period, the children engage in activities under the supervision of the teaching assistant, who is also responsible at this time for cleaning up the trailer and preparing for the next day's activities.

Assuming a seven-hour day from 8:00 a.m. to 3:00 p.m. one can make the following observation about the breakdown of time.

Table 14 shows a sample breakdown of the daily schedule. Four samples were used for the composite, Schedules I and II were planned by local teachers, Schedule III was planned by a county supervisor, and Schedule IV was planned by state personnel. The category Necessary Routine Time includes breakfast, lunch, snack, napping, clean up, brush teeth, arrival and departure. Instructional time includes science activity, learning through play, language development, self chosen activity, math, science, and social studies. Indoor play includes group activity, singing, painting, quiet activity, closing time, group planning, music, group games, rhythm band, and cooking. Outdoor play includes playground activity, sandbox play, water play, and gardening.

From Table 14, it can be seen that an average of 243.75 minutes is spent in Routine Time, 68.75 minutes in Instructional Time, 63.75 minutes in Indoor Play, and 43.75 minutes in outdoor play, out of a total of 420 minutes (seven hours) per day.

Table 15

AVERAGE TIME SPENT IN EACH CATEGORY

Category	Average Minutes	Percentage of Total Time
Routine Time	243.75	58.04
Instructional Time	68.75	16.37
Indoor Play	63.75	15.18
Outdoor Play	43.75	10.42

Evaluation

The purpose of the 1969-70 evaluation was to analyze the extent to which the six objectives of the migrant program were achieved. In the most general sense, the objective of the program was to replicate those developmental conditions experienced by the majority of American children, since these conditions seem to furnish the prerequisites for school success. Briefly restated, the specific program objectives are:

1. Health
2. Nutritional status
3. Language development
4. Social development
5. Personal development
6. Physical development

Five types of data were collected with varying degrees of success in terms of contributing to final analysis:

1. Videotapes of sample classrooms over a four-month period. No system was developed for satisfactorily abstracting data from these records.

2. A children's behavior scale covering 25 conditions, to be filled out by aides and teacher aides. Data were not significant as a measure of social development. In addition, those reports filled out by aides were of questionable validity.

3. Monthly Health Report, filled out by teachers. This checklist provided for the recording of 17 observable ailments. Some difficulty was experienced in the obtaining of these reports. Rank ordered, the most prevalent health problems were: a) cold, coughs, sore throats; b) poor food habits; c) decayed teeth; d) listlessness; e) irritability; f) rashes and sores. Frequency of those conditions requiring medical, dental care was reduced in those counties which had developed good health care procedures in conjunction with the program.

4. A weekly nutrition checklist was filled out by teachers. This checklist called for teachers to make judgments about daily averages of foodstuffs consumed, such as milk, citrus fruit, and lean meats. Results showed that after about two weeks in the program, children had learned to eat most types of food.

5. Thirteen individually administered tests, two of which were commercially available, and eleven of which were made available to the project by Educational Testing Service in Princeton. Tests were administered in three counties at eight-week intervals by trained psychometrists who worked in a mobile van.

From these tests a model battery was developed which was judged as an acceptable set of measures for the objectives of the program. This battery consisted of:

1. Two measures of cognitive development
2. Three measures of the qualitative conservation of the sex role
3. One measure of aural discrimination
4. Three measures of oral precision
5. One measure of self control

6. Three measures of multi-factor (general) abilities
7. One measure of the self concept
8. Three measures of unclassified abilities

Sub-groups were established on the criteria of participation in more than one cycle of testing. Change in mean score was compared for two groups between (a) first and second testing cycles, (b) second and third testing cycles, and (c) first and third testing cycles. A consistency of pattern in increase or decrease of mean score for the groups was the criteria for program assessment.

Results indicated positive gains over time the children were enrolled as shown in Table 16.

Table 16

GAINS OVER TIME ENROLLED

Number of Measures	Name of Measure	Confidence Level
2	Cognitive development measures	.016
1	Aural discrimination	.016
2	Oral precision	.016
1	Self control	.109
3	Multi factor (general) ability	.016
1	Self concept	.109
3	Unclassified abilities	(1) .016 (2) .031

Losses over time enrolled were found on one measure of oral precision at the .016 confidence level. This measure had to do with terminal sounds of real words. Losses also occurred on all three measures of the qualitative conservation of the Sex Role.

All of the above information was taken from the Preliminary Evaluation Report. Since the final report was not available, no conclusions will be made regarding test results.

Cost Analysis

Table 17 presents approximate program costs for operationalizing one migrant unit capable of serving twenty participants, ten hours per day, five days per week. The figure of $1,440.45 per pupil represents capital outlay expenditures, but does not take into account the cost of a supervisor. The reason for this is that a supervisor is allocated only if ten or more units are located in the county; therefore, supervisory costs are not part of every program.

Table 17

COST INFORMATION PER UNIT
FLORIDA MIGRANT PROGRAM

Program Expenditure	Unit Cost
1 teacher	9,000.00
2 teacher assistants	5,000.00
pupil health coverage	500.00
pupil food	1,000.00
field trip expenses	100.00
consumable supplies	800.00
mobile vehicle	7,989.00
materials and equipment	4,500.00
Total Cost	28,889.00
Number of Participants	20
Total Cost Per Pupil	1,440.45

SUMMARY

Table 18 shows a comparison of the Readimobile, Appalachia, and Migrant mobile preschool education programs. Data are presented in fourteen categories relevant to program operation. The Readimobile offers a structured curriculum approach; Appalachia, a specially developed curriculum; and the Migrant Program, a traditional approach.

In summary, while the Appalachia preschool and Readimobile programs serve essentially the same population, the AEL approach offers three components for a little more than twice the cost of the Readimobile Program. The Migrant Program costs should be considered in view of a full day program for one group of children.

Table 18

COMPARISON OF MOBILE UNIT OPERATIONS

Category	Readimobile	Appalachia	Migrant
Length of time in operation	3 years	2 years	1 1/2 years
Type of child served	rural, isolated	rural, isolated	migrant
Number of children served per week	120	150	20
Contact time per child per week (instructional)	2 to 4 hrs.	1 1/2 hrs.	6 to 8 hrs.
Sites per week	10	10	1
Type of unit used	reconverted school bus	Travelab	mobile home trailer
Number professional staff	0	1	1
Number paraprofessional staff	2	1	2
Curricula used	Peabody Language Development Kit	AEL	Traditional
Type of evaluation	Daily checklist Standardized test	AEL Battery Standardized test	Standardized test
Cost of unit	$5,900.00	$20,329.00	$7,989.00

Table 18

(Continued)

Category	Readimobile	Appalachia	Migrant
Cost of equipment and materials	$3,200.00	(included in unit cost)	$4,500.00
Cost per child per year	$ 139.46	$261.35	$1,440.45
Source of funding	Local school system/ SEL	AEL	Title I

PART II

MOBILE PRESCHOOL TRAINING PROGRAMS

CALIFORNIA PRESCHOOL MOBILE FOUNDATION, INC.

The Preschool Mobile Foundation (PMF), a nonprofit organization, is geared towards providing pre and inservice training services in the area of early childhood education. Because most of the administrative staff (including the Foundation Director) are volunteer, very little time is spent in program dissemination. Consequently, a limited amount of project information is available in written form.

Background

The Preschool Mobile van was one solution for the problem of transporting a large supply of instructional materials from one location to another. Mrs. Rosella Lipson, who developed the mobile unit, served as a Headstart training consultant providing inservice training for 4,000 staff members. In order to carry out this training, it was necessary for her to travel to individual schools carrying materials and equipment needed for the workshops. During this time, Mrs. Lipson conceived the idea of a mobile materials van that would enable her to carry out this training more efficiently. A Ford Econoline Supervan was remodeled for this purpose, and the new unit was successfully field tested in a park setting.

Physical Description of Unit

The used 1965 Ford Econoline Supervan was purchased for $1,300. Remodeling costs, which included water tank, sink, lumber, hardware and labor, were approximately $1,100, and equipment ran an additional $800. In all, the unit cost $3,200. This did not include license, maintenance, insurance, consumable supplies and mileage costs.

The Ford Econoline Supervan has 10 feet of clear floor length from the rear doors to the back of the driver's seat, and is about 5'10" in width at floor level. This gives a total of 58.7 square feet of interior space. Rear and side loading doors provide easy access to stored materials.

Remodeling of the interior included the following installations:

1. A child-height sink, 20-gallon water tank, and towel dispenser
2. Storage racks for folding chairs, tables, and other equipment
3. Cupboards and drawers that contain teaching supplies, art and crafts materials, and first aid supplies

The Preschool Mobile van contained the following equipment and materials: 4 small folding tables, 16 small folding chairs, 2 double easels, 4 tricycles, 1 hitch, 1 wagon, 22 polyethylene storage cases that hold various toys and accessories and can be used as large blocks when empty, 6 jumping boards, 1 ice chest, 1 locker rack with space for lunch pails, etc., record player, guitar, records, musical

instruments, carpentry tools and supplies, science materials, mirror, clay bucket, paint storage bucket, play dough can with accessories, brushes, brooms, stepladder, and 6 large beach towels. Preschool Mobile Foundation also owns a 1947 GMC ex-bakery truck which is used as a support vehicle.

Program Operation

The function of the Preschool Mobile at the present time is to provide a ready-made educational facility for specialized teacher training, especially in the paraprofessional area. It is estimated that a van, outfitted as described above and operated by at least one trained professional, can train between 85 to 100 paraprofessionals yearly and can give indirect educational services to about 400 children between the ages of three and six. With this number of trained staff, the multiplier effect could be utilized in the various communities where staff was initially trained.

The Preschool Mobile Training Program currently operates in a park setting adjacent to El Camino Community College in Torrence, California. Four students, who are taking courses in early childhood education and who are recommended by their instructor, are given a four-week internship in the Preschool Mobile van. From these groups of students, training teams will be developed that specialize in working from a mobile in an outdoor setting.

During their internship, the four trainees work with a group of eighteen children ages three to five who come to the park each day from 8:00 a.m. to 12:00 noon. Professional staff then supervise a traditional preschool program which the trainees help to carry out. Curriculum elements include story telling, art activity, music, games, science, language arts, as well as a large variety of outdoor activities. A fee of $.50 per hour per child is charged, and funds collected through these fees are used to help defray program costs.

Staffing

There are three paid staff members in the present program: a Training Coordinator, Head Teacher, and Assistant Teacher. Other staff members are volunteer workers.

Evaluation

Staff evaluation is carried out through the viewing of video tapes made during daily training sessions.

Cost Analysis

The total projected budget for 1970-71 operation of the Preschool Mobile is approximately $88,615. This figure represents four three-month programs, which would include training for a total of 84 student and parent trainees and would provide 35,360 day care hours for 126 children. On a per capita basis this means an expenditure of $1,000 per trainee and the indirect benefit of an educational program at $205 per child. This seems to be a very equitable cost

yield ratio, especially when one considers the per capita costs of most training programs. For example, the federally funded Public Service Careers Grants allows $2,500 per enrollee for training.

KENTUCKY MOBILE DAY CARE PROJECT

The Kentucky Mobile Day Care Project is still in the planning stages. It is included here because it represents the development of an approach designed to facilitate the initiation and/or development of day care services in communities that are presently without this type of technical assistance. Focusing on areas where need and/or interest is high, the project will also provide training opportunities for existing or potential day care staff. Another feature of the project will be the provision of training opportunities for interagency social work staff.

An interagency approach will combine the services of the Department of Economic Security and Child Welfare in the state-level operation of the project. Local and regional involvement will be carried out through the staffs of comprehensive mental health centers, county health departments, school systems, church groups, area development districts, and the Appalachia Regional Commission.

Vehicle Description

Specifications for the vehicle to be used in this project are not yet available. However, it is estimated that $20,000 will be necessary to purchase and equip the unit. The project will use the unit to serve approximately 40 counties in Kentucky. It is planned that the mobile unit will serve as (1) a center for community day care staff training, (2) a

demonstration center for equipment and materials needed to operate a day care program, and (3) a vehicle to transport interested local people to promotional meetings.

Staff

Program staff will include a full time Project Director, Promotion Specialist, and four Day Care Technicians. The Project Director will be responsible for planning community inservice programs, after an assessment of needs has been completed. The Promotion Specialist functions as a community coordinator and liaison, meeting with appropriate local persons and explaining various aspects of the program. The Day Care Technicians, who will carry actual consulting and training programs to the communities, will function in specified geographic areas to allow minimal travel time.

For organizational purposes, Kentucky has been divided into eight geographical districts. The plan is to utilize the four new Technicians in four of these geographical areas and four Technicians already employed by the Department of Social Welfare in the remaining districts, all on a half-time basis. In this way, these eight parttime persons can provide adequate geographical coverage for the mobile unit; the other half of their responsibilities will involve regular licensing and consultation functions of the Department of Child Welfare.

Program Operation

The planned procedure for taking this program to the various communities is as follows. Upon receiving a request for services, the Program Specialist will travel to the particular community and meet with all appropriate persons concerned with aspects of child care. This includes various county and city officials, educators, parents, and local agency personnel. After obtaining feedback on community needs, the Program Specialist will relay this information to the Project Director so that training content will be as relevant as possible. Before leaving the community, the Program Specialist will establish a local committee to sustain interest in the program until the scheduled visit of the mobile unit.

An inservice training session for county social work staff will also be set up during the time the mobile unit is in the county. This will give social workers the opportunity to see a model day care unit and will increase their abilities to help communities establish adequate day care programs. Inservice training will also be held for existing or potential day care personnel in the community.

Ongoing assistance, in terms of planning and implementating day care programs related to the needs of the various communities, will be the responsibility of the Day Care Technician. Continued technical assistance to explain funding

requirements and licensing standards and to carry out additional inservice training will also be provided by the Day Care Technician.

Evaluation

Program evaluation will be the responsibility of the Southern Regional Education Board but will reflect the program's own objectives.

Cost Analysis

Cost figures are not available at this time.

LINC MOBILE TRAINING VAN

The Learning Institute of North Carolina sponsored the development of a mobile training van which was used in a demonstration capacity in a variety of ways. Principally, it was used by local school systems for Headstart teacher training. The unit was also deployed to industrial sites where there was an interest in starting a day care facility, and to urban renewal sites where day care centers were being developed. The program is no longer in operation.

The mobile unit was built by Travelab, Inc. for a total cost of $18,000. The unit is 8' x 20' 5" for a total of 164 square feet of interior space. The walls are paneled, and the floor is a combination of carpet and tile. Five storage cabinets are provided as well as a display cabinet, a bookshelf, and drawer space. Other furnishings and equipment include a folding counter and chairs, record player, filmstrip projector and tape recorder, a screen located on the far wall, and a small sink for water play.

One of the unique features of the unit is an observation booth with one way glass. This feature was used by Headstart trainees in a demonstration program carried out in the unit. Power is supplied either by the generator mounted on the rear of the vehicle, or through hook-up with a 220 volt electrical source. Figure 7 is a line drawing of the unit.

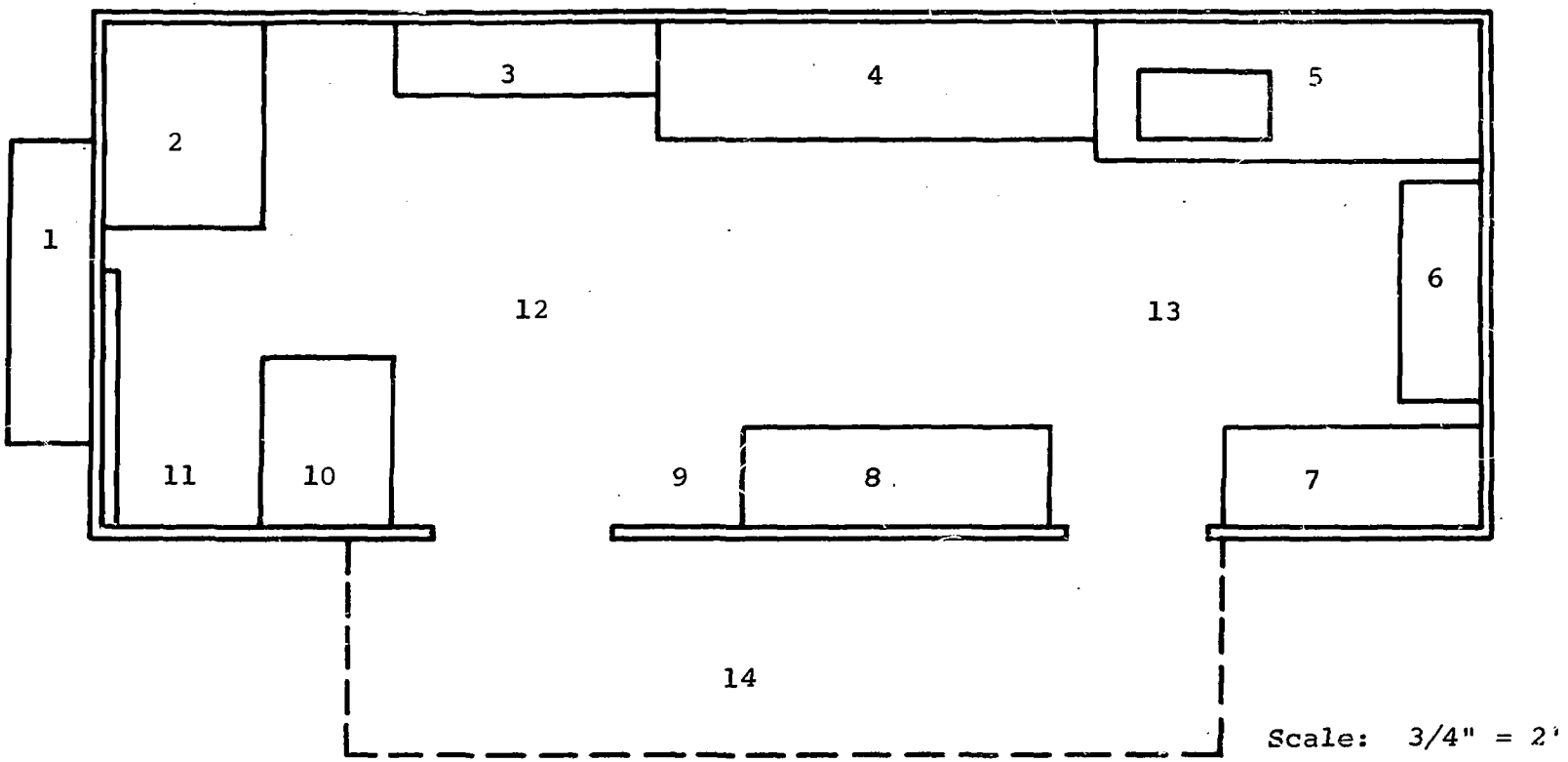


Figure 7

LINC Mobile Training Unit

1. Generator; Heating & Cooling Unit
2. Audiovisual Storage
3. Recessed Storage & Tack Board
4. Display Cabinet - Storage Below
5. Sink & Cabinets - Tack Board Above
6. Projection Screen & Chalk Board
7. Book Shelf & Cabinets
8. Observation Area w/ One-way glass
9. Coat Racks
10. Folding Counter; Two Chairs
11. Chalk Board
12. Paneled Walls, Carpeted Floors
13. Tiled Floor
14. Aluminum Platform

PART III

RELATED MOBILE PROGRAMS

CHERRY CREEK MOBILE CLASSROOM

The unique design of this mobile classroom represents a possible approach to the problem of capitalizing on the mobility of migrant children, i.e., how to transport them in an educational environment from one camp to another.

The Cherry Creek School District, located in a suburb of Englewood, Colorado, utilizes a mobile facility to transport its suburban pupils to situations normally not a part of their public school curriculum. This would include trips to areas of different socioeconomic status (ghetto, migrant camp, etc.), a full semester trip for high school students to carry out a regional study, excursions to museums, and art galleries and extended camping trips.

Vehicle Description

Equipped to facilitate instruction for 27 students, the remodeled school bus has the following features: adaptive seating arrangements, each seat equipped with three headsets; work carrels; a variety of audiovisual equipment; power supplied by generator or 220 volt outside hook-up; outside lights and speakers for open air instruction; and restroom facilities and drinking water. The vehicle is a prototype model.

Program Operation

The traveling classroom is used by students and teachers grades K-12, serves an estimated 75 children per week, and

provides 5,000 mobile student instructional hours each regular school term. Curriculum is planned by the teacher. It is planned that videotapes will be made of sites visited to promote later discussion.

Cost Analysis

Funds for the purchase and remodeling of the bus were made available through gifts to the Cherry Creek School District. Cost figures for the unit are not available.

COLORADO MIGRANT

The Colorado State Department of Education is utilizing mobile units to deliver services to migrant children and to train personnel who are currently working with migrant children or who are planning to do so in the future. Specifically, the goals of the project are to:

1. provide a testing program to determine possible auditory or visual defects and to isolate reading problems
2. conduct teacher pre and inservice programs to demonstrate new teaching techniques and methodologies appropriate to migrant children
3. serve as a mobile instructional media center
4. fulfill a coordinating function between health agencies, universities, and local education agencies.

Physical Description of Unit

The mobile unit is similar to the Dodge travel home and costs approximately $13,000, which includes remodeling. Interior space can accommodate six to eight children and one instructor. Equipment and furnishings include master-deck with eight outlets for audiovisual equipment, study carrels and storage cabinets. Power is supplied either by a generator or through hook-up with a 220 volt electrical source.

Program Operation

Currently three vans are utilized in the program, each contracted to a state institution of higher education:

University of Colorado; Colorado State University, and Southern Colorado State College. It is estimated that each van travels in excess of 16,000 miles annually. Equipment for the three vans cost approximately $20,000. Staffing consists of unit operators, graduate assistants, and university faculty volunteers, who work part time with the program.

The program serves approximately 1,600 children in grades K-12 at rural or semi-rural schools. Of this number, 60 percent are Mexican-American Migrant, and 40 percent are disadvantaged Anglo. Program operation during 1969-70 involved two vans; one at Colorado State, the other at the University of Colorado. During the year, 84 workshops were conducted by unit personnel, involving a total of 2,291 teachers. A total of 35 migrant and 52 ESEA Title I schools were visited, and 1,651 children received audio-screening, 1,919 received visual-screening, and 221 were given reading tests.

The mobile vans utilized by the Colorado Migrant Program to perform health, diagnostic, and staff training functions appear to present an efficient method for delivering services to the highly dispersed migrant population in Colorado. Such vans might also be employed on a regional basis to provide the same kinds of services to migrant preschool programs.

COLORADO PRESCHOOL TRAILER

The early childhood education program in the Denver Public Schools operates three programs for four year olds, and one of these is located in a mobile home trailer. This trailer, situated on an elementary campus near a disadvantaged area of Denver, was utilized because of a shortage of space in the regular building. The mobile trailer began operation in November, 1969 and serves a total of 29 children daily; 10 of these are Anglo and 19 are Hispano. Participants were selected from a nearby low socioeconomic status neighborhood and were recruited by program staff. The program operates a morning and afternoon shift, with 15 children at each; the morning program runs from 10:00 a.m. to 12:00 noon, the afternoon program from 12:30 p.m. to 2:30 p.m.

Program staff consists of one certified teacher and one paraprofessional, with the latter drawn from the neighborhood where the children live. While the function of the teacher is to do original teaching, the paraprofessional is also seen as an instructional person and carries out what is termed follow-up teaching.

Program goals focus on cognitive and language development. Eclectic in approach, the program adapts curriculum materials from the Discovery Program, and from Piagetian materials of Kamii and Lavatelli. Upon entry into the

program, children are given an assessment battery. Test results are analyzed and weekly checklists of skills are maintained for each child. Through this process, objectives are established at the beginning of the week and then short range achievement is assessed by the checklist.

No evaluation data or cost figures are available at the present time.

This particular program, the type that can occur in a semi-mobile facility, is exemplary in several respects: (1) the curriculum, although drawn from at least three sources, is precisely specified in the content; (2) children are assessed upon entry in the program, and their progress through the curriculum is documented; (3) paraprofessionals are designated an instructional role; and (4) the program is funded by the local school system.

NEW MEXICO MOBILE PROGRAM

Through Title I funds, a summer enrichment program was provided for approximately 100 Navaho Indian children in grades K-6 by means of a mobile unit. The unit served each of seven settlements scattered in the Alamo Reservation, which is located about 35 miles from Magdalena, New Mexico. During the regular school year, Navaho children lived in a dormitory in Magdalena proper in order to attend public school. The Mobile Instruction Van was seen as a way to provide an educational experience during the time the children were not enrolled in school. The program began operation in 1965.

The van schedule called for a one-week stop at each of the settlements. In order to avoid the problem of excessive daily mileage from Magdalena to each of the settlements scattered 35-70 miles from town, a small house trailer accompanied the van and served as accommodations for the staff. Staff consists of one teacher certified in early childhood education and two high school age Navaho assistants. The interior of the van can accommodate six to eight children at a time.

Curriculum took the form of an enrichment program designed to keep elementary school children in touch with instructional media and to avoid problems associated with isolation. Every opportunity was taken to use nature experiences and aspects of the reservation life as part of the learning experience.

The vehicle used was a Ford Condor Coach, purchased at an initial cost of $9,500.00. Adaptation to a mobile classroom, which included cabinets, shelves, and study carrels, totaled less than $2,500.00. Equipment, which includes a variety of audiovisual items, ran about $4,500.00. All equipment was adapted to either AC or DC use as well as to a battery-supplied power source. The dimensions of the unit are 7' x 18' and the interior space is 126 square feet.

This program was included for two reasons: (1) it represented a feasible approach to the problem of the cultural isolation of the Indian reservation, and (2) the staff time usually spent in transit from home base to site location was saved through the use of a small trailer to serve as staff living quarters.

TEXAS MIGRANT PROGRAM

The Mobile Headstart Program for Migrant Children and Parents was sponsored by the Southwest Educational Development Laboratory, Austin, Texas, in cooperation with Teacher Corps, U. S. Office of Economic Opportunity and the Texas Employment Commission.

The program was in operation for eighteen months and was completed October 31, 1970. Purposes of the project were to:

1. provide educational experiences for migrant children ages three to five during the six months they were away from their home base in the Rio Grande Valley
2. gather data about migrant life styles and assess environmental effects on young children
3. develop alternate educational strategies relevant to the migrant child.

A Southwest Education Laboratory team traveled with families as they moved from field to field and gathered initial information about the migrant situation during the six months spent at the home base in the Rio Grande Valley.

From May to November many families move North to follow the summer harvest opportunities. The Lab, in cooperation with Texas Employment Commission, arranged jobs for a group of migrant families as they traveled through the states of Michigan, Ohio, and Kentucky. During the time spent in each state, a Headstart program was

placed in operation for the 20 preschool age children of these migrant workers. The program was moved from state to state and was carried out in rented facilities provided by local school boards. Although the program did not involve a mobile facility per se, it is mentioned briefly for two reasons:

1. It is a good example of the sort of interstate planning and cooperation that must take place if the needs of migrant children are to be met.

2. It is likely that this type of program will eventually go to a mobile facility in order to capitalize on a variety of convenience and efficiency factors.

It is also interesting to note two factors cited in the Laboratory's Preliminary Report:

1. Individualized curriculum is essential as a means to compensate for migrant attrition and absenteeism.

2. In order to be accepted, economical, and effective, the staff must be paraprofessionals, trained in teaching skills and basic child development.

PART IV

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

The following recommendations are offered with regard to the development of an instructional program that is to be housed in a mobile facility.

Planning Period

There should be at least a three-month planning period, to study the characteristics of the population to be served and the distribution of this population. Available curricula must be reviewed and adapted to the needs of the children and appropriate inservice programs must be designed for field personnel. Vehicle specifications must also be prepared.

Staffing

Programs such as the Readimobile and the home visitor component of Appalachia preschool have clearly demonstrated the effectiveness of paraprofessionals in an instructional situation. The cautious outlook of the isolated rural community must be taken into account in the development of new programs, and apparently the best way to bring about community acceptance and support is to utilize indigenous paraprofessionals. All three of the major preschool programs previously cited comment on the extreme dedication and competency of these individuals. With careful pre and inservice training, some supervisory support, and some type of daily internal evaluation form, paraprofessionals can assume an instructional role.

A related issue that is likely to become prominent in the near future is the current extremely low payscale for paraprofessionals. If good paraprofessionals are capable of carrying out a mobile instructional program, it would seem that this performance should be rewarded with at least a living wage.

Curriculum

Regardless of program goals, staff philosophy, or children's capabilities, curriculum should be specified as to objectives and content; and children's performance must be evaluated according to these specifications. This approach is critical, especially when one considers the limited contact of most mobile projects. Accurate records of daily progress must also be maintained, especially in programs designed for migrant populations. In this way only, can all of the projects and local education agencies likely to serve the migrant child in the course of a year perform efficiently.

It is further recommended that new projects use available instructional packages and adapt them to local needs. It seems senseless for every emerging project to become involved in curriculum development when a variety of good exportable packages is already in existence.

Vehicle

Although many questions emerge regarding vehicle specifications, it seems safe to say that a mobile facility can be designed to suit the needs of any program. However, cost considerations suggest that such a vehicle should not be used unless there is a clearly documented need for a mobility factor.

Commercial manufacturers vary in their ability to deliver a product according to schedule. If a bare interior is to be ordered, then the ability of local resources to remodel and equip the vehicle must be considered. If the vehicle is to be purchased ready to go, then a longer delivery date is required.

The process of vehicle selection usually centers upon the following issues: degree of mobility, curriculum to be used, number of children to be served, and funds available.

If the unit is to be moved more than once per week a self-propelled vehicle is recommended; if not, a semimobile unit is desirable. The designated curriculum should dictate the interior design as well as the amount of space needed for each child. Limited contact time and highly structured language development curriculum of the type used in the Readimobile require relatively little interior space.

Power Supply

The question of power supply requires some discussion. A generator costs about $3,000. This power source can be mounted on the back of the vehicle, with the price of a dry mount running about $400, or it can be enclosed in the body of the vehicle with some sacrifice of floor space.

Most mobile programs stop at established population centers, even though they are small. If power lines are not readily available, then a great many of them could be installed for the price of a generator. The generator gives an additional maintenance problem, and presents itself as another item field personnel must check on a regular basis. Therefore, the use of power cables hooked up to a 220 volt electrical supply is recommended.

CONCLUSIONS

Concluding remarks will deal with exploratory programs and issues that are related to the development of mobile programs.

Exploratory Programs

Over a dozen mobile programs have been presented in this document. Considering the unmet needs of thousands of rural isolated and migrant preschool children, the use of mobile facilities remains a fairly unexploited resource. Currently, there are several creative explorations being made of additional ways to capitalize on this potential resource.

The Appalachia Regional Commission is investigating the feasibility of converting railroad freight cars into mobile classrooms. Some of these cars are already electrically wired and temperature controlled. The sliding side doors would be removed and replaced with windows and regular doors.

The conversion operation would be completed in a central location, and cars would be hauled to the closest siding. Temporary tracks would then be laid to the designated site, and once the unit had arrived, it would be hooked up to a local power supply. This approach would make use of a large amount of track already laid in Appalachia, as well as utilize surplus railroad cars.

The Tennessee Valley Authority currently uses mobile hospitals. Each of these units consists of a mobile home trailer over which a large box is mounted. This box converts into large prefabricated corridors which connect the trailers. Through creative use of paneling, corridors can be converted into "rooms" of various sizes.

This design feature offers the advantage of allowing two or more units to join together, thus providing extra space, as well as avoiding the claustrophobic effect of windowless mobiles.

Another mobile approach currently being explored in the ortheast section of Washington, D.C. is the Cribmobile. This program features home pick-up of the infants to be cared for during the day. The vehicle is a $10,000 Dodge islander mobile home, converted for this purpose at an additional cost of $6,000. With this program, time spent by parents transporting their infants to and from day care centers can be eliminated. The facility provides crib care for five infants, as well as sinks, hampers, and cooking facilities.

Related Issues

The most pervasive unresolved question in the mobile area regards the delivery of services to preschool migrant children. Although replication of efforts like the Appalachian and Readimobile programs seems an effective

and economically feasible strategy for serving rural isolated disadvantaged children, the Early Learning Program is only a partial solution to the problems of migrant children.

Over 90 percent of Florida migrants travel to other regions for the summer growing season, and many migrant families move from county to county during the time they are in the state. This means that the migrant child has a fragmented education. More effective planning between states, such as seen in the Texas Migrant Program is needed to compensate for this situation.

In states where parents move more frequently, preschool staffs could be assigned to migrant camps and could follow the migratory stream in mobile classrooms with mobile living quarters attached, similar to those used in the New Mexico program. In this way, children could be in class while on the road and the travel associated with migrant life could be converted from a liability to an educational asset.

Two areas of mobile preschool instruction are in need of additional exploration and refinement:

1. field testing existing curricula to determine effectiveness, and
2. determining minimum contact time necessary to produce positive gains.

Summary

Mobile programs hold much potential as a method for delivering preschool instruction to rural and migrant children. The programs have positive drawing and holding power as evidenced by ease of recruitment and stable attendance rates; paraprofessionals can easily be trained to successfully carry out the program; many alternative curricula are available; cost factors, if careful planning is done, support the economy of this approach.

Despite these positive factors, the mobile approach is not widespread, at a time when thousands of disadvantaged preschool children are in need of such programs. The truth is that the most important decision remaining in the area of mobile instruction is that of funding, and it is clear that this responsibility will ultimately rest with local school systems.

The delivery of educational programs to young children by means of mobile units is an exciting and promising aspect of the development of preschool programs, that has become an established part of the educational picture through the cooperative efforts of many kinds of people in the last decade. It is hoped that this document has provided insights and impetus for the continued development of mobile programs in the 1970's.

APPENDIX A

LIST OF MOBILE PROJECT CONTACTS

1. Appalachia Preschool Program

   Dr. Roy W. Alford, Jr.
   Educational Development Specialist
   Appalachia Educational Laboratory, Inc.
   P. O. Box 1348
   Charleston, West Virginia 25325

2. Readimobile Project

   Mr. N. A. Crippens
   Deputy Director
   Southeastern Education Laboratory
   Suite 221, 3450 International Boulevard
   Atlanta, Georgia 30354

3. Florida Migrant Program

   Mr. Thomas Culton, Administrator
   Migrant Education Program
   Clemmons Building
   Florida State Department of Education
   Tallahassee, Florida 32301

4. California Preschool Mobile, Inc.

   Mrs. Rosella Lipson
   2468 South Main Street
   Los Angeles, California 90007

5. Kentucky Mobile Training Project

   Mrs. Margaret Hockensmith
   Assistant to the Commissioner
   Department of Child Welfare
   403 Wapping Street
   Frankfort, Kentucky 40601

6. LINC Mobile Training Unit

   Learning Institute of North Carolina
   Children's Center
   800 Silver Avenue
   Greensboro, North Carolina 27403

7. Cherry Creek Mobile Unit

Mrs. Celeste Clark
Cherry Creek School District
4700 S. Yosemite
Englewood, Colorado 80110

8. Colorado Migrant Program

Mr. Phil Gore
Supervisor Education Program
Colorado Department of Education
Denver, Colorado 80203

9. Colorado Preschool Trailer

Mrs. Katherine McCue
Early Childhood Primary Supervisor
Boulevard School
2351 Federal Boulevard
Denver, Colorado 80211

10. New Mexico Mobile Summer School

Mr. Bill Caperton
Coordinator Title I Projects
New Mexico Department of Education
Santa Fe, New Mexico 87501

11. Texas Mobile Headstart Program

Mrs. Anita Brewer, Director
Information and Publications
Southwest Educational Development Laboratory
800 Brazos Street
Austin, Texas 78701

APPENDIX B

MANUFACTURERS OF MOBILE UNITS

DESCRIBED IN PART I

Appalachia Mobile Classroom

Avid Corporation
Travelab Division
10 Tripps Lane
East Providence, Rhode Island 02914
Sales Manager: Mr. E. V. Maxwell

Early Learning Unit (Florida Migrant)

Motivation Systems, Inc.
P. O. Box 1063
Gainesville, Florida 32601
President: Mr. James T. Glisson

Readimobile

Children's Caravan, Inc.
Weston, Connecticut 06880
Contact Person: Mr. Mort Schindel

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