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ABSTRACT

Presented are program alternatives for operating an innovative school system for Fort Lincoln New Town (FLNT) in Washington, D.C. General Learning Corp (GLC), retained by the school system, offers this report of the "definition phase" of the planning effort during which community residents, D.C. Schools, Government agencies, GLC, and others defined the needs, goals, and resources of the FLNT Education System. Contents include: History of the FLNT project and a summary of related planning documents with emphasis on educational recommendations, GLC planning design, definition phase activities (community, demographic, resource surveys), goals constraints, alternative plan, feasibility, and recommended plan. (For related documents see ED 047 171 through ED 047 188.) (Author/LS)

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GENERAL LEARNING CORPORATION
EDUCATIONAL SERVICES DIVISION

**COMPREHENSIVE PLANNING
FOR AN EDUCATION SYSTEM**

FORT LINCOLN NEW TOWN

Negotiated Services Contract #69183

Report #2 DEFINITION SUMMARY

**August 7, 1969
Revised**



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1. INTRODUCTION

This report is a presentation of program alternatives for operating an innovative school system for Fort Lincoln New Town (FLNT) in Washington, D. C. General Learning Corporation (GLC) offers this preliminary report as a basis for further discussion by members of the D. C. School System, community members, and government agencies. Acceptance of this Definition Report will allow GLC to proceed to the final Operating Plan design for the First FLNT School in October 1969.

The purposes of this report are many. GLC has written and researched the material in this report to fulfill a contractual requirement between GLC and the D. C. Public School System. That contract, #69183, calls for GLC to define the future plans and goals of the new school system.

To decide upon these goals GLC members worked with numerous people, institutions, and agencies both in Washington and in other cities to gather information on resources available to the school. These include human resources, local facilities, and various educational programs both local and national which could aid in the development of the Fort Lincoln Education Plan.

After examining both the resources available for developing a new school system at Fort Lincoln and the legal, governmental, and other constraints upon the proposed school system, GLC derived a number of optional approaches to designing the comprehensive plan. From among the alternatives, GLC chose to recommend one plan the "Open Plan", which is recommended as the best approach to meeting the goal of the Fort Lincoln educational system in an imaginative, workable way.

Report Organization

- o A brief history of Fort Lincoln New Town planning is provided in Section 2.
- o A description of GLC's mandate and methods follows in Section 3.
- o Activities conducted during the discussion and research phase are described in Section 4.
- o The goals established for Fort Lincoln schools are outlined in Section 5.
- o The results obtained through discussion and research are covered in several sections including 6, 7, 8, and 9.
 - Resources available to Fort Lincoln school system and the use of resources are the subjects of Section 6.
 - Constraints that could hinder development of an innovative education system are discussed in Section 7 and recommendations made.
 - Alternative approaches to instruction, staffing, community participation, and organization for Fort Lincoln system are analyzed in Section 8.
 - In Section 9, feasibility of the plans is discussed.
- o The "Open Plan" is summarized in Section 10.

2. PROLOGUE TO PLANNING

2.1 Fort Lincoln -- New Town in Town

Fort Lincoln is a 335-acre tract of rolling, open land on the north-east edge of Washington, D. C. , offering a panoramic view of the city. A vital fortification in the capitol's defense during the Civil War, it was later occupied by the National Training School for Boys.

Today, Fort Lincoln is the site for a national effort to create a new urban community, bringing together people of diverse background in a cityscape of spacious parks and malls, high- and low-rise housing, self-contained shopping and commercial areas, and schools.

The Fort Lincoln New Town (FLNT) project was announced in August, 1967, as a pilot effort to use surplus Federal lands to meet the city's needs for better housing, more responsive schools, open space, and new industry. It is planned to eventually house about 17,000 residents, 7,000 of them school children.

The project is the joint development responsibility of the U. S. Department of Housing and Urban Development, the District of Columbia Redevelopment Land Agency, the National Capital Planning Commission, the District of Columbia Government, the District of Columbia Fine Arts Commission, and the District of Columbia Public Schools.

2.2 Public Schools for the New Town

Because early planners of New Town believed quality education could be a key factor in attracting residents, they called for the design of an educational system in which school programs would be made an integral part of community life.

Following their advice, the D. C. Public School System mandated the design of a total educational system which would provide a full range of programs and services for people at all stages of life from earliest childhood throughout adulthood.

In defining its goals for the new system, the D. C. School System expressed the desire to start "from the ground up." Present educational practices and programs should not stand in the way of developing a better system and improved methods of education for the New Town in Washington. Rather than an extension of the existing D. C. School System, a totally new approach to education was to be planned.

The process of designing this system has involved rethinking and re-evaluation of the total educational process, the values society holds for children, desirable educational outcomes, skills and knowledge to be taught, and the attitudinal development of students. It has also required consideration of the types of persons best suited to teaching, the kinds of learning materials and methods to be used, and the types of environment most conducive to growth and development.

The key commitment is to design a system which will provide "a personal plan for each student to be based on his personal characteristics, modes of learning and objectives." The system must provide students with performance objectives that are clearly stated and individually relevant. The curriculum must encompass the needs of all students, offering a full range of career alternatives and advanced programs. Strong emphasis is to be placed on developing positive awareness of self and a multicultural approach to academic mastery.

The Fort Lincoln school system must be more than a model and a laboratory for new ideas and concepts. It must provide the highest possible quality

of education for children and adults and be relevant to their needs and the demands of modern life.

2.3 A Model for the Nation

Inevitably, the educational design implemented at Fort Lincoln will be widely scrutinized; if it is successful in meeting its established goals, it will also be widely imitated. The Fort Lincoln educational system has the potential of becoming the public education model for the nation.

2.4 FLNT Education -- Now and Tomorrow

The Fort Lincoln school system will serve approximately 10,000 students aged 3-18, including as many as 3,000 from overcrowded schools in adjacent areas. Since the first school facility will open in the fall of 1970 before New Town housing and commercial areas are completed, the first students to enroll will come from outside the Fort Lincoln land tract.

However, even when the first facility opens, students will find an exciting environment that will grow as they do. Proposed features now on the drawing board include: large open spaces rich in variety, color, and content; smaller quiet enclosures for "special things" such as story telling, science experiments, little theatre, films; easy access to outdoors; and indoor play spaces geared to bustling activity and scaled to the developmental stages of childhood -- ages 3-5, 5-7, and 7-12.

Community facilities to be developed include a swimming pool, offices, and meeting rooms intermingled with educational spaces to permit easy access and a minimum of "institutional barriers." There will also be space for teacher training and other gatherings of school personnel.

Based on a commitment to the community -- adults as well as children -- and the belief that true education is a lifelong process, a continuing education program will take shape, extending the benefits of the FLNT educational system to all residents. A branch of Federal City College is planned for the southwest portion of the site, providing residents the opportunity for adult education and advancement in a society in which high value is placed on learning.

The immediate challenge is to develop a plan to turn these educational goals into reality. The plan must be coordinated with the total community planning effort, and a cooperative effort of parents and community, government officials and educators, planners and technicians is essential. Participants must be guided in this effort by comprehensive guidelines outlining a step-by-step process for meeting the educational goals already established.

2.5 Developing the Plan

Before such a comprehensive plan could be developed, educational recommendations were needed. Recognizing this need, Superintendent of the D. C. School System, William Manning, formed an ad hoc committee which obtained reports, plans, and proposals for educational recommendations from Edward J. Logue, Dr. Mario Fantini, and Dr. Milton Young.

A set of educational concepts, goals, and recommendations was culled from these data, and General Learning Corporation was retained by the school system to develop a comprehensive and specific plan for establishing and operating the FLNT school system in line with the educational objectives that had been defined.

General Learning Corporation (GLC) has now completed the definition phase of its activities, conducting surveys of community and agency resources, community opinions about education, and demographics of FLNT for enrollment projections.

This document is a report of these activities, and is designed to present definitive data and recommendations with respect to:

- | | |
|---------------------------|--|
| GOALS: | For FLNT pupils and the educational system. |
| RESOURCES: | That can be used by FLNT schools. |
| CONSTRAINTS: | Within which FLNT schools must operate. |
| ALTERNATIVES: | For educational programs, costs, and operating controls. |
| RECOMMENDED PLANS: | For operating the schools. |
| FEASIBILITY: | Of the operating plans suggested. |

The data obtained by GLC and the recommendations derived from consideration of that data (along with the educational concepts and specifications set forth by Fantini, Young, and Logue) are presented in the following sections of this report. The data are detailed in the Appendices to this document.

GLC submitted the Educational Specifications for the First Facility in April, 1969, prepared for Fry and Welch, architects for the first school facility to be constructed.

Briefly, the educational specifications for the first facility included:

- Educational Performance Requirements -- the structural environment required to conduct educational activities appropriate to the various developmental ages of students.

- Definition of Functional Areas -- the types of areas needed to permit activities related to developmental ages to be conducted within the school structure.
- Square Footage Recommendations -- in terms of functional area requirements.

GLC will also produce a more complete, detailed First Facility Plan and a total system design for the remaining FLNT schools. The schedule of performance for comprehensive planning tasks by GLC is contained in the General Learning Corporation - D. C. Government contract of 7 April 1969.

This task was assigned to a single group to ensure the development of a well coordinated, comprehensive system with all its elements planned in advance and to avoid the overlapping, contradictions, and confusion that might occur in planning if several developers were each assigned partial responsibility for individual components of planning. GLC's goal was to prepare an overall, comprehensive blueprint that the school system could use to implement a total educational system at Fort Lincoln.

To make sure that its research and planning would be representative of a wide variety of interests and acceptable to as many citizens, groups, educators, and agencies as possible, General Learning Corporation adopted a cooperative approach to planning in which citizens, city agencies, school representatives, and various consultants or specialists were consulted. They were asked to share their thinking about the FLNT Educational System with GLC and to prepare specific portions of the plan or to conduct surveys of goals and needs. Information

and specific recommendations presented by these persons and groups are incorporated into this document and will be used in the continuing planning process.

2.6 The Starting Point --
Educational Specifications and Recommendations

The initial educational specifications and planning recommendations for Fort Lincoln New Town schools came from four major sources:

- Ad Hoc Committee on Educational Specifications for Schools at Fort Lincoln.¹
- The Logue report,² a master physical plan for the FLNT site.
- The Fantini-Young report,³ a conceptual model for the FLNT educational system.
- The Passow report,⁴ a survey and analysis of current D. C. Public School practices and performance.

These reports need to be briefly reviewed since this definition survey by GLC is the first step leading to action based on the recommendations and specifications included in them.

The Passow recommendations are largely structural and system-related. In contrast, the recommendations of Fantini and Young are related more to pupil performance and curriculum. The recommendations of the Ad Hoc Committee and Fantini and Young have become program planning objectives for the FLNT school system.

The Logue Report submitted to the National Capital Planning Commission on April 1, 1969 is being used as the basis for all FLNT physical site program planning.

2.6.1 Ad Hoc Committee Recommendations

The Ad Hoc Committee on Educational Specifications for schools at Fort Lincoln submitted a report outlining specifications and recommendations for the education system; these recommendations, later incorporated into the Fantini-Young report, formed the basic structure for the plans now being made by General Learning Corporation.

The committee placed emphasis on the need for a master plan to guide the development of Fort Lincoln schools, and on the need for developing totally innovative concepts that might be unlike present methods of school organization, school services, and even unlike present concepts of facility construction, arrangement, and use. It suggested that plans should be carefully developed for an education park or complex that would serve approximately 12,000 FLNT students and an additional 450 from the surrounding community. The park should offer these advantages to pupils, parents, professional staff, and the community.

- Socioeconomic and racial integration in an unforced environment.
- Improved individual achievement rates -- through nongraded curriculum areas working across the usual grade levels.
- Special facilities and activities such as a planetarium, weather station, radio network, zoo museum, and little theater.
- Adequate facilities with flexible space for changing techniques.
- Space design in which beauty is a constant.
- Improved articulation of learning from the prekindergarten years through the usual graduation age, with flexible scheduling and placement across grade and school lines and articulated curriculum development.

- Improved opportunity for pupil weakness and strength to be determined and alleviated or enhanced.
- Improved guidance and health services provided by a school-centered staff for total family service and understanding.
- Innovation in curriculum.
- Opportunity for parents to engage in educational activities for their own benefit and for the benefit of their children.
- Employment opportunities for community residents -- as assistants, aides, clerks, etc.
- Community realization of a more effective return for the educational dollar spent in this facility.
- Participation in educational planning by the community.

The school system visualized by the members of the Ad Hoc Committee was to provide education for very young children under the direction of specially trained personnel; it was hoped that teaching staff for these young children (as well as for older students) could be trained by Federal City College and D. C. Teachers College.

From early childhood education centers, children would advance into units where ages ranged from three to seven. The next advance in a child's education program would be into groupings of children aged eight to 12 or 13 years. There would also be three junior high units and two senior high units.

In all learning centers, emphasis should be on "programmed, non-graded, team teaching in flexible spaces." There was also to be flexibility in methods

of teaching and in the hours the school facilities would be open. Community residents would be able to take part in many kinds of activities in gyms, meeting rooms, music rooms, art rooms, home economics labs, and the like. Throughout the system, emphasis would be placed on meeting individual educational needs of students. Traditional concepts of education would have to be changed to provide an educational environment in which each student could progress at his own rate and speed in a setting which would provide him the utmost stimulation and motivation to encourage his fullest personal development.

The Ad Hoc Committee on Educational Specifications concluded its report by urging the formation of the necessary committees and groups to begin actual planning based on the specifications set forth.

2.6.2 The Logue Site Recommendation

The Logue site plan specifies six schools (general learning centers) and the location of each, the number of square feet of space available for educational purposes, and the number of students to be served (based on estimates of the types and numbers of housing units to be available at Fort Lincoln.)

The estimated total enrollment suggested in the Logue report is:

Grade	#On-site students	# Students from outside FLNT
Preschool	1,000	
K-6	4,233	100
7-8	2,664	800
10-12	<u>2,103</u>	<u>700</u>
TOTAL	10,000	1,600

GLC planners used the Logue enrollment estimate to assume a student enrollment for the first facility of 700 students at preschool and K-6 grade levels.

Logue projected that the remaining five school complexes should consist of at least three elementary learning centers of 1,500 student capacity each, one junior high school with a required capacity for 3,400 students, and one high school for as many as 3,000 students. These projections are challenged by more recent data secured by GLC which project significantly lower student enrollments in the junior and senior high age ranges. On the basis of this data, GLC suggests that of the five remaining school sites, there might be four general learning centers of 1,500 student capacity each, and one senior high serving approximately 1,000 pupils.

Both the Logue and the GLC data suggest that each general learning center will have an enrollment 50 percent higher than the largest nearby existing elementary school, Wheatley School, which had a 1968 enrollment of 1,000, 15.2 percent more students than it was actually equipped to accommodate (according to figures obtained in a demographic survey conducted for GLC).

In a more recent report (April, 1969), Logue reiterated his earlier enrollment projection pattern, with 12 special learning centers complementing the six general learning centers. The following excerpt from the Logue report addendum outlines his most recent thinking and projections:

Education

As stated earlier in this report, the provision of high quality public educational facilities is perhaps the essential factor in achieving the overall social and

physical goals at Fort Lincoln. Three basic alternatives were investigated: (1) conventional concept; (2) education park concept, and (3) dispersed concept with specialized centers. The third alternative best meets the Fort Lincoln requirements.

a. Public Education

The Final Plan provides for a system of public educational facilities based on a concept of dispersed but interrelated 'general' and 'special' learning centers, as defined in the report of the Education Consultants. In addition, the necessary organizational basis for creating a system of the highest possible educational and environmental standards has been determined as an independent administrative entity for all Fort Lincoln schools.

It is hoped that the public education facilities will share a direct functional and programmatic relationship with the higher education facility on the site, the Federal City College.

The total program for public school facilities at Fort Lincoln will require a total staff of 450 and will provide for approximately 11,000 pupils as follows:

- pre-school: (ages 0-5) 1,000 pupils
- lower school: (ages 5-12) 4,233 pupils with approximately 100 pupils from adjacent areas
- middle school: (ages 12-15) 2,664 pupils with approximately 800 from adjacent areas
- high school: (ages 15-18) 2,103 pupils with approximately 700 from adjacent areas.

Building space for 11,000 pupils would amount to approximately 1,250,000 square feet. Total land area required would include approximately 40 acres, of which 25 would be open space and playfields. Building coverage and parking would amount to 15 acres.

Public educational facilities would be distributed throughout the site -- at the Town Center, the Federal City College Center, and at five convenience or 'local service centers' corresponding to station stops on the internal public transit system.

The building program would consist of three types of learning centers:

Early Childhood Learning Centers

Early childhood learning centers for ages 0-5 would be located in eight locations closely identified with residential areas. Each center -- for approximately 125 pupils -- would contain about 10,000 square feet of building, with 15 parking spaces.

General Learning Centers

General learning centers would contain space for general academic functions for 1,500 - 1,700 pupils and 75 faculty and staff members. They would occur at each of six locations, corresponding to stops on the internal transit system. Each general learning center would contain approximately 120,000 square feet, with 75-80 parking spaces. The general learning centers would serve as the 'home room' for pupils, and would include all age levels.

Special Learning Centers

Special learning centers (SLC) would provide specialized instruction in the arts, sciences, and practical arts, with emphasis on 'real life' experience -- relating the school curriculum to actual social and economic enterprises on the site. Because pupils from throughout the site would travel to SLCs to receive specialized instruction, they would be exposed to the full variety of activities on the site.

The Final Plan suggests 12 special learning centers, with 2 or more such centers directly connected to a general learning center. SLCs could include the following:

- **Business and Commerce:** 50,000 SF (located in Town Center)
- **Government and Management:** 10,000 SF (located in Town Center)
- **Fine and Performing Arts:** 120,000 SF (located in Town Center) (area C-4)
- **Sports and Leisure:** 80,000 SF (adjacent to the Federal City College)

- Food Services: 20,000 SF (adjacent to the Federal City College) (area A-4)
- College Center: (for joint programs with the Federal City College included in the College's program quantities)
- Educational Resources Center: 20,000 SF (located in area B-3) (includes library facilities from public schools)
- Health Services Center: 10,000 SF (located in area C-1, adjacent to Bladensburg Road, as part of the community health center)
- Language Arts Center: 20,000 SF (located on far end of Town Center)
- Science and Technology Center: 60,000 SF (located in area A-6; provides specialized equipment and instruction in sciences and technology)
- Communications Center: 10,000 SF (located in area C-5 at far end of Town Center; includes broad range of communications operations and study)
- Urban Education Center: 50,000 SF (located in area E-2; provides special research, teaching, and study in urban education and related fields)

The space allocated to special learning centers, approximately 450,000 SF or 36% of the total, represents the portion of a school facilities building program generally attributed to specialized instructional uses.

2. e. 3 The Fantini-Young Program Planning Concepts

The D. C. Board of Education asked Fantini and Young to define quality education for Fort Lincoln, to develop a set of program objectives and organizational and administrative methods, and to describe the resources and facilities needed.

In their conceptualization of a system for providing high quality education in FLNT, Fantini and Young envisioned "an education community, a system of education based on the entire community." They recommended an economically

and racially integrated system that would be meaningful to residents at all ages and stages of life.

Fantini and Young made these recommendations for the design of the education system:

- An economically and racially integrated education system.

"Diversity of cultures and economic class within a community enriches human experience, as each individual interacts with the community. In terms of education, there is considerable evidence (from the Coleman Report, the National Commission on Civil Disorders, and other sources) that integration correlates directly with achievement in schools."

- An "exemplary quality education program." They defined quality education as that which "enables each individual to maximize his ability to function in his roles as an individual, as a family member, and as a citizen in a community and in the work world. . . To achieve this goal we envision an education community, a system of education based on the entire community." They suggested that development of an exemplary education system would draw a wide variety of people from many walks of life to the community, thus creating a richly diversified community.

- Specific guarantees to the community. The school system at FLNT would have the obligation to provide:

- Opportunity for students to be trained for a career and obtain a job on completion of the training program.

- Assurance that students developed their skills and advance according to their level of ability, taking advanced courses if necessary.
- Parent involvement in the student's school activities.
- Opportunity for lifelong education for people of all ages.
- Resident participation in the control of the schools as well as its activities.

In addition, Fantini and Young suggested, "the education system will be responsible for successfully teaching the students of the community and will be held accountable to them for any failures. It will be recognized that any failure represents a failure of the system and not of the student."

- A broad program of learning activities developed in relation to these target areas:
 - Skill development, acquisition of knowledge, and individual growth.
 - Development of personal talents and interests.
 - Growth in social participation.
 - Growth in positive self-concept and sensitivity to others and the environment.
- To meet the guarantees outlined, the education system must be based on these operating principles:
 - Provision of lifelong educational opportunities.

- Utilization of Fort Lincoln community and sources from the surrounding area as a base for the education system and as a means of broadening the range of educational experiences for all students.
- A method of staffing appropriate to FLNT student and community needs rather than traditional education staffing systems. "Certain staff functions will evolve from the education activities decided upon. These functions might be performed most readily by a college trained person, by a paraprofessional, or by an older child in the system."
- Three kinds of learning environments -- early childhood, special and general learning centers -- all open space facilities that would allow maximum flexibility and convertibility. Special learning centers might include space in commercial and institutional facilities where people are engaged in professional, business, and industrial work of all kinds; general learning centers would include flexible facilities where general learning activities and academic skill development activities can be carried on. "The education system plans to give high priority to educational experiences which are real, personalized, active, and process-oriented. Whenever possible, activities will therefore be scheduled where real-world roles are being acted out. The system of location recommended is one which is essentially decentralized, but which has nodes of concentrated educational activities."

- A system headed by an administrator with direct responsibility for the system, but so designed that decision making can occur throughout the system and not just at the administrative level.

Fantini and Young suggested that the organization of the school system should be in a normal pyramid to fix responsibility, but the organization should "be a dynamic one with decision-making points built in at all levels of the system." Citizens in the community will be involved in influencing the policies of the education system through participation in learning activities.

"The organization of the system must be flexible and responsive to the changing needs and the objectives of the community it serves. The recommended organizational structure will serve only as a general guideline for any operating structure which evolves. Rather than specifying roles for staff, they will be trained to operate on tasks."

- Employment of a project management staff to locate, collect, evaluate, and construct programs and subsystem elements.

Fantini and Young suggested that a separate development corporation be established with comprehensive responsibility for development of the site, building the education system, and developing a preresidence program. As residents moved to the site, a service corporation should be established to govern the community and operate public services, including the education system, which would be a separate subsystem of the D. C. Government and public schools.

The broad program of learning activities that Fantini and Young recommended included these challenges for planning:

- Develop an educational system that will create in students a positive awareness of self and sensitivity to others and the world around them.
- Prepare every student with the necessary tools and attitude toward a continuing educational program.
- Develop a system that will expose every student to a variety of career alternatives so that the student will have opportunities to train for a career and receive a job after completion of his program.
- Develop a system in which every student will develop his communication and computation skills.
- Develop a system that will provide every student a multi-cultural approach to the mastery of academic subjects.
- Develop a system which will enable every student to take advanced programs at any level fitting his capacity, including college courses, foreign languages, and technical and vocational programs.
- Develop a system of performance objectives for each student that will be clearly stated individually. (The program should provide accurate and up-to-date information on the student's progress in relation to the student's individual objectives and potential.)

- Develop a system that provides for a personal plan for each student and permits him to discover and develop his own innate talents and capabilities -- the plan to be based on his characteristics, modes of learning, and objectives. (It will be self paced and continual and designed to challenge him to develop his interest, aptitudes, and special talents through the use of special staff, facilities, and a variety of approaches from infancy to adulthood.)
- Develop a system which will help every student to develop a positive identity or self concept and a sense of potency and power through active participation in the educational system and the community.
- Develop a system of individual evaluation and collective evaluation of system, system method, and personnel.
- Develop a design for differential staff use, utilizing the community and the urban environment.

Fantini and Young based their rationale on experience with past practices and on their concerns for the future:

The present system of education was designed for a purpose other than the one it is meeting today and needs to meet in the future. The challenge has been to develop a new system based on new goals and new concepts which will bring together all the best components and programs operating in the present system.

The conceptual differences between present educational methods and the goals suggested by Fantini and Young can be summarized as follows:

The Present System	The New System
Screen for college and ministry	Educate all students
Transmit knowledge to passive students	Involve students in active learning
Learning in groups following pre-planned sequence	Individual personal plan
Closed-ended factual knowledge	Knowledge as process and inquiry
Direction and limits known	Search for meaning
Training in Three R's	Three R's plus social and career skills, sensitivity, independence, action, talent
Teacher-directed	Involve community and students in decision making
Student was assumed to fail, rejected	System accepts responsibility for failure
Education in the classroom only	The total community is the classroom
New programs added on	All programs are one
Five hours a day; 180 days a year	All day, all year
Diploma completed education	Education as a lifelong activity
Education for children	Education for all people
Closed loop, static system	Self-regenerating, dynamic, changing system
System separate from other community services	System integrated with all community services
Separate school buildings	Education space part of community facilities
Rigid "egg-crate" school buildings	Facilities convertible flexible, multiuse

2.6.4 Passow Recommendations for the School System

This 15-month assessment of current programs and practices in the D. C. School System revealed indications that education in the District is in "deep and probably worsening trouble." Typical generalized findings about the school system revealed:

- A low level of scholastic achievement as measured by performance on standardized tests.
- Poor "holding power" as evidenced by the high dropout rate.
- Inadequate in-service teacher education programs that fall far short of providing the continuing education essential for professional growth.
- A reacting school system that reacts to circumstances rather than one that initiates innovation, long-range planning, and program development.
- Overconcentration of administrative responsibilities in some areas and proliferation and overlap in others.
- Poor communication between the schools and the communities they serve.

Since the Passow recommendations were for changes that could be made within the existing school system to insure higher quality education for Washington, many of them do not apply to the creation of a new school system. However, it is instructive to consider the areas of suggested change as areas of particular concern in establishing a new system for more successful learning.

Some of the Passow recommendations can be considered as goals for the FLNT school system:

It is recommended that the District... staff a pilot group of schools with corps of truly 'temporary' teachers - educated young people, willing to take on the problems and challenges of the schools for a three-year period, under conditions designed to enhance their chances for success.

It is recommended that the teacher aide program and the use of paraprofessionals be expanded as an integral part of the District's Educational Program.

It is recommended that new personnel procedures be implemented as rapidly as possible.

It is recommended that a substantial rebuilding of instruction be undertaken.

It is recommended that the Community Boards of Education be elected by voters from the District involved for three-year terms.

It is recommended that the schools be transformed into community schools, collecting and offering the variety of services and opportunities neighborhoods need.

It is recommended that several learning centers, each with a specialized function, be developed around the District's borders.

It is recommended that the District seek staff diversification through teacher exchanges and effective use of volunteers and paraprofessionals.

It is recommended that the District intensify its efforts to develop individualized programs.

It is recommended that the District set a goal of a Multi-Media Learning Center in every school, coupled with Area Media Centers for resources which are more effectively handled from a central location.

It is recommended that students be given a more central role in planning cocurricular activities.

The recommendation by Passow that special attention be devoted to the development of individualized learning is particularly applicable to FLNT

educational planning effort. Passow and his team of researchers recommended that flexible groupings of students be used consistently so that "much of the instruction is in small groups, increasing the possibility for individual attention and insuring that each pupil is actively engaged in learning, rather than 'tuned out' as often happens when the whole class is taught." Skills centers and spaces for independent or small-group study and learning activities were suggested. Passow also recommended that no grouping be practiced until grade seven, and that the grouping that occurred then should be in relation to subject matter.

Significantly, much professional credibility was given to the Passow report and the goals it established for a new system of education in the nation's capital. A second significant result is that the D. C. Schools have, by commissioning the design of a new system for Fort Lincoln schools, acted on many Passow recommendations and committed themselves to their implementation.

2.6.5 A Base for Specific Planning

The concepts, specifications, and recommendations of the Ad Hoc Committee, Passow, Logue, and Fantini and Young provided the base from which GLC launched its effort to turn recommendations, raw ideas, and a commitment to improved education into real-life plans and activities.

Initial goals for planning were set forth by the Ad Hoc Committee on Educational Specifications for Fort Lincoln Schools.

The Passow report provided goals for the overall school system which contained important implications for innovation in Fort Lincoln -- in fact, the FLNT school system may provide the first opportunity for many Passow recommendations to be implemented.

The Logue Plan, as modified by GLC's educational performance specifications and the ingenuity of the school architects, provided the physical constraints within which FLNT schools must be built.

The Fantini-Young report provided a conceptual framework for the educational curricula and established system performance objectives.

The recommendations of these reports and the requirements of the District of Columbia School System, combined with GLC's operational planning, will ultimately result in a total system plan.

2.7 Summary

Plans developed for the Fort Lincoln New Town school system are an extension and expansion of educational concepts and recommendations formulated for the schools by a series of educators, city planners, and educational designers.

Initial groundwork for planning was laid by an Ad Hoc Committee formed by the D. C. School System to begin to conceptualize goals for FLNT schools. The Committee's recommendations were incorporated into a general educational design prepared by Drs. Mario Fantini and Milton Young. Educational planning was also an important feature of the FLNT site plan prepared by Edward J. Logue. Finally, Dr. Harry Passow's analysis of the needs of the total D. C. School System included many concepts of education that have been incorporated into FLNT education system planning.

Several basic themes or goals common throughout the reports prepared by these planners and educators constitute the basic structure around which GLC has conducted its planning. Predominant goals include:

- Individualized learning opportunity, enabling each student to progress at his own rate and speed and in his chosen fields of study.
- Flexible scheduling and grouping of students.
- Community participation and leadership in the schools.
- Provision of education for people of all ages and from all social and ethnic groups.
- Decentralization of facilities.
- Use of the community as part of the learning environment.
- Accountability of the school system for student achievement.
- Provision of the highest possible quality of education.

Designing the totally new system has involved re-evaluation of the process of education, the values society holds for children and young people, desirable educational outcomes, skills and knowledge to be taught, and the attitudinal development of students. It has also required consideration of the types of persons best suited to teaching, the kinds of learning materials and methods to be used, and the types of environment most conducive to growth and development. GLC is committed to designing a system that provides a personal plan for each student while providing the highest possible quality of education relevant to the needs and demands of modern life.

The educational design ultimately implemented at Fort Lincoln -- if successful in meeting these goals -- has the potential of becoming the public education model for the nation.

3. PLANNING BY GENERAL LEARNING CORPORATION - MANDATE AND METHODS

3.1 The Mandate

The planning mandate to General Learning Corporation from the D. C.

Public Schools was:

In the execution of this contract, the contractor and his personnel are advised that the general aims and objectives of this educational system are to design a system that is unique and relevant to the needs of the Fort Lincoln Community.

Beginning with the assumption that educational programs that are confined to traditional facilities and their immediate environs will be insufficient and inadequate for the school of the future, the programs designed for the Fort Lincoln North Town Educational System must take advantage of all human and institutional resources available on the Fort Lincoln site as well as those available in the total Washington Community. Included should be the opportunity to use such facilities as banks, stores, libraries, government agencies, the Smithsonian Institution, etc. on a regular scheduled basis.

The education process must begin not later than age three. There must be available for all age levels of the community, programs which are suited to their desires and needs. The first facility will be designed to serve from 600 to 700 students of ages 3 to 13.

3.2 Methods

To conduct comprehensive planning for FLNT schools, General Learning Corporation assembled a multidisciplinary team of consultants to work with the Special Projects Division staff, other departments of the school system, community groups, and government agencies in a 12-month planning process ending April, 1970.

The major comprehensive plan to be developed by this team will consist of seven subplans:

- Educational Program Plan - A total curriculum design for individualized instruction.
- Community Participation Plan - A system which includes community decision-making, community programs, and community use of facilities.
- Staff Development Plan - Methods for recruitment, training, and continuous development of instructional and administrative staff.
- Facilities Plan - An outline of educational specifications and site plans for six school clusters comprising the total educational complex.
- Implementation Plan - A PERT (Program Evaluation and Review Technique) schedule for all phases of activity.
- Operating Plan - Specific guidelines for administration of the system as an operating unit.
- Funding Plan - Cost estimates for developing and operating the system and annual budget plans.

Together, these seven subplans will provide a detailed blueprint for the FLNT education system, permitting its implementation on an efficient, planned basis.

3.2.1 Overall Process

Activities leading to the development of the seven subplans and the blueprint for action are being conducted by GLC in four phases:

- Definition Phase (Complete August 1969)

This completed phase, the subject of this report, consisted of a cooperative effort in which the community, the school system, and CLC planners defined the needs, goals, and resources of the system and developed alternative approaches to system design.

- First Facility Design (Complete October 1969)

This will be an overall plan incorporating the seven subplans for implementing a total education program at the first facility when it opens in the Fall of 1970.

- Total System Design (Complete February 1970)

The plan for the first facility will be expanded to cover the total school system of six learning centers.

- Final Reports (Complete April 1970)

Specifications, costs, and other related factors will be documented.

The GLC program planning schedule, organized in terms of subplan development, is outlined in Appendix E.

3.2.2 Definition Phase Processes

To establish a broad base for planning and to ensure that all groups to be affected by the Fort Lincoln New Town school system had a voice in the development of plans, GLC conducted a variety of surveys and visits, gathering several types of data or general information.

3.2.2.1 Surveys

These surveys were conducted to define resources and constraints affecting the public and agencies and to relate findings with respect to resources and constraints to FLNT educational planning:

- A survey of community resources. (Appendix A)
- A survey of community opinion. (Appendix B)
- A demographic survey. (Appendix C)
- A staff-agency survey. (Appendix D)

3.2.2.2

In addition to the surveys, GLC personnel made several trips to view first hand the operation of innovative, educational programs. The programs visited were selected for their relevance to the Fort Lincoln program and their professional reputation. (See Section 4.5, pp. 4-18 to 4-28.)

3.2.2.3 Curriculum Search

Since many existing curriculum and teaching materials now in use in public schools may not be appropriate to the educational processes being designed for Fort Lincoln, efforts were also made by GLC to locate and collect new materials being developed or already in use in experimental programs. Many of these materials, some of which are still being evaluated, are not yet available commercially. Consequently, it was necessary to gather information about these materials from a variety of curriculum development projects, universities, and school systems. (See Section 9.3, pp. 9-11 to 9-15:)

3.3 Summary

In its mandate from the D. C. Public Schools, General Learning Corporation was instructed to design a unique system relevant to the needs of the Fort Lincoln community. Educational programs confined to traditional facilities were considered inadequate for FLNT; the system designed, therefore, was to make every possible use of facilities such as stores, businesses, government agencies, and museums.

To conduct comprehensive planning, GLC assembled a multidisciplinary team to work for one year to develop seven subplans covering the educational program, community participation, staff development, facilities, implementation of activities, administration, and funding.

Activities leading to the development of these subplans are being conducted in four phases -- the definition phase (reported in this document), the First Facility design, the total system design, and final reports.

To conduct the definition phase and establish a broad base for planning and to ensure that all groups had a voice in the development of plans, GLC conducted four surveys of: community resources, community opinion, demographics, and staff and agencies. GLC also visited several innovative educational programs already in operation and gathered curriculum materials and information about existing curricula or curricula being developed that might be appropriate to Fort Lincoln school use.

4. DEFINITION PHASE ACTIVITIES AND FINDINGS

Activities conducted during the definition phase to elicit information from which planning recommendations and alternatives for planning could be identified included: a community resources survey, a community opinion survey and community planning workshops, a demographic survey, an agency survey, visits to innovative school systems, and a curriculum search.

4.1 Community Resources Survey

A formal survey was conducted to identify and describe community resources in the vicinity of Fort Lincoln. Data were collected by FLNT area residents selected by the Fort Lincoln New Town Advisory Council and hired by GLC. A detailed summary of the data collected in the Community Resources Survey is presented in Appendix A.

Investigators located these resources:

- 6 cultural, recreational or park areas or agencies
- 5 health facilities or programs
- 12 private and public educational programs
- 4 manpower and/or employment programs
- 9 public schools
- 15 churches
- 19 civic associations

Their report includes:

- Map outlines of the FLNT affected areas
- A list of possible program contractors
- A directory of resources for Northeast Washington
- Lists of religious, educational, and civic organizations
- A list of resources found by our survey staff.

The community resources are evaluated and recommendations made for their use in the FLNT education program in Section 6 of this report, Resources.

4.2 Community Opinion Survey

To ascertain community goals and priorities for education and opinions about school curricula and programs, a survey was conducted among FLNT area residents including secondary school children. It was carried out under contract to GLC by Community Programs, Inc. (CPI), and six FLNT area residents were included as members of the survey team.

This survey (reported in full in Appendix B) represents just one attempt to gather community opinion data; another major source for data on community opinion is a series of community workshops being conducted jointly by the Office of Special Projects and GLC.

4.2.1 Population Surveyed

A sample composed of students in schools around the FLNT site and residents of households in census tracts adjacent to the site was surveyed.

4.2.1.1 Adult Sample

One-hundred thirty-five interviews were conducted in homes selected at random from Census Tracts 90 and 91 in Northeast Washington. Characteristics of this adult sample are:

<u>No.</u>	<u>%</u>	
68	50.3	males
98	72.6	parents of children 18 or less
102	75.6	residents of the area over 5 years
23	17.0	residents 1 to 5 years
122	90.4	black
11	7.8	less than ninth grade education
24	17.8	attended high school; did not graduate
44	32.6	high school diploma
19	14.0	post-high school courses
35	25.6	college graduates
97	71.9	employed
28	20.7	housewives
10	7.4	unemployed

4.2.1.2 Student Sample

Two-hundred fifty-eight interviews were conducted in randomly selected classes representing all levels of student ability and grades in McKinley High School, Langley Junior High, and Backus Junior High. Characteristics of the student population are:

<u>No.</u>	<u>%</u>	
124	49.9	males
248	96.0	age 12-17; total age range 11 to 18; junior high to senior high ratio 2 : 1
92	35.7	seventh graders
23	8.9	ninth graders
258	100.0	black

4.2.2 The Questionnaire

Questions posed to the sample population of adults and students were grouped into eight categories: subjects taught, extracurricular activities, school problems, goals of a good school, school policies and programs, quality rating for neighborhood schools, preference for race of teachers, and attributes of good and bad teachers. With few exceptions, questions asked of adults and students in each category were the same. The exceptions are indicated elsewhere in the complete CPI survey report, Appendix B, which is Volume 2 of the Appendices.

4.2.3 The Responses

The responses to the interview questionnaire are shown in the tables found in Appendix B.

In Tables 1 through 4, the individual questions are ranked in order of the percent of adults or students who considered each question "very important," or "serious." Other response options such as "somewhat important" and "undesirable" are omitted. This method permits a gross comparison of priorities of adults and students. Deviations or other response patterns which do not show on the tables are discussed in the text of the report.

In Tables 5 through 8 of Appendix B, responses are indicated in percentages. All possible response options are included and any response five percent or greater is recorded. Highlights of each table are discussed briefly in the survey report.

What follows is a summary of the conclusions drawn from the CPI survey data. An analysis of the data is contained in the survey report.

CPI Community Opinion Survey Conclusions

<u>Table No.</u>	<u>Conclusions</u>
1	Adults feel stronger about the importance of the subjects taught than do students.
1	Both groups give highest priority to mathematics and English.
1	All subjects listed are considered important by at least 85% of the adults. However, about 12% rated music and art and foreign languages as unimportant.
2	About 20% more adults than students rate extracurricular activities "very important," except for fund drives which 21% more students than adults rate as very important.
3	Adults see the school problems as more serious than do the students.
3	Adults' ranking of three top school problems: overcrowding, poor discipline of students, children don't learn enough.
3	Students' ranking of three top school problems: opinions of students not respected by principals and teachers, poor discipline of students, inadequate school lunch program.
4	Adults' ranking of four top goals for the school: providing students with assistance when personal problems arise; teaching a student to take pride in himself and his work, providing individual instruction to its pupils whenever necessary and possible, low dropout rate.

Table No.

Conclusions

- 4 Student's ranking of four top goals for the school: making a student want to get high grades; teaching a student to take pride in himself and his work; offering students courses they are interested in, even if these courses are different from those in a standard program; providing a student with assistance when personal problems arise.
- 5a Forty percent of adults disagree with the idea of a school program for children beginning at age 3.
- 5a Among adults, 73% disagree with the statement suggesting that report cards and grades be eliminated and parent-teacher conferences held instead.
- 5a Only two students disagree with the idea that a student should move from grade to grade as quickly or as slowly as ability and rate of progress allow. A majority of students agree with all but one of the remaining statements about school policy. 54% disagree or disagree strongly with the substitution of student-teacher conferences for report cards. Of the 40% who agree 24% agree strongly; 16% agree.
- 5a On the question of a pre-school program, 51% of students agree that programs should be provided beginning at age 3.
- 5b Clearly, adult respondents do not think parents should participate in the hiring of teachers or of students.
- 5b Adults and students agree that the school should teach sex education, and the dangers of drugs, alcohol, and smoking.
- 5b A majority of adults and students agree that the school should provide advanced classes for students who learn more quickly.
- 5b Eighty percent of adults and 40% of students think the schools should hire teacher aides from the local community.
- 5b Eighty percent of adults think students should not have a say in choosing their own teachers; 63% of students think they should.
- 5b A majority of students think the school facilities (gym, auditorium) should be open for students to use on evenings and weekends, and that the student government should play a larger role in running the school.
- 5b Adults and students are slightly more in favor of providing small classes and the best teachers for slow learners over better students. 59% and 52%, respectively favor slow learners; 36% and 37% think both groups should have same opportunity.

Table No.

Conclusions

- 5b On the question of administration of the Fort Lincoln school, 63% of adults say it should be part of the D. C. System. Eighteen percent say it should be part of a separate system; 18% have no opinion.
- 6 A majority of adults and students rate neighborhood schools as good or fair. More adults rate them as good and 19% of students rate them poor.
- 7 Student opinion on the race of teachers is mixed. About half think it doesn't matter or have no opinion. About a quarter of the students think half of the teachers should be white and half of the teachers black. The remainder favor all or most teachers in a school being black.
- 7 Adults generally favor an even division of black and white teachers in a school. 19% say most teachers should be black; 16% say it doesn't matter or have no opinion.
- 8 Adults say a good teacher is one who is patient, understanding, interested in the student, has demonstrated ability to teach, has a good attitude toward the job, and is well qualified in the subject matter.
- 8 Students say a good teacher is one who is understanding and interested in the student, has a good attitude toward the job, has ability to teach, and shows fairness and has reasonable expectations.
- 8 Adults describe a bad teacher as a reverse of the good teacher.
- 8 Junior high students describe a bad teacher as one who exhibits faulty conduct in the classroom (swearing, yelling, etc.), doesn't treat students as individuals, has bad discipline, and a bad attitude toward the job.
- 8 Senior high students describe a bad teacher as one who has a bad attitude toward the job, shows lack of understanding, lacks ability to teach, and conducts himself improperly in the classroom (the attribute at the top of the junior high list).

4.2.4 Community Planning Workshops

A series of Community Participation Planning Workshops is being conducted by the Special Projects Division of the D. C. Public Schools with the technical assistance of GLC. The workshops conducted to date have provided additional data regarding Fort Lincoln citizen opinion about education. The workshops are to continue in the months ahead.

They are conducted in the evenings at Catholic University and are regularly attended by about 20 community residents who volunteer their time without pay. (See Appendices F and G for a schedule and description of the workshops and a list of workshop participants. A copy of the letter sent to residents inviting them to participate in the workshops is included in Appendix H.)

Through the elicitation of ideas concerning identifiable problems, and the needs of schools, students, parents, and community, definite statements were formulated and are indicated below. Responses and feelings revealed at these meetings were not picked up in the Community Opinion Survey (Appendix B). This is evident when the opinions of those surveyed are compared with the opinions of the participants in the workshops.

Considerable discussion took place during the course of the fourth workshop regarding many identified problems and needs. The consensus was that in order for the community to affect the existing status and future growth of education in the new environment, a council or board of citizens must be built into the new educational system designed for Fort Lincoln New Town. Supplementary programs should also be designed to meet the needs of Fort Lincoln citizens based on major problems so far identified.

Community representatives who attended the workshops held so far discussed two areas of planning -- structural and programmatic -- in which they might become involved. Recommendations based on their discussion are provided in Section 8, Alternatives for Planning.

The list that follows presents opinions of FLNT community leaders generated in the community participation workshops. The numbers following each opinion represent frequency of positive response (concern about) the opinion listed.

Identified Educational Problem Areas

- Dedicated and well trained teachers on all levels. (8)
- Modern teaching techniques, equipment, and appropriate curriculum for exceptional children. (9)
- Increased teacher-parent contact. (7)
- Better methods of maintaining classroom discipline. Guidelines, uniform codes of behavior are needed. (8)
- Lunch programs, facilities, menus are either non-existent or poor. (6)
- Individual freedom for staff members to be innovative and creative. (5)
- A community school is needed plus extended summer school programs for adults as well as children. (5)
- Smaller classes with teacher to pupil ratios of 25 to 20 to 1. (4)
- More and better qualified Assistants to Principals. (4)
- Overcrowded schools. (5)
- Generally poor or inadequate facilities (schools). (4)
- School budget is inadequate. Supplies and equipment are inadequate. (4)
- Counselors should be able to concentrate on carrying out their professional duties. (4)
- Grading and reporting systems need improvement. Profiles should be substituted. (5)
- Children under age three need to be enrolled in an education program. (3)
- Health education needs expansion in the schools. Sex education should be taught. (5)
- Library space and materials need updating. (3)
- Higher teacher salaries and better teacher facilities. (2)
- Emphasis should be placed on Reading and Mathematics. (2)
- Staff development for all school personnel. (3)

- Lack of school pride causes vandalism and destruction of school property. (2)
- In terms of race relations, there is an inability of teachers to deal with children and parents of differing ethnic as well as economic backgrounds. (2)
- There is difficulty in understanding and meeting needs of children and community. (2)
- Unequal distribution of teacher workload. (1)
- Teacher-student conferences are needed. (1)
- There should be standard dress code. (1)
- Curriculum should be established by educators who are controlled by the community. (1)
- Rote learning and phono-visual training. (1)
- Cultural emphasis required through arts and field trips. (2)
- Lack of support for school administrators by the Board of Education. (1)
- Vocational guidance and marketable skills training should be offered from elementary to secondary school levels. (3)
- There should not be a mixture of emotionally ill and normal children in the same classroom. (1)
- Preventive narcotics and alcohol addiction programs are needed. (1)
- Block time scheduling should be allowed teachers so that parents may be conferred with at school or in the home. (2)
- Inadequate supervision of lunchrooms and playgrounds. (1)
- More teacher's aides are needed. (1)
- City planning is needed to project community growth vis-a-vis schools needed. (2)
- Moral and ethical concepts should be stressed in school. (1)
- Greater opportunity in decision-making for students. (1)

- A child needs to understand "why" as well as "what" he is learning. (1)
- Teacher training in colleges and universities needs upgrading. (1)

4.2.5 Differences in Perception of Problems

There were some significant differences in the perception of problems revealed in the CPI Community Opinion Survey and in the workshops.

The primary concerns of the CPI-surveyed FLNT adults* in order of frequency-response were:

1. Overcrowded schools
2. Poor student discipline
3. Children don't learn enough
4. Teachers not allowed to run classes as they like
5. Poor quality teachers
6. Inadequate school lunch.

The primary concerns of the workshop participants were, in order of frequency-response:

1. Modern teaching techniques, equipment, and appropriate curriculum for exceptional children
2. Dedicated and well-trained teachers on all levels
3. Better methods of maintaining classroom discipline
4. Increased teacher-parent contact
5. Poor school lunch programs
6. Individual freedom for school staff to be innovative and creative.

Three concerns--the need for better disciplinary methods, the teacher's freedom in conducting classes, and the need for a better lunch program--were mentioned by both groups. The other concerns mentioned by the workshop participants appear to be more comprehensive, perhaps because the participants were community leaders and thus more familiar with school problems. However, differences may be more apparent than real and attributable to the differences in survey methods used with the two groups.

* Tables 2-3 and 2-6, CPI Community Opinion Survey; Appendix B

Other significant differences between the two groups are:

	<u>CPI Group</u>	<u>Workshop Group</u>
1. Report Cards	yes	no (profiles instead)
2. Parent participation in teacher hiring	no	yes
3. FLNT Schools as part of D. C. system	yes	yes/no*
4. FLNT-periphery schools good	yes	no (implied)

The comparability of the two groups' attitudes and concerns about FLNT schools is not wholly fair, since both groups were not asked the same questions and because the workshop group was assembled for the specific purpose of FLNT school planning. However, there is enough agreement about school problems and goals to combine both groups' opinions for planning. Most opinions differ more in degree than in kind, though the problems associated with community responsibility for school performance loom large as a "political" issue for FLNT area residents.

Continuing planning with FLNT area residents will shape the final plans to come. The opinions which are contradictory, either explicitly or implicitly, can best be resolved by the FLNT workshop planners and GLC planners together. The implications for school operation alternatives are discussed in Section 8, Alternatives for Planning. In addition, the opinions and goals of the FLNT area community are discussed in Section 5, Planning Goals.

4.3 Demographic Survey

Because the First Facility will not begin operating until 1970, many of the Demographic estimates on which initial Fort Lincoln planning efforts were based have become outdated by as much as ten years; many of them are based on 1960 census data.

*Workshop group recommends community council/board for D. C. system FLNT schools.

Since planning would be enhanced by an updating of this data, GLC commissioned Kenneth Mostow to undertake a demographic survey. (See Appendix C for a full report of this survey.) His efforts produced comprehensive statistical information that can be used in planning an adequate educational system for Fort Lincoln.

Special attention should be directed to a significant difference between the enrollment projections in the Logue report and those made by GLC. These differences occur because the Logue estimates were based on 1960 data and the GLC estimates on 1965 data and because of differences in estimates with respect to the economic profile of housing units. (See comment about the economic profile, page 4-13.)

<u>Grade</u>	<u>GLC No.</u>	<u>Logue No.</u>
Preschool	827	1,000
K-6	5,092	4,233
7-9	1,350	2,664
10-12	968	2,103
Total	8,237	10,000

The implications for numbers and types of general learning centers are critical, and a final decision about school/age mix must be the responsibility of the D. C. Public Schools.

Additional information obtained from the GLC demographic survey which must be taken into account in planning includes:

- Population - The estimates of total population provided in the Logue report appear to be too low, and estimates of school-age population are apparently too high.
- Socioeconomic Profile - GLC was able to use 1965 statistical information in its demographic survey, thus updating the socioeconomic profile of future FLNT residents presented in Logue's report on the basis of 1960 data. Numerous changes

have occurred during the last decade, reflecting new technologies and major changes in patterns of segregation in employment. Further, the Logue data did not account for the relative youth of FLNT residents, particularly those who will dwell in low-rent, multiple bedroom housing.

In its planning, GLC is using an economic profile of 900 low income housing units, 2,250 moderate income units and 1,350 middle income units, figures considered more accurate at the present time than the Logue estimates of 1,000 low income units, 2,200 of moderate income, and 1,300 of middle income.

GLC demographic study also revealed that median income per household today may be as much as three times times higher than in 1960. The most recent median income reported for the District of Columbia today is \$8,431; in 1960, it was only \$5,993.

- School dropout rates*- The magnitude of the dropout problem in the District of Columbia, as revealed in 1965 data, can be seen in these statistics:

- 4.8 percent in all junior high schools; 7.3 percent in schools in disadvantaged areas.
- 11.3 percent in all senior high schools; 18.6 percent in disadvantaged schools.
- Over 35 percent in vocational high schools.

* For further data on D. C. dropout rate, see Appendix C, pp. 6-7 to 6-8.

- Academic Achievement - Since the D. C. School System does not maintain data on the family income of pupils no estimate of educational achievement by income level could be made. However, tests in reading and mathematics are given to students five times during the course of their school years. Significantly, in almost every test, D. C. pupils rank far below national norms. The usual D. C. norm is in the third quartile (25th to 50th percentile). The norm for vocational high schools in the District is also low.
- FLNT Environs - Studies conducted after the 1960 census indicate that there was a substantial net undercount of population, particularly of nonwhites. In the area around the Fort Lincoln tract, according to data obtained in the GLC demographic survey, total population is remaining stable, but the racial composition is shifting rapidly. For D. C. as a whole there was a net out-migration of 22 percent by whites and a net in-migration of 16 percent nonwhites. The resegregation of the city, particularly as it occurs around Fort Lincoln may make it difficult to achieve the goals established by Fantini and Young and accepted by the School Board of ensuring racial intergration of the Fort Lincoln School System. It is hoped that repopulation by whites will occur because of the attractiveness of the School System.
- Overcrowding - Eleven schools near FLNT are overcrowded by as much as 15 to 68 percent

4.4 Agency - Staff Survey

The Fort Lincoln Education System will be subject to government limitations and standards and to the regulations of the D. C. Public School System. It will also be subject to public scrutiny and demand.

Therefore, a survey was undertaken by GLC to identify school operating limits as defined by regulations, policies, and practices of the school system. The identification of existing limits, or constraints, on the schools serves both to define the non-negotiable school operating requirements which Fort Lincoln schools will have to meet and to indicate areas of current practice that can be suitably modified to facilitate operation of the FLNT Education System.

Public agencies were also contacted with respect to constraints, and the information obtained from them provides a point of departure for the establishment of new systems and structural procedures. The new system procedures developed by GLC planners will be presented as part of the total plan for the First Facility in October, 1969.

4.4.1 School Data Sources

Data with respect to constraints existing within the school system were obtained through the cooperation of these offices, departments, and divisions of the D. C. Public School System: Curriculum, Elementary Schools, Secondary Schools, Personnel, Automated Information Systems, Public Information, Special

Projects, Research, Budget, Finance, Business Administration, and Staff Development. Additional data was obtained from the Teacher's Union and the Board of Education as well as the Office of the Superintendent.

4.4.2 Types of School Data Obtained

Data was obtained about regulations, limitations, and standards in the following areas:

- Curriculum - Course of study requirements and offerings, graduation requirements, Carnegie Unit requirements, hours requirements, and building and course schedules.
- Students - Attendance regulations, study and homework regulations, referral and dismissal, other disciplinary regulations, access to schools, notification and information, and data recorded on student records.
- Policy/Operations - Policies, operating rules and practices, legal foundations, antidiscrimination policy, data processing service availability; procurement regulations and processes, materials, equipment, media specifications, and catalogues, contracting procedures and regulations; public information reports, state and Federal regulations, studies and surveys; and special projects.
- Fiscal/Budget - Budget categories and structure, regulations for submission and approval by Congress, budget progress/cycle, Federal programs, accounting codes and procedures,

per pupil costs, allotment charge regulations, cost of school services, cost of school materials and payroll procedures.

- Staff/Personnel - Certification requirements, union regulations, work hours, and conditions, termination policy, transfer policy, paraprofessional and government service employce regulations, salary schedules, recruiting procedures and practices, hiring procedures and practices, promotion procedures and practices, job qualifications and descriptions, staff development opportunities, and leave of absence regulations.
- Pupil Personnel Services - Required health and dental examinations, diagnostic services, referral regulations and procedures, definition of special education and other behavioral problems.

4.4.3 Agency Data

Data was obtained from the National Capital Planning Commission, Redevelopment Land Agency, D. C. Department of Licenses and Inspection, D. C. Department of Buildings and Grounds, and the United States Department of Housing and Urban Development.

4.4.4 Types of Agency Data Obtained

Data was obtained with respect to:

- Building Construction, Equipment Maintenance and Repair - Structural standards and regulations, contracting monitoring,

building cycles and schedules, maintenance standards, repair procedures, equipment standards, and playground standards.

- D. C. Government - Budgeting procedures, especially with respect to Fort Lincoln, accounting, procurement, payroll, and legal constraints.
- Redevelopment - Urban renewal requirements and powers, Fort Lincoln data (from RLA).
- Planning - National Capital Planning Commission powers, approval process, and staff studies.
- Funding - Data from the Department of Housing and Urban Development.

Data collected by GLC from the District of Columbia, Federal agencies, and various departments of the school system are being maintained in a central document file. The implications of present regulations, policies, and practices for FLNT Schools are analyzed and recommendations are made for their adaptation to FLNT in Section 7, Constraints.

4.5 Visits to Innovative School Systems

GLC personnel made several visits to observe the operation of seven school programs selected on the basis of their reputations and their relevance to FLNT planning. In all seven programs, individualized instruction is emphasized.

The first five programs to be described were visited for the purpose of observing curriculum design; the last two provided important implications with respect to the effect of behavior and social interaction on learning.

4.5.1 Downey Elementary School - Harrisburg, Pennsylvania

This is one of six demonstration schools using the Individually Prescribed Instruction (IPI) model developed by the Learning Research and Development Center at the University of Pittsburgh. It is located in a low income housing project occupied almost exclusively by a black population.

The IPI project at Downey is in its third year. Mathematics and reading are the only subjects currently individualized; handwriting, spelling, and science may be individualized next year.

In addition to the regular teaching staff of 17, there are 12 aides and 4 floating teachers. For each IPI class session, an aide is assigned to the room to correct worksheets and record scores. Two aides are instructional aides who actually work with the children along with the teacher. The teacher circulates around the room giving instructional help as needed, often assisted by a floating teacher. Aides are trained and supervised by a head aide.

The general procedure is as follows:

- Each pupil has a folder holding his instructional materials.
- When the session (45 minutes long) begins, he starts work where he left off the day before.
- For help he calls on the teachers; for corrections of worksheets or test scoring, he goes to the aide.
- When a segment is completed, the teacher reviews his work or test scores and prescribes the next step.
- The pupil then goes to the materials room to get the worksheets or test prescribed by the teacher and returns to his room.

Overall, staff members are positive in their appraisal of the program. They report such things as:

- The students have a positive image of themselves and have confidence in their ability to achieve in contrast to the children in a comparable school.
- Teachers who taught at Downey before IPI was begun say that student behavior and performance have improved.
- One sixth-grade teacher has taught his students to write their own prescriptions.
- One experienced teacher who had taught at Downey pre-IPI feels she could never go back to the traditional way of instruction. She said IPI makes the teacher a better teacher.

General impressions and observations:

- Staff is friendly to each other and to visitors, warm and respectful toward children.
- Children seem active, interested, purposeful, self-reliant.
- During the IPI periods, all of the children were receiving individual attention and help from the teachers.

According to Hal Studer, Director of Special Projects for Harrisburg and former principal of Downey when IPI was implemented, Downey faced a problem not faced by other IPI schools. Sixty percent of Downey third grades were nonreaders which meant a heavier investment in equipment. Audio tapes also had to be prepared since these were not available in the regular IPI materials. Another major problem was teacher resistance based on a lack of faith that the students could act independently and responsibly or the threat to their own traditional role, etc.

The program started with an almost brand new staff, since three-quarters of the original staff had asked for transfers when they heard that the program was to be instituted. Staff resistance continued during the first year. By midyear, about one third had transfer requests ready and half were talking about it. However, teacher attitudes changed as student attitudes changed and only one requested a transfer at the end of the year. Now Downey is receiving applications from teachers in the "better schools". For the first seven weeks of the first year the program was implemented, one day a week was devoted to teacher training. Now summer training sessions are held for new teachers.

The materials and procedures developed for the IPI program have proved effective with large numbers of students in many schools. They should be included in the Fort Lincoln program, but not to the exclusion of other materials and methods.

4.5.2 Nova Schools - Ft. Lauderdale, Florida

The Nova Elementary and Secondary Schools, part of the Broward County Public School System, have a student population of approximately 4,400 students. There are two elementary buildings each holding about 750 students.

The principal characteristics of the instructional program are:

- An individualized learning program using a wide variety of instructional materials and methods including large and small group instruction.
- An innovative approach using the best teaching methods and materials available.

- Nongraded: each student is encouraged to operate at his own level of achievement and to progress at his own rate.
- Team teaching: teachers are grouped to make optimum use of time and talents.
- Planning time for teaching teams is scheduled while children work with physical education, music, or language teachers.
- Use of Learning Activity Packages, units developed by teachers in all areas of study: each unit contains many student decision points related to content, media, learning activity, and mode of instruction.

Student progress is evaluated in terms of work-study skills, attitudes, and understanding and is reported to parents in parent-teacher conferences and written reports at midterm and end of year.

The professional teaching staff is supported by a speech expert and psychologists from the county system, a guidance counselor, a nurse, aides, junior college students (part-time), and volunteers (mothers who serve as guides, resource center helpers, and health room staff).

The principles on which the Nova program is based are very similar to those underlying the Fort Lincoln program, and many elements can serve as a model for the Fort Lincoln design. However, full adoption of the Nova program is not recommended. The relationship between the school and the community is traditional in terms of community participation in school activities and school utilization of community resources. Also, the Learning Activity Packages, even if they were available, are designed for students with interests not necessarily similar to local student interests.

4.5.3 Learning to Learn School, Jacksonville, Florida

This school, supported by a grant from the Carnegie Corporation of New York, was conceived to develop and test a curriculum and materials which emphasize teaching children how to learn. The project started with five-year-olds and was extended to include four to eight-year-olds, but its primary contribution has been in the area of early childhood education.

The materials and activities developed in this program facilitate progress not only in the development of verbal skills and numerical concepts but also in the development of strategies of gathering information, problem-solving, and decision making. The teaching methods are designed to help each child acquire a strong sense of his own identity, individuality, and mode of worth.

Comparison studies with matched control groups show that the Learning to Learn program improves the performance of children of varying abilities and socioeconomic backgrounds, particularly in verbal skills and creativity. The gains achieved in the preschool program so far have persisted into the early elementary grades.

The goals of the Learning to Learn School are quite similar to those of Fort Lincoln in fostering the development of a positive self image, learning skills, and constructive social behavior. The materials developed for this program are commercially available and their use in Stage I (3-5 year olds) would help the children gain a good start toward future successful learning.

Adequate staff preparation in the presentation of these materials is essential.

4.5.4 Project PLAN (Program for Learning in Accordance with Needs)

Woodlawn Elementary School, Hicksville, New York

The Hicksville Public School District is one of 14 school districts round the country participating in a long-range project to select, try out, and evaluate promising new methods and materials in a model educational system without greatly escalated costs. The project is directed by the Westinghouse Learning Corporation and American Institutes of Research.

The project was begun in 1967 in grades 1, 5, and 9. Each year, three following grades are added until by 1970 an individualized instructional program will be implemented in grades 1-12. The following excerpt describes the project in terms of student activities:

The students in Project PLAN pursue individual programs of study utilizing specially designed Teaching-Learning Units (TLU's). TLU's reference specific sections or parts of currently available instructional materials which will facilitate youngsters' accomplishment of particular objectives.

Each of these TLU's is an approximately two-week increment or module of the particular subject domain with many internal steps, so it is possible for a student to shift flexibly among the TLU's which he has been assigned in the four disciplines. This enables variety, concentration of attention where needed, and a balance in his progress through the school year. The student reports his progress by a data card; and when he is ready, he is evaluated on his attainment of the objectives. For all students, progress and evaluation "tests" are fed from the school via telephone lines to a high-speed digital computer, where the tests are scored and printouts are provided back to the school the following day. Their progress becomes a part of the computer's data file and this, when taken together with the existing background file on each student, becomes a basis for selecting alternative TLU's which each student might then appropriately undertake.⁵

Although this project is on-going and final conclusions are not yet available, many of the objectives that have been validated would be useful in the Fort Lincoln program, as well as the experience gained with materials, equipment, and procedures.

Project PLAN is being developed in only one or two classrooms at each grade level and generally the schools are of traditional design. The computer system supporting this project may not be available at Fort Lincoln initially. The community component is missing from this program and little is being done with staffing beyond teacher training; paraprofessional, volunteer, or other assistance has not been utilized. For these reasons general adoption of Project PLAN is not recommended.

4.5.5 Aquinas Montessori School - Alexandria, Virginia

The Montessori schools have a long history in education, particularly of young children. Many of the theories and practices originated by Maria Montessori have been adapted by others and exist in contemporary programs.

The traditional Montessori school is carefully prescribed. There is an abundance of specially designed materials that the child is encouraged to explore on his own. The room arrangement -- low, open shelves, child-sized furniture and sinks -- facilitate this. Children demonstrate consideration for each other by putting equipment away when they are through with it and working without disturbing others. In one classroom, a bell was provided for anyone to ring -- student or teacher -- if they were disturbed by the noise level.

There is a sharing of responsibility in the conduct of the classroom. Children volunteer for chores such as watering the plants and caring for equipment. Older children help younger children (there is overlapping of age groups) and peers help each other in learning activities.

The teacher is active at all times giving individual instruction, working with small groups, or helping a child select and get started on activity.

Children move about the room freely, talk with each other, work alone, in pairs or in groups. An observer comes away with the impression of a classroom that is a lively, interesting place to be.

The general approach of the Montessori schools is compatible with the program envisioned for Fort Lincoln, but it is not totally transferable. The Montessori method requires teachers who have completed a year of special training after receiving a baccalaureate degree. Further, the presence of other adults with instructional responsibility is considered negatively. Even a Montessori student teacher observing in a classroom does not usually participate in student activities.

4. 5. 6 The Educational Improvement Program (E. I. P.)

This five-year project, begun in 1965 with the financial support of the Ford Foundation, is designed to find ways to help children hampered by poverty or other forms of environmental disadvantage. There are several interrelated components to this project, but the two of direct concern to Fort Lincoln are the development of methods for analyzing and classifying student behaviors that interfere with or facilitate learning and the development of techniques for teacher behavior to extinguish interfering behaviors and to reinforce facilitating behaviors.

The primary objective of E. I. P., a joint effort of Duke and Durham Universities, was to integrate staff and students. Evidence collected to date indicates that when teachers and aides are carefully trained to apply these techniques, the incidence of interfering behavior such as physical or verbal attack, annoying others, or withdrawal decreases and facilitating behavior, self-directed activity, helping others, or participating, increases.

The results of the Durham project and the methods for classifying and coping with student behavior can be a useful resource for the Fort Lincoln staff.

It may be included in the preservice training program or the staff may elect it as a topic for the in-service program.

4. 5. 7 Tutorial Community Project - Pacoima Elementary School,
Pacoima, California

The goal of the Tutorial Community Project is the development of a functioning, operational "tutorial community" involving an entire elementary school¹. In this school, students at every grade level interact with other students as learners and tutors, and the traditional barriers and distinctions between teacher and learner are broken down (since every individual in the community is to be both teacher and learner). Such an environment specifically indicates the extent to which students can learn by themselves and from each other and helps students achieve the stated cognitive and affective goals of the school.

It is also planned to extend the concept of community by providing explicit opportunities and procedures for the active interaction and cooperation of students, parents, teachers, and administrators in planning and conducting instructional and support activities, and in improving interpersonal relations and communications among all individuals connected with the school program.⁶

To achieve the goals specified above, the project design includes community participation, encounter groups, gradual introduction of tutoring activities, and continuous evaluation and revision. The project is planned to extend over seven years.

The designers of this project, Ralph Melaragno and Gerald Newmark, are convinced by past experience that no meaningful, lasting change can occur in schools without intensive re-education for everyone involved; hence, the encounter groups will include parents, children, teaching administrators, and project staff. Change in attitudes and behavior is long-term, hence, the seven year period. Change is gradual and evolutionary, thus, the modest beginning and the provision for frequent feedback and revision.

Although it is too early to draw any firm conclusions from the Pacoima project, there are some valuable lessons in its design. Any undertaking of the size, complexity, and degree of innovation of Fort Lincoln requires changes in expectations, attitudes, and behavior of everyone associated with it.

The thorough preservice and in-service training programs being planned for Fort Lincoln will support the instructional and administrative staffs as they learn, work, and plan together. A carefully planned and coordinated Community Participation program will foster commitment from parents and other residents. Other facets of school operation are being planned to create conditions that will reinforce behavior changes in the direction of mutual respect, participation, and innovation in the education process. For example, consideration is being given to procedures which allocate sums of money directly to teachers and students for purchase of instructional materials. The representatives of the official agencies responsible for Fort Lincoln must be prepared to modify existing policies and sanction new ones to promote flexible and inventive school operation.

Everyone must be prepared to sustain a period of uncertainty, patience, and frequent adaptation if the new program is to have a fair chance to succeed.

4.6 Summary

To elicit information from which planning recommendations could be identified, GLC conducted a community resources survey, a community opinion survey, community planning workshops, a demographic survey, a staff/agency survey, visits to innovative school systems, and a curriculum search.

To determine what community residents desired of the new schools, students and residents in census tracts adjacent to the site were interviewed. In addition, a series of Community Planning Workshops were conducted by the Special Projects Division of the D. C. schools with technical assistance from GLC; these sessions are continuing during planning. Consensus of workshop participants was that a council or board of citizens must be formed if the community is to have an effect on the growth and status of the system.

Both the workshop participants and the students and adults interviewed emphasized the need for better discipline, teacher freedom, and improved lunch programs. In general, workshop participants expressed more comprehensive concerns, perhaps because these participants were community leaders and thus more familiar with school problems. A typical concern, for example, was individual freedom for school staff to be innovative and creative.

Since different methods were used in approaching workshop participants and community residents, the responses cannot really be compared. But there was enough agreement among the two groups about school problems to combine their opinions for planning. Continuing planning with residents will shape the final plans.

GLC's demographic survey (Appendix C) indicated a significant difference between enrollment projections in the Logue report and present projections: GLC projects a figure of 8,237 students in contrast to the Logue estimate of 10,000. The differences arise because the Logue estimates were based on 1960 data, GLC's on 1965 data. The demographic survey also revealed other differences that are

being taken into consideration in planning, such as the estimate of a higher average income for residents living in the area than was predicted earlier.

The purpose of GLC's agency-staff survey was to identify the constraints -- rules, regulations, policies, and practices -- that would affect the operation of the system. Recommendations for modification of some of these restraints will appear in Section 7.

Seven school systems that emphasize individualized instruction were visited. Ideas and impressions gained during these visits are helping shape decisions about curriculum design and the effects of behavior and social interaction on learning.

5. SYSTEM GOALS

5.1 Sources

The goals guiding the development of plans for the Fort Lincoln New Town education system are drawn primarily from four sources discussed earlier in this report -- the report of the D. C. Public Schools Ad Hoc Committee on Educational Specifications for Schools at Fort Lincoln, the site designers (Logue report), residents of the area around Fort Lincoln, and the D. C. Public Schools (Fantini-Young report). The goals supported by the officials of the D. C. Public Schools as outlined in the General Learning Corporation planning contract, reflect the concepts of quality education described by Fantini and Young. An important fifth source of guidance is in the design of future public schools for the District in the Passow report.

What follows is an overall, organized compilation of major goals set forth in these sources which are applicable to the FLNT school system and the people it will serve. Two types of planning goals have been identified -- system goals and people goals. System goals are best understood if they are thought of as standards of behavior; people goals are those which lead to the highest possible student achievement.

5.2 System Goals

Five types of system goals, or requirements for system behavior, have been identified as objectives of planning for the FLNT school system.

5.2.1 School Operating Goals

Fort Lincoln schools must be operated according to a plan that includes:

- A point of view in which student success or failure is viewed as system success or failure — this implies acceptance of responsibility by the school for student success and accountability for student failure.
- A climate for learning for persons of all ages.
- Encouragement of a racially and economically integrated school system.
- Operation of the schools on a cost basis in which the per pupil cost at Fort Lincoln is competitive with the per pupil cost for the rest of the D. C. School System. (Investment costs for the FLNT education System, which are substantially above usual investment costs because of the special nature of the system being designed, have not been included in per pupil cost estimates for FLNT.)
- Provision of community service activities.
- Use of support activities as teaching opportunities.
- Provision for independent study by students.
- Provision of specialized and multimedia learning centers.
- Coordination of activities with community groups and agencies.
- Full use of all resources available in the metropolitan area.
- Establishment of specialized centers — health, language arts, science and technology, communications, urban education, etc.
- Flexible class schedules.

5.2.2 Administrative Function Goals

FLNT school administration, to be effective, must provide for:

- Decentralization of personnel responsibilities.
- Community participation in system supervision, perhaps through election of community boards of education.
- Planning of new curricula.
- System evaluation and responsiveness to the need for change or modification of programs and operations in line with new developments.
- Permitting student participation in decision-making.
- Ensuring that the system cooperates with and utilizes all resources of the community.
- Provision of opportunity for lifelong education.

5.2.3 Teacher Performance Goals

To provide a high level of quality instruction, there must be:

- Effective in-service teacher training.
- Continuing teacher performance evaluation.
- Use of community paraprofessional and total school staff in teaching.
- Adequate curricula guidelines and materials and modern teaching equipment--so that teachers use the most effective methods and techniques available.

5.2.4 Community Participation Goals

To ensure that FLNT schools operate for the benefit of the entire community and meet community needs, residents must be permitted to:

- Participate in school decision making.
- Participate in materials selection.
- Serve as community teaching assistants or teacher aides.
- Use the school for community activities and adult education.
- Use the school on a year-round basis.
- Serve on community boards of education.

5.2.5 Curriculum Goals

Curricula at FLNT schools must be made relevant to the needs and aspirations of every learner through:

- Individualized instruction.
- Provision of curriculum and instruction suitable to all students at all achievement levels.
- Student-centered learning.
- Use of audiovisual methods, modern equipment.
- Flexible use of space.
- Provision of special education and advanced study for students with special needs or capabilities.
- Development of personal learning plans for each student.

5.3 Implementation of System Goals

The key emphasis in these system goals is the design, implementation, and operation of a system which is enabling rather than constraining -- a

system which supports teacher and student activities in a way which encourages maximum student initiative and minimum student "reaction"; maximum teacher freedom to innovate and minimum teacher "policing"; maximum administrative support and minimum administrative regulation of learning activities; maximum system accountability to community and minimum "professional insularity"; maximum student curriculum choice and minimum course schedule constraints; maximum use of community resources and minimum school activity constraints; maximum individualization of instruction and minimum student "tracking".

A key to implementing system goals is the careful selection and supportive training of teachers, administrators, and aides.

A second key to "making good" on the exceptional promise of these goals is the design of administrative structures and practices which are "check and balance" organized--decentralized to spread authority and accountability for system operations to as many system participants as possible, equalizing the importance of needs and wants of students, teachers, administrators, and community.

A third key to the successful implementation of goals for system behavior is a strong community education/participation program. Such a program should prepare the community to participate as equals to teachers and administrators in operating the school, and insure the kind of accountability that produces good school performance. The program would also serve as a community resource funnel to the schools themselves. And, the full community function should provide one of several necessary checks and balances to insure the democratic operation of its schools.

In its consideration of methods to be used for meeting the system goals outlined, General Learning Corporation has not overlooked the cost factor. General Learning Corporation planners have established a per pupil cost planning objective in which emphasis is placed on operating the FLNT Education System in such a manner that the per pupil cost is competitive with the per pupil cost in the other components of the D. C. School System. This per pupil cost goal derives from the belief that a significantly better education can be provided for students at a cost competitive with the cost of existing system operational costs; a cost analysis is being conducted to show how this can be achieved. (See D. C. School System cost estimates in Appendix J.) This per pupil cost goal established by General Learning Corporation must be met because of the broad level of education and socioeconomic need throughout the entire city school system. Higher than usual investment costs for FLNT can be justified on the basis of the need to develop an innovative system, but the operating or per pupil costs must not be higher for FLNT students than for students in other divisions of the D. C. School System.

5.4 Meeting System Goals

Many current practices in traditional school systems are valid; the others exist most often because of administrative convenience. The school system adhering to the system goals just outlined is patently difficult to administer: schedules are more complex, and personnel often work longer hours. Unfortunately, individualized activities and administrative ease are often mutually exclusive. But the alternative, a well ordered, administratively convenient system, must of necessity constrain the activities of its participants, limiting freedom and individual opportunity to perform in different ways.

Consequently, individualized instruction requires decentralized administration to overcome the deficiencies of an overcentralized system which has been found to be self-limiting. In our opinion, and as supported by the testimony of Project PLAN, Nova School, and the LRDC successes, the advantages to the student of individualized instruction outweigh the disadvantages of administrative inconvenience.

5.5 People Goals

In addition to the System Goals just outlined, FLNT plans must include consideration of the effect of the school system on those who participate in it. Four types of people goals for FLNT planning can be identified.

5.5.1 The Student's Personal Goals

The learning process must be conducted in a manner that permits students to:

- Develop a positive self-concept and attitude.
- Discover and develop abilities, talents, and interests.
- Develop self-potency or power through participation in various phases of school activity.
- Participate in decision-making with respect to school affairs and activities.
- Grow in social participation and social action skills, participating in programs that include persons from other age levels as well as those of their own age.

5.5.2 The Student's Educational Goals

To produce well educated men and women, FLNT schools must provide the student:

- A choice among programs leading to a variety of career alternatives.
- Opportunity to master communication and computation skills.
- A chance to participate in experimental and multicultural learning experiences.
- Individualized performance objectives.
- Individualized learning plans.
- Opportunity for advanced or specialized study.

5.5.3 Teacher Goals

To be good teachers and to gain the utmost personal satisfaction from their work, FLNT teachers must:

- Be free to select and use widely diversified resources and materials.
- Be permitted to participate in administrative decision-making affecting school operations.
- Take part in continuing professional in-service training.
- Make their teaching student-centered as well as teacher-centered.
- Be permitted to take part in teacher exchange programs.

5.5.4 Administrator Goals

Administrators, to ensure effective and efficient operation of the learning centers for which they are responsible, must:

- Provide logistic and material support.
- Accept responsibility for administering an approach to education in which the success of students is the responsibility of the school and in which the school is held accountable for student failure.
- Ensure the provision of professional in-service training for teachers.
- Establish schedules appropriate to curriculum design and student need.
- Make the school facility available for use by community residents and participate with them in decision making.
- Facilitate communication among administration, teachers, students, and community.
- Provide curriculum-responsive records and reports.
- Seek supplementary funds for special programs.
- Democratically supervise school activities and personnel performance.

5.6 Implementation of People Goals

The key factors to emphasize in plans for attaining people goals are:

- For the student: maximum individualization of the curriculum to permit pursuit of a wide variety of learning opportunities.
- For teachers: provision of a wide variety of resources and materials for their use and development of methods to help students attain their goals.

- For administrators: establishment of processes to support rather than constrain students and teachers.

One key action required to achieve people goals is the elimination of the "tracking" and "common denominator" approach to teaching students with widely varying abilities and interests.

A second necessary action is to allow teachers sufficient flexibility to meet the needs of a flexible curriculum.

A third step is making provision to allow teachers to operate as another system of checks and balances on the system as a whole--to make them partners with school administrators, students, and community in deciding how the school should be operated. Clearly, teachers who perform in such a system must be carefully selected and well trained, for they have the ultimate responsibility for implementing student goals as well as their own.

A fourth step in achieving people goals is to encourage student self-direction and participation in curriculum planning and in the school's operation. Students can be yet another check and balance group with equal importance to administrators, teachers, and community.

A fifth step to achieving people goals is providing a supporting administration which decentralizes authority and accountability in ways that foster development of the flexibility required of people operating a flexible curriculum.

5.7 Summary

In its consideration of the educational recommendations set forth by the Ad Hoc Committee and in the reports of Fantini and Young, Logue, and Passow, GLC identified two distinct types of goals for the planning it would conduct -- system

goals and people goals. System goals are best understood if they are thought of as standards or requirements for system behavior. People goals are those which lead to the highest possible student achievement.

System goals have been established by GLC for operation and administration of the schools, teacher performance, community participation, and curriculum. The key emphasis in these goals is the design, implementation, and operation of a system which is enabling rather than constraining -- one which supports:

- Student initiative
- Teacher freedom
- Maximum administrative support of learning activities
- Accountability of the system to the community
- Maximum student curriculum choice
- Maximum use of community resources, and
- Maximum individualization of instruction keyed to individual student needs.

Implementing such a system requires emphasis on careful selection and supportive training of teachers and administrators. There must be "check and balance" administrative practices, decentralized to spread authority and accountability and to equalize the needs of students, teachers, administrators, and community. Community participation in operating the schools is essential in achieving the system goals defined for the Fort Lincoln schools.

In its consideration of methods for meeting system goals, GLC has also established a per pupil cost planning objective: the FLNT education system must be operated so that operating or per pupil costs are no higher for FLNT students than for students in other divisions of the D. C. School System.

The school system adhering to the system goals outlined in this section is difficult to administer. But the alternative -- a well ordered, administratively convenient system -- would constrain the activity of its participants, limiting freedom and individual opportunity. To overcome the deficiencies of an overcentralized system and to ensure the provision of individualized instruction, Fort Lincoln schools must have a decentralized administrative structure.

People goals were categorized for planning purposes in terms of:

- Personal and educational goals of the student, particularly for maximum individualization of the curriculum to permit his pursuit of a wide variety of learning opportunities.
- Goals of teachers, such as provision of a wide variety of resources and materials for their use and the development of methods to help students obtain their goals.
- Goals of administrators, particularly with respect to the establishment of processes to support rather than constrain students and teachers.

Major steps in meeting people goals include the elimination of any form of tracking of students on the basis of ability, providing maximum flexibility to teachers for designing curricula and performing the teaching function, encouraging student and teacher self-direction, and providing a supportive administration which decentralizes accountability and authority.

6. RESOURCES

The D. C. Public Schools specified that programs designed by GLC for the FLNT education system "must take advantage of all human and institutional resources available on the Fort Lincoln site as well as those available in the Washington Community".

The resources available to FLNT include those of the site itself, those of the immediate environs, and those of greater Washington. The latter source offers vast and unique opportunities for enrichment of education programs, particularly in the areas of government, American history, and science.

Two kinds of resources for FLNT are discussed in this section: community resources for enriching the curriculum and funding resources for staff training programs, improvement of instruction, support services, and the like. Additional surveys of resources will be made in the phases of GLC planning that are still continuing.

6.1 Community Resources

This section is focused on the resources in the FLNT community which can help develop community schools rather than just educational institutions. One of the goals specified for the FLNT education system by all planning groups is that it be an open system, maintaining a vibrant give and take with all segments of the community; the schools are to be conceived as a resource for the entire community; and the entire community is conceived as a resource for the schools. Other sections of this report contain detailed plans for maximizing the potential of the schools as resources to the community; the purpose of this section is to identify resources on the site and within approximately four square miles surrounding the area which can contribute to the schools.

6.1.1 People as a resource

A survey to determine specific ways in which people can serve as a resource to the FLNT schools will be conducted as planning continues, particularly in relation to staff development planning.

6.1.1.1 Individual authorities

Many citizens of FLNT and the surrounding area can be a resource to the schools if the goal of total community participation is to be achieved. Ideally, school staff will be able to call upon citizens to assist with instruction in any subject area. For instance, veterinarians could assist with instruction of students who are studying animals by teaching them about care of animals, characteristics of different breeds, diagnosis and treatment of canine illnesses, and the like. Bus and truck drivers could help students learn about automotive vehicles by explaining differences between the design, performance, and operation of various vehicles. Telephone repairmen could teach students interested in communications how the telephone works, what causes a "bad connection", and so on.

Possibilities for enriching the school curriculum are limited only by the willingness of citizens to give their time and effort to assist with the instructional process. Their participation is important for establishing the relevance of school learning to community life during the early years of a student's school experience. It assumes additional significance for teenage high school students who are exploring career possibilities.

Recommendation: A working committee must be formed of the FLNT Education System administrators and the community to ensure the joint participation of community residents and administrators in the educational process, particularly in relation to staff development. To obtain the most effective and beneficial participation of community residents, the administrators and the community representatives together must identify concrete tasks for residents to perform and provide the organizational structure needed to support this effort.

6.1.1.2 Group Participation

Several citizens' groups in the surrounding area can make vital contributions to FLNT schools.

The Interim Education Committee (IEC), suggested by the present FLNT Citizen's Planning Council, would be a vehicle through which community residents can play a major role in planning the education system. (See Section 8.2 of this report.) The IEC could be a resource for the school system in many ways. Perhaps most important, its members would be in a unique position to help students study the history of Fort Lincoln New Town--from conception of the idea to the present day. They could also help with the study of social processes such as community mobilization, acquisition of Federal funds, citizen participation in urban planning, and coordination of urban planning groups at the local, regional, and Federal levels. Through its familiarity with the community, it could help locate and provide to the schools the resources of many individuals.

The IEC will be an invaluable resource to students learning about citizen participation in education and social action. This will be especially true since the functions of the Committee and advisory board represent a new model of citizen participation in the planning and operation of a school system.

Northeast Washington has a tradition of strong PTA groups. If FLNT PTAs are similar, they will be a vital asset to the schools by performing the following functions:

- Interpreting the desires and concerns of parents to the school staff.
- Involving community residents in the instruction of students-- both in and out of school facilities.
- Accompanying students on visits to offices, businesses, laboratories, libraries, museums, etc., in the local community and greater Washington.
- Coordinating development of curricular units on current community problems.
- Publicizing views of candidates for various civic offices.
- Raising money for special projects.

Recommendations: In line with community participation objectives outlined by planners, community groups should be provided opportunity and encouraged to participate in school activities, to contribute to the development and operation of ongoing activities, and to use the schools for their own activities.

6.1.1.3 Paraprofessional Staff

Paraprofessional members of the school staff will be drawn from among residents of FLNT and the immediate surrounding area. They will perform numerous important functions, the exact nature of the tasks varying with the knowledge and experience of the individual and his position on the career

ladder. Some will be completely new to work in education; others will be advanced students in training programs leading toward certification as teachers. They can provide six kinds of service, discussed below in terms of skill and experience requirements.

- Increasing Community Participation--As community residents, paraprofessionals will be in a particularly good position to recommend community resource people who might participate in the education program either by coming in to the school or by having students visit them at their places of work. They can also help make arrangements for trips and accompany students on visits to the immediate community and greater Washington.
- Supervision--Activities which can be supervised or monitored by paraprofessionals include: taking out and replacement of materials, testing (formal and informal), recreation, trips into the community.
- Teaching--Experienced paraprofessionals can assist with instruction in areas in which they and the teacher feel they are competent. They can thus enrich the education program and assist the teacher by working with groups or individuals in skill building activities, projects in science, social studies, etc.

- Planning--Experienced paraprofessionals can assist teachers in planning objectives, developing assignments, choosing materials, scheduling activities, and any other functions in which both the teacher and the paraprofessional feel that the latter can make a contribution.
- Observation--All staff will be trained in the use of controlled observational techniques which: 1) Give feedback to teachers on their own behavior and student responsiveness to it. 2) Contribute to the diagnosis of learning disabilities and behavior problems by answering such questions as "What percentage of the time is the student paying attention when the teacher is talking?" "When he is reading?" "When he is working in a group?". 3) Evaluate changes in student behavior through "before and after" comparisons. Controlled observation is a time-consuming process and the availability of paraprofessionals who can perform this function will make it possible to collect observational data more often and in greater depth.
- Record Keeping--Paraprofessionals can assume responsibility for keeping attendance, achievement, behavioral, and other records.

Recommendation: Provision should be made to use paraprofessionals with varying levels of responsibility in the FLNT Education System, and job definitions and career ladders should be established to provide career mobility for the community residents who fill these paraprofessional job slots.

6.1.1.4 Community Volunteers

Volunteers from the community can contribute to most of the schools' activities, especially by:

- Escorting students on trips
- Supervising playground activities
- Assisting with food service
- Assembling materials
- Keeping records
- Filling out purchase orders.

In addition, they can offer suggestions for improving the operation of the school, enriching the curriculum, etc.

Recommendation: Volunteers from the community should be permitted to work within the FLNT Education System, to relieve teachers and staff of some nonprofessional tasks they are now required to perform, to promote community interest and participation, and to assist students in learning.

6.1.2 Organizations and Institutions

A survey of organizations and institutions within four square miles of FLNT was conducted in association with GLC by two community consultants selected by the FLNT Citizens Planning Council. Brief descriptions of the organizations and institutions they identified as being involved in educational, social, or recreational programs are found in Appendix A. A general finding was that programs operated by groups such as churches, Boy Scouts, or Police Boys Club were filled to or beyond capacity and thus will not be able to serve citizens of FLNT. Their staffs, however, will be a key resource for FLNT residents who are setting up similar programs.

6.1.2.1 The City School System

The D. C. School System will be able to supply the FLNT staff with internal consultants in curriculum development, instructional methods and media, classroom management, special education, utilization of greater Washington's resources, educational research, data processing, and community relations. In addition, the system offers curriculum guides and other materials to all teachers. The talent and expertise of the administrative staff will be vital to articulating the relationship between FLNT schools and schools in the surrounding area and to resolving conflicts which may arise between innovations in FLNT schools and established procedures of the system.

A limited survey was made in September, 1969 to list the programs in the District of Columbia School System in the areas of innovative staff training and the development and use of new curriculum materials. The information compiled for this survey will help curriculum writers, teachers, and staff developers preparing programs and materials for Fort Lincoln to identify nearby resources.

The curriculum projects will be indexed to the appropriate instructional objectives for the Fort Lincoln School so that teachers will be alerted to the possible existence of relevant resources within the D. C. School System.

The survey results (see Appendix I) are tabulated by department with brief program descriptions where necessary. Also listed is the name and title of the person to contact for information about current status of the program and availability of materials and/or consultation. Staff development and curriculum programs are listed separately.

Note: Much of the information was drawn from as yet unpublished annual reports written by heads of departments in the D. C. School System. In several reports it was not clear if the programs were successful or would continue. Phone numbers are available from the D. C. Public School Directory.

Recommendation: Representatives of the D. C. School System will need to provide assistance in a wide variety of areas to FLNT administrators and staff. Their participation will be required to help prevent conflict between the present school system and the new system at Fort Lincoln and to help the Washington area understand the relationship between FLNT schools and the rest of the system. Information on D. C. staff and curriculum projects will be useful to alert staff at Fort Lincoln to relevant resources within the D. C. School System.

6.1.2.2 Nearby Schools

There are 10 schools in the area -- six elementary, three junior high, and one senior high school. Four of these have large recreational centers conducting many varied activities. Coordination between these schools and FLNT schools can benefit both. For instance, if FLNT has some students interested in studying a particular subject, but not enough to justify setting up a program, additional students could be recruited from the surrounding area. Duplication of programs for small numbers of students in specialized academic or vocational areas could also be avoided if cooperative arrangements can be worked out.

Recommendation: Cooperative arrangements should be worked out with nearby schools to avoid duplication of programs and facilities.

6.1.2.3 Churches

Twenty-four churches were identified in the area, many of which play an important role in the educational, social, and recreational life of the community. Many present successful church programs are filled to overflowing, however, and would not be available to FLNT residents. Their staffs are nevertheless a key resource to FLNT citizens setting up similar programs. Some churches may be able to offer facilities for programs established by FLNT residents.

The Northeast Ministry, an important church group representing 22 of the churches, was created to enable churches of all denominations to work together to solve community problems. This group has been involved in FLNT planning and will be extremely important to FLNT citizens as they determine the nature of the community's religious life.

Recommendation: Because of its experience in enabling churches in the FLNT area to work together to solve community problems, the Northeast Ministry should be asked to provide advice and assistance in reaching the FLNT community for participation in the education system.

6.1.2.4 Businesses

Businesses establishments in the surrounding community consist of warehouses, small industrial plants, motels and small retail stores, repair shops, garages, etc. They are all potential resources to students for work-study programs, for practicing interview techniques, for information, for demonstrations, and for materials. Garages, for instance, can be a resource to the schools in many ways:

- Students who are studying the impact of the automobile on the economy can visit garages to interview personnel regarding the cost of parts, servicing, gasoline, etc., and interview customers regarding their average yearly expenses for running a car.
- Students who are thinking of working in a garage after school or on weekends could visit one to discuss the advantages and disadvantages of the job with employees and observe their activities.
- Students interested in auto mechanics as a vocation could spend time observing, learning, and working in a garage on a regularly scheduled basis.
- As sources for materials, garages can supply the schools with maps, old tires, large metal barrels and cans, etc.

The example of a garage was chosen for specific discussion here to indicate that previously unrecognized resources exist in the community that could become part of the educational process. Students interested in a career in banking or in the operation of a small business could visit the appropriate institution or business to discuss methods of operation and management with employees and owners. Almost all commercial or public enterprises could serve as sites for job-relevant experience while students are in school; this would provide invaluable assistance in making career choices.

Recommendation: Businesses near FLNT should be asked to serve as resources for on-site training and observation of concepts learned in school and to provide materials that can be used in the educational process. Businesses should be asked to operate specialized learning centers.

6.1.2.5 Colleges and Universities

The Catholic University of America, Trinity College, Gallaudet College for the Deaf, and the Cortez Peters Business College are all located within the FLNT area, and an extension of Federal City College is planned for the site. Catholic University, Trinity College and Gallaudet College are discussed together; the Cortez Peters Business School is discussed separately since its resources are more specialized.

Resources of all these institutions can be used by the Fort Lincoln education system to enrich the education provided. There should be a two-way street between Fort Lincoln schools and the institutions of higher education, however; Fort Lincoln schools can also assist the colleges and universities in many ways.

Four aspects of these institutions may be considered resources for FLNT: students, staff, programs, and facilities. Students in all of these institutions can contribute to FLNT schools as volunteers. They will be particularly helpful if the community establishes tutorial programs and evening study programs. Undergraduate students in education who serve the FLNT schools as student teachers will reduce the adult to student ratio and enrich the program in many ways, depending on their knowledge, experience, special talents, and interests. Their potential contributions are similar to those described for paraprofessionals, i. e., record keeping, supervision, increasing community participation, observations, teaching, and planning. These students are also a resource to FLNT as potential staff members who will be able to

Graduate students in education could perform these additional functions, some of which would also be appropriate for their counterparts in psychology or special education:

- Research--Graduate students can design and conduct research studies to evaluate the effectiveness of new materials, analyze the advantages and disadvantages of different media for various types of learning, investigate the relationship between achievement and other factors, etc.
- Curriculum Design--Many students will want to study areas for which a sequence of materials is not available. Graduate students can design a logical sequence of learning experiences and then evaluate and refine it on the basis of feedback from the student(s).
- Design of Materials for Individual Students--Graduate students can develop new materials or adapt commercial materials to the specific strengths and weaknesses of students with unusual styles of learning or special handicaps.
- Contingency Management--Students who are poorly motivated or disruptive will frequently respond to contingency management procedures. These programs are most effective when they are planned for individual students and when they are carefully supervised. Graduate students would be able to assist in planning, conducting, and evaluating these programs.

Undergraduate students in psychology and guidance can assist with observation and evaluation of all students and with planning and instruction of students with learning or behavior problems.

Faculties and staff of these institutions will be a resource for in-service training programs and curriculum development. Faculty members who will be supervising student teachers or other student interns will also be a resource for suggestions of ways in which the schools might be improved. Staff as well as students will be a valuable resource for the design and execution of research projects.

Programs for associate, bachelor, or advanced degrees will all be available to all FLNT staff, and the proximity of the institutions should encourage both professional and subprofessional staff members to take advantage of them.

The library, laboratory, athletic, and other facilities of these institutions would be a valuable resource to FLNT students. It is impossible to know at this time which facilities would be most valuable to FLNT students and whether arrangements for use of these facilities can be worked out. In any case, students should be able to visit the colleges to attend lectures and interview staff and students who can contribute information for special projects and career planning.

The Cortez Peters Business College is a private institution which will be a resource to all members of the FLNT community interested in business careers. Students in the FLNT schools who are thinking of a career in business could visit classes at the College and interview staff and students regarding qualifications for various jobs, the length of time required to master certain skills, etc. Cortez might also provide assistance by training students in typing, bookkeeping, record keeping, data processing, etc., and by helping the teaching staff instruct FLNT students in these skills.

Recommendation: Students in nearby colleges and universities should be sought to provide assistance in instruction and other areas such as evaluation or planning in FLNT learning centers. The faculty and staff of these institutions can provide or participate in in-service training programs and curriculum development.

6.1.2.6 Hospitals, Clinics, and Special Care Facilities

Providence Hospital and Washington Hospital Center are within four square miles of the FLNT site and are a potentially valuable resource for its schools. Doctors, nurses, and technicians can assist with instruction in health, sex education, physical fitness, nutrition, air pollution, drug abuse, first aid, biology, blood chemistry, radiology, and many other areas. Students interested in the health professions could visit the hospitals to observe the various personnel at work and assist them whenever possible. Personnel from these hospitals are also a resource for planning and carrying out health care and screening programs for students and school staff.

The Department of Public Health operates a public Mental Health Center and Dental Clinic for children in the Burroughs School, close to the FLNT site. Children from FLNT will be eligible to receive services, but it is doubtful that all of their needs can be served by the Burroughs facilities unless considerable expansion takes place.

A Speech and Hearing Clinic near the site is operated by Gallaudet College. Although FLNT residents will theoretically be able to use the clinic, the waiting list for all services is long, and other provisions for speech and hearing services should be made.

The Association for the Help of Retarded Children sponsors a job-training program for moderately to severely mentally retarded youngsters and adults. This program is expandable and will probably be sufficient to meet the needs of the FLNT community. FLNT students with mental retardation could participate in this program in the same way that other students would participate in work-study programs.

Recommendation: Providence Hospital and Washington Hospital Center should be asked to provide assistance and instruction to students in health matters and to help students interested in health careers become familiar with the operation of these institutions. They might also conduct some health care and screening programs for students and staff. Plans should be made to provide health facilities for FLNT students in the educational facilities because the nearby clinics are operating at full capacity.

6.1.3 Fort Lincoln Site Resources and Physical Environment

FLNT students will have exceptional opportunities to study various aspects of physical environment, both on the site itself and in the surrounding area.

6.1.3.1 Fort Lincoln Site Resources

The Urban Renewal Plan which will be submitted by the Redevelopment Land Agency to HUD by the middle of September replaces the Logue plan as a basis for funding the development of Fort Lincoln. The RLA plan contains conceptual guidelines for an evolutionary growth of residential, educational, recreational, and commercial facilities on the site. It describes permitted uses of land but it does not specify particular usage for particular sites, nor does it specify square foot allotments for types of usage.

Based on the general guidelines of the first plan and further studies, subsequent plans will be submitted each year to obtain funds from HUD for continuing development of the site.

If the Fort Lincoln site is eventually developed to the extent described in the Logue plan, the schools will have direct access to a wealth of resources found in a thriving urban neighborhood community. But the future development of Fort Lincoln is highly uncertain. Therefore, the resources described below for the first facility and for the total school system are highly speculative.

6.1.3.1.1 Site Resources for the First Facility

Natural resources on the site will be described (see 6.1.3.2 Physical Environment). Man-made resources include a high-rise apartment building for elderly people now under construction and 250 low-income housing units scheduled to be constructed concurrently with the first facility. (For approximate location of the low-income units see Illustrative Map 10, Sub-Area "D", in the Logue report.)

The elderly occupants of the high-rise building may serve in ways described for other community residents (see 6.1.1 People as a Resource), especially as volunteers. Individual elderly residents may possess unique experience, knowledge of past events, or skills that are relevant to the instructional program.

The building itself has several features which make it useful as an educational resource. One feature is the elevator. Small children may have their first elevator ride in this local building. Another feature, the roof, will permit children to view the surrounding area from a different perspective. Other

characteristics of the high-rise buildings -- central heating and air-conditioning unit, switchboard, structural design -- can be used to stimulate interest in learning how these systems work, why they are in some buildings and not others, and what purposes they serve.

Actual construction taking place on the Fort Lincoln site will offer numerous learning opportunities including observing and recording the day-to-day tasks of building, what skills are required, how labor is divided, and how machinery and materials are used.

A man-made resource already on site is the Job Training Center which occupies the buildings formerly used by the National Training School for Boys on a lease granted yearly by the General Services Administration. The current lease ends in April, 1970. The lease is granted with the stipulation that the Job Training Center must vacate the buildings at any time if the site is needed for other purposes. Even if the GSA does not cancel the lease, the construction activities for the Fort Lincoln School and housing units may cause inconvenience (interruption of utility service, overloading access roads) to the extent that the Training Center will be forced to move to another location.

Recommendation: The elderly residents on the site should be invited to participate in school activities within the limits of their physical capabilities as other community residents will be. Arrangements should be made to allow students to experience the unique features of the building directly and to compare it with their own homes in terms of how each type of dwelling is designed to meet the needs of its occupants. Any on-going construction activities conducted on the site should be incorporated into the instructional program. If the Job Training Center remains, advantage could be taken of the resources at the Center.

6.1.3.1.2 Site Resources for the Total School System

The guidelines for permitted land usage in the new RLA plan generally follow the recommendations of the Logue plan. Permitted uses of land are broadly classified as residential, local convenience center, town center, park and recreation, and higher education.

- Residential -- Single and multiple unit dwellings of various design will be built on several locations. Other facilities which may be built on designated residential sites include neighborhood commercial stores, day care centers, and preschool buildings.

In A Design for a New and Relevant System of Education for Fort Lincoln New Town by Fantini and Young the idea of supplementary study centers maintained by the school in multiple unit dwellings was discussed. This use of residential land is sanctioned by the RLA plan. Perhaps one or two years after the first facility has been opened, when building plans for the remainder of the site are more certain and student needs can be assessed on the basis of actual experience, the school may wish to provide supplementary study centers in or near residential areas having the greatest concentrations of students. Depending on future events, these may be located on the site or in the surrounding neighborhood.

The planning goals for the first facility specify facilities for children beginning at age three. Experience with this

design will provide the basis for deciding the location of future preschool facilities.

Recommendation: Schools should be built adjacent to residential areas as described in the Logue plan. The school should consider opening supplementary study centers in residential areas after the first facility has been in operation one or two years. Decisions regarding future location of preschool facilities should be deferred until the first facility has been operating long enough to provide sufficient experience about their placement in regular school.

- Local convenience centers -- A number of these centers will be scattered throughout the Fort Lincoln complex. Permitted on these sites will be such facilities as professional offices, schools, churches, health and recreation centers, transit station, and small businesses -- food store, drugstore, restaurant, and the like. The exact location and size of these local centers is not yet determined. These facilities should be used in ways described in Section 6.1.2.4 Businesses.
- Town Center -- In this central area, permitted uses include small businesses offering consumer goods and services, public and private offices, a fine and performing arts institution, other recreational facilities, churches, transit station, and government services -- post office, police station, fire station, health center, library.
- Park and Recreation -- Space will be allocated for active and passive recreational facilities and park land throughout the

site. Some portions will be left in the "natural" state and other portions will be developed as, for example, walks, playing fields, playgrounds, and picnic areas.

Recommendation: Park and recreation areas should be adjacent to every school as described in the Logue plan to extend the play facilities of the school and to provide convenient opportunity for environmental and ecological studies. As planning for future Fort Lincoln development continues, representatives from the schools already on the site should be included as a means of coordinating school and community needs and facilities. (See Section 6.1.2.5 Colleges and Universities)

6.1.3.2 Physical Environment

The Anacostia River Complex, the National Arboretum, and the Kenilworth Aquatic Gardens in the surrounding areas will be superb resources for the study of the ecology of forest, river, and marsh environments.

A report on the potential uses of the site and the three areas mentioned above has been prepared by the Environmental Science Center in Golden Valley, Minnesota, and is reprinted in this document in Appendix A. The report itself is an excellent source of ideas for environmental education, only a few of which are mentioned here:

- Land Management—Students will be able to plant strips of land; study soil composition, effect of sunlight on plant growth, etc.
- Comparison of Grass and Brush Ecology--Both types of environments are found on the site. Students will be able to study and compare the plant and animal life of each. Live trapping of small animals will also be possible.

- Mapping and location--The variety in land types and elevations throughout the site make it an interesting area for compass work, reading topological maps, surveying, distance and height estimation, mapping, and diagraming.
- Reforestation--Reforestation is planned for a portion of the site. The process of transition from grass or brush to forest environment will be a fascinating resource for ecological comparisons. If students are permitted to share in the planning of what trees to plant, when and where, the value of the reforestation project as a resource to them will be enhanced.

The Anacostia River Complex is an excellent resource for studying the patterns of animal life in the water, at the water's edge, and on the banks. Studies of species diversity, mortality, and migration relative to fluctuations in the water level will be possible. The effect of periodic flooding on plant and animal life can also be investigated.

The National Arboretum has 415 acres of forest land. The natural woods preserved here will enable students to observe the succession of Atlantic Coast forests. This will be a particularly valuable resource to students interested in the reforestation project on the FLNT site; study of the succession of forests should enable them to predict the course of environmental changes that will occur on the FLNT site. The Arboretum has research facilities, an auditorium, and classroom and conference space, none of which is being used to capacity. Students can observe nursery practices and interview staff regarding their management activities.

The Kenilworth Aquatic Gardens includes 11 acres of ponds planted with exotic water plants and containing native species of plants and animals typical of pond, marsh, and river habitats. This area is also a valuable resource for comparative ecological studies; differences between plant and animal life in pond, marshy, and river areas can be observed in close proximity. The gardens also include 240 acres of swamp and woodland.

6.1.3.2.1 Metropolitan Area Resources

A number of publications list places to go and things to do in the Washington area. Two particularly good guides listed below are recommended for purchase for the Fort Lincoln staff library.

1. Washington '68, Cary T. Grayson, Jr., Potomac Books, Inc., 1968.
2. Going Places with Children, Green Acres School, Rockville, Maryland.

The resources of the Washington Metropolitan area that will be indexed to the appropriate instructional objectives in the Fort Lincoln curriculum have been tabulated and included in Appendix J.

Recommendation: The physical environment at FLNT and the Anacostia River Complex, the National Arboretum, the Kenilworth Aquatic Gardens, and other places in the D. C. metropolitan area should be used as natural laboratories for study and instruction.

6.1.4 Historical Environment

Fort Lincoln was situated on an eminence overlooking the extensive valley formed by the Eastern Branch of the Potomac River and its tributaries. It guarded Bladensburg Road, the main thoroughfare leading into Washington from Baltimore and Annapolis and the Baltimore Railroad. At the foot of the hill,

Commodore Barney posted his guns in defense of Washington during the Battle of Bladensburg, August 24, 1814. The region was known as Mount Pleasant, and early in the Civil War before the fort was built was called Camp Union.

The fort was built during the summer and autumn of 1861, the ground being broken on August 26. It was named in honor of President Lincoln by General Order No. 18, A.G.O., September 30, 1861. The elevation of the fort was 218 feet above the Potomac and its perimeter was 466 feet. There were rifle pits in front and on both sides. On the east were extensive rifle pits leading to a battery for field guns. A garrison of 700 men and 405 gunners were required to defend the fort.

Major Darling, 7th Michigan Cavalry, with about 500 men, commanded the cavalry outposts and his men had a brush with the enemy's cavalry beyond Bladensburg on the afternoon of July 12, 1864. Rear Admiral Goldsborough took 1,000 sailors from the Washington navy yard to the defense of Fort Lincoln.

A long line of rifle pits from the school to Fort Lincoln Cemetery can still be seen. Within the cemetery, some cannon have been placed behind some of the reconstructed rifle trenches.

Recommendation: The environment of Fort Lincoln New Town provides unique opportunity for the study of American history, and the on-site historical resources should be in the teaching of history in the schools.

6.2 **Funding Resources: Federal and Private**

6.2.1 Federal Funding

FLNT Education System will be in fortunate position for obtaining Federal funds since they will be 1) committed to educational innovation, 2) part of an experimental community, 3) in the public eye, and 4) located within the District of Columbia.

The Federal programs which seem most appropriate as sources of additional funds for FLNT are summarized in the following chart, under the following headings: staff recruitment and training, improvement of instruction, improvement of support services, student assistance, research, vocational education, education of the handicapped, adult education, and construction. This list will, of course, need to be updated as new legislation is passed and new appropriations are made. Possibilities are also listed for teacher and paraprofessional training programs, which could be developed by the FLNT Education System in cooperation with Federal City College or Catholic University.

Type of Assistance	Authorization	Purpose
<u>Staff Recruitment and Training</u> State plan to attract and qualify classroom personnel to meet critical shortages.	Education Professions Development Act - Part B-2.	Provide State grants to help local communities attract and qualify persons to meet immediate critical shortages of classroom personnel.
Education Personnel Fellowships	Education Professions Development Act - Part C.	Improve the quality of education of experienced and prospective elementary and secondary personnel.
Training programs	Education Professions Development Act - Part D.	Train and retrain educational personnel and teacher aides to strengthen personnel development from pre-school through postsecondary vocational school.
Educational personnel training programs	Education Professions Development Act - Part D.	Improve qualifications of elementary and secondary education personnel.
Teacher Corps	Education Professions Development Act - Part B-1.	Strengthen education of disadvantaged children, encourage colleges and universities in teacher preparation programs by attracting and training teacher-interns.
State plan to attract and qualify classroom personnel to meet critical shortages	Education Professions Development Act - Part B-2.	Provide State grants to help local communities attract and qualify persons to meet immediate critical shortages of classroom personnel.
Education Personnel Fellowships	Education Professions Development Act - Part C.	Improve the quality of education of experienced and prospective elementary and secondary personnel.
<u>Improvement of Instruction</u> Educational television	P. L. 87-447, amending Communications Act of 1934	Aid in the acquisition and installation of transmitting and production equipment for ETV broadcasting.

for the FLNT School System

Program Level	Who May Apply	Where to Apply
\$15,000,000	State education agencies	OE's Bureau of Educational Personnel (local districts apply to State education agencies)
35,000,000	Institutions of higher education offering graduate programs for elementary and secondary education personnel.	OE's Bureau of Educational Personnel Development
45,000,000	Prospective and experienced education personnel	Participating institutions, local, State education agencies (information from OE's Bureau of Educational Personnel)
45,000,000	Colleges and universities, State and local education agencies	OE's Bureau of Educational Personnel Development
20,900,000	State and local education agencies, colleges and universities	OE's Bureau of Educational Personnel Development, Teacher Corps
15,000,000	State education agencies	OE's Bureau of Educational Personnel Development (local districts apply to State education agencies)
35,000,000	Prospective and experienced educational personnel	Participating institutions, local and State ed. agencies (information from OE's Bur. of Ed. Per. Dev.)
4,000,000	Nonprofit agencies, public colleges, State television agencies, education agencies	Asst. to the Asst. Secretary (Ed. Television), Dept. of HEW, Washington, D. C. 20201

Type of Assistance	Authorization	Purpose
<u>Improvement of Instruction - Cont.</u> Strengthening instruction in critical subjects in public schools	National Defense Education Act - title III	Strengthen instruction in 10 critical important subjects.
Consultant services of foreign curriculum specialists.	Mutual Educational and Cultural Exchange Act	Support visits by foreign consultants to improve and develop resources for foreign language and area studies.
Follow Through	Economic Opportunity Act of 1964	Extend gains of deprived children who participated in Head Start or similar preschool experiences.
Teacher Corps	Education Professions Development Act - Part B-1	Strengthen educational opportunity for disadvantaged children; encourage colleges and universities in teacher preparation programs by attracting and training teacher-interns.
Foreign studies extension (summer seminars abroad for teachers and students or curriculum development teams)	Mutual Educational and Cultural Exchange Act	Improve institutional programs in language-area studies by supporting group projects abroad.
Program for disadvantaged children	Elementary and Secondary Ed. Act - title I (P.L. 89-10)	To meet special educational needs of educationally deprived children.
<u>Improvement of Support Services</u> School library resources and instructional materials	Elementary and Secondary Ed. Act - title II	Support provision of school library resources, textbooks, and other instructional materials.
Supplementary centers	Elementary and Secondary Ed. Act - title III	Support supplementary educational centers and services.
Guidance, counseling, and testing in public schools	National Defense Education Act - title V-A	Assist in establishing and maintaining guidance, counseling, and testing programs.

for the FLNT School System

Program Level	Who May Apply	Where to Apply
\$ 75,740,000	Local school districts	State education agencies
(See II-12)	Colleges, universities, consortiums, local and State education agencies, nonprofit education organizations	OE's Institute of International Studies
30,000,000	Local educational agencies nominated by State agencies in accordance with OE and OEO criteria	Application by invitation only in FY 1969
20,900,000	State and local education agencies, colleges and universities	OE's Bur. of Educ. Personnel Development, Teacher Corps (information from participating school systems and institutions)
(See II-12)	Colleges and universities, State education agencies, nonprofit educational organizations	OE's Institute of International Studies
1,078,000,000	Local school districts	State education agencies
50,000,000	Local education agencies	State education agencies
164,876,000	Local education agencies	State ed. agency or OE's Div. of Plans and Supplementary Centers
17,000,000	Public elementary and secondary schools, junior colleges, technical institutes	State education agencies

Type of Assistance	Authorization	Purpose
<u>Student Assistance</u>		
Student loans - matching funds	National Defense Education Act - title II	Loans to colleges, universities, and vocational schools that cannot meet program's matching obligations.
College work-study	Higher Education Act of 1965 - title IV-C	Provide part-time employment for postsecondary students
Higher educational guarantee reserve funds	Higher Education Act of 1965 - title IV-B	Provide adequate loan reserves for higher and vocational educational student loans
Talent Search	Higher Education Act of 1965 - title IV-A	Assist in identifying and encouraging promising students to complete high school and enter college
Educational opportunity grants	Higher Education Act of 1965 - title IV-A	Assist students of exceptional financial need to go to college
<u>Research</u>		
Educational research (research, surveys, and evaluations)	Cooperative Research Act (amended by ESEA - title IV)	Support research on the improvement of education at all levels and in all subject areas
Educational research (demonstrations and development)	Cooperative Research Act (amended by ESEA - title IV)	Support development and demonstration of educational materials, processes, and organizational arrangements at all levels
Education Resources Information Center (dissemination of research)	Cooperative Research Act (amended by ESEA - title IV)	Provide for dissemination of research findings to the educational community
Educational media research and demonstration	Cooperative Research Act (amended by ESEA - title IV)	Support research on educational uses of television, radio, motion pictures, and other media
Foreign language and area research	National Defense Education Act - title VI	Support research on improved instruction in modern foreign languages and materials development and area studies

Program Level	Who May Apply	Where to Apply
\$ 2,000,000	Accredited educational institutions (including business schools and technical institutes)	OE's Division of Student Financial Aid
146,050,000	Colleges, universities, area vocational schools, proprietary schools	OE's Division of Student Financial Aid
(4,700,000)	State or nonprofit private guarantee agencies	OE's Division of Student Financial Aid
4,000,000	Institutes of higher education, State and local education agencies, public and nonprofit organizations	OE's Division of Student Financial Aid
133,786,000	Institutions of higher education	OE's Division of Student Financial Aid
15,167,000	Colleges, universities, State education agencies, private or public groups, or individuals	Research Analysis and Allocations Staff, Bureau of Research
8,500,000	(Same as IV-1)	Research Analysis and Allocations Staff, Bureau of Research
3,100,000	(Same as IV-1)	OE's Division of Information Technology and Dissemination
4,200,000	(Same as IV-1)	OE's Division of Higher Education Research
2,750,000	Colleges and universities, public school systems, professional organizations, individuals	OE's Institute of International Studies

Type of Assistance	Authorization	Purpose
<u>Research - cont.</u> Educational laboratories	Cooperative Research Act (amended by ESEA - title IV)	Provide for development and testing of educational innovations until ready for use in classroom
Vocational Research	Vocational Education Act of 1963 - section 4-C	Support research, training, and pilot programs for special vocational needs
<u>Vocational Education</u> Vocational programs	Vocational Education Amendments of 1968	Maintain, extend, and improve vocational education programs; develop programs in new occupations
Teacher training (vocational)	Vocational Education Amendments of 1968	Improve qualifications of teachers, supervisors, and directors of vocational education programs
Occupational training and retraining	Manpower Development and Training Act of 1962	Provide training programs to equip persons for work in needed employment fields
Vocational teacher training grants	Vocational Education Amendments of 1968	Improve qualifications of vocational education teachers
<u>Education of the Handicapped</u> Programs for the handicapped	Elementary and Secondary Ed. Act - title VI	Strengthen educational and related services for handicapped children
Media services and captioned film loan program	Media Services and Captioned Films	Provide cultural and educational services to the handicapped through films and other media
Teacher training (handicapped)	Mental Retardation Facilities... Act and Others	Prepare and inform teachers and others who work in education of handicapped
Preschool programs for handicapped children	Handicapped Children's Early Education Assistance Act	Develop model preschool and early education programs for handicapped children

Program Level	Who May Apply	Where to Apply
\$ 23,600,000	Colleges, universities, agencies, and organizations	OE's Division of Educational Laboratories
11,550,000	State and local education agencies, colleges and universities, nonprofit organizations	OE's Division of Comprehensive and Vocational Education Research
255,377,455	Public schools	State boards of vocational education (information from OE's Division of Voc. -Tech. Education)
(See II-7)	Local school districts	State boards of vocational education (Information from OE's Division of Voc. -Tech. Education)
128,000,000	Local school authorities (public, private nonprofit)	State vocational education agency (information from OE's Div. of Manpower Develop. and Training)
(See II-7)	Teachers of vocational education subjects	Participating institutions (information from State boards of vocational education or OE's Div. of Voc. -Tech. Education)
29,250,00	State education agencies	OE's Bur. of Ed'n. for Handicapped Division of Educational Services
4,750,000	Groups of handicapped persons, nonhandicapped groups for training	OE's Bur. of Ed'n. for Handicapped Division of Educational Services
30,250,000	State education agencies, colleges and universities	OE's Bur. of Ed'n. for Handicapped Division of Training Programs
1,000,000	Public agencies and private nonprofit agencies	OAC/Bureau of Education for Handicapped

Type of Assistance	Authorization	Purpose
<u>Education of the Handicapped</u> cont. Regional resource centers for improvement of education of handicapped children	Education for the Handicapped Act - title VI-B	Develop centers for educational diagnosis of handicapped children
<u>Adult Education</u> Adult basic education	Adult Education Act of 1966	Provide literacy programs for adults
Occupational training and retraining	Manpower Development and Training Act	Train unemployed and under-employed persons in all sections of the Nation
Adult basic education teacher training grants	Adult Education Act of 1966	Improve qualifications of teachers of adult basic education courses
<u>Construction</u> Public libraries	Library Services and Construction Act - title II	Aid construction of public libraries
Vocational schools	Vocational Education Amendments of 1968	Construct or improve area vocational education school facilities

Program Level	Who May Apply	Where to Apply
\$ 500,000	Institutions of higher education, State and local education agencies, or combination within particular regions	OE's Bureau of Education for Handicapped, Division of Research
45,000,000	State education agencies	OE's Division of Adult Education Programs
(See II-48)	Persons referred by State employment services	Participating institutions (information from OE's Division of Manpower Development and Training)
(See II-47)	Teachers and teacher trainers of adults basic education courses	Participating institutions (Information from OE's Div. of Adult Education)
24,099,000	State library administrative agencies	OE's Division of Library Services and Educational Facilities
(See II-7)	Public secondary and postsecondary schools providing education in five or more fields	State boards of vocational education (information from OE's Division of Voc. -Tech. Education)

6.2.2 Private Funding

Private foundations are also potential resources for funds for further development of FLNT schools. Four, which have recently shown interest in innovative education programs, are described briefly in the following paragraphs with information on assets, annual expenditures, and some recent grants which they have awarded.

Eugene and Agnes E. Meyer Foundation

Assets in 1968: 22 million

Expenditures in 1968: 1.7 million

Recent grants:

To the Model School Division for instructional TV: \$22,000

To the Smithsonian Institution for an Anacostia Neighborhood Museum: \$12,000

To the Adams-Morgan Project for staff development: \$25,000

Additional grants have been made to D. C. School administrators and teachers.

Ford Foundation

Assets in 1968: 3 billion

Expenditures in 1968: 269 million

Recent grants:

To the Boston Committee for Community Education Development, \$390,000 for development of a privately run experimental school system under public auspices.

To the Philadelphia Tutorial Project, \$440,000 for work with dropouts and potential dropouts.

To four recipients, \$220,000 for adapting British primary school reforms to American schools.

To several experimental school districts in New York City, 1.4 million for improvement of instruction, staff development, etc.

Carnegie Foundation

Assets in 1968: 251 million

Expenditures in 1968: 12.7 million

Recent grants:

To Children's Television Workshop, 1 million for development of programs.

To Ypsilanti Public Schools, Ypsilanti, Michigan, \$138,000 for development of an education program for infants aged 3-12 months and their mothers.

To the Cincinnati Montessori Society, \$29,000 for follow-up of children previously enrolled in Montessori Headstart programs.

To the Learning to Learn School in Jacksonville, Florida, \$72,000 for development of a process-oriented learning curriculum for 4-5 year olds.

To the Anti-Defamation League of Bnai Brith, \$15,000 for production of films on the Bereiter-Engelmann instructional procedures for disadvantaged children.

Rockefeller Foundation

Assets in 1968: 332 million

Expenditures in 1968: 42 million

Recent grants:

To the Berkeley Unified School District, Berkeley, California, \$200,000 for development of in-service training programs on multi-racial education.

To the St. Louis Board of Education, \$350,000 for development of community schools and initiating work-study remedial reading, parent involvement, and leadership training programs in selected ghetto schools.

To the Public Schools of Philadelphia, Cleveland, Minneapolis, Evanston, Illinois, and Gary, Indiana, \$15-250,000 for developing or expanding programs to improve school-community relationships.

6.3 Summary

One of the goals for the FLNT Education System specified by all planning groups is that the schools constitute an open system -- maintaining vibrant give and take with the community, serving as a resource to the community, and using the entire community as a resource.

GLC identified two types of resources -- community resources for enriching the curriculum and funding resources for staff training programs, improvement of instruction, support services, and the like. The purpose of

Section 6 was to identify these resources and to make suggestions for ensuring their utilization.

Several community resources were identified that could help FLNT develop community schools rather than just educational institutions.

Local citizens could permit students making career choices or studying particular fields to observe them in their work and discuss the field of work with them.

Many citizen groups, such as the Interim Education Committee (to be described more fully in Section 8. 2) could be invaluable resources for helping students learn about citizen participation in social processes, education, and social action. Community residents trained as paraprofessional aides and assistants, in addition to assisting teachers and carrying full responsibility for particular educational duties, could also play an effective role in enhancing school-community dialogue and understanding. They would benefit from the career and advancement opportunities provided them by the schools.

The D. C. School System itself can be viewed as a resource that could supply Fort Lincoln schools with internal consultants and curriculum guides and materials. Cooperative arrangements could be worked out with nearby schools to share facilities and participate in each other's programs and activities.

Churches, businesses, colleges, and universities, and medical facilities in the area can all be sought to serve as sources for experience that will enrich the educational process.

Physical and historical resources such as the National Arboretum or the site of the fort and battlefield on which New Town will rise are readily available and can be the locus for on-site learning experience.

Funding resources were also identified by GLC. The FLNT Education System will have several natural advantages that enhance its chances for obtaining federal funds since it will be committed to educational innovation, part of an experimental community, in the public eye, and located in Washington, D. C. A comprehensive list of federal funding programs for which FLNT schools would be eligible was prepared by GLC. It lists possible sources of funds for activities ranging from improvement of support services to teacher and paraprofessional training programs.

Another potential resource for funding is the private foundation. Four foundations which have recently shown interest in innovative educational programming were identified.

GLC will continue its investigation and identification of additional community and funding resources as planning continues.

7. CONSTRAINTS

Since the Fort Lincoln New Town Educational System will be supported by public funds, the System, like all other public schools, will be subject to government limitations and standards as well as public scrutiny and demand.

However, it is stressed in the goals and initial planning guidelines for FLNT schools that the system must be "new" and "innovative" and thus, by definition, "experimental". Consequently, a major question for planners is: How can the FLNT Education System operate within present constraints and yet meet the far-reaching goals that have been proposed? In an attempt to answer this question, a survey was conducted of relevant laws, rules, regulations, practices, and customs that will affect the operation of the FLNT Education System.

In particular, an effort was made to identify those regulations and practices which might place constraints on FLNT operations or limit the effectiveness of the system. Two classes of constraints were identified:

- Laws, regulations, and practices which are legally or operationally binding on the Fort Lincoln Education System and constitute limiting conditions for the system but which appear to be compatible with FLNT educational goals. These have been specified by the GLC planning team and are being incorporated into the First Facility Design which will be documented in the next report.
- Rules and practices which would appear to conflict with FLNT goals and which must be modified or changed if these goals are

to be met. It is these constraints which are examined in this section. Recommendations for modification or further action are included. A list of data sources appears in Section 4.4, School - Agency Survey.

7.1 General Constraints

7.1.1 School Year

The school year is specified as having a minimum of 180 days in the Board of Education Rules (Chapter XII, Section 2).⁷ The Fort Lincoln Education System will comply with this requirement. In addition, it is expected that the school facilities will remain open and be maintained on a year-round basis. It does not appear that this continuous operation will require any changes in the rules and regulations governing the length of the school year.

Recommendation: No significant change required.

7.1.2 School Day

Board of Education Rules (Chapter XII) cover the required length of the school day for pupils at various levels:

- Kindergarten pupils attend one session of a minimum of three hours.
- Elementary school students attend school from 9 a. m. to 3 p. m. with a one-hour break for lunch and morning and afternoon recesses of 15 minutes each.
- Junior high school students also attend school from 9 a. m. to 3 p. m. and have a lunch period of not less than 30 or more than 45 minutes. The same requirements apply to senior high students.

If the FLNT school schedule is to be flexible enough to accommodate individual student needs, there may have to be some alteration in existing school-day rules.

Recommendation: The FLNT school day will require a minimum standard of attendance by a student, but hours of attendance, lunch hours, etc., will be flexible enough to accommodate individual student programs.

7.1.3 Age of School Admission

The FLNT Education System is to be designed to accommodate children as young as three years. This age is lower than the present age requirement for admission to kindergarten or first grade. Board of Education Rules (Chapter XIII, Section 6-7) can be applied as a standard for admission at age three.

Recommendation: No significant change required.

7.1.4 Class Size

According to Board of Education Rules, (Chapter XIV, Section 3), maximum class size standards in the schools, in so far as practicable, shall be:

- Senior high schools:

Maximum class size for academic classes: 25.

Maximum class size for shops (including mechanical drawing), home economics, and art: 18.

Educational positions assigned to school buildings (in addition to officers) to be excluded from maximum class size computations: counselors, librarians, military science teachers, driver education teachers, remedial teachers, teachers of instrumental music, and the equivalent of two teaching positions per building for activity assignments.

- Vocational high schools:

Maximum class size for academic classes: 25.

Maximum class size for shops (including mechanical drawing), home economics, and art: 18.

Educational positions assigned to school buildings (in addition to officers) to be excluded from maximum class size computations: counselors, librarians, military science teachers, driver education teachers, teachers of instrumental music, the equivalent of one teaching position in each vocational high school plus one additional teaching position in those vocational high schools offering military science instruction.

- Junior high schools:

Maximum class size for academic and art classes: 25.

Maximum class size for shops (including mechanical drawing) and home economics: 18.

Educational positions assigned to school buildings (in addition to officers) to be excluded from maximum class size computations: counselors, librarians, remedial teachers, teachers of instrumental music, and the equivalent of one teaching position per building for activity assignments.

- Elementary schools:

Maximum class size for regular classes, grades 1-6: 25.

Maximum for kindergartens: 60.

Educational positions assigned to the elementary school level for itinerant instruction purposes and for remedial instruction are to be excluded from maximum class size computations.

- All levels:

The maximum class size for special academic and other classes in special education: 18.

The maximum class size for social adjustment, sight conservation, hearing conservation, occupational and severely mentally retarded: 8.

All positions assigned to the various forms of remedial and corrective instruction and the Visiting Instruction Corps are to be controlled on the basis of the educationally acceptable case loads applicable to each form of such instruction.

Recommendation: There have been considerable variations in actual class size in D. C. Schools. Therefore, no formal changes in these standards may be necessary for Fort Lincoln. However, it must be understood that "class" groupings will be constantly shifting as children proceed in their individual programs. Class size, too, will shift constantly, and class-size ratios will not be comparable with the fixed standards enumerated above. However, overall staff to student ratios will be responsive to class-size standards within the limitations of per pupil cost.

7.2 Policy and Control Constraints

The authority of the District of Columbia Board of Education is based on powers granted to it by Congress. The Board has the statutory authority to make educational policy and to administer schools. However, the authority to receive

and spend money for these purposes is vested in the D. C. Government, the fiscal agent of the Board. Authority to authorize and appropriate these funds is retained by Congress.

This system of shared authority has circumscribed the powers of the Board, despite the fact that it is at present the only popularly elected body in the District of Columbia. In practice, this means that the Board, in addition to being fiscally dependent, is also operationally dependent on the D. C. Government, which either approves, administers or monitors personnel, budgeting, accounting, construction, maintenance, and repair functions of the schools.

The Board of Education has sought to clarify its position by requesting an opinion of the Corporation Counsel on the above matters.⁸ The Corporation Counsel's opinion in reply may be characterized as a restatement of the existing dependent relationship of the Board, holding that the Board cannot function as an autonomous government agency.

This situation has been further complicated by the Board's actions in sharing its policy-making authority with local neighborhood groups in the Anacostia and Morgan Community School Projects. The extent to which the Board can delegate its authority to such groups has also been questioned by the Corporation Counsel in an opinion of the charter sought by the Morgan School Board.

This is particularly relevant to Fort Lincoln, since it seems essential that the FLNT Education System be vested with a considerable degree of autonomy in terms of authority to depart from existing practices and to provide

increased opportunities for decision making by students, staff, and the community.

Recommendation: Action should be taken immediately to ensure that the FLNT Education System can operate with maximum autonomy. This will require clarification of operating relationships and procedures among FLNT Education System, school departments, and D. C. Government agencies.

7.3 Community Participation

The Board of Education has strongly endorsed means for community participation in the life of city schools.

In approving the Superintendent's Position Statement on Decentralization and Community Control, the Special Projects Division Charter, the Morgan School Agreement, the Anacostia Project Charter, and the Model School Division Reorganization Plan, the Board has gone far toward creating a meaningful role for the community in decision making within the framework of the Board of Education Rules. In its initial relationships with Fort Lincoln area residents, the Board and FLNT school administration have taken great pains to ensure their involvement in planning.

Recommendation: The Board and FLNT school administrator should continue their efforts to involve the community in planning and should extend to FLNT area residents the opportunity to formally participate in decision making when the first facility becomes operational. This would be in keeping with the role which has been extended to the community in other innovative projects, and with the charter of the Special Projects Division.

7.4 Education Program and Curricula

7.4.1 Content and Methods

In general, authority for the content and methods of the educational program of D. C. Public Schools has been shared among the Departments of Elementary

and Secondary Education, the Supervisory and Subject Matter Departments, and the Curriculum Department. At the same time, there has been considerable leeway at the school level in determining content, methods, and practices. Curriculum Department syllabi and resource materials are recommended for use by teachers, but are not mandatory. Principals have primary responsibility for rating teachers. The Subject Matter Departments are responsible for developing and implementing new curricula, but individual schools and teachers may also engage in these activities in an effort to vitalize their programs.

These arrangements prevail for all elementary and secondary schools except those in the Model School Division (MSD), the Morgan School Project, and the Anacostia Community School Project. These experimental districts have greater autonomy in administering their educational programs. The MSD and the Morgan and Anacostia programs are independent of the Elementary and Secondary Departments, but are responsible directly to the Board and the Superintendent's Office. This provides an additional degree of flexibility which appears to have fostered greater interest in developing new programs.

Recommendation: Like the MSD, Morgan and Anacostia Projects, Fort Lincoln should be vested with responsibility for its educational program independently of central office departments.

7.4.2 Carnegie Units

The District of Columbia School System continues to use the Carnegie Unit System to organize and quantify the minimum knowledge and skills required for graduation. The requirements are as follows:

In four years (grades 9-12) every student must complete 16 Carnegie units (1 unit = 2 semesters).

English	4 units
American History	1 unit
Government (senior year)	1/2 unit
Science (incl. lab.)	1 unit
Mathematics	1 unit
	<u>7 1/2 units</u>

Electives in business, industrial arts, college prep or other program

8 1/2 units
16 units, total

Physical education is required, but no credit is given.

The primary disadvantage of the Carnegie unit system is that very early in his high school career a student must make a choice among the various programs offered by the school. If he chooses a path other than college preparation, he will not graduate with the academic requirements necessary for college entrance, should he decide later to go to college. The student who chooses the academic program does not have time to take courses in business or industrial arts which allow him to develop knowledge and skills of interest, use, or potential value.

Ideally, every student should pursue a program which upon graduation will prepare him for three options: immediate employment at a beginning level, entrance to post-high technical programs, and entrance to post-high academic programs. The objectives for such a program would be guided in part by the requirements for entrance into advanced programs and the job qualifications for beginning positions. One measure of the value of the program would be the number of graduates who complete advanced programs or remain employed in acceptable jobs.

The Carnegie Unit System does not provide the precise, performance-oriented objectives necessary for accurately measuring the student's preparation. At the same time it operates to limit the options available to students.

Recommendation: These are two possible alternatives. A system such as classifying the FLNT education program objectives according to Carnegie units could be worked out to equate Carnegie units with new program requirements. Another approach would be to work out a set of equivalencies by which the FLNT program could be equated with a recognized system of college entrance preparation standards such as the evaluation program for secondary schools published by the American Education Council for the Mid-Atlantic Regional Accrediting Association.

7.5 Administering Business Functions

Business functions of the D. C. Public Schools are maintained by the Division of Administrative Services in conjunction with the General Services Administration of the D. C. Government. In many instances, these functions are duplicated in both agencies. At times this results in unnecessarily complicated procedures and time delays in processing necessary items. This overlapping in functions is partly due to the Public Schools' fiscal dependence on the D. C. Government (and Congress). In addition, however, there are many practices which have grown up over the years which have tended to limit the flexibility of the Public Schools in carrying out normal business matters. Constraints imposed by the complexity of these procedural and organizational relationships could seriously impair operation of the Fort Lincoln System.

7.5.1 Budgeting

The normal cycles for operating budget and Federal programs are:

- Operating budget

The normal budget cycle, from the time of the budget "call" (initial distribution of forms) until the operating year is two years. The budget call that will be initiated in September 1969 will be for the year that begins September 1971 (FY '72). The time cycle is so long because of the need for congressional review. The FY '72 budget is aimed for completion in the D. C. offices by May of 1970. After that point it will be submitted to the Mayor and then to the City Council for review in the Fall of 1970. It goes to Congress in Jan/Feb '71. The D. C. Schools receive their final budget in June preceding the operating year.

These guidelines apply to the entire budget, both the operating phase and the capital outlay phase.

- Federal programs

The budgeting cycle for special Federal programs depends upon the requirements for each program. However, the normal Federal program does not have the time lag of the school budget. Currently, Congress is working on the FY '70 budget, the budget for the operating year 1969-70.

This long budget cycle creates serious planning problems since needs must be anticipated more than two years in advance.

Budgeting is made even more difficult by the use of the line item approach to allocation and justification of funds. All expenditures must be specified in exact numbers. However, after the budget process has been concluded two years

later with reductions and modifications, the line item breakdown often does not correspond with the changing realities.

A further complication is the use of a fixed "base budget" to which yearly increments are added. This tends to freeze the line items which have been approved and incorporated in the base. Items which are no longer needed and positions which are unfilled cannot be reallocated so that funds can be spent on new needs. The result is that precious resources are wasted and flexibility in meeting changing needs is limited.

Recommendation: A modified approach to budgeting should be introduced for Fort Lincoln. This would include:

1. An initial allocation on a per pupil basis (at the inception of the budget process). This allocation would be based on the average estimated per pupil cost for the D. C. system as a whole for the proposed budget year and the estimated Fort Lincoln per pupil population.
2. The proposed expenditure of the per pupil allocation would be justified on a program basis, identifying the relevant resource inputs.
3. At the conclusion of the budget process, the Fort Lincoln budget would be determined by the average per pupil allocation finally approved. The program would be revised to reflect reduction and modification and would then be converted to a line item basis. At the end of the fiscal year an audit would be published providing a precise accounting of expenditures.

7.5.2 Procurement

Under present D. C. regulations, procurement and other contracted services of equipment supplies and materials is handled directly by the Department of Business Administration of the D. C. Public Schools according to an approved list. Contracted services are also subject to D. C. Government approval and payment is through the D. C. Government which acts as fiscal agent for the school system.

This system has caused considerable difficulty in obtaining the proper material and services at operating levels in the school system. Allocations often fail to match changing enrollments; there are lengthy delays in obtaining all but the most routine supply items; orders and inventory procedures are irregular; and personnel at the school level have little opportunity to specify their needs in the process. All of these problems represent potentially serious constraints on operation of the Fort Lincoln program.

Recommendation: Two important guidelines for procurement of services, equipment, supplies, and materials should be implemented:

1. FLNT Education System should have the authority to purchase material and services which
 - cannot be obtained through the central office within reasonable time limitations
 - can be obtained at less cost to the project than if they were purchased through the D. C. Schools and Government or from these agencies (including food services, pupil services, materials, repairs and maintenance).

2. FLNT should be able to expend cash for items needed by teachers, students, and other school personnel as a regular part of the instructional program, subject to normal public accounting and auditing procedures.

7.5.3 . Accounting

Accounting is presently handled on a centralized basis. Accounts are not kept at the school level, though the system is moving in this direction. The modified central accounting structure which is supposed to be in effect as of July 1, 1969 will be able to keep school level accounts and is compatible with a Planning, Programming, Budgeting System (PPBS) approach. With a minimum of effort it should be possible to set up an accounting structure for Fort Lincoln which is compatible with central accounting yet retains accountability and responsibility at the FLNT Project level. For the First Facility this system should be operated manually but it can be automated as soon as the Department of Automated Information Systems is ready to handle the data. One difficulty which may occur is in personnel accounting, where recordkeeping procedures have resulted in delays and inaccuracies in the past. It may be necessary to devise special procedures to avoid the problem.

Recommendation: No significant change required.

7.6 Data Services

The Department of Automated Information Systems presently provides these services:

- Pupil Personnel -- Assigns number to each student, maintains address, and in some cases records parent information.

- Student Scheduling -- Scheduling was tried successfully in the 1968-69 school year, and will be done for approximately 20 junior and senior high schools in 1969-70.
- Attendance Records -- No attendance records are kept now but planning to do so will occur in 1969-70, and such records may be kept in 1970-71.
- Test Scoring -- Currently nonoperative. As in other areas, the main difficulty is assigning staff to conduct development work while handling day-to-day operating problems.
- Fiscal Accounting (See 7.5.3)

The individualized system of instruction which is intended for Fort Lincoln, together with ordinary school data requirements, can be expected to place a heavy additional load on already overburdened staff and on the computing capacity of the Department of Automated Information Systems. (DAIS).

Recommendation: An analysis should be made of the data requirements of the FLNT Education System Project at its inception and at full operating capacity to determine whether DAIS can be expected to supply these services in total or whether additional services will be required and at what cost.

7.7 Staff and Personnel

7.7.1 Personnel Policies and Practices

D. C. School personnel policies and practices are only partly determined by the school system. Salaries and certification requirements are determined by Congress and the D. C. Government. Position classification must be approved by the D. C. Government.

The general effect of these policies and practices has been to increase hierarchial ordering, encourage narrow specialization, and place excessive emphasis on academic credentials. Authority and responsibility tend to be unnecessarily concentrated at the upper echelon of the system, at the greatest distance from the clients. This tendency has been reinforced by promotion practices.

Recommendation: Emphasis in FLNT Schools should be placed on personnel policies, position classification, salaries, schedules, and selection criteria which provide for "team" and other relationships of colleagues rather than hierarchial ordering. These relationships should occur within a pattern of differentiated staffing which encourages role flexibility so that, for instance, administrative roles overlap with instructional roles.

7.7.2 Certification

Certification standards for teachers and other specialized instructional personnel and paraprofessionals tend to be based almost exclusively on academic preparation and qualification. As a result, many employees have been hired on a temporary basis. This has partly contributed to the high turnover rate. Many persons with temporary appointments have functioned well, however, despite their lack of academic credentials.

Recommendation: An analysis should be made of the functional qualifications required for positions in the FLNT System which can serve as the standard for certification, selection, and for performance evaluation. These standards would incorporate equivalencies for experience and on-the-job performance in addition to academic qualifications, would be correlated with a career advancement system based on performance, and could be equated with present certification standards.

7.7.3 Personnel Administration

Experience with the Model School Division and the Anacostia County School Project has demonstrated that it is difficult for the central personnel administration and Board of Examiners to handle the special needs of these projects. In many cases, there have been excessive delays and other processing difficulties in establishing positions and selecting candidates.

Recommendation: In order to provide for flexibility in personnel matters, the central office should delegate authority for personnel selection, classification, and administration to the FLNT Project.

7.7.4 Working Conditions

The Washington Teacher's Union (WTU) contract⁹ specifies a number of working conditions for teachers and related personnel. They include:

- Length of school day - 8:45 a.m. to 3:15 p.m. including lunch period.
- Duty-free lunch - Not less than 45 minutes at the elementary level and one class period at the secondary level.
- Class size -- see General Constraints, Section 7.1.
- Planning periods - Secondary teachers shall have five free periods per week and no six period assignments per day. Elementary teachers shall have at least three periods/week (to be increased to five) of 35-minute duration.
- Parent-teacher meetings - Teachers are required to attend not more than two evening parent-teacher conferences.

Recommendation: In observing the union contract, it may be necessary to define working conditions more flexibly so that, for instance, teachers may work longer than the regulation 6 1/2 hour day, but in staggered shifts, to cover late afternoon activities. It may be necessary to have a subcontract for Fort Lincoln. The WTU should be involved as soon as possible in FLNT personnel matters to insure that the project meets union requirements.

7.8 Facilities

Building codes produced several areas of constraint affecting the first school design:

- Open-space planning was modified by the requirement for enclosed stair wells, fixed corridor walls, a modified room-within-a-room concept, and modified non-stair access between floor levels.

7.8.1 Planning and Construction

Historically, the D. C. Public Schools Department of Buildings and Grounds has been dependent on the D. C. Government Department of Buildings and Grounds. The D. C. Government prepares specifications for school facilities, selects architects and contractors, and monitors construction.

In the facilities planning and construction process in the past, there have been many delays and problems of coordination. However, in plans for the first facility at Fort Lincoln there has been good coordination and cooperation. The public schools participated in selection of the architects and a sincere effort has been to ensure that the architects have flexibility in their design constraints. Contracts have been expedited.

Recommendation: The pattern and procedures for coordination in planning the first facility should be extended to plans for the other five facilities. This could best be done through either a formal agreement between the Public Schools and Buildings and Grounds or through procedures devised by the proposed Fort Lincoln Development Agency.

7.8.2 Repairs

In addition to its responsibilities for construction, D. C. Government Buildings and Grounds is also responsible for repairs to buildings which cannot be accomplished by the custodial staff.

Recommendation: To facilitate repairs, funds should be allotted for this to the FLNT Project so that it could contract for maintenance and repair except in cases where immediate repair services are available through Buildings and Grounds.

7.9 Modifying Constraints

The constraints and recommendations just outlined indicate the many problems which must be overcome if the FLNT Education System is to operate effectively.

Recommendation: In order to expedite solutions to these problems it is essential:

1. That discussions be initiated with appropriate school and D. C. Government personnel to determine the feasibility of the above recommendations and to initiate changes.
2. A charter should be drafted for the FLNT Education System specifying its authority, responsibility, and legality, for approval of the Board of Education, D. C. Government, and other appropriate agencies.
3. Legal assistance should be sought, if necessary, to prepare briefs and other documents in support of appropriate recommendations.

7.10 Another Source of Constraint -- Goal Differences

Differences of opinion about the FLNT planning goals, their priorities, and the manner in which they are implemented can have the ultimate effect of exerting a constraining influence on the overall progress of the project. These must be taken into consideration as the final plans are drawn up and initial actions taken.

Of all the goals suggested by the FLNT community, the Logue Report, the Fantini-Young Report, and the Passow Study, none appears to be contradictory or mutually exclusive. However, implementing the sum total of all goals will require tradeoffs as to degree and kind of implementation. Further, goal implementation is constrained by resource availability and legal/agency regulation.

For example, the Passow Study recommends that "Community Boards of Education be elected". To be sure, the Anacostia and Adams-Morgan precedents might allow such a move, but it is presently uncertain that the FLNT community endorses such a plan.

The CPI Community Survey ranked adults' four top school goals as:

- Providing students with personal problem assistance
- Teaching students pride in self and work
- Providing individual instruction
- Low dropout rate.

The same survey ranked students' four top school goals as:

- Making student want to get high grades
- Teaching students pride in self and work
- Offering students courses they're interested in
- Providing students personal problem assistance.

It is significant to note that neither group mentioned school administration or teacher performance in the top four goals. The single implicit reference to school performance was the goal "low dropout rate" which came from the adults surveyed.

The priorities assigned to goals by adults and students reflect a difference in degree rather than in kind, but a clearer picture of priority differences is found in a comparison of concerns of the CPI group with those of the Community Workshop Group.

The top four CPI-group concerns are:

- Overcrowded schools
- Poor student discipline
- Children don't learn enough
- Teachers not allowed to run classes as they like.

The top four Community Workshop concerns are:

- Absence of modern teaching techniques, equipment, and curriculum for exceptional children
- Absence of dedicated and well-trained teachers on all levels
- Poor methods of class discipline
- Poor parent-teacher contact.

The differences between these two groups imply a "control" orientation on the part of the CPI respondents, and a "change" orientation on the part of the Workshop participants. The differences may in part be due to the fact that Workshop participants may have wanted to add to the concerns already stated. Classroom discipline is the only common concern. The CPI respondents imply, by their concerns,

that changing the behavior of school personnel might control the school situation. The Workshop participants imply, by their concerns, that getting new curricula and teachers will improve school performance.

Obviously, the design for a new and relevant system of education for Fort Lincoln responds most appropriately to the concerns of the Workshop group. How the final plan and operations of a new system will be accepted by the FLNT community as a whole is an open question. One hopeful probability is that the new system will meet the goals and concerns of both groups -- that by implementing new curricula and hiring new (and better) teachers, the problems of discipline and poor student performance will be overcome.

The obvious interdependence of goals does not always imply, however, that meeting one goal meets other, dependent goals: better teachers may not improve student performance without better materials; a better curriculum may not improve pupil performance without better student motivation; better administration may not improve teacher performance without more direct school accountability to the community and to students.

System and People goals are equally interdependent, though it is often the nature of systems to sacrifice people on the altars of order and control. First priority goals should be those of the people the system is designed to serve. Second priority goals should be those which enable the system to support the people it serves. Third priority goals should be those which provide for system response to change.

The school design being planned is intended to meet all stated goals for both system and personnel performance, based on the availability of resources and considering all relevant constraints. A few of the implicit goal conflicts have

been identified; others will arise as planning continues and design testing occurs. In Section 8, Alternatives for Planning, plan option tradeoffs are identified which have implications for meeting goals. The final work on goals and how well the comprehensive plan meets those goals must await plan completion.

7.11 Summary

Since the FLNT Education System will be supported by public funds, it will of course be subject to government limitations and standards. It will also be under constant public scrutiny and subject to public demand.

GLG planners felt that it was vitally important to consider the constraints the innovative Education System would have to deal with since some traditional limitations could be expected to have a negative effect on the system's operation or make it difficult to implement new approaches to education. Consequently, GLC raised this question: "How can the FLNT Education System operate within present constraints and yet meet the far-reaching goals proposed for it?" To answer the question, relevant laws, rules, regulations, practices, and customs that would affect the operation of the system or limit its effectiveness were studied. The possible conflict in demands made by the Education System on different groups was also taken into consideration.

Two classes of constraints were identified. The first class consists of those that will be binding on the system but are considered compatible with its educational goals, such as the requirement for a minimum standard of attendance. The other class of constraints consists of those that would appear to conflict with FLNT goals and will need to be modified or changed if the goals are to be met, such as existing standards governing the hours of attendance. Since one feature of FLNT

school planning emphasizes flexibility based on individual student needs, some students might be taking part in regularly scheduled activities during the weekend or in the evening or in the summer. Every student would spend a minimum total of 180 days in school each year, but actual times of attendance would be likely to vary from student to student.

The following categories of constraints were identified and recommendations were made for compliance with or change of each constraint cited:

- General constraints, such as class size, length of the school day, and age of admission.
- Policy and control constraints that might affect the autonomy of operation desired for Fort Lincoln schools.
- Community participation in school decision making.
- Education program content and curricula.
- Business administration constraints such as the lengthy cycling of budgeting required for Congressional review and the use of the line item approach to allocation of funds. Often, the line item breakdown does not correspond with changes in needs that occur after the budget has been established.
- Data services.
- Staff and personnel policies that might inhibit suggested staffing patterns or credentialing.
- Construction.

GLC has recommended that in those cases where problems are expected to arise as a result of the conflict between existing constraints and FLNT educational planning, dialogue should begin with appropriate D. C. Government personnel to determine the feasibility of recommendations for changes in policies.

Another set of constraints should also be considered -- those that arise as a result of differing opinions among the various groups concerned about how the schools should be conducted. For example, in a survey conducted by GLC, differences were found between the goals for the system as perceived by students and adults. Various segments of the community might also be expected to differ in the priorities they place on various aspects of school programming.

GLC has recommended that a system based on priorities be developed to handle policy decisions on matters about which there is disagreement. The extent to which there will be conflict cannot really be known until the system is operational. One hopeful probability is that taking a step to meet the needs of one group may result in meeting the needs of another. For example, one group may desire change in instructional methods, placing greater emphasis on this goal than on the goal of improved discipline. However, instituting new instructional methods may effectively reduce the demand of another group that wants attention to what it considers disciplinary problems since the new instructional methods may create greater interest and motivation among students, thereby reducing their lack of attention or mischievousness. Such interlocking solutions to problems should be considered an administrative goal for the FLNT Education System.

8. ALTERNATIVES FOR PLANNING

Considering the constraints under which the FLNT schools must operate and the resources available, what alternatives exist for implementing education system goals? This section contains an attempt to analyze various options identified by General Learning Corporation for operating these elements of the educational system: instruction, community participation, staff roles and relationships, and policy and control.

The alternatives were formulated with these criteria in mind:

- Responsiveness to the goals and resources specified in Sections 5 and 6.
- Conformity to constraints outlined in Section 7.
- Educational validity as documented in the literature and demonstrated in existing programs.
- Compatibility with proposed facilities, sites, and overall "climate" of the system as conceived in the Logue report and the educational recommendations of the Ad Hoc Committee and Fantini and Young.

Another criterion, feasibility, is considered in Section 9 in terms of costs, availability of materials, staffing patterns, procedures, physical plan and layout, community expectations, and attitudes.

8.1 Instruction

Individualization of instruction has been stressed by all groups concerned with establishing goals for the FLNT schools. Thus, alternatives considered by General Learning Corporation for the instructional program were only those which would enable considerable variation in learning experiences from student to student. Options for individualization are discussed below for each of the following

aspects of the instructional program: staffing pattern, materials, diagnosis and evaluation methods, organization structure, curriculum structure, facilities, and special education.

8.1.1 Staffing Pattern

Before discussing strengths and weaknesses of various staffing patterns, two distinctions must be made; one is between the ratio of staff to students and the ratio of teachers to students, the other is between class size and instructional group size. For example teacher to student ratios may be as low as one teacher to 50 or 60 students, while staff to student ratios can be decreased down to one to 10 by the addition of paraprofessionals, student teachers, etc. Class size is significant in terms of the administrative unit, but not in terms of the instructional unit; for instance, children in classes of 40-50 students may never experience placement in an instructional group larger than 15.

The desirability of low staff to student ratio has been stressed by all groups concerned with planning the FLNT education system. Extensive use of community residents in paraprofessional roles is also recommended as a means to lowering the staff to student ratio without incurring prohibitive expenditures for additional teachers' salaries. These guidelines were observed by General Learning Corporation in considering alternatives.

Although research on class size has demonstrated that the teacher-student ratio by itself does not significantly affect student achievement, a recent summary of findings by the National Education Association Research Division (May 1968) indicates that the staff-student ratio may be extremely significant. The NEA report and numerous other analyses also suggest that research on the effectiveness

of various teacher-student and staff-student ratios has not been comprehensive, and this variable has not been separated from related variables such as skills of the teacher, type of learning desired, etc. Thus, there are no clear-cut alternatives available for FLNT schools.

The ideal pattern for FLNT classrooms will depend upon the type of education program chosen, since the ideal pattern in any classroom is determined by several factors:

- Age of students
- Spread in achievement levels of students
- Use of self-instructional materials
- Use of preprogrammed sequences of materials
- Variety of materials available
- Frequency and effectiveness of peer tutoring
- Importance of desire to foster student independence
- Importance of desire to control what students learn
- Competencies of teachers and paraprofessionals.

Alternative staffing patterns which take these factors and the mix of teachers and paraprofessionals into account are described below.

Alternative #1: One teacher, 15-20 students, one or two paraprofessionals or 1:7.5-15 staff to students

This pattern is found in preschool and some special education classes.

Strengths:

- Increases ability of staff to provide close supervision for students who have a short attention span, are unable to follow instructions, are poorly coordinated, have severe learning problems, or are dependent on adult reinforcement.
- Provides opportunity for staff to know each student well and to interact with him as an individual.

- Increases opportunity for individualized planning and evaluation by the teacher.
- Provides adequate staff for some individual tutoring by the teacher.

Weaknesses:

- Decreases student independence.
- Increases costs beyond per pupil expenditures or requires cutting back on other resources, particularly materials.

Alternative #2: One teacher 30 students, half-time paraprofessional or 1:20 staff to student ratio

This pattern is typical of graded, self-contained classrooms in uncrowded schools.

Strengths:

- Provides adequate staff for small-group instruction.
- Provides adequate staff for individualized planning and evaluation by the teacher.

Weaknesses:

- Requires a disproportionately high per pupil expenditure for staff, reducing amount of funds available for other resources, particularly materials.

Alternative #3: A flexible ratio 1 teacher, 45 students, two to three paraprofessionals. A flexible pattern using teachers and paraprofessionals in varied ratios with students, not to average less than 1 staff person to 27 students.

This is comparable with the pattern used in the "Free Day" schools in Leicestershire, England.

Strengths:

- Decreases cost for teachers' salaries, permitting greater expenditures for other resources, especially materials.
- Increases number of community residents involved with the school.
- Provides income and career opportunity for a greater number of nonprofessional community residents.
- Fosters student independence.

Weaknesses:

- Decreases amount of teacher time available to each student.
- Requires preservice training, since teacher's role becomes more managerial, and most teachers are untrained in classroom management skills.

Conclusions:

A ratio of no less than one staff to 27 students is recommended. This seems to be the best staffing alternative for achieving the primary goals of the FLNT schools, providing a learning environment which is rich and stimulating enough to respond to the needs, interests, abilities, and personal goals of each student without exceeding the per pupil cost of the D. C. system. Indications from programs which have adopted this innovation are that students profit greatly from the additional investment in materials, and teachers can be trained to use their time more efficiently and to delegate much responsibility to paraprofessional and student helpers. (See summaries and comments on programs visited, Section 4.5.)

Recommendation: A staffing pattern of no less than one staff to 27 students is recommended.

8.1.2 Materials

The term "individualized instruction" implies that not all students learn in the same way and at the same pace. The recommendations for individualized instruction at FLNT schools also means that not all students should learn the same things, but rather should pursue certain subjects which conform to their own interests and personal goals.

It is obvious that a greater variety of materials is needed in programs which provide individualized instruction than in those providing group instruction. Students will need materials in different media. They will also need materials in a wide variety of subject areas in order to pursue their own interests.

Strengths and weaknesses of providing a great diversity of materials are discussed below, along with strengths and weaknesses of various methods, e.g. self instruction, built-in immediate feedback to the student, built-in diagnosis and evaluation. Pros and cons of the following possibilities are also examined: purchase of materials by each student up to a certain dollar amount, purchase of materials by each teacher up to a certain dollar amount, development of materials by each teacher up to a certain dollar amount, development of materials by staff, independent use of audiovisual materials by students, and home and community use of materials and equipment by students and staff.

Alternative #1: Great diversity of materials accessible to every
teacher and student

Strengths:

- Facilitates individualization of instruction.
- Encourages experimentation with learning through various media.
- Reduces pressure on staff to direct students to new activities.
- Encourages student initiative.
- Enables availability of materials "on-the-spot" and eliminates time lag between requests sent to a central office and delivery.

Weaknesses:

- Requires greater expenditure for materials, causing cutbacks in expenditures for other resources, especially teachers.
- Requires greater expenditure for audiovisual equipment, since several students may want to study different films, slides, etc. at the same time.
- Requires space in the classroom for independent use of a large variety of materials and equipment.
- Requires a period of adjustment for students used to a traditional classroom in order to reduce temptation to investigate everything at once.
- Complicates ordering, cataloging, and maintenance of materials.

Alternative #2: Self-instructional materials

Strengths:

- Frees staff time for other activities such as planning, parent conferences, evaluation.
- Encourages student independence.

Weaknesses:

- Requires teacher's time for stringent evaluation of quality.
- Requires teacher's time for careful consideration of appropriateness of materials for the student, since staff will not get continuous feedback on the student's work.
- Availability of materials* of demonstrated effectiveness is low; most are still in the experimental stage (except in the skill areas of reading and mathematics) e.g. Nova Learning Packages, Individually Prescribed Instruction Program materials, Academic Games.

Alternative #3: Built-in individual feedback to the student

Strengths:

- Encourages student independence by allowing him to monitor his own progress; reduces student dependency on staff.
- Holds student's attention.
- Helps prevent repetition of mistakes.

* For a detailed discussion of these materials, see the recommendations for materials to be provided in the operating plan for the First Facility.

- Encourages or requires correction of mistakes.
- Frees staff from need to "check" students' work.

Weaknesses:

- Staff less aware of students' frustrations and successes.
- Requires teacher time for stringent evaluation of quality and anticipation of items which may be confusing.
- Enables students to "cheat".

Alternative #4: Built-in diagnosis and evaluation.

Strengths:

- Frees staff time for activities such as planning and parent conferences.
- Enables teacher to evaluate effectiveness of the materials for individual students.
- Usually includes prescription for subsequent learning sequences which frees teacher time.

Weaknesses:

- Requires teacher time for evaluation of quality.
- Requires teacher time for evaluation of relationship to standardized achievement measures.
- Reduces decision making in prescriptions.

Alternative #5: Student purchases of materials up to a given dollar amount

Strengths:

- Increases student initiative, involvement, responsibility.
- Gives students practice in decision making.

Alternative #6: Teacher purchases of materials up to a given dollar amount

Strengths:

- Increases teacher involvement, initiative, and responsibility.
- Improves quality of instruction since teachers use materials of their own preference more effectively than other materials.

Weaknesses:

- Complicates ordering procedures.

Alternative #7: Development of materials by staff

Strengths:

- Encourages staff initiative and creativity.
- Improves quality of instruction since materials can be tailor-made to the needs of particular students.

Weaknesses:

- Requires release of staff time for work on developing materials.
- Requires maintenance of a materials laboratory, furnished with appropriate raw materials and equipment such as graphics supplies, picture file, tapes, film, tape recorders, projectors, and adequate work space and work surfaces.

Alternative #8: Independent use of audiovisual equipment by students

Strengths:

- Encourages student initiative and responsibility.
- Encourages student exploration of learning via different media.
- Provides incentive to learn how to operate and maintain the equipment.

Weaknesses:

- Increases possibility of breakage or damage.
- Requires greater availability of equipment and therefore greater expenditure for it.

Alternative #9: Home and community use of materials and equipment by students and staff

Strengths:

- Encourages initiative and responsibility.
- Narrows the gap between learning in and out of school.

Weaknesses:

- Increases risk of loss or damage.
- Increases need for recordkeeping, requires check out system.

Conclusions:

A great diversity of materials is recommended as crucial to achievement of the goal of individualized learning in a rich environment, even though it leaves less money available for purchase of other resources, especially teachers.

Materials which are self-instructional, which have built-in immediate feedback and built-in diagnosis and evaluation components are recommended for use whenever possible, so that staff time can be freed for planning, instruction, and other activities.

Provision of a materials laboratory and released time for development of materials are recommended as an important means of encouraging staff initiative, creativity, and experimentation.

Student and teacher purchase of materials and independent use of audiovisual equipment in school and in the community are also recommended. The value of increasing initiative and responsibility of students and staff by these means seems to outweigh the problems of coordination and loss or damage which may ensue.

Recommendation: In spite of their cost, a diversity of self-instructional materials with built-in feedback and diagnostic features is recommended to facilitate individualized learning and free teachers for other activities. Purchase of these materials by students and teachers is suggested. A materials laboratory and time for development of materials by staff should be provided.

8.1.3 Diagnosis and Evaluation Methods

The groups concerned with planning the FLNT schools have established these guidelines for this component of the instructional system: diagnosis and evaluation of skill and behavioral accomplishment should be individualized just as learning experiences are individualized; testing should be used to inform students, teachers, and parents of the students' progress and to set educational objectives, rather than to make formal, global assessments of achievement levels for groups of students or to assign grades.

A distinction needs to be made between group tests designed to measure achievement for the purpose of assigning grades and standardized group tests designed to enable comparison of group or individual achievement to city, state, or national norms. While the FLNT planning groups reject the former, the latter is informative and vital for evaluation of the educational program once or twice a year.

The strengths of an individualized testing program are fairly obvious, but the weaknesses may be less so.

Strengths:

- Enables students to perceive testing as informative rather than punitive and arbitrary.
- Results are in behavioral terms the student understands.
- Reflects student capabilities more accurately since there is less interference from anxiety.
- Increases continuity between content taught and the testing process.
- Eliminates problem of "make-up" tests when students are absent.
- Increases efficiency of testing since students will only be given test items very close to their level of competence.
- Avoids problem of boredom when tests are too easy and frustration when tests are too difficult.

Weaknesses:

- Requires considerable amount of staff time to construct or adapt tests, unless testing components are built into the material.
- Requires staff time to proctor students taking tests, or enables students to cheat.
- Requires staff time to discuss results with students and parents and to plan subsequent objectives.
- Complicates recordkeeping on student achievement since entries are not made at specific times and numerical or letter grades are not used.

Since individualized rather than group testing has already been recommended, only those options appropriate to an individualized program were explored by General Learning Corporation.

Alternative #1: Diagnostic and prescriptive tests

These are tests on which wrong answers indicate what the student has not learned and which materials should be prescribed for remediation.

Strengths:

- Facilitate planning of objectives and assignment of materials.
- Make testing a learning experience as well as an evaluation of achievement level.

Weaknesses:

- Require much more time for test construction so that construction by staff is impractical.
- Commercially produced diagnostic tests are only available in the areas of language and mathematics.
- Experimental diagnostic tests, such as those of the IPI Program, do not have established reliability and validity.

Alternative #2: Observational or projective tests

These are open-ended tests, on which there are no right or wrong answers, and which require an observer to classify the student's response. These tests can answer such questions as: What percentage of the time does a student pay attention to his work when he is reading? When he is doing math problems? When he is listening to a tape?

Strengths:

- Are very useful for evaluating students' work habits, models of learning, and other behavior patterns which cannot be assessed accurately when he is in a testing situation.

- Focus attention on the learning process and associated behaviors rather than achievement level.

Weaknesses:

- Require trained observers to record behaviors objectively and systematically.

Alternative #3: Feedback given in parent-student-teacher conferences

Strengths:

- Increases involvement of parents in students' progress.
- Facilitates frequent exchange between teacher and parents.
- Involves student and his parents in determining the objectives he will work toward.
- Decreases student's perception of evaluation as threatening.
- Reduces tendency to "work for grades" rather than to learn and explore.

Weaknesses:

- Causes anxiety in parents who want a yardstick by which to compare their child with others.
- Requires a great deal of teacher-time.
- Complicates recordkeeping.

Alternative #4: Varied intervals for diagnosis and evaluation

There would be short intervals between diagnosis/evaluation (up to once a day) in crucial skill areas in which a student has had difficulty, longer intervals (as few as once a year) for subject areas of less importance such as history of music, Canadian geography, Mexican culture.

Strengths:

- Increases relevance and efficiency of testing.

Weaknesses:

- Requires teacher time for planning and coordination.
- Complicates recordkeeping.

Alternative #5: Comprehensive

This would consist of standardized testing in all areas of knowledge, not exclusively those which the student has studied in school.

Strengths:

- Provides assessment of student's ability to relate knowledge in different areas.
- Recognizes importance of learning out of school as well as in school.
- Enables construction of a profile of student's knowledge in all areas.

Weaknesses:

- Requires more student time spent in test taking.
- Requires more teacher time to assign, interpret, and give feedback on tests.

Alternative #6: Computer Assistance**Strengths:**

- Enables storage and retrieval of test items.
- Computer can generate tests for individual students on the basis of their previous achievement levels and current objectives.

- Computer can administer tests, record student responses, score the responses, and prescribe subsequent learning sequences and materials.
- Provides students with exposure to computer technology.

Weaknesses:

- Incurs considerable cost for use and computer time.
- Incurs considerable cost for development of computer programs to perform the desired tasks.

Conclusions:

Diagnostic and prescriptive testing is recommended whenever such testing materials are available. Observational testing is also recommended since it contributes valuable evaluation data which cannot be obtained by any other means.

Varied interval testing based on needs of individual students is recommended for planning of day-to-day assignments and discussing progress with parents.

Comprehensive standardized testing once a year is recommended for a global assessment of each student's achievement level in all appropriate curriculum areas. This testing enables staff and parents to compare each student with other students his age and indicates whether or not serious gaps exist in his knowledge and skills.

Feedback conferences between parents, students, and teachers are recommended in lieu of assignment of grades.

Computer assistance is strongly recommended as a means of reducing staff time necessary for composing a file of test items, composing tests for individual students, scoring tests, and prescribing new assignments on the basis of test

results. These tasks can be accomplished by human beings, but the computer is faster and more efficient, particularly since considerable training would be required for staff members who undertook these tasks.

Recommendation: Four kinds of testing are recommended to be used as needed: diagnostic and prescriptive, observational, varied interval, and standardized. Feedback conferences between parents, students, and teachers should occur at frequent intervals and replace the grading system. Computerized assistance in preparing and scoring tests should be provided.

8.1.4 Organizational Structure

What alternatives are available for an organizational structure which will further the goals established for FLNT schools, particularly individualization of instruction? General Learning Corporation identified three options which might be adopted for the opening of the first facility as responsibilities of the administrative staff.

Whatever plan is adopted, it must be implemented by human beings whose values, personal needs, competencies, and limitations will in the end give the organization its special character. A healthy organization is a continually changing one, and it is hoped that each school staff will evolve its own pattern as working relationships develop and roles become crystallized.

For each plan, the administrative team is concerned with the functions of planning, support, monitoring, and evaluation as they affect the school as a whole. The need for administrative personnel is similar for each of the four plans and does not exceed the number typical of elementary schools for 700 children.

Alternative #1: Independent Study Plan

The self-contained classroom is the basic organizational unit.

Instruction is individualized by encouragement of independent study of diverse subjects by all students. One teacher and one or two paraprofessionals for 25 students is the ideal classroom ratio. The range of age and achievement levels of students may be either wide or narrow. Except for a wider range of materials and a greater number of resource people from various fields of knowledge to assist students in independent study, the organizational structure of the school is similar to that of a traditional school.

Strengths:

- Simplifies scheduling.
- Provides structure and stability for students who cannot work well independently and who require consistent interaction with one or two specific adults.
- Decreases possibility of some students "getting lost in the shuffle " in relation to teachers or peers.
- Requires less preservice training for staff.
- Increases amount of teacher-time available to each student.

Weaknesses:

- Decreases student opportunity for independent exploration of educational resources outside the classroom.
- Decreases amount of funds available for purchase of materials, field trips, etc.

- Decreases probability of students with similar interests being together in the same classroom and therefore being able to work together.

Alternative #2: Stage Groupings

Students are placed by age into stages of 3-5 year olds, 5-7, 7-9, and 9-12. Separate space is provided for each stage*. A relatively high degree of decentralized operation is envisioned for these educational subsystems of the school. General school management is provided by an administrative subsystem. Figure 1 gives a general scheme of this organization.

Strengths:

- Provides an administrative unit between the general coordinator and the classroom, which may 1) decrease staff's feelings of being inconsequential cogs in a wheel, 2) increase responsibility and accountability of staff.
- Spread in age groups is 1) wide enough to be stimulating to all students, 2) small enough to enable students to see relationships between what each is studying, 3) wide enough to encourage peer tutoring.
- This short spread in age groups rather than a wider spread decreases the possibility of bullying by older students.

*Children ages 7-9 and 9-12 are located together physically but the behavioral characteristics and the instructional activities of the two groups vary enough to warrant maintaining a distinction between the age groupings.

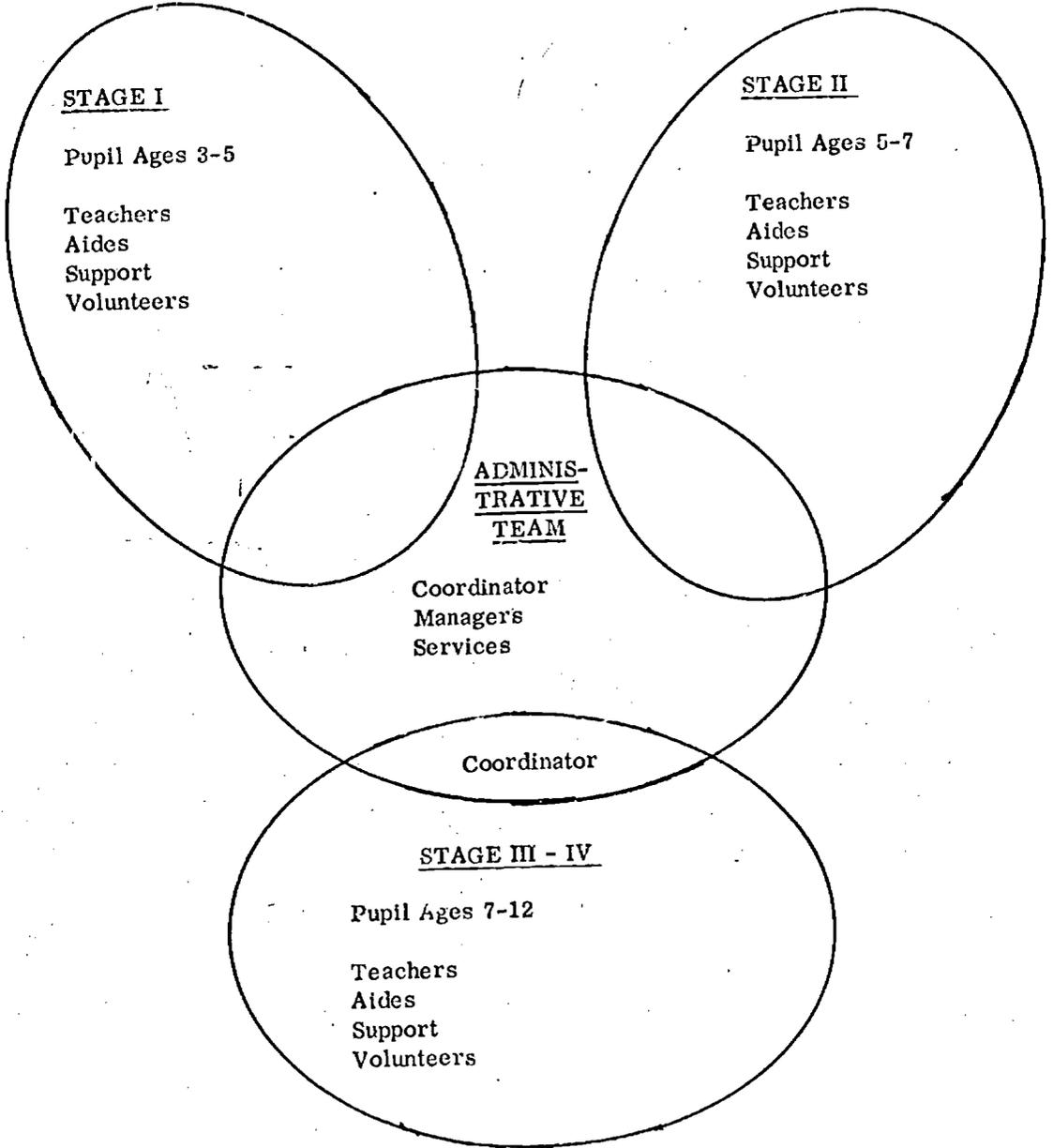


Figure 1 The Stage System

- Three-year spread in Stage I and II also conforms to the typical training of teachers which prepares them to work with students at only one age level.
- Enables fundamental differences to exist in scheduling, curriculum, and staffing patterns between students in various age groups; school experiences and school environment can therefore be geared more precisely to the developmental level of the students than is possible in a plan with wider differences in age.

Weaknesses:

- Complicates data processing, since information flow will differ from that of traditional systems and the overall D. C. system. Requires expenditure for experts to do this planning.
- Newness of this type of organization may result in confusion and anxiety among the staff, parents, and students.

Alternative #3: House Plan

This plan involves a two-part organizational structure, since the child's life in the school is conceived as being built around two kinds of involvement, one with people and one with ideas and materials. One part is a grouping of children of mixed ages, abilities, and interests into "houses" or life like communities in which parents and other adults also participate. The other part is a set of learning centers or resource centers where materials, equipment, and staff relevant to

particular major fields of study are available. Figure 2 provides a rough picture of how the school might look.

Each "house" includes 40 to 50 children representing a vertical slice of the school as a whole (students age 3-12). It is staffed with a team of a teacher, two aides or interns, a clerk-typist, and volunteers. Each student has a private space, a carrel in which to keep his things and to use while studying. There is a common space for group meetings and for eating, smaller spaces for group discussions, and a staff space. Each student works with the whole group and with subgroups to develop social skills and to learn about the social world.

From his "house" the child goes forth, according to plans based on his needs and interests, to various resource centers. The very young or immature child is escorted there by someone from his "house", an aide or older child or a parent, and is looked after until he returns. But the assumption is that most children will need little escorting once they are well acclimated to this way of living in school.

The resource centers are built around major disciplines or fields of study, including language arts, science and math, the arts, and physical development. Each center is staffed with a team of specialists who can work with children at very elementary levels or quite advanced levels of the field. Broad use of experts and talented people from the community can be made here. The center is fully equipped with a wide range of appropriate materials and spaces and with audio-visual aids. A center staff is composed of specialized teachers, teacher-aides or interns, a clerk-typist, an audiovisual aide, and volunteers.

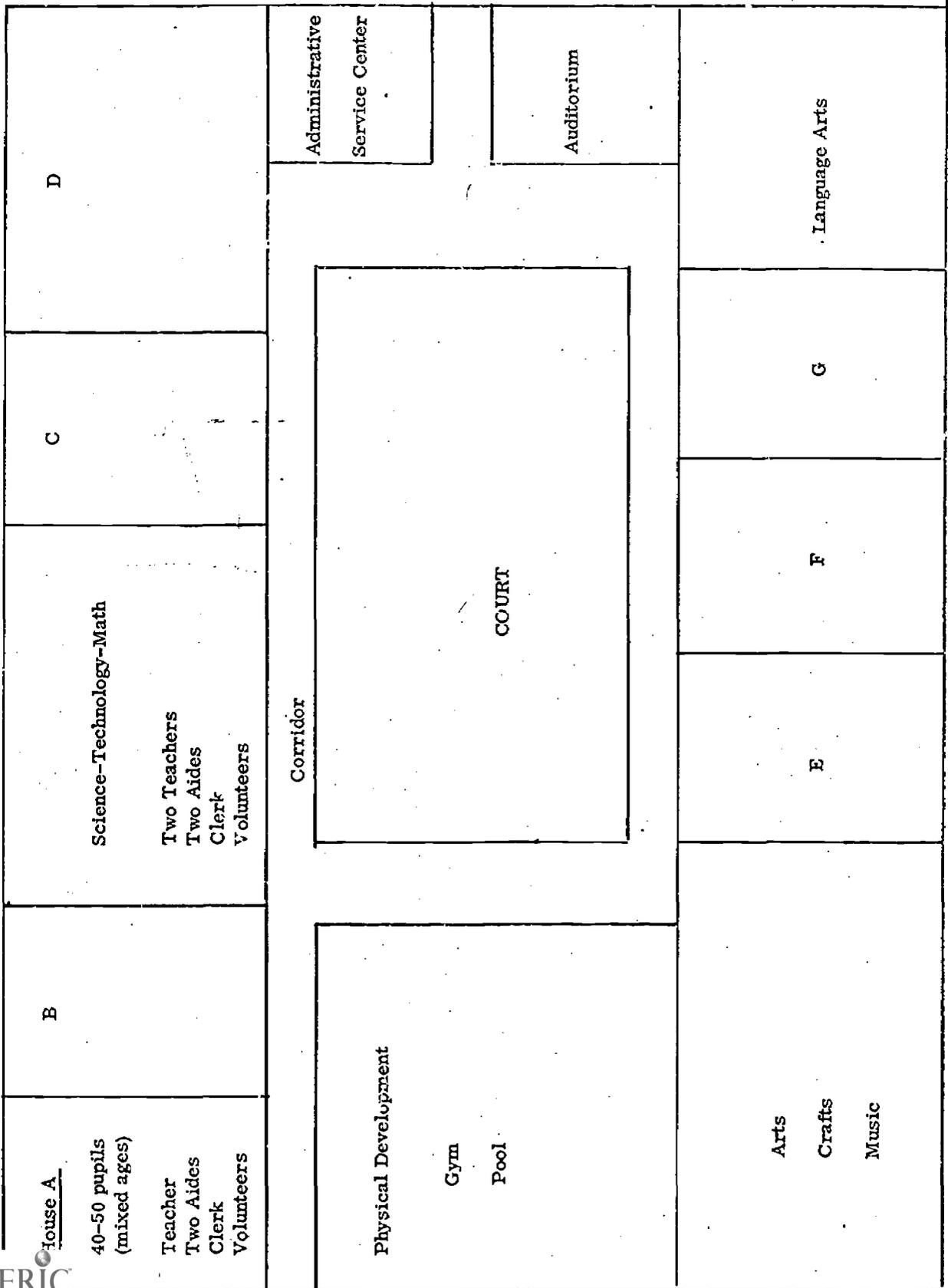


Figure 2 A "House" - Resource Center Plan

Organizational structure does not differ from those of the other alternatives except that teachers from resource centers participate in planning and evaluation committees.

Strengths:

- Increases freedom of students to explore their own interests.
- Provides opportunity for children to assume increasing responsibility for themselves and younger students as they mature.

Weaknesses:

- Complicates scheduling, ordering of materials, planning.
- Complicates data processing, since information flow will be different from that of traditional schools and the overall D. C. system. Expenditures would have to be made for experts to plan for this.
- Requires more preservice staff training, since most teachers have not been trained to work with cross-aged groups.

Conclusions:

A plan consisting of four stages of students is considered the most feasible promising organizational structure for implementing the goals for the education program (individualization, rich environment, efficient use of teacher time, etc.), particularly because it does not require more reorientation and retraining for staff than would be included in a 6-8 week preservice training program.

Recommendation: The stage plan of organization should be used because of its adaptability, its benefits to the student, and the short orientation time required to enable teachers to use it.

8.1.5 Curriculum

The goals for FLNT schools specify that students and parents should share responsibility for curriculum selection with school staff, and that curriculum should be individualized for each student according to his abilities, achievement level, interests, and personal goals. At the same time, it is recognized that some curriculum areas should be studied by all students. Three aspects of curriculum determination were investigated:

- Specificity of overall curriculum requirements and objectives--
What specific requirements should be made of students in primary, elementary, junior, and senior high school programs?
- Determination of overall curriculum requirements and objectives--Who should participate in formulating curriculum and objectives?
- Determination of day-to-day curriculum and objectives--Who should participate in day-to-day planning of curriculum and objectives?.

Alternative approaches to each of the three aspects are listed below.

Specificity of curriculum requirements and objectives:

Alternative #1: Learning sequences in specific subject areas would be required; students would have to work through certain materials and pass criterion tests.

Strengths:

- Insures learning of basic skills.
- Insures coverage of traditional subject matter necessary for course credit in other schools.
- Decreases need for continual assessment of what students are learning.
- Decreases need of teacher to plan different sequences for every student.

Weaknesses:

- Decreases student initiative in choosing subject matter, media, and materials.

Alternative #2: Passage of criterion tests in specific subject areas would be required but specific learning sequences would be individually determined.

Strengths:

- Insures learning of basic skills
- Insures coverage of traditional subject matter necessary for course credit in other schools.
- Encourages student initiative in learning via varied media and materials.

Weaknesses:

- Decreases student initiative in choosing subject matter.

Alternative #3: Passage of criterion tests (1) on major concepts in broad curriculum areas, (2) in a certain number of specific subject areas selected by each student

Strengths:

- Increases student initiative and responsibility for choosing subject matter.
- Ensures learning of basic skills.

Weaknesses:

- Does not ensure coverage of traditional subject matter necessary for course credit in other schools.

Determination of overall curriculum requirements and objectives:

Alternative #1: Participation by community representatives, school administration, and outside consultants

Strengths:

- Includes inputs from three diverse sources, all of which have expertise in educational planning.

Weaknesses:

- Eliminates involvement of teachers, students, and parents in an important planning function.

Alternative #2: Participation by all of the above plus teachers, parents, students, recent school graduates, and paraprofessionals.

Strengths:

- All persons who will be affected by the requirements and terminal objectives will be involved in their determination; their acceptance of and commitment to them will therefore be increased.

Weaknesses:

- Requires a greater planning and coordination effort.
- Increases probability of conflicting ideas and desires which will be difficult to resolve.

Determination of day-to-day curriculum and objectives:

Alternative #1: Participation by student, teacher, and paraprofessionals

Strengths:

- Increases flexibility and convenience of planning sessions since student and teacher are accessible to each other most of the time.

Weaknesses:

- Deprives teacher of opportunity to obtain feedback from parents.
- Deprives parent of opportunity to learn what his child is doing in school.
- Deprives parent of opportunity to influence planning for his child and thus decreases his involvement with the school.

Alternative #2: Participation by student, teacher, and parent (about once a week) with paraprofessionals when appropriate.

Strengths:

- Provides opportunity for teacher to obtain feedback from parents.
- Provides opportunity for parents to learn what their children are doing in school.

- Involves parents in decision making regarding their child and thus increases their involvement with the school generally.
- Enables student to perceive a constructive relationship between home and school

Weaknesses:

- Complicates scheduling.
- Requires a large amount of parents' time, especially if they have more than one child in school.
- Requires more teacher time (for information exchange with parents).

Conclusions:

Specificity of curriculum requirements and terminal objectives: The third alternative--that students should be required to master major concepts in broad curriculum areas and be required to pass a certain number of criterion tests in various subject areas which they have chosen in consultation with teachers--is considered most appropriate. This alternative seems to strike an optimum balance between complete self-determination by the student and complete adult determination, and assumes that both students and adults have something of value to contribute to curriculum selection.

Determination of curriculum requirements and terminal objectives: All persons affected by the determinations should participate in making them (Alternative #2).

Determination of day-to-day curriculum and objectives: All persons affected should also participate in making these determinations (Alternative #2).

Although participation by several people in making a decision may be inefficient and encourage conflict, its potential for encouraging involvement and creative thinking override the negative considerations.

Recommendation: Students should be required to master concepts and pass criterion tests in subject areas that they choose in consultation with teachers. Administrators, teachers, students, and paraprofessional assistants should all participate in determining curriculum requirements, day-to-day objectives, and terminal requirements. Participation of all these persons will enhance creative thinking and meaningful learning.

8.1.6 Facilities

The goals established for FLNT educational facilities stress that they should serve all members of the community to the fullest possible extent. It has therefore been suggested that they be open for educational and recreational use in the evenings, on weekends, all year long.

Alternative #1: Extended hours policy

Strengths:

- Enhances possibilities for community involvement.
- Enables adults who are attending school or college to use the schools' resources--libraries, laboratories, audiovisual materials, business machines--for their own studies.
- Increases possibilities for flexible scheduling for students since all of them will not be required to enter and leave the buildings at the same time.

Weaknesses:

- Increases costs for staffing.

- Increases costs for maintenance.
- Increases security problem unless large numbers of people are in all parts of the buildings during all open hours.

Decentralization of facilities has also been emphasized by Fantini and Young as desirable goals for FLNT schools. The Passow report recommended specialized learning centers in all school districts for the study of such specialized areas as fine arts, laboratory sciences, and performing arts. Logue recommended centers for fine and performing arts, science and technology, urban education, and sports and recreation. Study lounges and/or libraries in housing units or other buildings are also being considered.

Alternative #2: Specialized learning centers

Strengths:

- Maximizes learning opportunities in the designated area. since space, equipment, and materials are specifically designed for this purpose.

Weaknesses:

- Increases costs through need for separate design and construction or for leases.
- Increases maintenance costs.
- Complicates scheduling and staffing.

Alternative #3: Study lounges and libraries in apartment buildings

Strengths:

- Brings school and community closer together.
- Provides quiet study space only a few minutes from home for students and adults.

Weaknesses:

- Increases costs since space in apartment buildings is expensive.
- Increases costs if paid supervisory personnel are required and if materials are included.

Conclusions:

All of the options discussed above are recommended for adoption.

The benefits of extended hours to all members of the community seem to outweigh the problems involved, since the latter can be minimized through the use of volunteers. Adjustments in hours for all facilities can be made continuously on the basis of need so that facilities which are not being used at certain hours can be closed; thus expenses for keeping facilities open will not be incurred unless the community is using them heavily.

Specialized learning centers are recommended because their potential for enriching the education program seems too great to be ignored by a school system committed to quality and innovation. They should not all be fixed institutional spaces. For example, local businesses could serve as learning centers, providing students with experience in environments related to their career choices.

Study and library facilities in apartment buildings seem entirely feasible, since the cost of maintaining the space can be shared by residents of the building, if necessary, and costs for maintenance and supervision can be defrayed by volunteers. If the facility is not heavily used, it can be converted to a living unit or other facility and thus will not incur expenses unless residents of the building wish to continue them.

Recommendation: Schools should be open all day and evening, every day of the week, all year long for use of all community residents. Specialized learning centers should be established. Tutoring centers and study lounges should be located in housing units or other buildings.

8.1.7 Special Education

Enrollment of exceptional children in special classes has already been rejected by the D. C. school system. How to provide instruction for exceptional students in regular classes is a problem to be solved throughout the District. A school system like the one envisioned for FLNT, in which instruction is individualized for all students on the basis of performance and interest, is much better able to serve both exceptional and handicapped children in regular classes than a traditional school. Many students will need diagnostic attention, planning, evaluation, and instructional services which go beyond the knowledge and experience of the regular teaching staff. Alternative mechanisms for providing these special services are described below.

In the alternatives conceived for handicapped or exceptional children, the children will be placed throughout the system with other children and will each be viewed as any other child with an individualized learning plan. Their special needs will be met because of the individualized nature of the Education System. All the specialized learning materials they need will be provided and particular areas of the learning centers will be designed for their use, but these areas can also be used by other students.

Alternative #1: A specialized learning center for perceptual, cognitive, and psychomotor development

Although primarily for special training of handicapped students, this center would be used by all students to sharpen their perceptual, intellectual, and motor skills, and to learn about the basic processes of perceiving, thinking, and moving.

Strengths:

- Increases normal students' understanding of problems of handicapped students.
- Increases all students' knowledge of self with regard to how they learn.
- Encourages exploration of learning via various media to discover how one learns best.

Weaknesses:

- - Requires considerable expenditure for facility, staff, and equipment.
- Participation by all students increases need for space, staff, and equipment.
- May stigmatize handicapped children who spent more time there than normal students.

Alternative #2: Assignment of special education resource people as members of the teaching teams

A certain percentage of the staff would have knowledge and experience in special education and would be available in the regular class setting for diagnosis, planning, evaluation, and instruction services to all students with severe learning or behavior problems.

Strengths:

- Reduces isolation of exceptional students, thereby decreasing the probability of rejection by normal peers.
- Skills of special education personnel are available also to "normal" students experiencing transitory learning difficulties or behavior problems.

- Encourages cross-fertilization between special education and other staff members.

Weaknesses:

- Reduces efficiency because 1) the special education teacher cannot work simultaneously with students from different classes, 2) special equipment and materials need either to be duplicated in each room or else hauled around.

Alternative #3: Special education resource room in each school where handicapped students spend part of each day, with the rest of the day spent in regular classes

Strengths:

- Increases efficiency because the special education teacher can work with several students at one time, and special equipment and materials can be centralized.
- Provides better opportunity for student teachers to work with a greater variety of students and to observe the teacher's techniques with a greater variety of students.

Weaknesses:

- Isolates special education staff, thereby decreasing cross-fertilization with other staff.
- Isolates handicapped students; increases likelihood of rejection by normal classmates.

Alternative #4: A community mental health center which can assume responsibility for counseling of students and parents regarding personal and interpersonal problems and

clinical psychological testing and consulting with teachers on management of students manifesting acute withdrawal or acting-out behavior.

Strengths:

- Provides qualified professional personnel to perform psychological services to students and parents.
- Relieves education personnel of necessity to perform these functions "because there's no one else to do it."

Weaknesses:

- Requires considerable preliminary planning to articulate the relationship between the center and the schools.
- Requires considerable effort and time to maintain open communication and a constructive working relationship between education and mental health center staffs.

Conclusions:

Specialized materials for special needs and the inclusion of well qualified and experienced special educators on teaching teams to assist students directly and work with teachers are recommended as providing an optimal combination of mechanisms for:

- Serving the needs of handicapped students.
- Preserving handicapped students' membership in a normal classroom group.
- Making the skills of special education personnel available to all students.
- Promoting cross-fertilization between special education and other staff members.
- Sharing responsibility with psychologists and social workers for help with personal and social growth problems.

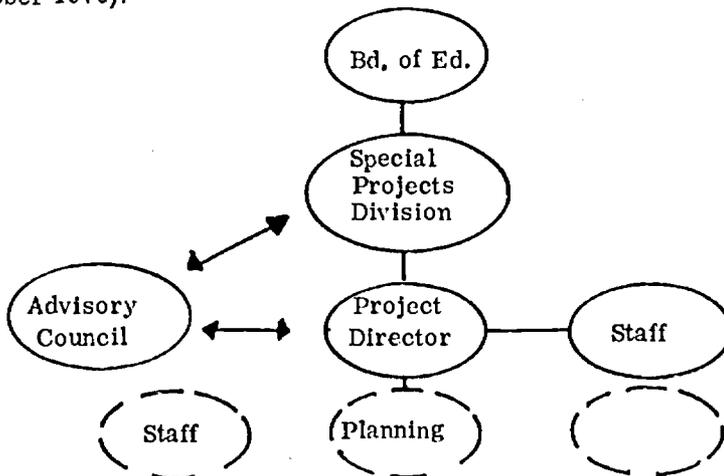
Recommendation: To provide the best special education programs, competent special educators should be members of the teaching team and special materials should be provided.

8.2 Community Participation*

8.2.1 Structural Alternatives

Alternative #1A: Community advisory function

To begin to develop operating control alternatives--one of which will be selected before the first facility opens its doors in September 1970--an alternative for the transitional period could perform a valuable service in maintaining continuity of planning. It is felt that the alternative that offers the greatest flexibility to the FLNT community would be one that permits it to form an Advisory Board to the Special Projects Division of the D. C. Schools. Since the time element is critical, such a board would involve itself in planning and in maintaining continuity during the implementation and early operational phases (December 1969 to October 1970).



* This section was prepared for inclusion in this document by participants in the Community Planning Workshops (see Section 4.2.4), and General Learning Corporation is grateful for this contribution and the demonstration of community support.

The advisory body could be selected by the FLNT Citizens Council and probably be composed of people presently in the workshops. Functionally, the advisory body would be required to work closely with the Special Projects Division, the Project Director, and his staff in the development of plans, training sessions for staff, etc. The diagram at the bottom of the previous page illustrates how this alternative would be organized.

This alternative was turned down by the workshop group as being a nonfunctioning, advisory body that would have no responsibility for the planning, implementation, and operation of the first school facility.

Alternative #1B: Community "shared power"

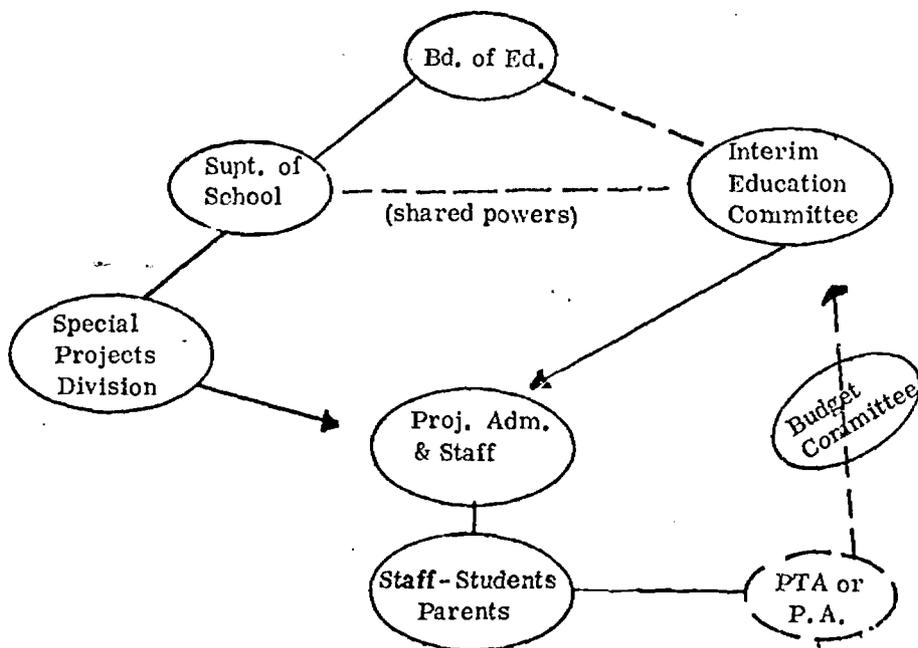
A "shared power" alternative that also fills a transitional need until such time as the elected board takes over is an extension of Alternative #2B. The possibilities of this idea are that:

- It is more than just advisory.
- It could become the alternative needed after November 1970 by electing the members and formalizing relationships.

The budget committee is also part of the machinery in that it is included as a subcommittee of the IEC, until such time as a permanent body is established. The PTA or P. A. could have a member or members that sit on the Council. Students would also have a place on the Council.

This alternative was selected by the workshop group as being more than an advisory body. Hereafter called the Interim Education Committee (IEC), it would be able to maintain continuity of planning, etc., without foreclosing future alternatives of a more permanent nature. The IEC would be a transition body that

operates and works with the responsible school agency and with education consultants up until December 31, 1970. This alternative was selected and is recommended for implementation in October 1969.



Conclusion:

In terms of recommendations of the alternatives, the workshop group felt very strongly that no alternatives should be selected that would preclude the possibility of open community discussion of future, permanent selection of community program alternatives. Therefore, a basic approach would be to recommend that the workshop group become the nucleus for an Interim Education Committee which would concern itself with:

- Working closely with the Special Projects Division of the D. C. Schools and the education consultants presently planning the programs for the first facility.

- Providing input in the planning, implementation, and early operation stages as well as taking responsibility for certain tasks during this period as itemized later in this report.
- Functioning as a vehicle for presentation of plans and programs to the community.

The main function of the IEC would be to provide continuity of FLNT community feeling and responsibility throughout the above mentioned phases of work. As the IEC assumes its role of responsibly working with the various planning elements, the larger affected FLNT community (including new on-site residents) will be: informed of plans, solicited for ideas, and organized to react to future program alternatives hereafter explained. At the dates specified, the IEC shall concern itself in all the necessary transitional activities so as to fully involve the broad FLNT community in the selection of people and programs. (Section 8.3 provides greater detail about the functioning of IEC.)

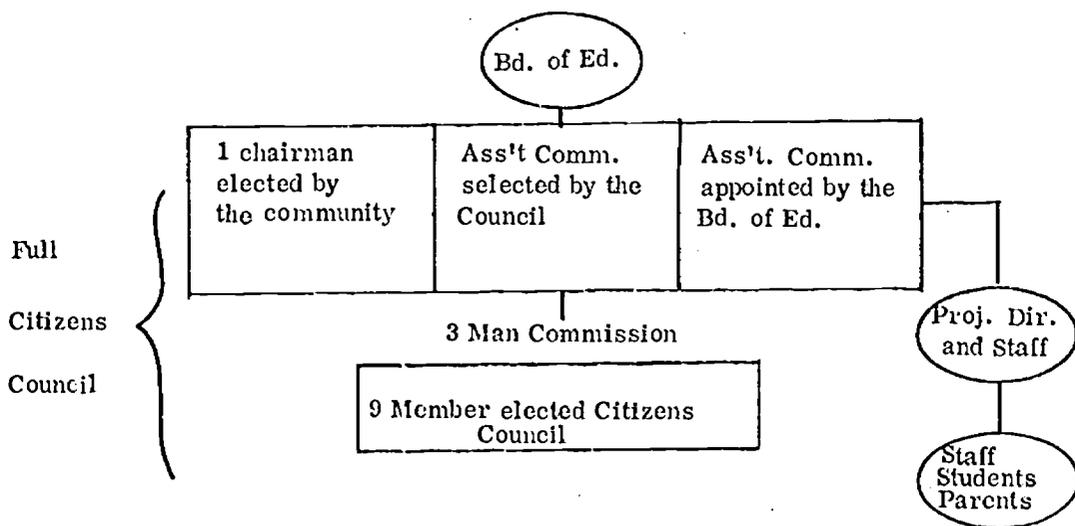
Recommendation: An Interim Education Committee, consisting of participants in the community planning workshops, should be formed to work on a "shared power" basis with planners and the D. C. Public School to maintain continuity in planning until an elected community board is formed.

Alternative #2A: Election of citizens' council for first facility

On or about November 1970, the first facility will be shaking down into an operationally existing entity. At that time, and before, the FLNT community will be educated as to the acceptance of feasible alternatives suggested or recommended here. Alternative #2A deals with the election of a governing citizen's council for the first facility.

This council would be comprised of twelve citizens elected by and affected by all residents in the immediate FLNT area as well as on site. Elections would be held in the schools in both areas. The Honest Ballot Association or a similar agency would conduct the actual election.

Of the twelve members of the council, three would act as a "troika" in implementing policy decisions arrived at by the full council. One of three members would be elected by the community to the post of Chairman of the "troika" or commission, one would be selected by the community, and one would be appointed by the Board of Education. This commission would relate the decisions of the council to the Project Director and his staff for implementation. The diagram below sketches out, functionally, the roles of all parts of this council.



Boundaries would be Eastern Avenue, North Capitol Street and Florida Avenue, New York Avenue and the Arboretum Community. It shall be known as the affected area.

Membership

- Citizens Council
 - 12 citizens elected by residents of the affected area as well as on site.
- 3-Man Commission (salaried positions)
 - All are members of citizens council.
 - Chairman of commission is elected by community at large.
 - Assistant Chairman is selected by the Council.
 - Assistant Commissioner is appointed by the Board of Education.

Qualifications of Council Members

- To be set by IEC

Functions of Council

- All policy decisions on FLNT school including personnel, administration, community participation and curriculum materials are determined by the Council and the Board of Education. The authority of the Board of Education will have to be determined.
- To negotiate contracts with the Board of Education and private agencies.
- To select the assistant commissioner for the 3-Man Commission.
- To regulate the activities of the 3-Man Commission.

Functions of 3-Man Commission

- To develop implementation plans for policies set by the Citizens Council.
- To act as liaison between Board of Education and Citizens Council.

- To regulate the activities of the Project Director and his staff.
- To relate the decisions of the Council to the Project Director and his staff for implementation.

Functions of Project Director

- To implement the plans set forth by the 3-Man Commission.
- To regulate school personnel.
- To be directly responsible to the 3-Man Commission.

Election of 12-Member Citizen's Council

- Elections will be held in November 1970.
- The election will include the affected area and on-site residents.
- Council shall be composed of 12 citizens.

Alternative #2B: Election of a Board of Trustees

A further expansion of the council or board idea would seem to be a Board of Trustees which is an integral part of the school organization. Such a board could be comprised of 10 to 16 members elected by the parents and residents of the community. They would not be salaried for obvious reasons.

The board's functions would be:

- To relate community attitudes about the nature of the education the students receive.
- To take joint responsibility with the administration for developing guidelines concerning future planning, policy of administration, special projects, and curriculum emphasis.
- To help coordinate parent-teacher-student relationship building by acting as resources to the school and as resource referral units.

Each member should receive a per diem plus expenses in order to defray personal costs as much as possible.

Each member would be expected to spend a day a week in active participation in the school.

Membership of board could be constructed in such a way as to represent a broad cross section of community opinion.

Graphically, the board could fit into the school operation as demonstrated in the following diagrams.

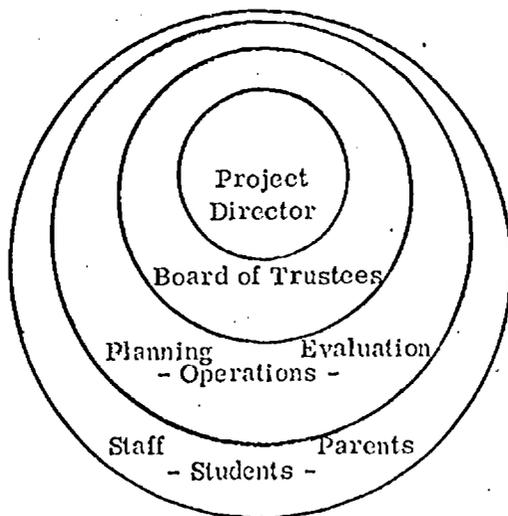
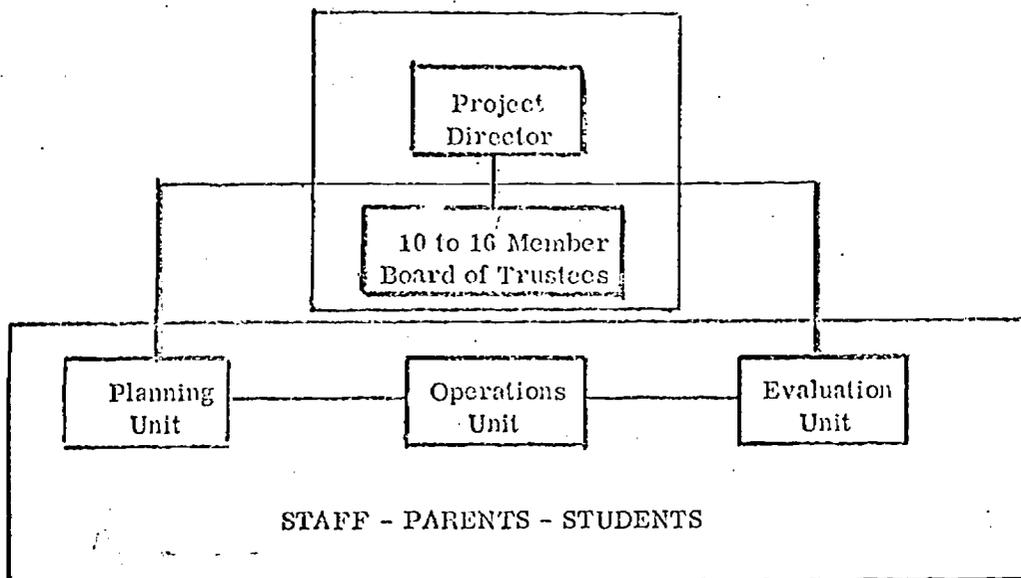
A good operating model would be to utilize board members in teams of two or three. Each team so developed would then specialize in an area of personal interest and benefit to the school. For example one team might aid the staff and administration in planning budgets and another might act as a resource or as a resource referral unit.

A Board of Trustees will be formed to operate in partnership with the school system.

Membership

The Board of Trustees will be composed of:

- 3 students (age 11 and over; 1 elementary school, 1 junior high school, and 1 senior high school representative).
- 2 senior citizens (over age 60 and residents on site).
- 8 residents from the affected area (nonstudents over age 16).
- 1 representative elected by D. C. Congress of Parents and Teachers.
- Project Director FLNT.



Suggested Officers

- Officers will be elected by the Board of Trustees, using majority rule.
- Officers, when needed will be Chairman, Vice-Chairman, Secretary, and Treasurer.
- The Project Director will not be eligible to serve as Chairman of the Board.

Functions

- The Board of Trustees will assume all of the functions and responsibilities of the IEC.
- Additional functions will be considered as the Board operates.
- The Board of Trustees will develop a plan of transition by the time the second facility opens. (The intent of this function is to insure the opportunity for inclusion of on-site residents to sit on the Board of Trustees.)

Qualifications of Board Members

- Community representatives must be duly elected by majority rule by the residents of the affected area and on-site residents.
- Additional qualifications will be set by the IEC.

Election of Special Seats

Student seats, senior citizen seats, and citywide seats are special seats and will be filled as follows:

- Elementary school students, age 11 and over, shall elect the elementary school representative from the affected area.

- Junior high school students shall elect the junior high school representative from the affected area.
- Senior high school students shall elect the senior high school student from the affected area.
- Two staff members shall be elected, one of whom will be a teacher.

The specifics of the the election process will be determined by the IEC.

Recommendation: A citizens' council or a community board of trustees should be established as a permanent body for community participation in school administration.

8.2.2 Community Support Program Alternatives

These alternatives are substantive program notions that should be included in the community discussions. Since these program notions will require refinement as well as costing, it will be wise for IEC to make these recommendations before the implementation phase of work begins.

On the basis of conversations with the public agencies, the school system, and the FLNT community representatives, numerous community needs were made manifest. These needs are considered in the program projections as outlined in community participation projects. For purposes of beginning discussion concerning the alternate community projects, the alternatives outlined below are merely ideas we might use as starting points.

Alternative #1: Learning Reinforcement Program

A learning reinforcement program should be initiated in the students' homes. With the IPI approach and a new cognitive setup that approaches learning in new ways, it would seem necessary that parents be helped to understand how they

can help their children. A master teacher selected by the administrator and the governing parent body would supervise and train six community residents (also chosen jointly) to educate parents in new cognitive approaches. Community residents would visit the homes of all the students in the school before the academic year ends. The program would operate out of the joint school/community facility. An appropriate number of student families would be allotted to each community instruction aide. Separate training would be provided and financed through the school budget prior to the beginning of school. Parents would be encouraged to participate through the provision of instructional materials to parents for use in their homes with their children. These materials will also educate parents in the new methodology being used in the school.

Estimated Cost \$60,000

Alternative #2: Reading Assistant Program

A basic program utilizing paraprofessional FLNT residents on the basis of one aide to two teachers would be designed to assist teachers in classroom instruction. The Anacostia Community Reading Program is an excellent model. Four weeks of training with additional in-service training is mandatory. The director of the program should be a community based professional who is part of the instructional staff. Pre-service training would be provided.

Estimated Cost \$140,000

Alternative #3: Adult Education Program

An adult education model would be another option that fulfills the function of community education. Curricula offerings would be based upon the needs and desires of community residents. These samples are suggested: black studies,

employment education, voter registration, creative arts, and technical preparatory training. One director, five part-time teachers or experienced community residents, and one secretary should be sufficient. The program would operate initially on a two-night a week basis and would serve approximately 200 adults per week. Adults could "pay" their tuition in the program by tutoring students. School access for adults would be enhanced considerably, with adults acting as models for students.

Estimated Cost \$18,000

Alternative #4: Tutorial Program

A tutorial model could be explored. The concept of students tutoring students is a proven success in New York City and could well be visualized in FLNT. One teacher, two aides, and 50 of the oldest, most responsible student tutors would operate during specified hours every day. For example, one set of tutors could work in the mornings, another in the afternoons or evenings. Tutors would work with younger students who are finding difficulty in their regular school work. The supervising teacher should have considerable experience at all curriculum levels to enable the tutors to function effectively. A shared portion of the school-community facility could be utilized thus emphasizing the continuity of student to adult development. Any student who desires help would be able to find it here.

Estimated Cost \$40,000

Alternative #5: Fund Raising Program

An easily overlooked function of an educational institutional system is the increased cost of present services in relation to future costs. An administrator should not have to devote all of his time to trying to get special programs funded by private sources. For example, administrators are continually looking

for ways to beef up or support programs within the school which are centered around reinforcing student's motivations to succeed. Programs like Higher Horizons in New York City were funded through the system channels, but other New York City schools needed the program and could not meet the stringent requirements set by the Board of Education. The suggestion here is to hire a part time public relations person who has community experience to take over this function. It is also suggested that two days a week would be ample. The benefits that would accrue to the FLNT education system obviously would outweigh the cost of such a person.

Estimated Cost \$5,280

Alternative #6: Student Teacher Program

A student-teacher transitional program might be feasible as an implementation unit. This unit would concern itself with orienting all people on or around the site who must come in contact with citizens who have children in the school. Most universities have student teacher programs that they would like to see placed in schools so that the university students can be trained properly. This process also provides an additional source of future personnel who are well versed in the operations and methods of the school. At first glance, the approach would seem to be a pure school function, but the suggestion here is that community residents who function in other capacities in the school be involved in the preservice and in-service training of the university students. Hopefully, the student-teacher community mix would alleviate some of the tensions now existing between teachers and parents. This unit would operate from July 1970 to July 1971 and would aide in

managing implementation-operation problems. The minimum time for participation of student-teachers in the program is one consecutive school year.

Estimated Cost \$5,000

Alternative #7: Special Services

A further consideration should be an obvious recurring service within the school which works to bring people into the school. This alternative would be a modification of the Community Education Center model. A check-cashing service, a health clinic, and/or a dental clinic could be included in the package of services provided. Since the services would be offered by public and private agencies, costs would present no problems. The IEC and the school administration will decide which services should be provided.

Estimated Cost None

Alternative #8: Satellite Learning Center Program

Satellite Learning Centers are further options worthy of consideration. For example, apartments could be rented by the school in houses or in commercial settings. The purpose of these centers would be to:

- Make the school visible in the community.
- Provide access to pertinent learning materials.
- Create a better linkage with residents and their children, some of whom may be preschoolers.
- Meet contingency education needs on the part of all residents in FLNT. Curricula would be decided by resident students--if needed--but the primary purpose would not be to offer courses per se, but to simply provide additional learning environments

for students closer to home. Homework or special projects could be undertaken in these centers and would further support the student's motivation to learn and succeed. Adults or children would be able to use this space as a quiet, informative place apart from their busy schedules during the day.

A community person would supervise the center and school staff could be on hand occasionally.

Estimated Cost \$5,000

Recommendation: Community support programs should be provided by the school system, in cooperation with public and private agencies, to assist in meeting combined school and community needs. Combinations of the above programs should be selected jointly by the FLNT school administration and community for special emphasis. All programs should be implemented.

8.2.3 Projected Alternatives Costs

The following budget indicates the estimated costs involved in implementation of the community participation alternatives just discussed.

Interim Education Committee

Expenses for 20 persons, 28 days for the year @ \$5.00 a day.	2,800
Travel for 20 persons (14 months) @ \$100 each.	2,000
Secretarial assistance as needed.	2,000
Request 1 clerk-typist.	no cost
TOTAL	\$6,800

Community Participation Support Program Alternatives

Learning Reinforcement Program	60,000
Reading Assistant Program	140,000
Adult Education Program	18,000
Tutorial Program	40,000
Fund Raising Program	5,280
Student-Teacher Program	5,000
General Community Services Program	no cost
Satellite Learning Center Program	5,000 (each)
TOTAL	\$268,280
GRAND TOTAL	<u>\$275,080</u>

Future of Post IEC Alternatives

These alternatives would be costed on the same basis as the Interim Education Committee.

8.2.4 Explanation of Interim Education Committee

An Interim Education Committee which aides the Special Projects Division of the D. C. Schools and the Board of Education would seem to be essential to the continuity of planning the education program. Said council would be invaluable in the remainder of the planning phase, during the implementation phase, and up to November 1970 or so when the first facility becomes operational. A number of important tasks will be undertaken during the implementation and early operational phases. Some of them are: staff development, including parents and paraprofessionals; recruitment of staff; training of staff; administration planning; and education program development.

Other considerations also apply. The Special Projects Division of the D. C. Schools will need the help of a group of people such as the proposed IEC to provide the necessary support and assistance during the next year. If a more permanent body were to be selected at this time, future options for community participation would be foreclosed. This would be especially disastrous as neither the present affected FLNT community nor the future residents on site will have been exposed or educated as to possibilities of a new educational program.

This alternative, therefore, attempts to maintain continuity of planning, implementation, and early operation without foreclosing alternatives for eventual meaningful community participation.

These would be the duties and responsibilities of the recommended Interim Education Committee.

Personnel Functions

- Encourage qualified people to apply.
- Assist the contractor in recruitment, i. e., orient contractor to community feeling toward staff.
- Interview applicants and review qualifications not on the basis of professional qualifications, but rather, human characteristics.
(Note: Operating engineers should be licensed by D. C.)
- Training in human relations for both staff and committee through the contractor.
- Other functions as decided by the IEC and Special Projects Division.

(Because of time and role expectations, this committee will not be involved in staff firing. Until the final Board is elected, the Project Director will handle this matter.)

Materials and Supplies

- Committee will review and react to materials and supplies suggested for the school. Their recommendations will be the deciding factors in the materials ordered, etc.

Parents, Students, and Community Participation

- Act as policy-making body and umbrella organization for this participation.
- Implement the community support programs as requested.
- Accept and act upon grievances from parents and students.
- Set qualifications of candidates for the Board of Trustees and the Citizens Council.
- Election process will be specified by the IEC.

Budget

- IEC will make recommendations to the budget committee.

Administration

- IEC will work with Project Director to facilitate the smooth operation of the school.

Curriculum

- IEC will work closely with the contractor on curriculum to review and recommend changes therein.

Liaison

- IEC will act as information disseminator between school and community.

Organization

IEC will operate these standing subcommittees:

- Administration subcommittee.
- Curriculum, supplies, materials, and administration subcommittee.
- Personnel subcommittee.
- Participation subcommittee--parents, students, and community participation.

Membership

The IEC as presently conceived will be constituted by the original 60 major organizations invited to attend the Community Participation Planning Workshops. As such, this group has been working under the auspices of the Special Projects Division of the District of Columbia Schools and represents a broad cross section of opinion. The Fort Lincoln Citizens Planning Council concurred in the selection of the various organizations invited to attend. Of the 60 organizations who attend the meeting to be held in October 1969, those who decide to participate will be assigned to subcommittees and become part of IEC. Membership will include on-site residents should there be any before December 1970. Thereafter, on-site

residents will automatically be included in whatever permanent body there may be.

Special Tasks

The first major assignment of the Interim Committee will be to review the educational program alternatives and to decide which of these should be included in the first year of the school. These final decisions must be made by the end of December 1969.

The second major function is to disseminate information about the committee's work to the community.

The third major function is to consider child care services, including the federally supported child care services described in Section 8.2.5.

IEC Calendar for 1969-1970

October 1969	-	IEC Formed
December 1969	-	Program Options Selected
August 1970	-	Prepare for Election
September 1970	-	Disseminate information
October 1970	-	Announce Candidates
November 1970	-	Election
December 1970	-	Installation of New Officers and Phase-out of IEC

8.2.5 Information About Child Care

There are two federally supported programs for day care services for disadvantaged children under age three:

- Family day care home.
- Parent-child center.

Family day care home

This method serves only as many children as it can integrate into its own physical setting and pattern of living. It may serve no more than five children when the age range is 0 through 6, including the children of the mother responsible for providing care. Only two of the five children can be under age 2.

For this type of child care, Federal Interagency Day Care requirements must be met. Funding can be applied for under Title IV A and B of the Social Security Act (1967 amendments). Other Federal Funding sources exist but the only meaningful money is through HEW under Title IV.

Parent-child center

These programs serve disadvantaged children aged 0-3 years and their parents. The center has a comprehensive program of educational, social, and health services. OEO has funded some 20 demonstration parent-child centers, (one in D. C.). More are planned, but a second in D. C. is unlikely.

In terms of the child's cognitive development, the parent-child center concept is superior to the family day care home, but the cost is prohibitive. Because guidelines are still evolving, current demonstration projects operate under rigid health-sanitation rules which require elaborate facilities that approach a mini-children's hospital. The number of staff is based on an almost one to one ratio of adult to child.

Federal Interagency Requirements have not been set for Center Care of children under 3 years of age. If programs offer center care for this age span, local licensing regulations and requirements must be met.

Child Care in FLNT

Child Care in FLNT should be planned within the context of the new 4C Program (Community Coordinated Child Care). The District of Columbia is making progress as a 4C pilot program area and could serve as the contracting agency with HEW for a three to one matching grant under Title IV of the Social Security Act.

An alternative approach to PCC might be a day-care facility for 100-200 children between the ages of 3-5 with a full staff capable of assisting a network of family day care homes caring for children under age 3.

If private sources can provide 25 percent of the cost of such an operation, Title IV funds can be arranged for the balance. Operationally, the private funds are given as a grant to the D. C. Welfare Department to serve 4C needs in FLNT. The Welfare Department arranges for the 75 percent matching grant from HEW and contracts through 4C for day care services in FLNT.

8.3 Staff Roles and Relationships

The question of roles and relationships among staff members is a crucial one for an individual education program. The goals for FLNT specify the following attributes for school staff:

- Dedication to teaching as a profession.
- Sincere interest in students as developing human beings.
- Willingness to experiment with new curricula and methods.
- Professional competence.

Even if all staff members at FLNT schools possessed all these attributes, their success as educators and educational assistants could be enhanced by

providing for staff composition and relationships that permitted them to work most effectively.

Only those methods of staffing and role relationships that were considered most likely to facilitate achievement of FLNT educational goals were analyzed. The following analysis of their strengths and weaknesses was conducted to indicate their applicability to the FLNT education system.

Alternative #1: Heterogeneous staffing

A heterogeneous staff would include student helpers, paraprofessionals at various levels of competence and responsibility, student teachers, Teacher Corps interns, graduate student interns, and the like, as well as teachers, administrators and volunteers.

Strengths:

- Lowers staff-student ratio.
- Increases resources for developing new curricula, procedures, and organizational patterns.

Weaknesses:

- Complicates role relationships among teaching staff.
- Complicates administrative functions.

Alternative #2: Mobility of staff

A career ladder would be developed for all levels of staff, so that increased knowledge and experience could lead to promotion, increased responsibility, and pay increases.

Strengths:

- Provides incentive for career advancement.

- Avoids stagnation of individuals in particular roles.
- Increases involvement and therefore improves quality of relationships with students.

Weaknesses:

- Confuses role relationships.
- Complicates administrative functions.

Alternative #3: Community participation of staff

Paraprofessionals and volunteers from the community would constitute a significant percentage (50 percent or more) of the staff.

Strengths:

- Increases channels of communication between the community and the school.
- Provides jobs for community residents.
- Lowers staff-student ratio at a lower cost than would be incurred for hiring more teachers; therefore, frees funds for other purchases.

Weaknesses:

- Less staff knowledge and experience available to students.

Alternative #4: Evaluation, planning, and management as major roles of teachers

The teacher's major responsibilities would be evaluation, planning, and management rather than instruction. Many instructional responsibilities would be assumed by other staff members.

Strengths:

- Enables higher teacher-pupil ratio; therefore frees funds for other purchases, especially materials.
- Increases student independence and responsibility.

Weaknesses:

- Decreases teacher time available for providing instruction, motivation, and feedback to individual students.

Alternative #5: Loose differentiation of staff roles

Staff roles would be loosely differentiated, encouraging versatility of all members.

Strengths:

- Increases flexibility and facilitates adjustment of staff to unpredictable needs and interests of students.

Weaknesses:

- Increases confusion about responsibilities.
- Decreases "rewards" for progression upward on the career ladder.

Alternative #6: Primary accountability of support staff to FLNT teaching staff rather than FLNT administration or D. C. School System administration

Strengths:

- Enables staff to select and direct support people so that their usefulness is maximized.

- Provides incentive to support staff to communicate with teachers and respond to their perceived needs.

Weaknesses:

- Support staff may feel their professional judgment with respect to priorities, treatment programs, etc., is undermined.
- Complicates administration if support person is shared by several schools.

Alternative #7: Time for professional development

Staff would have a high percentage of hours per week for professional development.

Strengths:

- Increased staff knowledge and skill benefits students.
- Encourages experimentation and innovation.
- Encourages careful planning.
- Encourages exchange of ideas.

Weaknesses:

- Decreases amount of staff time available to students or increases costs for additional staff to take over.
- Complicates scheduling.

Alternative #8: Staff involvement in teaching

All staff would assume some teaching functions. For example administrators could teach about decision making or getting people to work together; guidance counselors could teach about emotions, family dynamics; and maintenance people could provide instruction about heating plants and electrical wiring.

Strengths:

- Increases sense of community among all staff.
- Involves all staff as adult models for students.
- Breaks down artificial distinction between teachers and non-teachers.

Weaknesses:

- Decreases time available for performance of regular tasks.
- Complicates scheduling.

Conclusions:

Unlike the alternatives discussed in other portions of this document, all those considered in this section appear to be appropriate for implementation in the FLNT Education System. In spite of the weaknesses indicated, all of the alternatives are considered necessary components of a teacher's behavioral repertoire, particularly in the innovative educational structure to be created at Fort Lincoln.

Confusion in responsibilities and complications in scheduling have been cited as chief weaknesses of several of the activities discussed. These problems would result from any innovation in staff structure, however, and do not seem to outweigh the positive potential of the diversified and fluid system of roles and relationships suggested. Staff training, open communications, and continuing reappraisal can alleviate any confusion in responsibility. Computer assistance can be used to minimize complications in scheduling.

Recommendations: These staffing characteristics are recommended: heterogeneity, mobility, community involvement, and loose differentiation of roles. In addition, it is recommended that 1) high priority be given to professional development, 2) all staff participate

in teaching, 3) support staff (administrative, instructional, procurement, personnel, etc.) be accountable to FLNT staff, and 4) teachers function primarily as evaluators, planners, and managers.

8.4 Policy and Control

All initial planning efforts have stressed that FLNT schools must have considerable autonomy in policy making and operations. Without it, their capacity for innovation and responsiveness to the community will be seriously impaired.

8.4.1 Legal/Organizational Forms of Operation

There are a number of legal and organizational means by which this autonomy can be achieved, but each requires some modification of the existing relationships between the D. C. Board of Education and the D. C. Government, many or all of which will have to be tried at Fort Lincoln. Because of the need for modification, four alternative legal/organizational forms of operation were identified and evaluated by General Learning Corporation.

Alternative #1: Federal Demonstration School District

In this form, the school system (and probably the total community) would be developed by the Federal Government, independently of the D. C. Government or the Board of Education. This development would be accomplished by retaining the land as Federal surplus instead of turning it over to the District of Columbia and getting Congress to appropriate the funds to HEW, HUD, or some Federal agency to develop the whole complex.

Strengths:

- Bypasses local government delays and difficulties.
- Encourages coordination of Federal level planning and funding.

- Commits the Federal Government to the project in a highly visible way.

Weaknesses:

- Although the Federal Government operates several school systems, it is not clear whether it would be legally possible to do this in the District of Columbia.
- Raises questions about unwarranted Federal interference in local educational affairs.
- Jeopardizes local community participation.
- Federal bureaucratic constraints might prove as limiting as local constraints.

Alternative #2: Development Corporation and Education and Services Agency

In this form of operation, the land is turned over to the District of Columbia which in turn sets up a development corporation to develop the total community. That corporation in turn sets up another corporation, the Education and Services Agency, to build and operate the schools under the authority of and in contract with the Board of Education. Under this scheme, proposed for FLNT by the firm of Wilmer, Cutler, and Pickering, the Education and Service Agency would raise funds through bonds and/or Congress would build the schools on a turn-key basis. It would then sell or lease them back to the Board of Education. The FLNT Education System would still be subject to the statutory authority of the Board of Education, but the Education and Service Agency would be controlled by a performance contract with the Board.

Strengths:

- Expedites construction of school buildings.
- Bypasses some local bureaucratic constraints.
- Provides for community decision-making.
- Encourages performance basis for evaluating system.

Weaknesses:

- Does not necessarily provide much more operational flexibility than less complex forms.
- Raises many complex legal issues (Corporation Counsel's opinion).
- May raise difficulties with Congress.
- Doubtful that development corporation, as outlined by Wilmer, Cutler, and Pickering, will be implemented for total community.

Alternative #3: Nonprofit corporation under contract to the Board of Education

In this form, the project would set up a nonprofit corporation which would make policy and administer the schools according to authority delegated to it by the Board of Education. The type of nonprofit corporation would be established in a manner similar to those already set up within the school system, but its powers would be established in relation to the needs of the FLNT Education System. The nonprofit corporation established would not be tied to the community development agency as the Wilmer, Cutler, Pickering report had recommended, and it would not be responsible for funding and construction of the buildings. Regular operating funds would still be spent under D. C. Government regulations and regular school personnel would be on the public payroll. However, the corporation could operate

programs and would have the authority to seek and spend other funds it obtained directly. The contract for the corporation would be written on a performance basis and evaluated annually.

Strengths:

- Would be community-based but would not be dependent on development-agency.
- Binds the Board of Education to permit the FLNT system to operate as specified in the contract and gives legal status to its character.
- Encourages accountability and integrity of FLNT as a project.
- Requires fewer modifications of existing relationships and regulations than any other form except for Alternative #4 below.
- Permits project to receive funds directly from foundations and Federal programs to provide services and operate programs.

Weaknesses:

- Raises some legal questions about the authority of the Board of Education to enter into such agreements.

Note: A variation of this form is to operate the school system as a decentralized unit and then set up a satellite development corporation in the Special Projects Division to develop and implement the program and system. When programs were developed, the corporation would turn them over to the schools to operate. This form is described further in the charter of the Special Projects Division. This variation has one additional disadvantage

not applicable to the form stated above in Alternative

#3.

Weaknesses:

- Complexity of coordination is increased by splitting these functions.

Alternative #4: A decentralized unit operating under a Board of Education charter and resolution, similar to present Anacostia and Model School Division and Adams-Morgan projects

Strengths:

- Builds on existing precedents and working solutions.
- Does not require legal action.

Weaknesses:

- Does not give legal status to project autonomy and community participation.
- Subjects project to many of the procedural/operational constraints now experienced by Model School Division and Anacostia.
- Does not allow for receiving outside funds directly.

Conclusion:

The legal/organizational form that appears to provide the best opportunity for ensuring the project's autonomy with a minimum of legal and organizational changes in the way decentralized projects are presently operated is the form of

the nonprofit corporation working under contract to the Board of Education to develop the Education System and operate the schools.

It may be argued that this form does not go far enough toward guaranteeing freedom from bureaucratic interference. The answer to that criticism is that the alternatives which do guarantee this freedom (#1 and #2) are legally and politically difficult to achieve because they require concentrated action by Congress and the D. C. Government. Such action does not appear probable at the present time. The alternative suggested--a nonprofit corporation--appears to be the most creative compromise. And it would not prevent the possibility of departures from present limitations in the future.

Recommendations: A nonprofit corporation working under contract to the Board of Education should be established to administer the schools. Regular operating and payroll funds would be provided under the D. C. Government regulations.

8.4.2 Accountability

Authority and responsibility go hand in hand. In seeking autonomy for FLNT, provision must be made for maintaining responsibility to the Board of Education, the D. C. Government, the community, and the pupils. Several alternatives have been analyzed.

Alternative #1: Annual evaluation report

An annual report would be submitted at the end of each fiscal year to the community and the Board of Education specifying:

- The extent to which the project achieved objectives for the year in terms of pupil progress, community participation, and overall system performance.

- How student gains in terms of achievement compared with gains for a similar population based on national norms or other reliable instruments.
- What processes, methods, techniques, and resources appeared to contribute most significantly to these results.

This evaluation would be prepared by a qualified professional evaluation organization that did not have a vested interest in the project and has demonstrated its objectivity and responsibility.

Alternative #2: Annual audit

A financial audit would be conducted at the end of the fiscal year. A qualified accounting firm would be retained to audit all accounts and investigate the validity of expenditures. This could be a particularly important way for the project to demonstrate its openness to public scrutiny and its willingness to be held accountable for spending public funds in an innovative effort.

In addition to a fiscal audit, an educational audit could be conducted by a group unaffiliated in any way with the project or its evaluators. An educational audit is a new approach to validating the education results of a project. It includes:

- Verifying the results of evaluation.
- Assessing the effectiveness of evaluation procedures.
- Assessing management and instructional procedures.

Strengths:

- Use of outside evaluators and auditors increases public credibility of project.
- Provides objective feedback on strengths and weaknesses.

- Provides objective data to the public and research community.

Weaknesses:

- Increases cost.

Conclusion:

Because the FLNT System is supposed to be new and innovative, it is especially critical that evaluation and public accountability be maintained at the highest professional levels and with the utmost objectivity. This will emphasize the openness of the system to public scrutiny and its commitment to accountability. The evaluation and audit will be well worth their cost in terms of the public credibility for the project gained as a result.

The informal process of accounting for educational results is a continuous one established by the day-to-day interaction between child, parent, and teacher as they assess the work of the school and the progress of the child toward his educational goal. In addition to this informal accounting process, there should also be formal monthly and annual evaluations to provide financial and educational accountability of the Fort Lincoln schools.

Recommendation: A financial and educational audit should be conducted annually to provide accountability for the use of public funds, to verify the attainment of educational goals, and to ensure public support.

8.5 Summary

After GLC planners had considered the constraints under which the Education System would have to operate and the resources available to it, their next step was to determine what alternatives existed for implementing programs and activities to meet established goals. Alternatives were formulated in relation

to:

- Responsiveness to the goals and resources specified in Sections 5 and 6.
- Conformity to constraints outlined in Section 7.
- Educational validity.
- Compatibility with proposed facilities, sites, and overall "climate" of the system as conceived in the Logue report and the educational recommendations of the Ad Hoc Committee and of Farlini and Young.

Because of the heavy emphasis by all planners on the individualization of instruction, GLC considered only those alternatives for instructional programs that were considered likely to enhance variation in learning experiences from student to student. Alternatives were considered for staffing patterns, materials, diagnosis and evaluation methods, organizational structures, curriculum structures, facilities, and special education.

In considering alternatives for staffing patterns, GLC maintained the emphasis that had been placed on the desirability of a low staff to student ratio and the use of community residents in paraprofessional roles to lower the ratio. Information from the National Education Association Research Division and consideration of various approaches to staffing were considered in arriving at the recommendation for a pattern in which there is a ratio of not less than one staff member to 27 students. Assessments of programs using this ratio indicate that it could be used to provide a learning environment responsive to student needs, goals, and interests without exceeding the per pupil cost of the D. C. System.

Groups involved in planning Fort Lincoln Schools have established guidelines suggesting that diagnosis and evaluation of skill and behavioral accomplishment should be individualized just as learning experiences are individualized and that testing should be used to inform students, teachers, and parents of students' progress and set educational objectives rather than to make assessments of achievement levels for groups of students or to assign grades. The strengths and weaknesses of six types of testing were analyzed, and recommendations were made for the use of four -- diagnostic and prescriptive, observational, varied interval, and standardized. Feedback conferences between parents, students, and teachers should occur frequently and replace the grading system.

General Learning Corporation also considered the possible methods of organizational structure that would permit achievement of FLNT Education System goals, identifying three options that might be implemented by the administrative staff of the First Facility. Strengths and weaknesses were compared for the independent study plan in which the self-contained classroom is the basic organizational unit, but this traditional approach was considered to decrease student opportunity for the independent exploration of educational resources that has been recommended for Fort Lincoln. Another alternative considered was the house plan in which children of mixed ages and abilities are grouped into "houses" or lifelike communities in which parents and other adults also participate. From their "houses," they go to a set of learning centers or resource centers where materials, equipment, and staff are available. This alternative was considered unfeasible because of the extensive amount of teacher preparation required to train teachers to work with cross-aged groups. The administrative organization

considered most compatible to FLNT goals is the stage plan in which students are placed by age into stages of 3-5 year olds, 5-7, 7-9, and 9-12. In this plan, the age span of students in each cluster is short enough to conform to the typical training of teachers which prepares them to work with students at only one age level. It also enables fundamental differences to exist in scheduling, curriculum and staffing patterns, and school experiences can be geared more precisely to the developmental level of students than is possible in a plan with wider differences in ages.

Goals for the Fort Lincoln Schools specified that students and parents should share responsibility for curriculum selection with school staff and that curriculum should be individualized for each student according to his abilities, achievement levels, interests, and personal goals. The alternative that seems most appropriate for achieving these goals is one in which students should be required to master major concepts in broad curriculum areas, and pass a certain number of criterion tests in various subject areas which they have chosen in consultation with teachers, thus striking a balance between complete determination of curriculum by the child or by an adult. In the plan proposed by GLC, administrators, teachers, students, and paraprofessional assistants would all participate in determining curriculum requirements, day-to-day objectives, and terminal requirements.

In order to serve all members of the community to the fullest possible extent, Fort Lincoln Schools should be open for educational and recreational use in the evenings and on weekends, all year long. Study lounges and libraries

could also be operated by the school in apartment buildings, and specialized learning centers could be provided in businesses or other institutions.

Because the FLNT Education System will be geared to providing individualized programs of instruction for students, it will be better able than most schools to meet the individualized needs of exceptional and handicapped students. Individualized learning and the inclusion of educators with special education competencies as a resource on teaching teams are seen as part of an optimal combination for enabling the exceptional or handicapped student to take part in normal classroom groupings and for serving the needs of special students through individualized processes.

To ensure community participation in the FLNT Education System, GLC asked participants in the Community Planning Workshops to make recommendations for methods that could be used to develop and maintain community participation and interest. They developed the idea for the establishment of an Interim Education Committee which could provide community "shared power" until an elected community board takes over. This group would be able to maintain continuity of planning, work with the Special Projects Division of the D. C. Schools and GLC, provide input in planning and early operational stages, and function as a vehicle for presentation of plans and programs to the community. Its main function would be to provide continuity of FLNT community feeling and responsibility. By the time the first facility is opened, a citizens' council or community board of trustees should be established as a permanent body for community participation in school administration. The workshop participants also identified special needs of the community that should be given consideration during

planning -- such as a program of reading assistance or an adult education program. As presently conceived, the membership of the Interim Education Committee will include representatives of the 60 major organizations that were invited to take part in the community workshops. The first major tasks of the Interim Education Committee will be to review educational alternatives and decide which should be included during the first year of school, disseminate information about the Committee's work to the community, and to consider ways of meeting the need for providing planned child care services.

Alternative staff roles and relationships were also analyzed by GLC planners to arrive at the following recommendations for staffing characteristics providing a highly individualized educational program. Fort Lincoln Schools should have a heterogeneous staff including student helpers, paraprofessionals at various levels of competence, and student teachers as well as teachers and administrators. Career leaders should be developed for all levels of the staff, avoiding stagnation of individuals in particular roles, increasing personal involvement, and improving the quality of relationships with students. The teacher's major responsibilities would be evaluation, planning, and management rather than instruction; many instructional responsibilities would be assumed by other staff members. To maintain a high quality staff, there should be a high percentage of hours per week provided for professional development.

All initial planning efforts have stressed that Fort Lincoln Schools must have considerable autonomy in policy making and operation in order to ensure their capacity for innovation and responsiveness to the community. A number of legal and organizational means can be used to achieve autonomy, but each requires

some modification of relationships between the D. C. Board of Education and the D. C. Government. The legal/organizational form that appears to provide the best opportunity for ensuring the project's autonomy with a minimum of legal and organizational changes is the form of the nonprofit corporation working under contract to the Board of Education to develop the Education System and operate the schools.

The final group of alternatives considered were related to the accountability of the school system to the community, students, the Board of Education, and the D. C. Government. General Learning Corporation suggests that a financial and an educational audit be conducted annually by the FLNT Education System to provide accountability for the use of public funds, to verify the attainment of educational goals, and to ensure public support.

9. FEASIBILITY

The conceptual model proposed for the FLNT Education System must be far more than an intellectual exercise; it must work. Therefore, GLC has attempted to assess the feasibility of each key aspect of the proposed model through empirical studies. Outside consultants were retained to assist GLC in conducting these studies, both to insure objectivity and to take advantage of the talent and expertise of a broad range of professionals in the fields of computer simulation, cost analysis, and opinion research.

Five studies were conducted to answer the questions listed below:

- Cost--Can the conceptual model be implemented within the budget established for the first facility?
- Staff Configurations--Will there be enough staff available in the first facility to have the right person in the right place at the right time to conduct and supervise the activities specified?
- Materials--Are there enough self-instructional materials available to support individualization of activities and make possible the recommended low teacher-student ratio?
- Physical space--Can the space planned for the first facility support the diversity and range of student, staff, and community activities initial planning recommends?
- Instructional procedures--Can the diversity of instructional procedures included in planning exist within the limits of scheduling, equipment, materials, and space considerations?

9.1 Cost

The specific cost and resource implications of the plan to be implemented in the first facility are being analyzed by GLC with the assistance of Resource Management Corporation. These costs and resources have been integrated into a computerized cost model which enables estimation of the cost and feasibility of alternative educational plans.

This cost analysis has proceeded in conjunction with the preparation of the other plans for the first facility in three identifiable stages, each of which involves these tasks:

- Data collection
- Development of an experience-based cost model
- Development of first facility cost estimates

The data collection carried out in Stage One was directed toward gathering information from other experimental educational projects as well as becoming familiar with the form and substance of the District of Columbia school budget. The data collected about equipment, materials, and staffing of similar educational experiments served as an aide to estimating developmental and equipment costs associated with new programs.

In order to make the first facility costs consistent with other District school costs, the model was designed using similar cost categories and items. In addition, information was gathered about costs and practices in the District School System which would act as constraints or cost-influencing factors. Typical costs and practices studied include teachers' salary schedules, student-teacher ratios, wage rates for consultants, and normal maintenance costs.

Stage Two, development of an experience-based cost model drew heavily on the information collected during Stage One. Initially, costs were divided into investment and annual operating plans. Within each of these plans, the activities, personnel, and resources which generated costs were listed. Generally, these cost categories are similar in form and definition to those of the District school budget. Investment costs are those incurred in establishing the facility and equipping it with the materials required to carry out the curriculum design. These costs at FLNT will be higher than would ordinarily be expected because of the special innovative nature of the system. Operating costs are those incurred each year such as staff salaries, purchase of new equipment and materials, maintenance, consultants' fees, contracts, and printing. The school lunch program and community program operating costs are not included because these are not included in the D. C. School System's calculation of per pupil costs. However, since this cost model was designed to describe a particular school, it contains cost categories which specifically incorporate innovative program features such as initial staff training, community participation, and day care services. Given these accommodations and considerations, the cost model contains the following cost categories which are the same for both the investment and annual operating plans.

- General Administration
- Stage 1 Instruction
- Stage 2 Instruction
- Stage 3 Instruction
- Stage 4 Instruction
- Stage 5 Instruction
- Stage 6 Instruction

- Stage 7 Instruction
- Staff Training
- Community Activities

Each of these cost categories is composed of "object classes" which identify resources acquired for each activity. The object classes as they generally appear in relation to the above cost categories are:

- Personnel
 - Level 1
 - Level 2
 - Level 3
 - Level 4
 - Level 5
 (These levels correspond to average salary levels)
 - Annual personnel acquisition (staff turnover)
- Office Equipment
 - Capitalized
 - Non-Capitalized
- Office Supplies and Materials
- Communications, Printing, Facilities
 - Communications
 - Printing and Reproduction
 - Facility Rental
- Travel
 - In-town, professionals
 - Out-of-town, professionals
- Consultants and Contracts
 - Consultants
 - Contracts
- Operations and Maintenance
 - Personnel
 - Supplies and Materials

This cost category and object class structure of the cost model is straightforward and keyed to activities. The innovative aspect of the structure is that it provides for associating the actual costs of instruction with particular skill levels or stages, as they are referred to in the model. This method seems preferable to the older technique of simply dividing total school costs by the number of children enrolled. Furthermore, it is probably a more accurate reflection of reality, i. e., that school instruction at some levels (grades) is more expensive than it is at others. In any case, the cost model provides for the expression of cost and resource differences or similarities, whichever exists.

Stage Three of the cost analysis, the development of specific first facility cost estimates, is presently in progress. Various individual planners have submitted their first facility plans and these have been integrated into the cost model. Using these plans, initial investment and annual operating costs for the first facility have been developed which will be used for preliminary budget estimates.

The existing first facility cost estimates are based on educational plans which emphasize individualized instruction in an environment rich with educational equipment, supplies, and material. One of GLC's goals is to plan an effective urban school system which can operate without exceeding the yearly per pupil expenditure incurred by the D. C. School System as a whole (see Appendix K). With this objective in mind, GLC was able to estimate that during the first fiscal year of operation of the Fort Lincoln Education System, the D. C. School System will spend approximately \$950 per pupil. The best estimate of the educational plan now being developed indicates that the expenditure per pupil in the first facility in FLNT will be within the \$950 figure.

However, while the operating financial commitment for FLNT will not exceed the comparable D. C. figures, it is anticipated that the FLNT facility will be free to allocate these resources in the most efficient manner. For instance, a major goal of the planners is to support the professional teacher with staff development programs, new equipment, and paraprofessional aides. Based on the two alternative plans now under consideration it is anticipated that the ratio of paid adult to student in the first facility will fall between 1:27 and 1:17. In financial terms, this would mean an estimated 49 percent to 66 percent of the annual operating budget would be required for personnel; of this figure, it is estimated that between one percent and four percent would be allocated annually to staff training. As part of the overall emphasis on a enriched school environment, approximately three percent of the annual operating budget would be spent on new equipment, while 15 to 16 percent would be spent on materials.

All of these figures at this stage in the design of the educational program for the first facility are, of course, very tentative. In addition, they reflect only annual operating costs and not investment costs.

9.2 Staffing Configurations

The size and pattern of the staff chosen for any school must meet certain feasibility criteria, i. e., there must be enough people with enough skills and enough time to perform the variety of tasks required to operate the school effectively. Computer simulation exercises are now being run to establish the feasibility of staffing recommendations for the plan as they will be implemented in the first facility.

Staffing feasibility studies are being performed on the Adult Resources Flow Model developed by G. Ernest Anderson and his associates at the University of Massachusetts. (The name of this model is not strictly accurate because students and student activities are included in the computer runs.) This simulation model is programmed to introduce variations into the daily workload so that the staff configuration is tested across many combinations of work demands.

The data supplies for the operation of the simulation model fall into two categories: types of work and types of people. For each type of work such things as performance time and frequency of occurrence are estimated.

The model requires as input:

- The number of students and the number of staff members.
- The types of staff members to be employed, e. g. , teachers, teacher aides, etc.
- The number, annual salary, and workweek (hours) for each type of staff member.
- A priority listing of types of work to be performed, e. g. , planning, counseling and prescribing, tutoring, etc.
- A priority listing of the work types in which each type of staff will be engaged.
- The percent of available time to be spent on each type of work by each type of staff.
- Type of distribution and time range for occurrences of each type of work.

- The number of occurrences expressed as a function of the number of students, size of staff, and a constant.
- An occurrence frequency profile for a period of 20 weeks. i. e., the number of occurrences expressed as a percent of variation from the average number of occurrences.

The output of the model contains:

- A formatted presentation of all input data.
- The number of hours available for each type of work.
- A 20 week profile presenting the number of occurrences and the time (hours) required for each type of work.

The simulation program has been run several times. The proposed instructional staff for the 700-student first facility consists of three Level 2 teachers, 10 Level 3 teachers, 10 Level 4 teachers, 12 teacher aides, and 50 student helpers. (Five approximate salary levels have been established. The highest, Level 1, tentatively includes salaries ranging from \$15,500 to \$19,300 and corresponds approximately to the Teacher Salary Levels 1 through 6 presently established by the D. C. School System. Level 5 is tentatively set to range from about \$5,400 to \$6,000. It should be emphasized that these levels have all been established on a tentative basis in order to ensure that flexibility can be maintained after the program design is completed.) Teachers are further identified by assigning them to a specific area of responsibility for planning activities, two teachers for stages 2-4 and one teacher for stage 1.

All teachers are assumed to be available 40 hours per week, but their hours may not be those of the traditional school day since the school activities will

be conducted all year around and during the evenings. Each student helper is assumed to be available for ten hours per week. The total amount of staff time available is 1900 hours.

Work to be performed by the instructional staff* is defined as:

- Counseling, analyzing, synthesizing, and prescribing
- Planning
- Tutoring and providing individual help
- Supervising academic activities
- Group instruction and seminars
- Interacting with parents and community
- In-service training
- Testing
- Scoring/recording
- Preparing, evaluating, ordering, and coding instructional materials and supplies
- Supporting duties, e. g., typing, filing, maintenance
- Discipline

Using the input data outlined above, the simulation program generates the number of occurrences of each type of work expected for each of 20 weeks. The amount of time required for accomplishing these tasks is also simulated. For example, during the fourth week, 175 occurrences of staff planning requiring a total of 103.6 hours are simulated. Also generated by the computer program are the

* Negotiations with the Teachers' Union may be required to ensure its acceptance of the defined tasks. It may also be necessary to ask the Union to redefine the concepts of overtime and night differential for FLNT's Education System.

number of hours available for each type of work. Continuing the example, the same run of the simulator which generated the requirement of 103.6 planning hours also determined that between 74 and 182 hours are available for planning.

Analysis of data resulting from several runs of the simulation program indicates that the proposed staff will be sufficient for the operation of the educational programs and supporting services and will be able to adjust to unpredictable fluctuations in work load which will occur as a result of varying interests and needs of students. Simulating the utilization of student time has also resulted in data which indicates the feasibility of the design of the educational program.

9.3 Availability of Materials

An individualized learning program such as the FLNT plan requires a variety of materials which have been developed through the following processes:

- Specification of terminal objectives
- Specification of teaching or intermediate objectives
- Preparation of criterion test items
- Identification of prerequisite knowledge and skills
- Design of learning materials
- Tryout and revision of learning materials

Preparation of a modest learning unit is a time-consuming and expensive process. When consideration is given to designing learning units of varying levels of difficulty, activities, and methods of presentation for the same objective, the task becomes staggering. Feasibility of the FLNT plan depends partially, therefore, on the availability of ready-made materials.

GLC has conducted a survey of materials appropriate for an individualized program. The chart on the following page summarizes individualized materials that have been developed and provides the following information about them:

- Curriculum area
- Specificity of objectives
- Name of originating program
- Brief description
- Availability of keyed tests
- Grade level
- Availability for purchase or examination

Results of the survey show that a substantial body of materials exists in reading and mathematics; teaching objectives are sparse or missing in social studies, communication skills, humanities, and health and physical education; terminal objectives are incomplete in health and physical education.

The Individually Prescribed Instruction (IPI) materials developed at the Learning Research and Development Center (University of Pittsburgh) have evolved into a highly organized system of thoroughly tested and revised learning activities, well-supported by detailed testing, scoring, recording, and prescribing procedures.

Project PLAN materials consist primarily of commercially published materials that have been selected or modified to match teacher-prepared objectives

Curriculum Area	Objectives		Program and Comments
	Terminal	Teaching	
Mathematics	✓	✓	IPI Prescribed teaching sequence
			PLAN Commercial materials keyed to PLAN; grades 4, 8, & 12 will be added in Sept. 1970; Teaching Learning Units
			Duluth Objectives may be modified; "Contract" system may be useful as an organization model; commercial materials
			NOVA Objectives may be modified; Learning Activity Packages may be useful as organization model; teacher constructed units
Reading	✓	✓	IPI Adaptation of Sullivan materials plus materials developed by LRDC.
			Duluth See comments in "Mathematics" above.
Science	✓	✓	IPI Objectives and materials specification, basically AAAS.
			PLAN AAAS, SCIS, ESSP
			Duluth See comments in "Mathematics" above.
			NOVA Teacher constructed units.
Communication Skills	✓	partial	PLAN See comment in "Mathematics" above.
			Duluth " "
			NOVA Some Learning Activity Packages self instruction in grammar (7-12 only)
Social Studies	✓		PLAN See comments in "Mathematics" above.
			Duluth " "
			NOVA " "
Humanities	✓		PLAN See comment in "Mathematics" above. Literature in Language Arts program.
			Duluth Some materials in Language Arts
Health - Physical Education	partial		

Instruction in Other Programs

Keyed Tests	Grade Level													Availability
	K	1	2	3	4	5	6	7	8	9	10	11	12	
✓	✓	✓	✓	✓	✓	✓	✓							by arrangement
✓		✓	✓	✓		✓	✓	✓		✓	✓	✓		
	✓	✓	✓	✓	✓	✓	✓							
✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓							purchase and by arrangement
✓	✓	✓	✓	✓	✓									by arrangement
✓		✓	✓	✓		✓	✓	✓		✓	✓	✓		by arrangement
no tests: grammar ✓						✓	✓							
✓		✓	✓	✓		✓	✓	✓		✓	✓	✓		by arrangement
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓		✓	✓	✓		✓	✓	✓		✓	✓	✓		by arrangement

and that have been supplemented by teacher-prepared materials. The basic unit or organization in Project PLAN is the Teaching-Learning Unit, one for the teacher and one for the student.

Duluth and Nova schools have approached the problem of organizing materials for individualized instruction in ways similar to Project PLAN. Although each has different systems of organizing the objectives and materials, they have developed behavioral objectives and prepared learning activities using commercially published materials supplemented by teacher-prepared materials.

During the remainder of the planning phase, objectives will be specified as much as possible for the First Facility in the missing areas, and a system will be designed to organize the objectives, the materials, and the tests for use by students and teachers. This system will cross-index self-instructional and traditional materials and appropriate test items to the specified teaching objectives.

The collection and selection of a multitude of learning materials of all types will continue into the implementation and operational phases of the program. A number of curriculum development projects have been contacted for materials which are not readily available commercially. These include:

- Materials and Activities for Teachers (MATCH boxes)
Kits of learning materials developed by the Children's Museum of Boston for purchase or rent. One kit is titled "Houses"; another is titled "City".

- Our Man-made Environment

A workbook developed by Group for Environmental Education under the direction of Alan G. Levy, architect, in conjunction with the Philadelphia School System for seventh graders.

- Colorado Art Guide K-12

A guide prepared by the Colorado State Department of Education containing background information in the areas of the philosophy of art, understanding world cultures as related to art, and art and the community.

- Arts and Humanities for Young Children

Central Atlantic Regional Educational Laboratory program to improve educational opportunities for children in kindergarten through grade three in visual arts, dance, literature, music, and theatre.

- Technology for Children

Materials, equipment, and activities developed by the State of New Jersey, Department of Education, Division of Vocational Education to enhance the learning process at the elementary school level, to enlarge the child's understanding of vocational choice, and to develop his economic competence in a changing world of work, through establishing a systematic program of occupational education.

- Outdoor and Conservation Education Program
Ann Arbor Public School System (K-12)
- Decision Making by Clyde and Barbara Doddes
A teacher's guide to activities to help students (9-12)
become aware of their values as they relate to decision
making.
- The New Nursery School
A program of classroom activities for preschool children
based on four years of experimental and developmental work
by Glen Nimnight, Orvalie McAfee, and John Mever in Greeley,
Colorado.

Additional materials are being received and will be considered for use at FLNT.

9.4 Physical Spaces

Requirements of space for individualized learning programs are obviously different from those of a traditional program in which scheduled group activities predominate. Feasibility of the FLNT plan depends partly on whether the available physical space can support the diversity of activity which it requires.

Feasibility of implementing the recommendations within the available space is being studied by a computer simulation team from the University of Massachusetts.

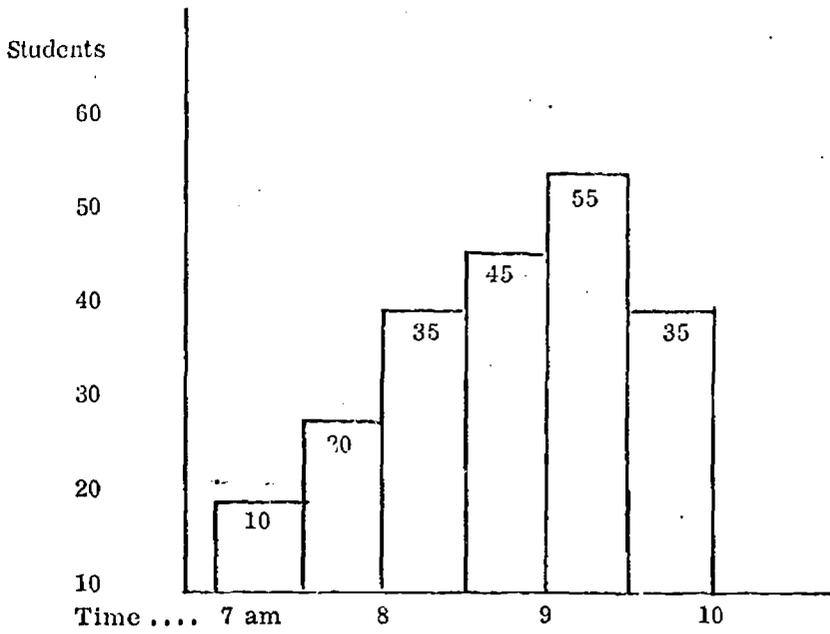
The team is currently conducting studies on utilization of space in the first facility, based on the following information provided by GLC:

- Blueprint of the facility
- Estimates of equipment utilization time
- Estimates of student use of facilities
- Descriptions of a typical student day and typical teacher day
- Predictions of student arrival and departure
- Descriptions of projected resource centers.

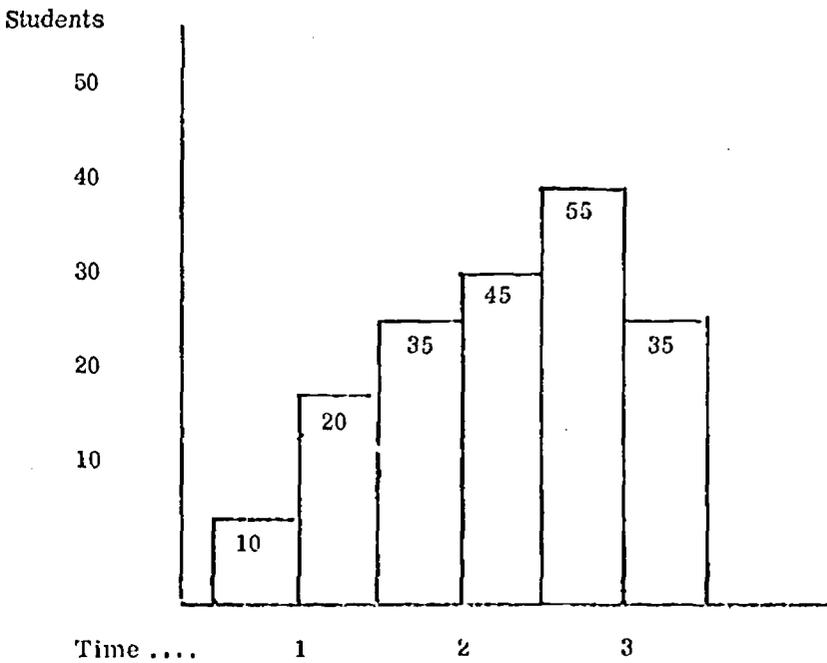
These studies will provide alternative plans for arranging moveable walls and other physical features of the class areas to allow students maximum flexibility in choosing alternative means for achieving any given goal.

Preliminary indications are that all of the activities projected for the first facility can be accommodated in the space available. Examples of data included in the preliminary runs follow:

PREDICTED ARRIVAL RATE OF STUDENTS IN LEVEL II



PREDICTED DEPARTURE RATE OF STUDENTS IN LEVEL II



Sample I: Estimated Minutes per Day Spent in Various Activities (Younger students in Stage II)

MESSY ACTIVITIES ESTIMATED MINUTES/DAY

Clay	20 - 60
Finger painting	30 - 60
Modeling	10 - 20
Pasting	15
Crayon	15
Manipulative Arts	15
Wood block	20

BLOCKS

Reading	10
Math	10
Free expression	20
Space perception	10

AUDIO-VISUAL ACTIVITIES

Language master	5
Audio tapes	10
Records	20
Dukane Fliptop	20
Filmstrip	20
Loop film (8 mm)	5-8
16 mm Projector	8-24
Overhead Projector	
T. V.	0-50

BOOK AREA

Independent	10-30
Group	15-90

MANIPULATIVE GAMES 5-15

MUSIC 30-60

TESTING 30-60

PLAYGROUND 15-60

DRAMATIC ACTIVITIES 30

Sample II: Estimated Minutes Per Day Spent in Various Activities (Older Students in Stage II)

ESTIMATED MINUTES/DAY

Reading	60
Arithmetic (10 min. on machines)	30
Eat	45
Library	30
Group interaction	
Art, Music, Social Studies,	
Science	90
Typewriter...programmed, prescribed	10
Art	15-30
Silent Reading	25
Reading on audio equipment	10
Testing	60

Equipment and Space needed to use it:

EQUIPMENT:

23	Electric Typewriters
15	Language masters
40	Tape recorders
20	Single concept projectors
10	Record players
1	Slide projector
1	Film strip projector
2	Adding machines
4	16 mm projectors
2	8 mm projectors
4	Video tape recorders
4	T. V. monitors

SPACE:

24 sq. ft. per child per electrical unit

24 sq. ft. per child per table

9.5 Instructional Procedures

The plan recommends a wide range of instructional procedures, many of which will be going on simultaneously in the same classroom.

Evidence of the feasibility of this aspect of the FLNT plan comes partly from GLC's studies on the availability of staff, materials, and space to support this diversity of activities.

Additional evidence has been gathered through a study of some of the most promising innovative programs around the country which feature a diversity of instructional procedures similar to the FLNT plan. Personal visits were paid to the following:

- The Nova Schools, Ft. Lauderdale, Florida
- The Education Improvement Program, Durham, N. C.
- The Oakleaf School, Pittsburgh, Pennsylvania
- The Downey Elementary School, Harrisburgh, Pennsylvania
- The Learning to Learn School, Jacksonville, Florida
- The Woodlawn Elementary School, Hicksville, New York
- The Aquinas Montessori School, Alexandria, Virginia
- The Tutorial Community Project, Pacoima Elementary School, Pacoima, California.

Other programs, such as the Leicestershire Schools in England, were studied in the literature.

The consensus of GLC's observers and the teachers and administrators who were interviewed was that students and teachers find the diversity extremely stimulating, and problems such as complications in scheduling are not insurmountable.

Research data on these and other programs was also examined to assess feasibility in terms of effects of the programs on achievement and personal development. Most programs are too new for data on long-range effects to be available. What information there is, however, indicates that students in innovative schools learn more, have a more favorable attitude toward school, and have healthier concepts of self than do students in traditional schools.

9.6 Summary

In the final analysis, the major requirement of the FLNT Education System is that it must work. GLC conducted studies to answer five questions about the feasibility of the proposed education model.

- Cost -- Can the conceptual model be implemented within the budget established for the first facility?

Cost and resource implications of the plan for the first facility are being analyzed with the assistance of Resource Management Corporation. Costs and resources were integrated into a computerized cost model that permits estimation of the cost and feasibility of alternative education plans. Specific first facility cost estimates are now being prepared, but the best estimate of the education plan indicates that the first facility in FLNT will be able to operate with an expenditure per pupil of \$950, a figure equivalent to the \$950 the D. C. School System is expected to spend for pupils throughout the system during the first year of operation at FLNT.

However, while the operating commitment for FLNT will not exceed comparable D. C. figures, it is anticipated that the FLNT facility will be free to allocate these resources in a manner appropriate to its needs, such as supporting the professional teacher with staff development programs, new equipment, and

paraprofessional aides.

- Staff configurations -- Will there be enough staff available in the first facility to have the right person in the right place at the right time to conduct and supervise the activities specified?

Computer simulation exercises are now being run to establish the feasibility of staffing recommendations for the plan as they will be implemented in the first facility.

The simulation model is programmed to introduce variations into the daily workload so that the staff configuration is tested across many combinations of work demands.

The proposed instructional staff for the first facility consists of three Level* 2 teachers, 10 Level 3 teachers, 10 Level 4 teachers, 12 teacher aides, and 50 student helpers. The simulation program generates the number of occurrences of each type of several categories of work expected to be performed by these persons such as providing individual help, interacting with parents and community, testing, etc. Analysis of data resulting from several runs of the simulation program indicates that the proposed staff will be sufficient for the operation of the educational programs and supporting services and will be able to adjust to unpredictable fluctuations in work load.

Simulating the utilization of student time has also resulted in data which indicates the feasibility of the design of the educational program.

- Materials -- Are there enough self-instructional materials available to support individualization of activities and make

* See page 9-4 for explanation of Levels.

possible the recommended low teacher-student ratio?

Since there will be so many individualized plans of learning at the FLNT Education System, staff will not be able to personally prepare every learning unit needed. Feasibility of the FLNT plan depends partially, therefore, on the availability of ready-made materials.

GLC conducted a survey of individualized materials available and appropriate for individualized programs of education, and identified particular areas in which materials are sparse or missing. Materials considered appropriate for FLNT Education System use are listed on page 9-12 of this document, and additional materials are being received and will be considered for use at FLNT.

- Physical space -- Can the space planned for the first facility support the diversity and range of student, staff, and community activities recommended in initial planning?

Space requirements in a system of individualized learning programs are different from those of a traditional program in which scheduled group activities predominate, and the feasibility of the FLNT plan depends partly on whether the available physical space can support the diversity of activity it requires.

Feasibility of implementing the recommendations within available space is being studied by a computer simulation team from the University of Massachusetts, based on information provided by GLC. Preliminary indications are that all activities projected for the first facility can be accommodated in the space available.

- Instructional procedures -- Can the diversity of instructional procedures included in planning exist within the limits of

scheduling, equipment, materials, and space considerations?

The plan recommends a wide range of instructional procedures, many of which will be going on simultaneously in the same classroom. Evidence of the feasibility of this aspect of the plan comes partly from GLC's studies of the availability of staff, materials, and space to support the diversity of activities. Additional evidence has been gathered through a study of some of the most promising innovative programs around the country which feature a diversity of educational procedures. The consensus of GLC's observers and teachers and administrators interviewed is that students and teachers find the diversity extremely stimulating and problems such as complications in scheduling are not insurmountable. Research data also indicates that students in innovative schools learn more, have a more favorable attitude toward schools, and develop healthier concepts of self than students in traditional schools.

10. THE OPEN PLAN

On the basis of the analyses just described in the sections covering resources, constraints, alternatives for planning, and feasibility of operation, General Learning Corporation recommends that an OPEN PLAN of instruction and organization be implemented by the Fort Lincoln New Town Education System.

The mandate from the D. C. Public Schools charged GLC with creating a new school system "from the ground up" which would be specifically designed to meet the goals of:

- Individualized instruction.
- Innovation in organization.
- Community participation.

In response to this mandate, GLC considered and analyzed a wide variety of educational methods and systems. On the basis of this analysis, methods of organization, instruction, and community involvement were selected that seemed most appropriate and functional for meeting the goals set forth in the mandate from the school system. Together, they comprise a unique configuration of operational and educational methods that can best be described as an OPEN PLAN for the Fort Lincoln New Town Education System.

10.1 Characteristics of the Open Plan

- Openness to experimentation
- Openness to change
- Openness to feedback and modification by the community, staff, and students.
- Openness to a wide range of intellectual and artistic endeavors by students.

- Openness to learning via "new" as well as traditional media
- Openness to participation in decision making by all affected persons
- Open career opportunities for all staff
- A learning environment characterized by open spaces
- A curriculum open to choices by students, teachers, and parents
- Facilities open to the community.

10.2 Rationale for the Open Plan

The underlying assumptions on which the choices among alternatives analyzed were based include:

- Planned diversity of staff, facilities, materials, and curriculum will enable maximal response of the system to the needs, interests, abilities and personal goals of each student, staff member, and community resident.
- Distribution of decision-making power to all persons affected by a decision increases their involvement, responsibility, and commitment to the school.
- Participation in teaching by all staff members will maintain their sensitivity to the teaching-learning process and provide students with a greater diversity of adult models.
- Each student's education program will strike a balance, based on his own needs, between
 - Systematic, sequenced activities to ensure coverage of certain knowledge and abilities which are judged important by the school staff and the community, and

- A wide range of opportunities to learn through intensive study of areas of special interest.
- Interaction of students with the people, programs, and institutions of the community will increase the relevance of school learning to life, which will in turn enrich the student's experience of both.
- Increased participation of students in decision making as they mature will enhance their involvement with the school and fulfill the school's obligation to teach them how to make judgments and exercise options.
- An administrative organization with built-in flexibility will encourage continuing modification and refinement by the school staff on the basis of their experience.
- A heavily detailed information system, with inputs from all relevant sources, offers checks and balances which will increase the validity of decision making throughout the school.

10.3 Specific Recommendations for Implementing the Open Plan.

COMMUNITY PARTICIPATION PLAN (see Section 8.2)

- A committee must be formed of FLNT school administrators and the Interim Education Committee (a group of community residents) to ensure joint participation of community and school persons in the educational process.
- The FLNT community should be invited to communicate suggestions for change or to indicate dissatisfactions with the schools to the I. E. C. and administrative staff.

- FLNT community groups should have opportunity and be encouraged to participate in school activities. Participation should range from taking part in adult education classes to employment by the educational system as a paraprofessional to membership on the board.
- Provision should be made to use paraprofessionals at varying levels of a career ladder and with varying responsibilities in the FLNT Education System. Their participation will help ensure the responsiveness of the schools to community needs such as the need for training and employment. In addition, they can serve effectively in interpreting community needs to the school and help staff learn to deal with residents in terms the residents understand and find acceptable.
- Volunteers from the community should be permitted to work in the FLNT Education System.
- All FLNT community groups should be asked to help establish and provide advice and assistance in reaching citizens and organizing FLNT community participation in education.
- Businesses and institutions in and near FLNT should be asked to operate specialized learning centers and to serve as on-site student training centers. This will have the dual effect of involving representatives of these firms and institutions in school activities, and enabling students to begin to interact

with persons outside their own peer groups in a meaningful way. It will also have the effect of bringing the school into direct contact with the community. Relationships formed between students and adults in the process can be extremely instrumental in helping students make career decisions and develop the improved self-image that comes from such contact.

- An Interim Education Committee of community residents should be formed to work on a "shared power" basis with planners and D. C. Public School administrators until an elected community board is formed. This recommendation itself is a manifestation of the community participation that has already begun to take shape -- it was formulated by residents of adjacent communities who participated in the workshops begun during the planning period.

The desire of community residents for this type of "shared power" with the school administration must be fulfilled if the educational recommendation for community participation is to be fulfilled.

- The D. C. Board of Education and FLNT school administrators should extend to FLNT area residents the opportunity to formally participate in decision making when the first facility becomes operational.

EDUCATION (CURRICULUM) PLAN FOR THE FIRST FACILITY
(see Section 8.1)

- The curriculum should have four basic elements:
 - Basic elementary school subject matter.
 - Independent study in chosen areas of interest.
 - Introduction to the basic concepts of scientific method, behavioral science, communications science, political science, economics, and ecology.
 - Exposure to some of the great issues and ideas in education, science, and history.

Experiences in schools where traditional curriculum has been combined with independent study and study in fields of the student's own choice have led to increased motivation for learning, improved achievement levels, and an increase in positive self-awareness and confidence. The mix outlined above will enhance the student's likelihood of discovering the fields of study that will be of lifetime interest to him.

- Teachers should be encouraged to use materials in innovative ways and to develop their own materials in response to the unique needs or interests of their students. This is a must if individualized educational plans are to be developed for each student.
- Students (and adults) should be encouraged to take materials and equipment home or into the community for further study whenever possible.

- The richest possible variety of materials -- printed, manipulative, and audiovisual -- should be immediately accessible to teachers and students; an unusually large percentage of the budget should be spent for materials.
- Faculty and students of local colleges and universities should participate in FLNT monitoring and curriculum development. This can provide meaningful field experience for college students and help ensure a creative approach to curriculum design.
- Local hospitals and health institutions should be asked to provide assistance and instruction to students interested in developing careers in health.
- The physical environment at FLNT and the Anacostia River Complex, the National Arboretum, Kenilworth Aquatic Gardens, and D. C. and Metropolitan area resources should be used as natural laboratories for study and instruction. The historical environment should also be used for on-site study of history.
- FLNT education program objectives should be classified according to Carnegie units or should be equated with a recognized system of college preparation standards. This will overcome the disadvantages and errors in judgement that would occur if a student were responsible for determining his entire course of study.

- A diversity of self-instructional materials with built-in feedback and diagnostic features is recommended to facilitate individualized learning. Provision of such materials will make it possible for students to advance at their own rate, in many cases far beyond the level of development that would occur if all students were lumped together, given the same materials and expected to be interested in all of them.
- Four kinds of testing are recommended: diagnostic and prescriptive, observational, varied interval, and standardized. Testing should be individualized just as learning experiences are, and it should be used to inform students, teachers, and parents of the student's progress and to set educational objectives rather than to make formal assessments of achievement levels for groups of students or to assess grades. One exception to this is the need for standardized testing once a year to permit comparisons with city, state, or national norms.
- The "stage plan" of school organization should be used because of its adaptability to an individualized curriculum. In this plan, students are placed by ages into groups of 3-5, 5-7, 7-9, and 9-12 year olds. The first two groups have separate areas; the last two share the same space. This spread in age is wide enough to be stimulating to all students, small enough to permit

students to see relationships between what each is studying, and wide enough to encourage peer tutoring. The age spread also conforms to the typical training of teachers which prepares them to work with students of only one age level so that less in-service teacher training is required.

- Administrators, teachers, students, and paraprofessionals should all participate in determining curriculum requirements, daily student objectives, and terminal requirements.
- Handicapped children who meet minimum entry-behavior requirements should be assigned to regular classes in the school. Including all handicapped or exceptional children in the regular groupings will be possible at FLNT because of the emphasis on individualized learning. Teachers with special education competencies will be part of the teaching team to deal with their special needs, but these children will not have to be confined to separate teaching units and isolated from other students.

STAFF DEVELOPMENT PLAN (see Section 8.3)

- Faculty and staff of nearby colleges and universities should provide and participate in in-service teacher training programs.
- Provision should be made to use paraprofessionals with varying levels of responsibility in the FLNT Education System, and opportunity should be provided for them to advance up a career ladder to jobs of more responsibility and higher salary. They

can make a real contribution to the child's adjustment to school since they can provide individualized attention since the child may already know and accept them as neighbors in his community.

- Differentiated staff relationships should be provided which encourage staff role flexibility so that, for instance, administrative roles overlap with instructional roles, and collegial relationships, rather than hierarchical ordering, occur. It is hoped that the school staff members will evolve their own patterns of working relationships as they begin to work with each other.
- An analysis should be made of the functional qualifications required for positions in the FLNT system which can serve as the standard for certification, selection, and for performance evaluation.
- A staffing pattern of no less than one staff to every 27 students is recommended. This seems to be the best staffing alternative for achieving the primary goals of the FLNT schools, providing a learning environment which is rich and stimulating enough to respond to the needs, interests, abilities, and personal goals of each student without exceeding the per pupil cost of the D. C. system. Teachers can be trained to use their time more efficiently and to delegate much responsibility to paraprofessional and student helpers.

- A diversity of self-instructional materials with built-in feedback and diagnostic features is recommended to facilitate individualized learning and to free teachers for other activities.
- Staff should be assigned to stages on the basis of special competence so that each stage has a teacher with special competence in mathematics and language arts, and either a teacher, student teacher, volunteer, or paraprofessional with special competence in social studies, science, and the arts.

FACILITIES PLAN (see Section 9.4)

- Cooperative arrangements should be explored with nearby schools to avoid duplication of programs and facilities.
- The pattern and procedures for coordination in planning the first facility should be extended to plans for the other five facilities through a formal agreement between the D. C. Public Schools and Buildings and Grounds.
- To facilitate repairs, funds should be allotted to the FLNT project so that it may contract for maintenance and repairs except in cases where immediate services are available through Buildings and Grounds.
- Decentralized, specialized learning centers should be established with study lounges in apartment buildings. This will facilitate the student's ease in finding a place to study, and the use of

specialized centers throughout the community will help make the education system an integral part of Fort Lincoln, readily available for use by all residents.

- Health facilities for FLNT students must be provided in the educational facilities because nearby clinics are operating at capacity.

OPERATIONS PLAN (see Section 7.5)

- Representatives of the D. C. School System should provide assistance and information on D. C. school related developments to FLNT administrators and staff to ensure a smooth normal relationship between FLNT and the rest of the D. C. School System.
- Regulations pertaining to the FLNT school day will require a minimum standard of attendance, but hours of attendance will be flexible enough to accommodate individual student programs.
- Overall staff-to-student ratios will be responsive to Board of Education rules for class-size standards (maximum) within the limitations of per pupil cost.
- Action should be taken to ensure that the FLNT Education System can operate with maximum autonomy. This does not mean that the schools will not comply with rules and regulations governing their operation, but rather that some adjustments or modifications in patterns of operation may have to be made

if the schools are to effectively meet the clearly established goal of innovation and individualization of learning experiences. To achieve autonomy will require clarification of operating relationships among FLNT schools, school departments, and D. C. Government agencies.

- Like the MSD, Adams-Morgan, and Anacostia Project, Fort Lincoln should be vested with responsibility for its educational program independently of central office departments. The FLNT Education System, for example, should have the authority to purchase materials and services which cannot be obtained through the central office within reasonable time limitations and which can be obtained at less cost to the project than if they were purchased through the D. C. Schools and Government or from these agencies (including food services, pupil services, materials, repairs, and maintenance). The FLNT Education System should also be able to expend cash for items needed by teachers, students, and other school personnel as a regular part of the instructional program, subject to normal public accounting and auditing procedures.
- An analysis should be made of FLNT Education System data requirements to determine whether DAIS can supply total services or whether additional services will be required.

- FLNT school personnel policies, position classifications, salaries, schedules, and selection criteria should provide for "team" and collegial relationships rather than hierarchical ordering. This arrangement is required if the individualized approach to education is to be followed, since it allows people at various levels in the system to participate in the instructional process, assisting learners in the various ways required.
- Confusion in responsibilities and complications in scheduling are often cited as weaknesses of this approach, but they would result from any innovation in traditional staff structure, and do not seem to outweigh the positive potential of diversified and fluid system of roles and relationships. Emphasis on open communications and staff training can help alleviate any confusion in responsibility.
- To provide for flexibility in personnel matters, the D. C. Public Schools' central personnel office should delegate authority for personnel selection, classification, and administration to the FLNT project.
- It may be necessary to negotiate a subcontract with the Washington Teachers' Union to define working conditions more flexibly.
- A charter should be drafted for the FLNT Education System specifying its authority, responsibility, and legality, for

approval of the Board of Education, D. C. Government, and other appropriate agencies. Legal assistance should be sought if necessary to prepare briefs and other documents in support of appropriate recommendations.

- Schools should be open all day and evening, every day of the week, all year long for use by all community residents.

FUNDING PLAN (see Section 6.2)

- A nonprofit corporation working under contract to the Board of Education should be established to make policy and administer the schools. Regular operating and payroll funds will be provided under D. C. Government regulations, but the corporation could operate programs and seek and spend funds it obtained directly. The contract for the corporation could be written on a performance basis and evaluated annually.

This method would help ensure that the schools are community-based, and would encourage the accountability and integrity of FLNT as a project.

- A financial and educational audit should be conducted annually to provide accountability for the use of public funds, to verify the attainment of educational goals, and to ensure public support.
- A modified approach to budgeting should be introduced for Fort Lincoln. This would include:
 - An initial allocation on a per pupil basis (at the inception

of the budget process). This allocation would be based on the average estimated per pupil cost for the D. C. System as a whole for the proposed budget year and the estimated Fort Lincoln per pupil population.

- The proposed expenditure of the per pupil allocation would be justified on a program basis, identifying the relevant resource inputs.

- At the conclusion of the budget process, the Fort Lincoln budget would be determined by the average per pupil allocation finally approved. The program would be revised to reflect reduction and modification and would then be converted to a line item basis. At the end of the fiscal year an audit would be published providing a precise accounting of expenditures.

- To facilitate repairs, funds should be allotted to the FLNT project so that it may contract for maintenance and repair except in cases where immediate services are available through Buildings and Grounds.

10.4 A Projection into the Future — The OPEN PLAN in Action

One phase of the feasibility study conducted by GLC consisted of the development and conceptualization of vignettes describing a projected typical school day for students and staff of the Fort Lincoln New Town Schools. The function of this effort was to determine whether the assumptions and recommendations suggested for implementation could really be put into practice.

These descriptions, perhaps more than any of the other thinking, evaluation and analyses that have been performed, begin to bring the FLNT Education System to life and provide a meaningful basis for understanding the goals and recommendations set forth in this document as well as others pertaining to the FLNT schools.

A Typical School Day for Charles, Age 8

Charles has been attending the FLNT school for five years. Although it is November, he has been back in school for only a short time since his vacation. Charles was able to take a vacation in November because the FLNT school is open all year, and vacations can be taken primarily at the convenience of students, their parents, and the instructional staff, rather than according to the dictates of tradition and administrative convenience. The decision regarding vacations is made through a parent-teacher conference with the primary consideration being the student's welfare.

Charles comes to school at 7 a. m. when his parents leave for work, and if he did not come to school, he would have to be home alone. There are many adults and older children already in the building although most will arrive later in the morning.

Charles goes to the learning area where his student folder is kept. His folder contains a history of his past work and achievements, a plan for the week, and a tentative plan for the day. His major activities have already been scheduled for the day. The first is a self-evaluation period to summarize the concepts he has learned in the field of geography. This kind of evaluation goes on systematically throughout the year. Student ability is mapped out in many subject areas such as

reading, speaking, listening, writing, arithmetic, science, history, geography, and art. The second activity is formal instruction in report writing. Charles himself made this choice with his parents' and his teacher's approval because he recently became interested in writing a report of a science experiment that he was doing.

The third activity is working on the science experiment that he started a week ago. He performs this activity on his own, but a teacher is on hand to assist him as needed. If he were not working on a science experiment, Charles could be playing academic games with other students, putting together jigsaw puzzles which are carefully selected to be appropriate and challenging for students like Charles, or discussing school problems with a student committee that makes recommendations to the instructional staff. Or he might go to a resource library to read, watch films, listen to tapes, or just browse or daydream.

The fifth activity listed for Charles is participation in a teacher-led class which, in this case, was selected primarily by Charles because he has had trouble understanding the phonic rules for reading. When he and the teacher discussed this problem, Charles requested her help with phonic rules. This is the only fixed time on Charles' schedule. All the other times are quite flexible because Charles is responsible and can function independently in his school activities. For example, when Charles completes a formal test, it is scored by an adult. Charles puts the test score in his student folder as well as on a record sheet which is kept in a file.

Charles' attendance in the school is recorded incidentally when he checks out equipment, books, or movies from the resource center or when he obtains a particular piece of equipment for his science experiment:

Lunch and recess breaks are self-determined since Charles does not like to go to lunch when the lunch room is crowded and because he wants to go to the playground when his favorite piece of playground equipment is not being used.

During the day, Charles may be asked informally to assist another student in learning how to operate a piece of equipment, to help someone find something in the school, or even to act as a tutor with direct instructional responsibility. On other days, this kind of responsibility for other students may be planned. The reverse may also happen. Charles may informally ask an older student in the science room to explain something or to help him with a technique he has not yet mastered.

Charles may ask permission to leave the school to go home early if the major part of his assignment is completed or if he is able to work more effectively at home. On another day, an assignment may require that he leave his school and perhaps visit a local organization to 1) find out what it is doing, 2) why it is doing it, 3) how it is important to members of the school, and 4) to report to his classmates on what he has found.

A Typical School Day for Frank, Age 12

This will be Frank's last year in Fort Lincoln. However, if there is a good reason, he may choose to stay at Fort Lincoln longer if his parents and teachers agree.

Frank arrives at school at 7 a. m. in the morning. According to his school plan, which he worked out for the month, Frank has no responsibilities

as a student until 9 a. m. , but he often comes early to do additional work.

He has had special training as a student helper. Student helpers are assigned to work one hour each day and receive payment for their services. Frank's assigned time today is from 3:30 to 4:30 but he often does extra things on his own.

Today Frank goes to a work area where the instructional staff examine and check out individual student folders. He knows where the folders are kept before they are returned to the student work areas. Frank puts the student folders on a wheel cart and delivers them to the proper places throughout the school so the students will have them as soon as they get to school.

Since further help is not needed, Frank goes to his own work area, gets his folder, and begins to work on his educational program. He then goes to the Learning Resource Center, checks out a book, and begins to read.

Other children are beginning to come into the school in increasing numbers. Since the younger children know that Frank is a student helper they often ask him for assistance in finding something or getting a piece of equipment to work properly. This does not become a burden for any one person because there are sufficient numbers of adults and older students who have been trained in the operation and function of things in the school.

While he is working in the Resource Center, two students ask Frank if he can join them in playing an academic game. Frank thinks it over for a second and says, "OK, but I have to be finished by 10 o'clock because I want to attend Miss Cornwall's lecture on Madagascar. She spent last summer there and I want to hear her tell about it."

Frank and the two students join three other students in a small room where they can play a game that requires conversation without disturbing other people. The game is over at 9:00 instead of 10:00, so Frank goes back to his educational plan. He is writing a report on the relation between agricultural development and industrial development. This is a sophisticated topic that Frank chose himself after a visit to the school by an expert from the U. S. Department of Agriculture. Frank has viewed films, read books, and listened to recorded speeches related to this subject. He has discussed the problem with his teachers and classmates. He is now planning for a trip that he will take by himself to the Smithsonian Institution and to interview members of the Federal government who are working on this problem with underdeveloped countries. When he makes his trip, Frank will take along a camera and a tape recorder to record his findings for a class report.

From 10:00 to 11:00 Frank attends Miss Cornwall's lecture and slide presentation on Madagascar. Children arrive late and leave early if they have other appointments or responsibilities during the lecture. After the lecture about 10 students stay to talk to the teacher about her experiences. At 11:15 Frank leaves the group to work on his mathematics project which involves making a statistical survey of how the people in the school arrive at one of the school lunchrooms. This activity requires almost the full range of arithmetic learning as well as the use of concepts of probability and statistics. When Frank has collected the data, he will use an automatic calculator to analyze the data for correlations, and if he is sufficiently interested he will begin to learn to use the computer. At 12:15, Frank gets another student to take over his counting duties so that he can eat lunch himself.

As a student helper he has an obligation to eat with the younger children although this is not required of him today. During the lunch hour he asks the

the oven have to be to cook this food?" Frank has been trained to do this as part of in in-service program that serves the adult instructional staff.

At 1:30, after he has finished eating and has cleaned up his project papers, Frank attends a sex education class. The class was scheduled after a sufficient number of students had completed prerequisite work involving physiological and biological concepts and relationships. After the class, Frank spends 20 minutes on an independent program to develop his typing and shorthand skills. Frank then goes to one of the creative arts areas where he works on a structure of metal and electronic components using soldering, welding, and brazing techniques which he has learned in his vocational technical program. At 3:30 he stops his work.

From 3:30 to 4:30, Frank does his assigned work as a student helper. He helps to score papers of other students; he checks to see that their records are up to date and that the work they are doing corresponds with their educational plan. He checks over equipment to see that it is in working condition and that the tapes and other educational equipment are where they belong.

This is a long day for a 12-year old student but because he is self-paced and because the activities are largely self determined, his schedule does not seem oppressive.

When Frank leaves for home at 4:30, he takes along a film strip and record to play at home with his family. He checks out the materials and the record player-projector from the Resource Center just as he would a library book.

A Typical School Day for Mrs. Hogben, A Teacher

Mrs. Hogben arrives at school at 8:15 a. m. For fifteen minutes she does routine housekeeping tasks around her desk. A few children interrupt her work to ask questions. She takes the time to make each student feel important and makes

an effort to answer the question for the educational benefit of the child. If necessary, she will be late for her 8:30 meeting with the Fort Lincoln School Council.

The Fort Lincoln School Council has representation from students, teachers, the Community Council, and the PTA. This is a half-hour meeting with two items on the agenda. One is to decide whether all teacher-directed lecture classes should be optional or whether some of them should be compulsory for students to be named by the teacher. The other item is to recommend whether additional resources for next year's program should be allocated to personnel to share the work load of the school, or whether the number of personnel should be decreased and the allocation for instructional equipment and materials should be increased.

The meeting is held at a table in a corner of one of the study areas. Children are arriving at school in fairly steady numbers and a number of children are in the area. There is no attempt at secrecy; in fact, chairs are arranged so that students can listen to discussion. After the meeting, they will be able to discuss the decisions and perhaps argue with members of the Council about their point of view. When a student has a point of argument, the teacher usually will try to have the student use the scholarly reasoning methods that he has acquired.

At 9:00 a. m., Mrs. Hogben goes to the area for three- to five-year olds. She has a chart listing the name of each child, a coded summary of his learning profile, and a list of appropriate activities. If the children are busy and seem reasonably productive she does not interfere with their choice of activities. If a certain area becomes too crowded or if friction occurs, Mrs. Hogben uses a variety of techniques to lessen the pressure in that section of the room. She may ask one of

the children to do something for her or she may ask a number of the children to get a game and begin to play it. She may ask one of the older children assigned to the area or who happens to be in the area to help one of the very young children in a learning activity, such as naming objects represented by pictures, little plastic models, or an element of the actual objects. If a child appears lost or confused, Mrs. Hogben will look quickly at her chart, speak to the child for a few moments, and then perhaps help him get started on a suitable activity suggested by the chart.

By 10 a. m., most of the children are busy and moving around freely and without too much friction. Mrs. Hogben goes to a small lecture room to give a presentation to a group of children aged 7 to 12. The lecture is one of a series by Mrs. Hogben and other teachers describing significant events which they remembered from their childhood. The teachers talk about other parts of the country and what life was like before certain modern developments and inventions. Although the class is scheduled for forty minutes, some of the children gather by themselves to discuss what has been said and another group stays to ask Mrs. Hogben questions about her presentation.

At 11:00, she tells the older students that if they wish to continue the conversation they will have to accompany her to the Early Learning Center, and she warns them that she may ask them to help her with the little children by reading to them, showing them slides, or helping them to manipulate and work with some of the toys, games, and equipment. Then, some of the children go off to their own appointments and activities, and the rest go with Mrs. Hogben. She has a checklist of observations to make on each child. She observes what they are doing, tapes what they are saying, and asks questions which elicit describing and classifying behavior from the children.

At 11:45, the children start to go to lunch. This is done in a game routine in which each child is given a card from one set and Mrs. Hogben selects a card from a duplicate set. If the child's card matches the one Mrs. Hogben draws, he makes the match and goes off to lunch. Mrs. Hogben eats her lunch in the same area as the children. Sometimes she sits with a few of the other teachers. At other times, such as today, she eats at a table of children whose ages span the full range of the school. This diversity is part of the school plan so that the children will have older children as a model and to develop a sense of community and responsibility in all of the children.

After lunch Mrs. Hogben goes back to the Early Learning Center where she sits at a small table with a variety of objects and calls children to her one by one. The scene is videotaped for later analysis of the behavior of children. After the videotaping session, Mrs. Hogben begins to plan the next day's activities. She decides which children should definitely be spoken to, which children should have certain diagnostic experiences, what equipment should be removed, and what new equipment should be set out.

At 2:30 she gathers as many children as are interested around her for a group story and game activity. She works at a table where she can observe all the children. Children are starting to go home as they are picked up by older children and by adults from outside the school. Most of the older people are delayed as the youngsters show them something that they did or made. This interaction is encouraged and is occasionally taped or pictures are taken that the child can take home with him. As the children leave, each student deposits his folder in an assigned

place. Each folder has the student's picture on it so that missing student folders can be easily spotted and the child sought out and accounted for. No student is required to leave as long as some reasonable arrangement has been made by the parent for the child to get home at a later time. If a child remains late at school regularly, an educational plan is made to occupy his time just as if it were a regular part of the school day, and staff members are available for supervision and assistance.

At approximately 3:30 Mrs. Hogben leaves her student area and goes to an hour of in-service education. This is an individualized program in which Mrs. Hogben has a large measure of autonomy in planning her program within the resources of the in-service budget. There is an instructor in charge of the program, and a large measure of his responsibility is to facilitate the plans of Mrs. Hogben. Today the instructor and a group of teachers will examine and discuss videotapes of teacher-pupil interactions in the Early Learning Center with a view to spotting unproductive behavior and developing more effective ways of managing and working with the children. This is done in a relaxed way and at a place that is controlled by the teachers who have had a long and difficult day. Because of the flexibility of the school system, the teachers can rearrange the schedule of in-service sessions if the end of the day is thought to be too trying.

A Typical Day for Mr. Admin, Member of the Administrative Staff

John Admin's first activity on Tuesday is to meet with the three assistant coordinators at 8:00, for one-half hour to review a report that is to be given by one of the assistants to the community council about student planning for and ordering of supplies. Since this is the first time such an opportunity has been

given to students in the D. C. Schools, it is important to accurately assess this activity. The procurement officer of D. C. Schools is also present to assure that forms for forwarding information to the central offices are structured appropriately. The meeting is concluded at 9:45, three quarters of an hour late, because of the amount of work that had to be done.

At 9:30, John was to meet with four eleven-year-old students conducting independent research on the treatment effects of different light on various forms of grass, a specific interest of a local fertilizer manufacturer. The group is midway through its experiments, and will make a progress report to the firm's resident chemist in two weeks. If all goes well, the fertilizer firm will provide reagent chemicals for school use the remainder of the year. This school-industry relationship shows great promise for cooperative endeavor. While the students waited for Mr. Admin, they played an academic game with some eight-year olds in the Resource Center. When he arrived at 9:45, John called for the students over the intercom system.

At 10:15, John steps into Miss Cornwall's lecture and slide presentation on Madagascar to do a quick check on what Miss Cornwall perceived to be a problem in "effective presentation" which she thought she displayed. John perceived the problem as one of over-concern on Miss Cornwall's part, and felt that she was speaking above the level of the children. They agree to meet over lunch to discuss the problem.

At 11:00, John is summoned by one of his clerical office aides to trouble shoot a problem with the food preparation equipment. He then remains in his office until lunch to discuss with D. C. central office personnel the feasibility

of tracking teacher movement during the day, using central computer services. At noon, he and Miss Cornwall discuss her problem over lunch in one of the student eating facilities, inviting some of the students who were present in the lecture to sit in on the discussion.

At 1:00 John and a teacher of Cluster II, and the assistant coordinator along with several children, visit the local public library to discuss with the librarian the local interest patterns of six- to ten-year olds for reading materials so that the school and public library can establish shelf collections which would complement rather than duplicate each other.

At 2:30, Mr. Admin discusses evaluation instruments that could be used to measure group personality development with a research specialist from American University, two local parents, and three selected teachers -- all members of the evaluation committee. The principal concern was to identify elements of demonstrable behavior which could be translated to the community.

At 3:15, John held a seminar session with 15 teachers and six children on some of the steps they should carry out in beginning to identify budget needs for the following year. Mr. Admin had a lot of help to offer in this area since he could transfer some of his organizational and planning acumen to the instructional process. The involvement of students in this activity was encouraged.

At 4:00 , and until he left for home at 5:15, John held an informal session in his office with three members of the FLNT Community Council, four teachers, and two D. C. central office curriculum coordinators on overall experiences with the first facility to date.

These descriptions, developed to help determine whether the assumptions and recommendations made for their implementation can really be put into practice at FLNT, also make it possible to visualize the Education System in operation. They are projections only, but it is hoped that they will enhance the understanding of the goals and recommendations outlined in this report for the FLNT schools.

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* See also FUNDING and EDUCATION PROGRAM.

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