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This paper and a set of correlated video tapes were prepared to be used especially by school personnel interested in the Multiunit school which provides a facilitative environment for three functions: (1) modifying current practices and developing an effective system of individually guided education within each building, (2) participating in research, development, and dissemination activities that are essential to the continuous refinement and extension of the system of individually guided education; (3) conducting relevant preservice and inservice education of teachers and other educational personnel. A rationale is presented for recommended changes in the elementary school by giving estimates of the current status of the typical age-graded self-contained elementary school and by hypothesizing the nature of elementary schools in the next decades. The Multiunit organization, the differentiated staff roles essential to the smooth functioning of the Multiunit school, and some implications for a system of individually guided education, for the education of teachers, and for research and development are described. (Author)

INDIVIDUALLY GUIDED EDUCATION IN THE MULTIUNIT ELEMENTARY SCHOOL: GUIDELINES FOR IMPLEMENTATION

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PREFACE

This practical paper is the third chapter of an exciting serial story of educational pioneering involving local school systems of Wisconsin, the Wisconsin Department of Public Instruction, and the Wisconsin Research and Development Center for Cognitive Learning. The first two chapters were written during 1966 and 1967 by relevant R & D Center staff. They took the initiative for preparing technical reports that incorporate experiments, development activities, and field tests of the preceding year in the Multiunit Elementary Schools and for preparing practical papers for use by school personnel and others during the next school year. Each practical paper represents a forward step in theory and in practice. From a beginning concept in 1965-1966 has emerged a flourishing practice of the concept of individually guided education in elementary schools completely organized into Instruction and Research Units. In 1968-1969 the Wisconsin R & D Center has sufficient staff only to continue its close working relationship with seven elementary schools that operated in this pattern during 1967-1968, and to provide information to agencies and personnel outside Wisconsin. The Wisconsin Department of Public Instruction took the leadership with four teacher-education institutions and seven school systems in starting other Multiunit Elementary Schools in 1968-1969. The Department of Public Instruction is assuming the initiative for the further installation of the concept in Wisconsin. This practical paper and a set of correlated video tapes were prepared to be used by school personnel and others and are available in Wisconsin through the Department of Public Instruction. The tapes are listed in the introductory section of this paper. The Wisconsin R & D Center has assisted in starting Multiunit Schools in California, Iowa, Minnesota, Ohio, and Pennsylvania. The Wisconsin R & D Center continues to provide information and some consultant assistance to personnel outside Wisconsin.

Not all of the personnel who participated in refining the concepts and related practices can be mentioned in this prefatory statement. We recognize the contributions of the 1967-1968 school personnel in Janesville, Madison, Manitowoc, and Racine:

Janesville

Mr. Fred Holt, Superintendent
Dr. Robb L. Shanks, Assistant Superintendent of Instruction
Mr. Lewis Loofboro, Elementary Supervisor
Mrs. Mildred Yahnke, Reading Consultant

Adams School

Mr. Robert Cook, Principal
Mr. Dwane Kamla, Unit Leader

Wilson School

Mr. Norman Graper, Principal
Mrs. Connie Glowacki, Mrs. Helen Johns, Mrs. Esther Olson, Miss Norma Smith, Mr. Thomas Delamater--Unit Leaders

Madison

Dr. Douglas S. Ritchie, Superintendent
Mr. Kenneth M. Jensen, Director of Elementary Education
Mr. Arnold Lamberg, Title III Coordinator
Miss Ruth Saeman, Reading Consultant
Mr. Peter Christianson, Machematics Consultant

Franklin School

Mr. Donald Stoddard, Principal
Mrs. Joyce Peterson, Mrs. Lera Woodring, Mrs. Marguerite Gilbert--Unit Leaders

Huegel School

Mr. Jerry Johnson, Principal
Mrs. Patricia Wojtal, Mrs. Maurine Miller, Miss Betty McMahan--Unit Leaders

Manitowoc

Mr. Charles E. Jones, Superintendent
Mr. Vernon Childs, Assistant Superintendent
Mrs. Helen Hoyer, Elementary Consultant

McKinley School

Miss Constance Foley, Principal
Mrs. Constance Espeseth and Mr. James Blank--Unit Leaders

Racine

Dr. John T. Gunning, Superintendent
Mr. Harris Russell, Director of Instructional Services
Dr. John LeBlanc, Assistant Director of Instructional Services
Dr. Milton Hillery, Director of Research
Mr. David Sweeney, Title I Director
Mr. Lloyd Johansen, Title III Director
Mr. Neil Vail, Language Arts Consultant
Miss Elizabeth Williams, Language Arts Consultant
Miss Mildred Brady, Reading Consultant
Mr. Cameron Smith, Science Consultant

Franklin School

Mr. John Blickle, Principal
Mrs. Eileen Olsen, Miss Mary Kilgore, Mrs. Elaine McGregor, Mr. Gerald McDermot, Mr. Joseph Dahlby--Unit Leaders

Giese School

Mr. Earl Nelson, Principal
Mrs. Barbara Thurston, Mrs. Betty Berggren, Mr. Charles Leonard, Mr. Robert Olson--Unit Leaders

Stephen Bull School

Mr. Jerome Sullivan, Principal
Mrs. Lorraine Held, Mrs. Patricia Hansen, Miss Sandra Reidenbach, Mr. Alvin Hovgaard--Unit Leaders

Winslow School

Miss Dawn Kloften, Principal and Unit Leader
Miss Mary Jane Clausen and Miss Audrey James--Unit Leaders.

In addition, the following personnel participated in preparing the video tapes:

Research and Development Center

Dr. Herbert J. Klausmeier
Mr. James E. Walter
Dr. Richard G. Morrow
Mrs. Mary Quilling
Dr. Gary A. Davis

Local Schools

Mrs. Maurine Miller--Madison
Miss Linda Berta--Madison
Mrs. Patricia Wojtal--Madison
Mr. Donald Stoddard--Madison
Mr. Norman Graper--Janesville
Mrs. Esther Olson--Janesville
Mr. Dwane Kamla--Janesville
Miss Mary Jane Clausen--Racine
Mrs. Lorraine Held--Racine
Mr. Gerald McDermot--Racine

Department of Public Instruction

Dr. Allen T. Slagle

University of Wisconsin-Madison

Dr. Carl Personke

The R & D Center staff of Project MODELS who took major initiative in the Multiunit Schools, 1967-1968, are as follows:

Herbert J. Klausmeier, Principal Investigator
Richard G. Morrow, Principal Investigator
Mrs. Doris M. Cook, Coordinator
Mr. Frank Fox, Field Testing and Research Consultant

The Liaison Committee of the R & D Center and the Department of Public Instruction, 1967-1968, spent many hours deliberating about policies and practices:

Research and Development Center

Dr. Herbert J. Klausmeier, R & D Center Director
Dr. Richard G. Morrow, Principal Investigator
Dr. Thomas Romberg, Program 2 Director

Department of Public Instruction

Mr. Russell Way, Director, Center on Research and Program Development
Mr. George Glasrud, Field Consultant
Dr. Allen T. Slagle, Assistant Superintendent for Teacher Preparation and Certification

Principal Investigators of the Wisconsin R & D Center who conducted activities in the Multiunit Schools during 1967-1968 greatly extended the concept of development-based research.

Although many school people and others contributed to the refinement of concepts and to their implementation, the senior author assumes responsibility for the major conceptualizations and also any errors of fact or interpretation that may appear in this paper or the video tapes. Dr. Richard Morrow collaborated with the senior author on "Part II. The Multiunit School Organization," and "Part IV. Implications," and wrote "Part V. A Plan for Organizing a Multiunit School." Mr. James Walter collaborated on "Part III. Staff Roles in the Multiunit School." He also coordinated the production of the video tapes. Both Dr. Morrow and Mr. Walter, who joined the R & D Center in 1967, worked with the concepts and practices that had been developing from the outset. The senior author wrote the remainder of this paper and edited the entire manuscript, attempting to make certain that the emerging concepts were brought together into a well integrated, internally consistent whole.

As with prior practical papers, this is not to be treated as a final "solution." Rather it is the third chapter in a series of an indefinite number, perhaps five. Within two years, the first schools will have been operating three years and some partial answers about structure, functions, personnel, quality, and costs will be known. At that time some revisions and widespread installation may be in order. As with most research and development activities, each new bit of substantive knowledge, each better

operational strategy, each advance in practice, and each creative combination of these paves the way for more rapid progress.

Herbert J. Klausmeier

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INTRODUCTION

In the second semester of 1965-1966, the first thirteen Research and Instruction Units (R & I Units) at the elementary school level started functioning in schools of Janesville, Madison, and Racine, Wisconsin. During the 1966-1967 school year, the number increased to nineteen, including two in Manitowoc. In 1967-1968 seven elementary schools in Janesville, Madison, and Racine were completely organized into Units and were designated Multiunit Schools. Also during 1967-1968, the Wisconsin Department of Public Instruction, the Wisconsin Research and Development Center, four teacher-education institutions, and eight local school systems formulated a model for further expansion and testing of the Multiunit concepts and strategies in Wisconsin. The teacher-education institutions and the associated schools are:

Wisconsin State University-Eau Claire
- Grantsburg Public Schools
- Rice Lake Public Schools

Holy Family College - Manitowoc
- Manitowoc Public Schools

University of Wisconsin-Madison
- Fox Point-Bayside School District
- Racine Public Schools

Wisconsin State University-Stevens Point
- Stevens Point Public Schools
- Merrill Public Schools

The Wisconsin R & D Center also provided information to assist personnel starting Multiunit Elementary Schools in other states including California, Iowa, Minnesota, Ohio, and Pennsylvania.

The Multiunit School provides a facilitative environment for three functions: (1) modifying current practices and developing an effective system of individually guided education within each building; (2) partici-

pating in research, development, and dissemination activities that are essential to the continuous refinement and extension of the system of individually guided education; (3) conducting relevant preservice and in-service education of teachers and other educational personnel. How well the first two functions were performed, 1965 through 1968, is documented in three sets of Technical Reports of the R & D Center, listed at the end of this Introduction. The results clearly indicate that the early hypothesis concerning educational achievement can become a reality, namely that, after they have been in school for six years, including kindergarten, children who have been in a school with smooth Unit operations for three years will achieve as high as children who have been in a conventional school for seven school years. Also, Center and school personnel have executed high quality, cooperative research and development in Multiunit Schools, most of which is of practical value to the school; the results are also generalizable to other situations. A principal area of developmental research in the newly established schools in 1968-1969 is to determine how well the Multiunit School may serve in the preservice education of interns.

The many rich and varied experiences of personnel of the participating local schools, the Department of Public Instruction, the R & D Center, various teacher-education institutions, and others should be available to the educational community of Wisconsin and the nation. This practical paper and an accompanying series of video tapes attempt to describe the experiences and activities of participants. The printed and audiovisual materials are being distributed in Wisconsin by the Department of Public Instruction; the R & D Center assumes dissemination responsibility outside Wisconsin.

This practical paper first presents a rationale for recommended changes in the elementary school by giving estimates of the current status of the typical age-graded self-contained elementary school and by hypothesizing the nature of elementary schools in the next decades. Then the Multiunit organization is described. The differentiated staff roles that are essential to the smooth functioning of the Multiunit School are next described. Some implications of the organization for a system of individually guided education, for the education of teachers, and for research and development are described.

A specific set of suggestions concerning the statewide plan in Wisconsin is outlined.

Titles of the video tapes prepared to accompany this material follow:

1. The Multiunit Elementary School: The Basic Pattern
2. The Multiunit Elementary School: Individually Guided Education
3. The Multiunit Elementary School: An Overview
4. The Multiunit Elementary School: The Instructional Improvement Committee
5. The Multiunit Elementary School: Roles and Relationships
6. The Multiunit Elementary School: A Guided Program for Interns
7. The Multiunit Elementary School: Research and Development Activities
8. Teaching in the Multiunit Elementary School: The Huegel School I
9. Teaching in the Multiunit Elementary School: The Huegel School II
10. Teaching in the Multiunit Elementary School: The Winslow School
11. Teaching in the Multiunit Elementary School: The Stephen Bull School
12. Teaching in the Multiunit Elementary School: The Franklin School
13. Teaching in the Multiunit Elementary School: The Wilson School
14. Teaching in the Multiunit Elementary School: The Adams School
15. The Multiunit Elementary School: Creative Problem Solving

At least Tapes 1, 2, 5, and 8 should be used by relevant central staff, board members, building principals, and representative Unit leaders and teachers of a school system in attempting to decide whether to initiate the organization and related practices the following year. Observation of operating schools will be helpful also. Prior to the opening of the semester in September or in January, it would be helpful if all the staff of the building participated in a workshop (outlined later) and studied the printed material, the preceding 4 video tapes, and also Video Tapes 3, 4, 6, 7, 10, 13, and 14. After the staff has become familiar with the operation of a Multiunit School and is ready to extend its functions, Tapes 7, 9, 11, 12, and 15 may also be studied. The entire set might well be studied and reviewed by the entire building staff of each Multiunit School during the first year of operation. The incoming personnel of already established Multiunit Schools will find the tapes helpful.

This printed material and the video tapes are to be considered experimental for two reasons. First, we have not formally established how well educational personnel learn from study and use of them. Small samples of users indicated general satisfaction and also recommended some revisions. Thus, we need to gather information systematically to make improvements through revision. Second, the major substantive concepts, the strategies, and the specific practices described here and in the video tapes are themselves somewhat novel, having been tested in only a few schools of three systems. One characteristic of the Multiunit School is continuous improvement. This means that each year present concepts, strategies, and practices will require revision and new ones will be developed and tested.

Although a continuously improving, self-renewing elementary school is described, certain of the present concepts and strategies of a Multiunit School are outlined that must be implemented if it is to reflect the prototype described. These minimum essentials, all of which are described more fully in later sections and in the tapes, can be stated briefly:

1. An attempt to continuously improve children's learning opportunities through an integrated system of individually guided education.

2. A hierarchical administrative organizational structure comprised of a System-Wide Policy Committee, an Instructional Improvement Committee for each building, and a new organization for instruction, namely the non-graded Instruction and Research Unit, headed by a Unit leader, that replaces the age-graded self-contained classroom.

3. Differentiated and clearly defined roles of educational personnel in the Unit--Unit leader, staff teacher, intern, instructional secretary, instructional aide; also clearly defined roles of the central staff personnel, the building principal, and others who may contribute to the Multiunit School.

4. Cooperative activity among teachers and other Unit personnel which capitalizes upon the interests and strengths of all the personnel and assures continuous pupil progress.

Certain terms are introduced in the preceding outline. These stand for a reality that may be observed in existing Multiunit Schools. The reality is the important concern, not the labels, or words, which represent it. Word preferences vary. For example, individually guided education might be termed individually guided learning. A Unit leader might be called a Unit coordinator or a learning specialist (our original terminology). A team might be called a Unit if it also includes the children, has a clearly designated leader, has precisely described roles for each member including noncertified personnel, executes a clearly specified set of cooperative and integrated operations as has been outlined for a Unit, and is properly related to the building principal and central staff. Unit personnel hesitate to be designated as teams because of the great variability that exists throughout the nation among teaching teams in functions, structure, and practices. At the same time, three or more certified teachers who have teamed cooperatively and successfully in planning and executing an educational program for the entire group of students normally assigned to them as separates will find Unit operations rewarding.

Technical Reports

Klausmeier, Herbert J., Cook, Doris M., Goodwin, William L., Tagatz, Glenn E., & Pingel, Louis. Individualizing instruction in language arts through development and research in R & I Units of local schools, 1965-1966. Technical Report No. 19. (out of print; available from ERIC, ED 013 255).

Wardrop, James L., Cook, Doris M., Quilling, Mary, Klausmeier, Herbert J., Espeseth, Constance, & Grout, Carolyn. Research and development activities in R & I Units of two elementary schools of Manitowoc, Wisconsin, 1966-1967. Technical Report No. 35.

Cook, Doris M., Wardrop, James L., Tagatz, Glenn E., Quilling, Mary R., Kamla, Dwane, & Shuman, Edna. Research and development activities in R & I Units of two elementary schools of Janesville, Wisconsin, 1966-1967. Technical Report No. 45.

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Klausmeier, Herbert J., & Quilling, Mary R. (Eds.) Research and development activities in R & I Units of four elementary schools of Madison, Wisconsin, 1966-1967. Technical Report No. 48.

Klausmeier, Herbert J., Quilling, Mary R. & Wardrop, James L. (Eds.) Research and development activities in R & I Units of five elementary schools of Racine, Wisconsin, 1966-1967. Technical Report No. 52.

Fox, Frank, & Morrow, Richard G. Student achievement and attitudes in two Multiunit elementary schools in Madison, Wisconsin, 1967-1968. Technical Report. (Manuscript in preparation.)

Fox, Frank, & Morrow, Richard G. Student achievement and attitudes in four Multiunit elementary schools in Racine, Wisconsin, 1967-1968. Technical Report. (Manuscript in preparation.)

Morrow, Richard G., & Fox, Frank. Student achievement and attitudes in Instruction and Research Units in two elementary schools in Janesville, Wisconsin, 1967-1968. Technical Report. (Manuscript in preparation.)

Other Related Reports

Klausmeier, Herbert J., Schwenn, Elizabeth, & Lamal, Peter A. The use of concrete rewards and individual conferences as motivational techniques in R & I Units. Technical Report. (Manuscript in preparation.)

Kennedy, Barbara J. Motivational effects of individual conferences and goal setting on performance and attitudes in arithmetic. Technical Report No. 61.

Otto, Wayne. Overview of the Wisconsin prototypic system of reading instruction in the elementary school. Practical Paper No. 5. (Revision of Working Paper No. 7.)

I. The Elementary School of Today and in the Future

Most elementary schools of today are performing limited functions in comparison with what they will perform in the future. A few schools throughout the nation, however, are the forerunners of the many schools of tomorrow. Many functions of future schools may be observed at present in elementary schools of Janesville, Madison, Manitowoc, and Racine, Wisconsin.

The main function of the staff of an elementary school building today is maintaining an instructional program that is as good as in the past.[1] The primary function of each elementary school in the future is developing and executing an improved program of individually guided education. In order to carry out this function well, there must be a continuous supply of beginning teachers and other instructional personnel. These beginners must develop many capabilities while on the job; they cannot be prepared to deal with all the situational variables related to children and other elements of a school's instructional program prior to working in the school. Also, new ideas, materials, and procedures will require testing in the school setting before being accepted and used. Further, since knowledge about human learning and instruction is incomplete, some schools will also participate with other agencies, such as universities, in research and development activities.

We may summarize thus:

Functions of the Elementary School Today	Functions of the Elementary School in the Decades Ahead
(1) Attempting to execute a system-wide standard instructional program designed by others	(1) Developing and executing an effective system of individually guided education within each building

[1]Hereafter we refer to the elementary school of today to designate schools that have not incorporated such practices as team teaching, preservice teacher education, inservice education, or systematic instructional improvement.

(2) Accepting sporadic attempts by other agencies to update the teaching staff

(3) Accepting some innovations recommended by others without systematic testing

(4) Accepting prestudent teachers, student teachers, and interns without adequate provisions for their instruction in the school and without adequate supervision by college or other personnel

(5) Permitting others to use students and instructional staff as subjects for short-term studies that are usually unrelated to instructional improvement

(2) Initiating and performing inservice education of teachers and other instructional personnel within each building as part of a systematic system-wide and statewide program

(3) a. Selecting carefully and testing innovations prior to acceptance within each building

b. Developing and testing new procedures and materials

(4) Conducting preservice education of teachers and other instructional personnel within some buildings as part of a systematic system-wide and statewide program

(5) Initiating small-scale development-based research on instruction and participating with other agencies in descriptive research, controlled experimentation, and comprehensive development-based research

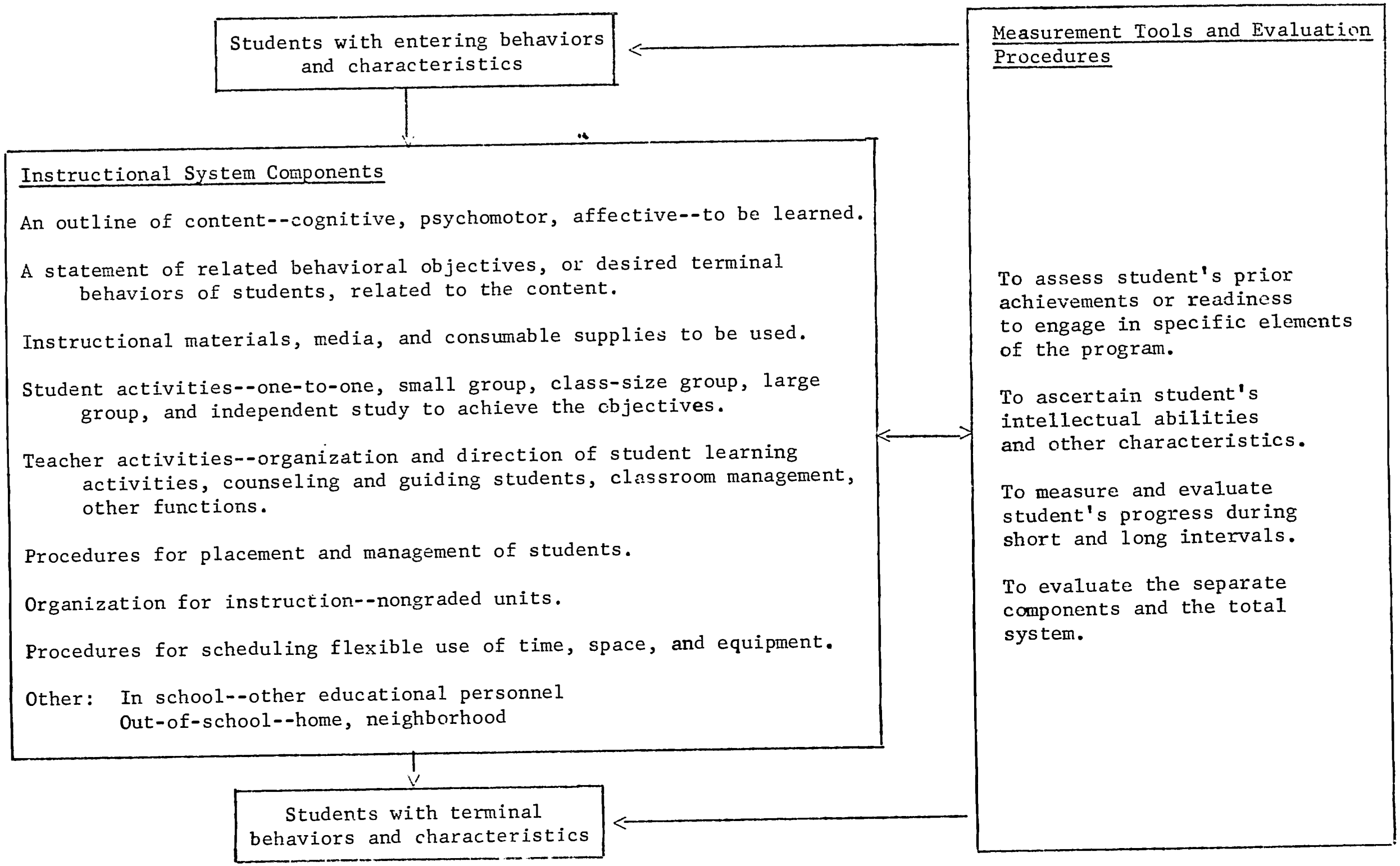
Not every elementary school in the future will participate in all of these functions. Each one should be involved in (1), (2), and (3) since these are required for continuous educational improvement. Certain schools within a system might also participate in either (4) or (5), usually not both. A further examination of the three large categories--the instructional system; preservice and inservice education; and innovation, development and research--is in order.

The Instructional System

Figure 1 shows the major components of an instructional system. The components are now examined briefly in connection with a system of individually guided education. The characteristics of individually guided education and

Figure 1

MAJOR COMPONENTS OF AN INSTRUCTIONAL SYSTEM



the related Multiunit School organization are subsequently treated in detail.

In individually guided education in the Multiunit School a building committee, also called the Instructional Improvement Committee, determines the objectives for the particular school building, taking into account system-wide and state regulations. These are broad institutional objectives for the school building. The staff of each nongraded Instruction and Research Unit, the replacement for the graded homeroom or self-contained classroom, then decides the objectives for each child in the Unit. While the Unit leader takes the initiative here, each Unit teacher also participates. Assessment of the child's characteristics is through observation and by means of locally constructed and standardized instruments of various types. On the basis of the assessment each child is then placed in one-to-one, small group, class-size group, and Unit-size group activities. Instruction which employs materials in a one-to-one relation to students, tutorial work, and computer-assisted instruction are examples of one-to-one activities. Activities in small groups of 2 to 15 are organized to attain socializing and also skill objectives. In connection with skill objectives, 150 children in a Unit might be placed in 15 small groups for most of their mathematics instruction and then regrouped in another 15 groups for part of their reading instruction. Class-size or homeroom activities are used for achieving any objective where heterogeneity is desired. Large Unit groups of 40 to 150 are formed mainly for giving information to the total group or for independent study. The information is given by a teacher, television, sound motion picture, or other means. Some music and physical education activities are conducted in groups larger than the usual class size. Independent study is carried out in small groups, class-size groups, and large groups.

One implication of individually guided education is that the teacher should be able to plan and lead one-to-one, small group, class-size group, large group, and independent study activities. At the present time, however, complete knowledge has not been accumulated to determine finally how well which educational objectives can be achieved with children of varying characteristics through the different kind of groupings and related activities.

Estimates of the current status regarding each component and hypotheses concerning the future of a system of individually guided education are given next in outline form. Only a few of the component elements that are most likely to change are noted.

Today	Future
1. Students with entering behaviors and characteristics	
Entering behaviors and characteristics are not seriously considered; children are required to adjust to the existing instructional system with little attention to individual differences.	Entering behaviors and characteristics are given primary consideration in relation to each set of learning tasks or activities; instructional objectives and learning tasks are designed for each individual based on his entering behaviors and characteristics.
2. Content and Sequence	
The instructional staff accepts content and sequence recommended by others.	The instructional staff of the building, with expert consultation and within local and state regulations, selects content and arranges sequence on the basis of such criteria as the structure of knowledge of the discipline, difficulty of the material for children, relation to future and current study in school, and relation to out-of-school activities. Appropriateness of content and sequence for each child is based on continuous assessment of children's performance.
3. Behavioral Objectives	
Global statements of broad educational goals, developed by outside groups and inadequate for both program development and evaluation, are accepted as the school's objectives.	Educational objectives are developed in sufficient detail to guide program development and evaluation within the school building; instructional objectives are developed for each child.
Varying emphasis is given to objectives in the cognitive, psychomotor, and affective domain on a nonsystematic basis.	The objectives of the school are clearly stated with respect to the various domains; the objectives for each child are related to the building objectives.

Today	Future
4. Measurement Tools and Evaluation Procedures	
Standardized and teacher-developed tests and procedures are infrequently used to assess a child's present level of achievement and readiness for a learning task.	Standardized and teacher-developed tests and procedures are used systematically to assess the child's entering behaviors and readiness related to each set of learning tasks so that each child may be properly placed initially.
The use of standardized and teacher-developed tests and procedures is limited to evaluation of relative position of students or assignment of a grade.	Standardized and teacher-developed tests and procedures are systematically used to assess each child's progress, to provide informative feedback to the child, and to provide information to the teacher for monitoring student progress.
Measurement tools and evaluation procedures are infrequently used for evaluating the effectiveness of the total system or its components.	Measurement tools and evaluation procedures are used continuously to improve the instructional system, including the components.
Computers are rarely employed in interpreting or using the results of tests and other tools for individual appraisal and placement in the program.	Computers are widely used in managing a system of individually guided education.
5. Instructional Materials	
Basic textbooks and supplementary textbooks are adopted system-wide and little additional printed information is available in a school building, resulting in uniform use of material according to grade level, regardless of the characteristics of the children.	A large variety of printed material--textbooks, supplementary textbooks, programed material, library books, unit material--is adopted system-wide. From these the building staff selects that which is appropriate for each child.
A limited amount of audio-visual material, mostly sound motion pictures, is distributed from a central location.	A large amount of audio-visual material--sound motion pictures, sound tapes, video tapes, slides, recordings, etc.--is kept within each building; additional material is distributed from a central location.

Today	Future
A limited amount of material related to various special subject fields, such as foreign language, science, music, and art is available.	Special material related to each subject field is available, much of which is developed locally.
Realia from the locality are seldom used.	Realia from the locality are widely used.
Material is available only through direct contact.	Material is readily accessible to the children and instructional staff and access to much material outside the building is controlled by computer
Teachers lack time and competence to develop large amounts of teaching materials.	Teachers are encouraged and given time to develop teaching materials and refine them.
6. Instructional Staff	
The principal usually does not assume leadership for instructional improvement.	The principal's first responsibility is instructional leadership.
All teachers are expected to be equally competent in all subject fields.	Teachers have a specialty in one broad field of elementary education.
All teachers are certified to perform at the same level of professionalism.	Teachers are certified for at least four levels--professional or specialist, regular or staff, resident or first two years, and intern as a replacement for current student teaching.
There is an occasional instructional secretary or instructional aide.	There are certified instructional secretaries in each building. Instructional aides in each building are certified at two levels according to prior training and experience.
The program of a special teacher or of a supervisor in music, art, or foreign language is usually independent of the total building program.	Special teachers are part of the building staff, and programs are designed in accordance with the instructional objectives for each child.

Today	Future
Few important decisions about major instructional components are made by the teacher.	The staff of the building makes the decisions about all the components of the instructional program, within the local and state requirements; each certified teacher makes important decisions daily.
Only a few experienced teachers have the essential subject-matter competence and methodological capabilities to design and execute a program of individually guided education.	The building staff cooperatively designs and executes an individually guided educational program for each child through these primary activities: (a) developing and clarifying instructional objectives; (b) developing and using appropriate measurement tools and evaluation procedures; (c) motivating children; (d) supplying models to imitate; (e) selecting and sequencing subject matter properly; (f) arranging appropriate learning activities, including use of materials and equipment, size of group, etc.; (g) guiding initial pupil effort; (h) managing practice and activity effectively; (i) aiding children to apply and use newly acquired knowledge, skills, and attitudes.
7. Student Activities	
Students are involved mostly in age-graded, class-size group activities and perform many assignments common to the group. While small group instruction in reading is common at the primary level, there is little grouping at other levels in the subject areas.	Students participate in one-to-one, small group, class-size, and large group activities to achieve clearly specified school goals and individual objectives.
Children in class-size groups encounter the same amount of material in a certain period of time.	Children in groups of varying size encounter varying amounts of material.

Today	Future
Most effort is directed toward the mastery of skills and the acquisition and recall of factual information.	Moderate emphasis is put on skill mastery and the acquisition and recall of factual information; much emphasis is on concept formation, the application of skills and concepts, creativity, and the evaluation of information.
8. Organization for Instruction	
Age-graded, self-contained classrooms of 20-40 children are typical; occasional teams and nongrading are found.	Large nongraded Instruction and Research Units of 75-150 children, a Unit leader, other certified teachers, interns, and paraprofessionals constitute the instructional unit. The nongraded vertical organization facilitates continuous progression of each student. The horizontal organization permits maximum flexibility in placing each child in an appropriate learning activity and also capitalizes upon the capabilities and personal characteristics of each member of the instructional staff.
Ad hoc system-wide curriculum improvement committees develop printed curriculum guides.	A permanent Instructional Improvement Committee in each building, comprised of the Unit leaders and building principal, with relevant central office personnel as consultants, makes educational decisions at the building level. A permanent System-Wide Policy Committee, comprised of representatives of the central staff who have the relevant specialized knowledge and decision-making responsibilities, building principals, Unit leaders, and teachers set system-wide policies for the Multiunit Schools.
9. Use of Time	
All children spend about equal time daily in connection with the various broad subject fields, e.g., 45 minutes in mathematics, 90 minutes in language arts.	Each child's time is allocated in terms of his instructional objectives. Variation is found among children in the amount of time spent in connection with subject fields and also with respect to one-to-one, small group, class size, and independent study activities.

Today	Future
Each teacher determines time allocation within the limits set by the principal and central staff.	The time of all instructional personnel is planned by each Unit with the guidelines established by the building committee. Variation is found in the amount of time spent by instructional personnel according to subject fields, in one-to-one, small group, and other activities, and in planning and development activities away from children.
10. Facility	
A separate elementary school building houses 300-1200 children.	Some buildings are separate; others are incorporated as integrated components of educational parks.
Equal-sized, box-like classrooms have fixed walls and accommodate about 30 children.	Pods of varying size and shape accommodate 100-200 children and permit one-to-one, small group, class size, and total Unit activities.
The building occasionally has one auditorium, a gymnasium, a lunch room, and a library; some have only one of these.	A large flexible space is designed for noisy and vigorous activities, such as music and gym. Large central instructional resource centers are used for computer terminals, audio-visual equipment, the library, and instructional materials of all types.
Space is used inflexibly.	Space utilization encourages maximum flexibility and an environment conducive to many types of learning activities.
11. Instructional Equipment	
Relatively little equipment is available; occasionally there is an overhead projector, tape recorder, slide projector, sound motion picture projector, and some special equipment for science, art, and music.	Relevant equipment--audio, visual, and audio-visual--is available for presenting information. Relevant equipment is available for the children and teacher to receive information. Integrated systems combine and coordinate the use of

Today	Future
	various materials and equipment; e.g., language laboratory, multi-media center. Computers are used to manage integrated systems in which each child receives information, responds to it, has his responses analyzed, and receives subsequent learning tasks appropriately selected for him. Thus, computers are used for one-to-one instruction to achieve certain objectives.
12. Other Educational Personnel	
Central staff curriculum coordinators, school psychologists, research directors, home workers, audio-visual specialists, and others proceed relatively independently, working infrequently with teachers on instructional matters during the school day.	Central staff personnel work often during school hours with the building committee and individual Unit leaders in interpreting and implementing system-wide policies and in designing an instructional program for each child.
Outside resource personnel from universities, state departments of education, and industry rarely consult with the teacher except to present information to large groups outside regular school hours.	Resource personnel systematically work with Unit leaders and other staff during school hours in connection with the instructional and other functions of the school.
13. Home and Neighborhood	
A uniform instructional system exists for all children, independent of home and neighborhood backgrounds.	Home and neighborhood are given major attention in connection with the entering behaviors and characteristics of each child.
Principal communication between the school and home is through report cards and is supplemented by parent-teacher conferences.	Unit leaders and teachers develop a systematic program of parent-school, teacher-home visits. Reporting involves teacher, parent, and child.

Today	Future
A PTA deals with peripheral problems, frequently identified by school people.	Parents are brought frequequently into the Instructional Improvement Committee and into Unit meetings to convey parent values and feelings.

The preceding outline of hypotheses concerning the future will probably disappoint those who see much more rapid change in connection with technological developments that may be applied to education. The authors see the elementary school as a human and humanizing institution. We have no firm evidence as yet concerning how well children of varying characteristics will learn from one-to-one instruction with a machine or autoinstructional device. Further, we are uncertain as to which knowledge, skills, and attitudes can be initially acquired and retained, or how well what is learned in this manner will transfer to other situations. The authors feel that they are probably on the conservative side.

Many classroom teachers and humanists, however, may be alarmed by the projections. It is possible, of course, that there will be available the adult human beings and the monetary resources to have much one-to-one instruction occurring between a child and an adult without resorting to expensive computers and other autoinstructional devices. The precise input of material and human resources into an effectively functioning system of individually guided education cannot be predicted reliably. One conclusion is warranted, however. At present many schools are not providing quality education for many children. We should not defend or maintain the outmoded practices and philosophy represented in the preceding statements in the left column. Individually guided education is both possible and essential.

As will be mentioned in the next sections of this introduction, inservice and preservice teacher education must be drastically changed and quickly improved. Also, involvement of the local schools in innovation, development, and research is essential for systematic educational improvement.

Inservice and Preservice Teacher Education

Although large sums of money are going into inservice education which is considered highly important by teachers and others, there are few well

planned local, state, or national programs. Recent federal legislation provides considerable funding for inservice education. The federal government also has initiated developmental and demonstration programs for preservice education. Some estimates of the current situation and hypotheses for the future are now outlined.

Today	Future
Inservice Education of Instructional Personnel	
Objectives are poorly defined by local, state, and federal agencies and other groups.	Clearly specified objectives are drawn up by local schools and a relevant state agency.
Programs on a variety of topics are poorly planned without consideration of a total integrated system of inservice education.	A statewide program is designed by local school systems and a relevant state agency. The statewide program is coordinated by a relevant state agency.
Credit classes are offered to anyone who desires them, including many first- and second-year teachers who do not continue teaching and other experienced teachers whose primary interest is securing a higher salary or maintaining certification for teaching.	Credit classes are offered during the school year and summer only to those who have some teaching experience, who intend to stay in teaching as a lifetime career, and whose primary objective is to improve children's learning opportunities.
Noncredit classes and other activities are offered outside of school hours by personnel from universities, state department of education, industry, etc.	Noncredit activities are offered during school hours in school buildings by personnel within the building. Consultants focus their inservice efforts on the principal and Unit leaders. The principal and Unit leaders, in turn, provide most of the on-the-job training for the other Unit personnel including the teachers secretaries, and aides.
The principal evaluative criteria are the teacher's attending inservice activities with reasonable regularity, participating in a minimum number of activities, and not expressing unfavorable opinions.	Measurement tools and evaluation procedures are directly related to objectives and provide information about individuals and program improvement.

Today	Future
Preservice Clinical Experiences of Teachers	
Student teaching is done for less than full days and often less than a semester.	A year of full-time internship is done.
Student teaching is done with one teacher, thus providing a limited acquaintance with one teacher's methods.	Internship is done during consecutive semesters in two Units under the leadership of two Unit leaders, thus providing experience with the personalities and methods of two qualified Unit leaders and several teachers.
The student teacher has acquaintance with one limited instructional program.	The intern participates in implementing a total system of individually guided education.
The student teacher has no opportunity to participate in innovation, development, and research.	The intern participates in all the functions of the Unit.
The total building environment has not been designed to provide an excellent preservice experience.	The total building environment facilitates the professional development of the intern and induction into the profession of teaching.
The cooperating teacher has little time during the day to spend with the student teacher. Supervision and evaluation of the student teacher is by college personnel who do not regard supervision highly.	The Instructional Improvement Committee and the Unit leaders have time during the day to develop an individualized program with and for each intern. The intern is paid about 40% of a beginning teacher's salary by the local school, and that portion of the salary of the Unit leader given to leadership of the interns--up to one-third for three interns--is paid by the relevant state agency.

Research and Development

The capabilities of a building staff of the future to engage in a variety of research and development activities cannot be estimated reliably at present for two main reasons. First, research and development strategies are in the early stages of formulation, the first systematic large-scale attempts at improving educational practice through research and develop-

ment being of very recent origin. Second, not having clearly defined strategies, current school personnel have not received relevant education concerning research and development. Based on three years of experience in research and development activities in Instruction and Research Units, we have delineated three types of research and development activities that can be executed effectively in Multiunit Schools.

First, there is research on promising instructional materials and procedures. Here the school staff identifies a procedure or material, tries it out, and evaluates it. They learn how much skill is required on the part of the teacher to use it, how much time is required on the part of the pupils, how well the teachers like the material or procedure, how well the children learn from it, and the like. Pre- and posttests may be used. This evaluation of materials and procedures can be done by the building staff with relatively little outside assistance. The central staff supplies consultant help when needed, however. A variant of this deals with the same problem, that is, determining how well a material or procedure, and usually a combination of the two, works. Here, however, a controlled experiment is conducted. The entire Unit population may be stratified according to sex, achievement level, or other relevant bases. They are subsequently asigned randomly to two or more treatment groups. The treatment groups remain the same; however, the instructional staff rotates among the treatments so that the effect of treatment on children is essentially controlled rather than confounded with teacher effect. Expertise is required in designing, executing, and reporting a controlled experiment which most current Unit leaders do not seem to be able to get except with extended education.

A second type of research and development is what might be called development-based research. Here the school develops and continuously refines instructional materials or procedures through research as outlined above. School personnel generally need assistance in developing content and sequence and related behavioral objectives. Most present Unit leaders do not have the necessary subject-matter knowledge and also need initial assistance in formulating behavioral objectives.

A variant of development-based research involves long-term development and refinement of curriculum materials and procedures related to

reading, mathematics, science, and other subject matters. Some agency, such as an R & D Center or teacher-education institution, leads this activity. Unit leaders and teachers can participate in it well but usually cannot initiate and execute it independently. They assist in all phases of the development and the subsequent controlled experimentation to determine how well the new instructional system works. Subject-matter specialists, methodologists, and behavioral scientists provide the essential input of substantive and procedural knowledge.

A third type, sometimes called basic research, has many variants including short-term horizontal descriptive research and controlled experimentation. Usually this research is not directly related to the instructional program of the school, although it could be; and the results often have neither immediate nor long-term implications for improving individually guided education in the school. Although this is the case, the research may be of high significance in extending knowledge about a component of the instructional system, refining theory, or contributing to some other cause. Also, data are often collected to secure useful information about children's interests and other characteristics, teacher characteristics, leadership behavior, and other phenomena, all of which eventually may bring about better education.

Long-term predictions regarding the function of the local school in research and development are therefore tentative. Three important variables that will determine the amount of participation of local schools in research and development are the amount of federal money available for this purpose, the number of capable personnel who will commit themselves to this type of activity, and the commitment of local schools. Local school systems, teacher-education institutions, and state education agencies have been very slow in realizing that educational improvement requires continuous research and development, similar to that which is done in agriculture, medicine, industry, and space.

II. The Multiunit School Organization

The Multiunit School organization includes both a formal organizational structure and a procedural style consisting of several essential components. Figure 2 illustrates the formal organizational plan of a Multiunit School of 600 students. The organizational hierarchy of the Multiunit School consists of groups at three distinct levels of operation.

At the classroom level are the Instructional and Research (I & R) Units. Each I & R Unit has a Unit leader or professional teacher, two or more regular staff teachers, one or more aides or secretaries, and in some cases an intern. The intern assumes instructional responsibilities and does not perform routine and clerical duties. Each Unit is charged with planning and conducting the total school experience of about 150 students.

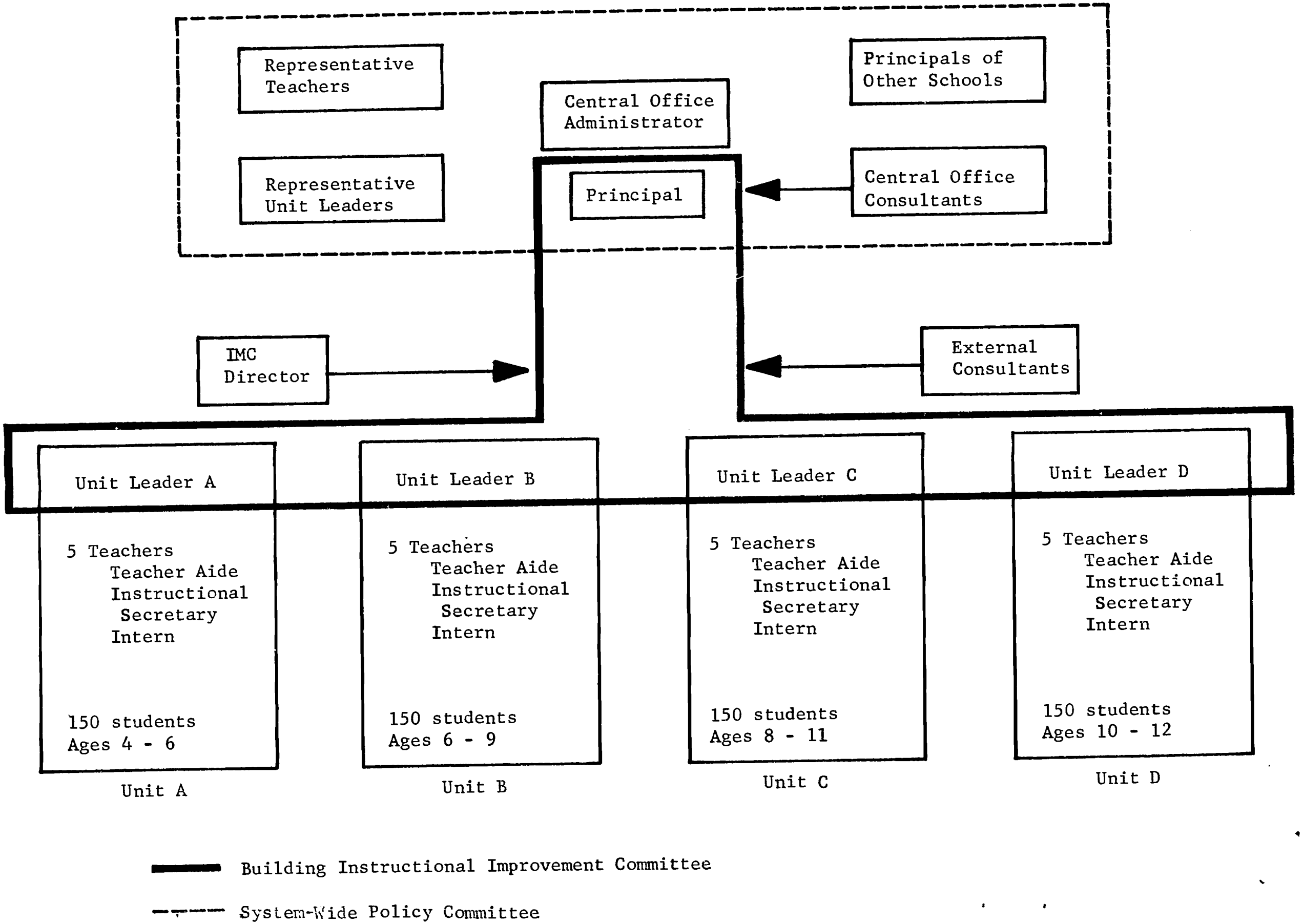
Unit meetings are held once weekly and more often if necessary. A Unit Meeting may last from 30 minutes to a half day. The meetings are devoted to planning and evaluating the total instructional program for the children of the Unit and require the attendance of the certified members of the Unit. The agenda, written or mental, is supplied by the Unit leader.

Units now in existence use one of three methods to secure time for Unit meetings: 1) by scheduling special teachers (art, music, physical education) into a Unit en bloc, the Unit members can be freed twice or three times weekly; 2) by arriving early at school and deploying teacher aides to supervise homeroom or large group activities, the Unit can meet from 30 to 45 minutes daily; or 3) by lengthening four school days during the week, students can arrive at school late or be dismissed early on the fifth day, thus freeing the Unit to meet for about two hours. Each of these solutions has advantages and disadvantages, and other solutions are possible. It is essential that sufficient time be found for Unit meetings. At least two hours per week appears to be necessary during the first year.

At a second level of organization, the principal and the Unit leaders constitute the permanent Instructional Improvement Committee of the building.

Figure 2

ORGANIZATIONAL CHART OF A MULTIUNIT SCHOOL OF 600 STUDENTS



The principal chairs the group, which meets weekly, more often if necessary. This Committee may bring in other consultants from the state education agency or other agencies. Instructional decisions made by the Committee are executed in the Units. As indicated earlier, relevant central staff participate in formulating the building program. Consultants from the central staff, e.g. curriculum coordinators in subject fields, school psychologist, director of research, meet with the Committee as it considers a particular subject area or school function. The consultants provide the Instructional Improvement Committee specialized knowledge regarding content, methodology, materials, evaluation, etc., and also link the building program to the system-wide program. Obviously, information from all the central staff cannot be received simultaneously in a meeting of the Instructional Improvement Committee, nor is it feasible to have all the central staff participate in weekly meetings of each building.

At the third organizational level is the System-Wide Policy Committee. Chaired by the superintendent or his designee, this Committee includes principals, Unit leaders, teachers, consultants, and other relevant central office staff. It meets less frequently than either of the other groups, but its operation is important to the success of the Multiunit School. Two important criteria for membership here are having decision-making power and specialized knowledge to contribute to the success of the Multiunit organization. For example, when the school is making a systematic effort to implement a program of individually guided reading, the reading consultant serves on the System-Wide Policy Committee and also meets regularly with the Instructional Improvement Committee and with the Units.

The organizational pattern of the Multiunit School thus differs from that of the traditional, self-contained classroom school in several ways. First, in the Multiunit School personnel work in Units or committees, rather than in isolation as is the case in the traditional school. Second, three new roles are added: Unit leader, teacher aide, and instructional secretary. Finally, the addition of new roles and the use of personnel in groups rather than alone results in considerable redefinition of the familiar roles of principal, teacher, and consultant. More precise role descriptions are provided later in this paper.

Organizational charts and role definitions yield an incomplete portrait of the Multiunit concept. The processes which take place within the formal structure need further description.

As indicated, each I & R Unit is charged with the total educational experience of about 150 children. The children are placed in Units primarily on the basis of years of school attendance; the range in age within a Unit varies from two to four years. Within each Unit, grade lines are completely abandoned as children are assigned to one-to-one, small group, class-size group, and Unit-size activities.

The instructional process in each Unit is determined by the staff cooperatively. The assessment of characteristics of each child, the development of objectives, the selection of content and activities, the placement of each child in relevant activities, and the means of evaluation are decided jointly. This process allows all the children in the unit to benefit from the strengths of each teacher in the Unit; e.g., mathematics instruction, normally a weakness in most self-contained classrooms, can be improved because three or four Unit members can pool their knowledge to develop optimal instruction in mathematics, or one teacher, strong in mathematics, may do most of the teaching until the others gain more competence. The Unit may invite consultants to assist them in planning and executing the instructional program. The consultant's time is used more efficiently in the Unit than in the traditional pattern. The consultant meets with the Unit staff during regular school hours, not before or after school.

Planning for instruction and cooperative effort are crucial in Unit operations. To plan activities, the Unit staff assesses each child's level of achievement, progress, and other characteristics. These assessments tend to be more accurate when the professional knowledge and skills of three or four teachers, rather than one, are brought to bear. Based on the assessment, each child is assigned to some large group, class-size group, small group, and one-to-one activities in order to achieve the school's goals and each child's instructional objectives. Equally important, the teachers decide cooperatively who will perform which activities.

Noninstructional tasks (preparation of materials, etc.) are identified, and such tasks are performed by the aide and instructional secretary.

These nonprofessional personnel are trained and directed primarily by the Unit leader. They work directly with the staff teachers and children. During a school year, there is much planning and related redeployment of the Unit staff and also planning and reassignment of students to activities in order to capitalize upon staff capabilities and to provide the best learning opportunities for students.

The Instructional Improvement Committee of the building meets weekly and, since the schedules of the Unit leaders and principal are more flexible, they experience little difficulty in finding times to meet. The agenda at these meetings is formulated by the principal in consultation with the Unit leaders and avoids the routine matters too frequently associated with faculty meetings. Parenthetically, it should be noted that a principal's bulletin and occasional after-school staff meetings may still be required.

The functions of the Instructional Improvement Committee may be considered at three levels: interpreting and synthesizing system-wide and statewide policies that affect the instructional program of the building, developing the broad outlines of the instructional program--all its components--for the school, and coordinating those uses of facilities, time, material, etc., that Units do not manage independently. It thus has both policy development and management, but not supervisory functions. Policies and guidelines developed by the Instructional Improvement Committee are transmitted to the Unit staff by the Unit leader. In turn, the highly significant decisions regarding an appropriate instructional program for each child are made and executed by the certified teachers of the Unit.

The Instructional Improvement Committee draws upon specialists from the central office and the state education agency in interpreting system-wide and statewide policies and guidelines. Curriculum consultants, psychologists, social workers, and others consult with the Committee. The school buildings involved in preservice teacher education or long-term research utilize relevant university, state department, or other personnel. A most important element in the success of the Multiunit School is the ability of the building committee to secure relevant consultants

during school hours for periods of time up to a half day. Further, the entire Committee, or any member of it, may leave the building to secure relevant information.

In Figure 1, the major components of an instructional system were outlined. The Instructional Improvement Committee deals with all these components. No sharp lines can be drawn to set off the responsibility of the System-Wide Policy Committee, the building committee, and the Units in these matters. How much responsibility to give any Unit will in part depend upon its capabilities. In general the Instructional Improvement Committee makes certain that each Unit leader has the information about each component that is essential to effective Unit operations. Thus the Committee takes the leadership in identifying or developing objectives, measurement tools and procedures, instructional materials, a plan for devising relevant pupil activities and groupings, and the like. The Committee transfers as much responsibility as quickly as possible to the Units. The principal, as the school leader, assures himself that each Unit executes the total school program effectively.

The coordinating function of the Instructional Improvement Committee is crucial, especially in connection with the flexible use of materials, time, space, equipment, and special personnel such as the librarian, music teacher, and speech therapist. The needs of each Unit for instructional material, tests, space, assistance with instructional problems, etc. are the proper concerns of the Instructional Improvement Committee. Two functions other than those associated with instructional improvement are also the responsibility of the Instructional Improvement Committee. There are preservice and inservice teacher education and research and development activities. The building committee, in cooperating with the System-Wide Policy Committee, may also arrange the meetings of each Unit during school hours.

The System-Wide Policy Committee establishes the broad policies and guidelines for the Multiunit Schools. The four primary concerns of this Committee are the functions to be served in the Multiunit School, personnel, material, and information service.

The System-Wide Policy Committee, with the building principal and Unit leaders, decides the functions, in addition to curriculum improvement, to

be performed in each Multiunit building. After this decision is made, the System-Wide Policy Committee makes sure that the necessary material and human resources are made available to the school and that the functions are properly interpreted to the school board and community. New functions, roles, and processes require understanding by the entire school staff and the community. Guidelines are drawn up by the System-Wide Policy Committee which indicate its role and that of the building staff.

Personnel are essential to a successful Multiunit operation--a capable building principal, excellent Unit leaders, certified teachers who are compatible in their roles, and other personnel. The System-Wide Policy Committee develops recruiting and transfer policies that make it possible to have effective operations. Initial recruiting of a cooperative staff is essential. Further, a building principal, a Unit leader, or a teacher may find the Multiunit School uncomfortable after a semester or year. The System-Wide Policy Committee deals with these and other personnel matters.

Material resources are essential to individually guided education. The System-Wide Policy Committee takes care of matters such as remodeling an old building, arranging for an instructional resources center, and providing programed instructional materials. When the Multiunit School serves the system as an experimental or demonstration school, the additional materials are made available.

This brief description of the Multiunit School serves to illustrate several basic components which are required for the successful operation of a Multiunit School. Any of a number of variations of the formal organizational structure are possible, and indeed desirable, if the structure is to fit local needs. The following process components are essential.

First, whatever the number and size of Units, each Unit must plan, instruct, and evaluate cooperatively. A quasi-Unit, which meets only to coordinate individual plans, is insufficient to the task. Optimal Unit operations are based upon the cooperative exchange of expertise and the division of labor according to talents. In self-contained classrooms, labor is duplicated rather than divided; i.e., all teachers perform the same tasks, with differential success and in isolation.

Second, in the Multiunit School, important instructional decisions must be made by groups and at the appropriate level in the organization.

In the traditional school, such is usually not the case. Often, decisions about curricula are made at the central office level and imposed without regard to differences among schools. In other cases, such decisions are made by individual classroom teachers, who lack the competence to make them and whose independent decisions result in loss of coordination and efficiency. In the Multiunit School, decisions with impact for a certain age range of children are made by Units, rather than by individual teachers. Decisions with building-wide impact are the responsibility of the Instructional Improvement Committee, and those with district-wide application are made by the System-Wide Policy Committee. This more logical decision-making pattern requires that some decisions traditionally made in the central office be decentralized and that some formerly made by individual teachers be centralized. Furthermore, the principle of group decision-making leads to a wider choice of alternatives, higher quality decisions, and more effective implementation.

Third, the Multiunit concept presumes greater role differentiation and role clarity than is the case in the traditional school. The educational task, formerly assigned in toto to each teacher, is factored into its developmental, instructional, and noninstructional parts. These in turn are assigned to personnel according to their competencies: i.e., to the principal and the Unit leader, the teacher and the nonprofessional aide. The consultant's role is redesigned for its original purposes--to provide specialized knowledge (not to act as substitute teacher or critic) and to interpret system-wide policies. Central office personnel function as advisors and supporters in the Multiunit plan, not as mandators and monitors as so often has been the case.

Fourth, the Multiunit concept rests upon a carefully designed leadership structure. In the traditional school, leadership is assumed to be the function of the principal. It usually fails in that setting for two reasons: 1) the principal is expected to lead too many persons without assistance--i.e., his span of control is much too large; and 2) neither the principal nor the staff have time during the day when the principal's leadership may be exercised. The Multiunit School provides formal leadership for each small group of personnel: the Unit leader leads the two or three aides and also the three to five teachers in his Unit; the principal's

leadership is exercised primarily with three to five Unit leaders. Furthermore, each group--aides, Unit teachers, or Instructional Improvement Committee--meets with its leader regularly during school hours. There is time for leadership to have effect.

Finally, communications flow in a Multiunit School is more adequate than it can be in the traditional school. In the latter, communications are usually written, often authoritarian in tone, and are commonly vertical in direction. The work environment of the Multiunit School provides oral communications as well, and horizontal and vertical channels open naturally.

The combination of all these features changes the school tone remarkably. The traditional, self-contained classroom school is a collection of isolated functionaries performing the same tasks, and lacking either time or stimulation to alter their performance substantially. The situation is subdued and static. The Multiunit School, by contrast, is characterized by flexibility, cooperativeness, and a spirit of inquiry. More time is provided to plan, test and implement innovations.

Our position can be summarized this way: the Multiunit School concept consists of an organizational format and certain necessary procedural elements. The structure permits the processes to occur, and the structure and process together produce a dynamic and highly effective environment for children's learning and for professional development of the entire instructional staff.

III. Staff Roles in the Multiunit School

A significant characteristic of the Multiunit School is the changed roles of the professional personnel. The description of the elementary school of the future presented in the introduction provides some valuable clues about the roles of the principal, Unit leader, other certified teachers, and paraprofessionals. These roles are becoming reasonably well delineated in current Multiunit Schools. The descriptions that follow are based upon continuing interactions among personnel of local schools, the R & D Center, and the Department of Public Instruction.

The Principal

The role of the principal is changed in the Multiunit School in two ways. First, he assumes greater responsibility for the various functions not common in the elementary school of today. That is, he takes greater leadership in connection with initiating and refining the system of individually guided education, managing the preservice and inservice teacher education activities in his building, and administering the research and development activities. Second, he organizes and chairs his building committee, arranges for its meetings, and sets the agenda of the meetings. This in turn provides the mechanism and communication system through which the principal executes administrative leadership in connection with the three functions of the school. The purpose here is not to define all categories of administrative responsibilities of the principal. Rather, his work in connection with the building committee and the three functions are emphasized.

The Instructional Improvement Committee of the building, as noted earlier, is comprised of the building principal and Unit leaders. It meets at least weekly and makes decisions regarding the instructional program, teacher-education program, and the program of research and development conducted within the building. In connection with any of these programs, special teachers and other personnel within the building, consultants from within the school system, and consultants from outside the system are secured to provide assistance to the building committee. The principal is responsible for all these

matters; however, he may delegate certain matters to the Unit leaders and others to the consultants. For example, a Unit leader might assume responsibility for formulating an initial statement of the school's objectives in a subject matter field, or the representative of a teacher-education institution might be delegated responsibility for designing an experiment or for writing an initial statement of the professional activities of the intern. It is not assumed that the principal is the expert in any subject field, in research design, or in teacher education. He is responsible, however, for arriving at decisions on these and other matters with his building committee, and for their execution in his building.

Earlier, in Figure 1, the main components of a system of individually guided education were indicated. From these, the areas of decision making by the building committee may be readily inferred. In turn, the descriptions of the components provide an indication of the substantive concerns of the building principal as he works with his committee. What are the responsibilities of the building principal with respect to knowledge about each component and getting the component properly executed so that children learn well?

Much variability is found and expected among building principals in knowledge and administrative style. With respect to content of instruction, instructional materials and media, student activities, teacher activities, evaluation of student performances, and procedures for the placement and management of students in a system of individually guided education, the Unit leaders collectively are expected to have more knowledge than does the building principal. Each Unit leader typically has a master's degree with some specialty in a broad subject-matter field. Also, many schools have subject-matter specialists and other specialists on the central staff. Thus the building principal must rely heavily upon his staff and consultants for the knowledge base of these decisions. The principal is expected to be strong in connection with organizing instruction; scheduling time, space, and equipment; dealing with educational personnel both within and outside the building; dealing with parents and other publics; evaluating the building staff; and, most important, securing the conditions essential for his staff to carry out their responsibilities. A few examples illustrate the key role of the principal.

With regard to staffing, the principal assumes the supervisory and evaluative responsibilities of all the staff, including the instructional aides and/or secretaries. Individual staff members are responsible to him. In choosing the personnel to work in the Multiunit School the principal should recognize that the Units should be staffed by teachers who want to be in the Unit. At least a year must be allowed for teachers with no previous experience in cooperative planning to become an effective Unit, and during this time of adjustment the principal must give necessary and effective support. Moreover, in the event a teacher no longer wishes to work in such an organization, a suitable means is arranged through the System-Wide Policy Committee for that teacher's transfer. Finally, the central staff and building principal must agree on how and when to replace a Unit leader, a teacher, or an aide who for any reason seriously impedes the functioning of the Unit.

Securing instructional materials and equipment is another important contribution of the principal. Both the System-Wide Policy Committee and the Unit personnel assist here. Since education in the Multiunit School is guided individually, it is necessary to provide a wide range of instructional materials and resources and to assist the staff in developing materials.

Utilizing specialized consultants significantly facilitates Unit operations. In the Multiunit School, the utilization of consultants from within and outside the system is facilitated since they meet with the building committee and Units during the regular school hours. Effective participation by the curriculum consultants and others of the central staff, special teachers, and other personnel is a major responsibility of the principal.

In the preceding discussion, the role of the principal in administering a system of individually guided education has been outlined. He has a similar role in research and development and teacher education. In general, extensive knowledge is not assumed. However, utilizing the best knowledge available within his staff and from consultants, delegating appropriate responsibilities, and arriving at group decisions which can be implemented effectively are important capabilities of the principal of the Multiunit School. Some of the responsibilities of the principal may be inferred from the checklist which follows.

Principal's Checklist

1. Check the following regarding organization, scheduling of time, and scheduling of space

	YES	NO
a. The principal meets regularly with the System-Wide Policy Committee.	____	____
b. The principal calls together the Instructional Improvement Committee weekly during school hours and chairs its meetings.	____	____
c. The principal arranges time and space for each Unit to meet weekly during school hours.	____	____
d. The principal arranges for central office personnel and others to meet with the Instructional Improvement Committee on matters pertaining to instructional improvement, research and development, and teacher education.	____	____
e. The principal arranges for special teachers and other building personnel to participate in meetings of the Instructional Improvement Committee, Unit meetings, and in the total school program.	____	____
f. The principal with the Instructional Improvement Committee schedules use of space and equipment shared by all Units.	____	____

2. Check the characteristics of the facility provided by the principal for each Unit

	YES	NO
a. There is one station or room for each certified member of the Unit (one can be smaller than a regular classroom).	____	____
b. The rooms are on the same floor and are adjacent to each other, or nearly so.	____	____
c. Space is available for use by nonprofessional staff members.	____	____
d. One or two of the rooms are sufficiently large so that the pupils can meet simultaneously together.	____	____

e. The typical daily pattern is for the pupils to meet in more than one room. ____ ____

f. The typical daily pattern is for the teachers each to be in more than one room. ____ ____

g. The typical daily pattern is for each teacher to teach more than one group. ____ ____

h. Large spaces such as an instructional resources center and gymnasium are available for all the Units. ____ ____

3. Check the availability and quality of the following instructional equipment and materials that the principal has made available for each unit

	Easily Available		Of High Quality	
	YES	NO	YES	NO
a. 35 mm. projector and appropriate films	____	____	____	____
b. 16 mm. projector and appropriate films	____	____	____	____
c. Tape recorder	____	____	____	____
d. Record player and appropriate records	____	____	____	____
e. Overhead projector	____	____	____	____
f. Textbooks and other printed materials	____	____	____	____
g. Other instructional materials	____	____	____	____
h. Supplies for teacher	____	____	____	____
i. Listening kits	____	____	____	____
j. Study carrels or other facilities for individual study	____	____	____	____

4. Check the average number of times per month during regular school hours that the following person or persons meet with each Unit leader alone, or with each Unit leader and the other members of the Unit, to discuss or plan the various elements of the Unit

	With each Unit leader alone			In meetings of the Unit leader with all other certified members of the Unit		
	0 - 4	5 - 10	11 +	0 - 4	5 - 10	11 +
Building principal	____	____	____	____	____	____
Central staff personnel	____	____	____	____	____	____
College personnel	____	____	____	____	____	____
Department of Public Instruction	____	____	____	____	____	____
Parents of children	____	____	____	____	____	____
Others	____	____	____	____	____	____
Teachers in the Unit	____	____	____	Not relevant		

The preceding description of the responsibilities of the principal of the Multiunit School suggest that certain characteristics are desirable as follows:

1. Certification as an elementary school principal with a master's degree.
2. Two or more years of successful experience as a teacher, preferably experience in Unit or team operations at the elementary school level.
3. Graduate education, including inservice practicums and seminars, in human learning and development, research and development, and teacher education.
4. Commitment to a life career as an elementary school principal, including graduate work to extend knowledge and capabilities.
5. Positive attitudes toward principal leadership in curriculum improvement, research and development, and teacher education.
6. Flexibility and inventiveness in school administration.
7. Ability to assess and utilize the capabilities of the Unit personnel.

8. Ability to maintain effective communication with personnel within the building, the central office staff, parents, and others.
9. Skill in the use of creative problem solving techniques.

The Unit Leader

The Unit leader has responsibilities as a member of the Instructional Improvement Committee, as a leader of a Unit, and as a teaching member of a Unit. Thus, the role of the Unit leader is instructional, not administrative or supervisory. His leadership role is in planning and coordinating. He serves as a liaison between the Unit staff and the principal and consultants. He coordinates the efficient utilization of the Unit staff members, materials, and resources. As a member of the Instructional Improvement Committee, he also contributes to developing the instructional program of the building.

As the coordinator of the activities and resources of his Unit, the Unit leader is responsible to the building principal for planning and executing the instructional program of the Unit; however, the Unit organization permits each teacher to share fully in the planning and execution. As the Unit develops individually guided education, the Unit leader takes the initiative for the Unit's dealing successfully with all the components--objectives, content materials, student activities, utilization of time, and utilization of spaces. The principal, of course, assists. Similarly, consultants from other sources such as state education agencies or universities, special teachers of art, physical education, and music also participate in planning Unit activities. Other contributors include the school psychologist, guidance personnel, and social workers.

In executing individually guided education, the Unit leader makes certain that throughout the school day each child is engaged in an appropriate one-to-one, small-group, class-size, or Unit group activity. He also insures that throughout the day each staff member of the Unit is engaged in an appropriate planning, management, or instructional activity and that space, time, material, and equipment are being used advantageously. When sufficient time is available for the Unit to plan, and when it is used well, the Unit staff develops the details essential for smooth functioning of the instructional program. It is the Unit leader, however, with assistance from the

building principal, who must know which questions to raise in order to secure appropriate planning and action from the Unit personnel.

The Unit leader also teaches, demonstrates to other Unit members, and assists Unit members who may experience difficulty. Often the Unit leader gains familiarity first with new material or a procedure and tries it out. Finally, other certified staff members may need time to plan, review, and the like. The Unit leader does some teaching so that the Unit staff also can plan and review.

The preceding sketch has dealt only with instructional improvement. Other functions of the Unit include teacher education and research and development. Here, also, the role of the Unit leader is to exercise initiative and assume responsibility in a manner similar to that for the instructional program. The main responsibilities of the Unit leader in the various activities are now outlined in connection with instruction, research and related activities, and teacher education.

The Unit leader has responsibility related to the three main functions of an I & R Unit, namely, instruction, research and development, and teacher education.

A. Instruction

1. Assume leadership in developing, executing, and evaluating a program of individually guided education in the Unit, including objectives, materials, equipment, and activities. Here the Unit leader works closely with the Unit staff, the building principal, subject-matter specialists, and others.

2. Coordinate the assessment of children's characteristics and progress in the Unit and the placement of children in appropriate activities. The Unit staff, building principal, and central office personnel also are involved here, including research director, school psychologist, and subject specialists.

3. Assume leadership in initiating, establishing, and maintaining good home-school relations. The Unit staff, building principal, social workers, and other specialists contribute effectively to this area of concern.

4. Teach about half time, or in other ways be directly involved with the children.

5. Utilize a portion of the remaining time (a) to act as liaison between the building principal and staff (and students) in his Unit; (b) to meet with staff members in the Unit to plan instruction and to enhance the understanding and direction of individually guided education; and (c) to meet with the Instructional Improvement Committee.

6. Keep abreast of advances in subject knowledge, instructional materials, and other components of a system of individually guided education.

B. Research, Development, Innovation, Diffusion

1. Research
   a. Plan research activities of the Unit with appropriate personnel of the Unit, the building, the central office, and other agencies.
   b. Coordinate the execution of research within the I & R Unit.
   c. Guide the administration of experimental treatments--instructional methods, materials, media--by subexperimenters (teachers or others) to insure continuous adherence to the specified experimental design and to a schedule for collecting information.
   d. Guide the collection and, as time permits, the analysis of information collected.
   e. Keep abreast of relevant research results and methods.

2. Development
   a. Plan the development activities of the Unit with appropriate personnel of the Unit, building, the central office, and other agencies.
   b. Coordinate the development of a system of individually guided education within the Unit, including a statement of objectives, the assessment of the capabilities of students, the instructional program, and evaluation procedures.
   c. Participate directly in preparing instructional materials, diagnostic procedures, measurement instruments, etc.

3. Innovation
   a. Coordinate the introduction of novel instructional materials, measurement and evaluation tools and procedures, instructional methods, etc.

b. Stimulate the invention of new instructional methods within the Unit.

c. Keep abreast of innovations throughout the school system, the state, and nation through visits, conferences, and reading.

4. Diffusion

a. Provide for the proper briefing of observers of the I & R Unit.

b. Participate in the planning and actual diffusion of promising practices within the school building and within the system as appropriate.

C. Teacher Education

1. Inservice

a. Develop, cooperatively with the certified Unit staff, the building principal, and relevant central staff, a building program of on-the-job training for the certified personnel of the Unit, including first-year teachers; execute the relevant elements of the building program in the Unit.

b. Develop and execute a similar program for instructional secretaries and aides.

c. Coordinate the inservice training activities of the certified and noncertified personnel in the Unit whereby capabilities of the aides are identified and improved and the certified teachers learn to work effectively with aides.

2. Preservice Education

a. Develop, with the certified Unit staff, the building principal, relevant central staff, and representatives of teacher-education institutions, the building program for interns; execute the relevant elements in the Unit.

b. Coordinate the placement of the intern in the Unit and the instructional activities of the intern with the certified and noncertified personnel.

Certain rewards follow the kind of responsibilities enumerated; also certain characteristics are desired of Unit leaders. Unit leaders as a group

should receive higher salaries than do teachers as a group. The Unit leader should receive a higher salary than beginning teachers or regular teachers because he earns it through meeting expanded professional responsibilities of the type previously outlined. Also, he knows more about instruction, research and development, and teacher education. Further, the Unit leader works more hours per week and more weeks per year. It should be apparent also that the Unit leader must continually improve his professional capabilities by pursuing further education and gaining relevant experience during the school year and summer. Many teachers who are committed to a career of teaching (this is only a small percentage of the national total) could qualify as Unit leaders if they desired to assume the additional responsibilities, if they were willing to work eleven of twelve months each year, and if they continuously and systematically extended their knowledge and capabilities. It is critical to recognize that the Unit leader is an instructional leader, not a supervisor or administrator.

Nine characteristics should be considered in selecting beginning Unit leaders:

1. Certification as a teacher initially and subsequent certification as a Unit leader, or professional teacher.
2. Three or more years of successful teaching experience.
3. Master's degree, or progress toward one, for beginning Unit leaders.
4. Graduate education in human learning and development, curriculum and instruction, and research and development. A flexible program is recommended: the equivalent of 6-15 semester hours in human learning and development, measurement statistics, and research and development; and 6-15 semester hours in a broad subject field and related instructional theory and methodology. Some practicum work in Unit operations is essential.
5. Commitment to a lifetime career in teaching.
6. Positive attitudes toward curriculum improvement, research and development, and teacher education.
7. Flexibility and inventiveness in the adaption of methods, materials, and procedures.

8. Ability to recognize and utilize the capabilities of the Unit personnel.
9. Ability to maintain effective interaction with all personnel of the Unit, children and parents, the building principal, central office personnel, and other consultants in research and in teacher education.

The Unit Teacher

The main differences between the roles of the certified teacher in the Unit and the teacher in the self-contained classroom are in planning with other members of the Unit, working with many children and with other Unit members rather than working with a smaller number of children independently, and performing at a more professional level. The higher level of professional activity is manifested in research and development activities, preservice teacher education, and in several components of the instructional system such as formulating objectives for each child, assessing each child's characteristics, using new materials and equipment, and trying out new instructional procedures. The first-year teacher and the teacher new to a Unit are not expected to become proficient in all these during a short time interval. One of the advantages of Unit teaching is that the Unit leader, building principal, and teachers together decide what they can accomplish and proceed accordingly.

The most important rewards to the teacher in a Unit are participating in all the relevant functions of the school, engaging in decision making about all components of the instructional program, making a maximum contribution according to his strengths and interests, being relieved of nonprofessional activities by aides and secretaries, and having a stimulating learning and teaching experience. Teaching in a Unit is strenuous at times but is always mentally stimulating and emotionally satisfying.

For some, teaching in the Unit may threaten loss of autonomy. It can be argued, however, that autonomy and freedom are increased as the teacher grows professionally through the exchange of ideas. Feedback from other teachers and opportunities to experiment stimulate and motivate the teacher to do greater things. In the environment of the Multiunit School the teacher realizes that joint planning and evaluating are vital to a more complete under-

standing of the teaching-learning process and to an effective program of individually guided education.

In individually guided education the teacher is involved in developing and clarifying instructional objectives, designing and executing a program based on the assessment of each child, and then continuously evaluating the child's progress and the program. To accomplish this the teacher manages more information than previously as profiles for each student are kept. The Unit teacher is sensitive to individual learning problems and uses assessment evidence to judge which kind of activity is best for a child. The teacher must be able to choose from a wide range of available materials and to develop materials in the event that appropriate ones are not available. He should understand the basic concepts and skills in at least one broad subject field and, within a subject field, be able to arrange a valid sequence of the content.

The Intern

The intern of one semester is usually assigned to one Unit for the entire semester. The intern of two semesters is usually assigned to two Units, changing from one to the other at the end of the first semester. This works best when at least two interns are in the same school. A larger Instruction and Research Unit may readily incorporate two interns per semester. Thus, a school of about 700 students enrolled in five Units may have 10 semester interns each semester, 20 during the year.

Preinternship observation and participation may also be carried out effectively in the Multiunit School This should probably not be done in any Unit where there is already an intern. The preservice teacher education function must not be permitted to overshadow the instructional improvement and the research and development functions. Caution must be exercised so that many personnel from different agencies with varying objectives do not divert too much time and attention of the building staff from the program of individually guided education for the students.

The intern engages in professional activities, not in routine or clerical duties. The latter are performed by the instructional secretary and aide. The intern participates in the workshop preceding the opening of the

school term, thus securing an overview of the specific instructional, preservice, inservice, and research and development functions performed in the Unit. Also, the intern becomes acquainted with the roles of the various Unit and building personnel.

In connection with the instructional program, the objective is for the intern to engage at first in observation and minor participation but to move rapidly to full responsibility at a level similar to that of a beginning certified teacher. A well prepared intern, who has had preservice participation in a school and in a building workshop before the opening of school, may assume full responsibility for one-to-one, small-group, and class-size activities within two weeks after the opening of school. The intern does not assume decision-making responsibilities for the instructional program of the Unit as do the Unit leader and experienced teachers. However, the intern does execute decisions and also participates in Unit meetings.

One major attraction for the intern in the Multiunit School is participation in a research and development activity. As described earlier, a Unit may be involved in relatively elementary but significant research on curriculum materials and instructional procedures or in more sophisticated experimentation. Teacher-education institutions or other agencies assist smaller schools that do not have within-system capability for initiating relevant research and development activities in the Unit.

Instructional Secretaries and Teacher Aides

The two main classes of noncertified members of Units are instructional secretaries and teacher aides. The wise use of their abilities and previous background is the responsibility of the Unit leader in cooperation with the building principal and the Unit staff. The instructional secretary performs a number of clerical responsibilities such as keeping attendance records, collecting and keeping records of special money from the students, duplicating materials, making lists of pupil supplies, typing, and filing.

The precise responsibilities of teacher aides vary greatly and are directly related to the background of training and experience of the aide. For example, the aide with a college degree in a subject field such as science will perform functions different from the high school graduate who has had

no work in science after ninth grade. Even though no common set of specific activities can be prescribed, there are some areas in which aides can participate. They may perform many housekeeping chores connected with lighting, ventilation, cleanliness, instructional materials, supplies, chalkboards, plants, etc. Also, an aide may provide assistance to children in caring for clothing, moving from one part of the building to another, or receiving attention from a specialist such as a nurse or social worker. Lunchroom and playground activities may also utilize the service of an aide. With regard to individually guided education, teachers have found aides especially helpful with one-to-one, small group, and independent activities.

IV. Implications

This paper has discussed so far the state of current elementary education, projected some of its future directions, explained the structural and procedural components of the Multiunit School organization, and discussed in detail the roles and responsibilities of personnel in such an organization. It is our position that the Multiunit approach, or one very similar to it, is necessary if elementary education is to develop in the desired directions.

We shall detail our position by examining the implications of the Multiunit approach for the instructional system, for the education of teachers, and for innovation, research, and development.

For a System of Individually Guided Education

The Multiunit approach provides a highly effective means of monitoring the entering behaviors and characteristics of students. Several factors contribute to this: each Unit cooperatively plans the learning tasks of its own children, and to do so it must focus attention on the characteristics of each child in relation to the school's objectives; the combined judgments of several professionals are applied to the assessment of each child's entering behaviors and characteristics; and each child enters a higher Unit with a record of his previous Unit members' judgments of his accomplishments and characteristics. In short, initial assessment is done by a group of professionals for each child in the Multiunit School.

Multiunit flexibility includes the ability to adapt content and sequence to each building, each Unit, and each child. Expert consultation is more readily available and more efficiently used. Regular Unit meetings insure instruction in line with each child's characteristics and the school's objectives. The Instructional Improvement Committee is a permanent coordinating mechanism, assuring within-school articulation and sequence of content.

Objectives are usually stated in behavioral terms only when teachers receive the expert assistance they need. However, precisely stated objectives are essential to both program development and evaluation. Assistance is available through the Instructional Improvement Committee in a Multiunit School, and balance and comprehensiveness of objectives are assured.

Cooperative planning of a system of individually guided education at both the Unit level and the building level demands the systematic use of standardized achievement and other instruments to assess initial behaviors, periodic progress, and terminal behaviors. The Multiunit School tends to adapt published instruments and to supplement them with locally produced devices, rather than to adopt published instruments only.

Because of its operational mode, the Multiunit School instructional staff abandons the single text-workbook approach in favor of multiple texts, a wide variety of audio-visual materials, and a heavy dependence upon teacher-developed materials. Such an eclectic approach is almost inevitable where professional differences of opinion are regularly expressed and accommodated. When computer-assisted instruction or other forms of programed instruction become widespread, the Multiunit approach offers a reasonable guarantee that programing will remain under proper human control.

Dramatic differences in the roles of personnel occur in a Multiunit School. By creating paraprofessional positions, the roles of teacher and Unit leader are redirected towards their primary competency in instruction. The Unit leader and principal assume leadership functions by necessity. Individual teachers tend to capitalize on their specialties and to bolster their weaknesses through interaction with others. Within the Unit, two certifiable levels (Unit leader and teacher) exist, and more are possible. Each Unit can accommodate a professional teacher, staff teachers, resident teachers, and interns. Finally, the incorporation of special teachers into Unit operations redefines their roles in numerous ways.

In a Multiunit School all members of the instructional staff participate in instructional decisions according to their abilities. A teacher is not asked to decide matters beyond her competence, nor is she excluded from decisions in which she has an important stake.

The variety of student learning activities available in a Unit has already been illustrated. To emphasize the point: a staff of four to six teachers, one or two interns, and one or more paraprofessionals working in several rooms and locations permits much greater flexibility than one teacher with 25 children in one room. This same flexibility permits individually guided learning activities and an appropriate emphasis on concept formation and application.

A common approach in the Multiunit School is to leave the scheduling of time to each Unit. Units commonly use large blocks of time, rather than small modules, and often seek cross-Unit cooperation by scheduling language arts, for example, at the same time in all Units. Whatever these directions, the key is that the Unit can and does reschedule time frequently and can lengthen or shorten the time any individual child gives to any subject area.

It is best if a Multiunit School has a modern and flexible facility: pods, clusters, movable partitions, multimedia rooms, an instructional resources center, and so on. Whether such a facility is present or not, the Multiunit process assures maximally efficient and effective use of each Unit's own spaces, and the Instructional Improvement Committee assures optimal use of larger spaces such as the library and gymnasium. These same conditions permit the selection and maximum utilization of major instructional equipment.

We have previously made the point that educational personnel outside the building--central office specialists, state education agency personnel, and university staff--are inefficiently and infrequently used by teachers in most traditional schools. The Multiunit approach permits their use when needed and capitalizes upon their energies by employing them with groups of teachers rather than individuals.

Finally, home-neighborhood liaison is naturally stronger in a Multiunit approach for two reasons. First, the employment of aides from the community ensures a channel of two-way communication not available in aideless schools. Second, all information given the community about children's progress or about the instructional program is developed and designed by the joint efforts of the Unit, the Instructional Improvement Committee, the System-Wide Policy Committee.

The preceding discussion indicates the authors' position that the Multiunit approach to elementary education contains the flexibility and pools the talents necessary for the improvement of the instructional program in the directions needed in the years ahead.

For the Education of Teachers

A widespread adoption of the Multiunit approach to elementary education has far-reaching implications for both the preservice and inservice education of teachers. Let us examine the latter first.

At present, it is common to induct a beginning teacher by a process of the following kind. First, the beginner attends a week or less of "orientation" meetings, usually devoted to recitals of the teachers' handbook and board policy statements. Next, she may be assigned a "buddy" teacher, whom she will see only during coffee break and lunch and occasionally after school. Finally, she is assigned a class and left to her own devices, to be visited infrequently by the harried principal. It is no surprise, under such conditions, if the first-year teacher fails to achieve full professional stature by June.

In a Multiunit School, the new teacher also receives orientation and may be assigned a buddy, but at that point her induction pattern differs. She is assigned to a Unit rather than an isolated class, and from the first day she works alongside more experienced teachers and under the guidance of the Unit leader. The Unit often employs specialists to the benefit of the whole Unit including the new teacher. Frequent Unit meetings and occasional inservice days, designed by the Instructional Improvement Committee, offer the new teacher much greater opportunity for growth. Formal courses and district-wide inservice programs are also available, as they are in traditional schools, but the important fact is that new-teacher growth is a function of the working situation.

Furthermore, the use of several levels of instructional roles provide incentive and reward for professional growth. The new teacher who develops well can look forward to advancement as a fully certified teacher and eventually as a Unit leader. In traditional schools, the advancement requires exit from the classroom. What we have said of the induction of new teachers also applies to teachers making a transition between schools or school districts, or between levels (primary, intermediate, etc.).

Widespread use of the Multiunit approach also has profound implications for the preservice preparation of elementary teachers. An obvious advantage of the Multiunit School is that it provides an excellent setting for the guided clinical experiences of interns. Interns fit well into the Unit structure, beginning their experiences with observation and limited performance and moving steadily towards full participation as a Unit member. All the benefits listed above, in our discussion of the new teacher's induction, accrue to the student teacher or intern.

For Research and Development

In recent years, public pressure for educational innovation has tended to produce an artificial and ineffective response. Schools innovate too rapidly, with naive acceptance of untested claims made for the innovations they adopt, and often for the sake of being on the innovation bandwagon. The subdued professiona climate of the self-contained classroom school has solidified natural human resistance to change and has also presented insurmountable barriers to systematic development-based research designed to improve instruction. The Multiunit School produces a climate in which innovations can readily be introduced and evaluated.

Self-contained classrooms prevent control of several variables which hamper valid experimentation: teacher differences, student differences, the effects of sequence of treatments, and so on. A Unit has sufficient flexibility in all these respects to allow the design of excellent research. The Unit leader also has time to develop new procedures independently and to work with personnel from other agencies in development activities and related testing and refinement. These conditions in the Multiunit School provide an excellent environment for development-based research initiated by the school and cooperative activities between the school and other agencies.

Basic research between the school and other agencies concerning the structure of knowledge, the nature of learning, and so on can be carried on with relative ease in a Multiunit School. Especially important is the fact that the Unit leader can make certain that experimental treatments and data collection are executed systematically. The early concern of the Wisconsin R & D Center in developing the Multiunit concept was to provide a facilitative environment for research and development. The Multiunit Schools working directly with the R & D Center provide this environment admirably. A Multiunit School in Toledo provides a similar environment for the University of Toledo. Thus the Multiunit School provides a facilitative environment for research and development, whether initiated by the school personnel, district personnel, or university researchers. The Unit also might serve as locale for an intern in research and development. Although the concept of a research intern in a Multiunit School is not developed fully, it merits consideration.

Profound changes in elementary education lie ahead, and to facilitate these changes a new concept for organizing elementary schools is needed. The Multiunit organization is well suited to accommodate and expedite the change which will take place.

V. A Plan for Organizing a Multiunit School

The transition from the self-contained classroom format to the Multiunit approach requires careful preparation and continuing attention. At least one consultant from the central staff of the school district, one from a teacher-education institution, and one from the Wisconsin Department of Public Instruction should be assigned to assist each school in making the transition. The consultants should meet frequently with the target district and target school beginning several months prior to opening of the Multiunit operation, should help conduct a preschool training session of several days' duration for the staff of the target school, and, during the entire first year of operation, should visit the school at least one day each week and should help conduct from six to ten half-days of inservice training.

The transition is conceived as involving three phases, each of which includes several critical tasks: 1) Phase I, Prior Planning; 2) Phase II, The Preschool Workshop; 3) Phase III, The First Year of Operation. The tables below list the critical tasks to be accomplished during each phase and the personnel involved in each task. The following narrative indicates some of the important factors which need to be considered as the critical tasks are accomplished.

As shown in Table 1, the target school should, if possible, be one of 300-800 enrollment, have adequate facilities for Unit operations, and have a staff nucleus which is desirous of improving curriculum cooperatively. It is desirable to identify a school in which teaching teams are already functioning.

An information program should begin early and involve several audiences: the board of education, the central office staff, other schools in the district, the public at large, and the immediate public of the target school.

The qualities needed in the Multiunit principal, Unit leaders, and teachers are indicated earlier in this paper. Provision for a later transfer without prejudice should be made at the time of selection.

The Instructional Improvement Committee should begin to function as soon as possible, and teacher representatives should be involved early and often in both the Instructional Improvement Committee and the System-Wide Policy

TABLE 1. PRIOR PLANNING (PHASE I)
PERSONNEL INVOLVED
(R=responsible for accomplishing task; A=advise)

Tasks	District Administrators	District Consultants	DPI Consultants	Teacher Education Institution Consultants	Multiunit School Principal	Unit Leader Representatives	Unit Teacher Representatives	All Unit Leaders	All Unit Teachers
1. Establish the System-Wide Policy Committee	R	R	A	A					
2. Select target school	R	A	A	A					
3. Design information program	R	A	A	A					
4. Select Multiunit principal	R	A	A	A					
5. Select Unit leaders	R		A	A	R				
6. Establish Instructional Improvement Committee	A	A	A	A	R			R	
7. Determine curriculum area to be developed	R	R	A	A	R			R	
8. Select teachers	R		A	A	R			A	
9. Select interns and student teachers	A	A		R	R	A	A		
10. Arrange curriculum consultant help	R	R	A		R			A	
11. Select aides	R		A		R		A	R	
12. Design evaluation procedures	R	A	A	A	R		A	R	
13. Plan use of facilities	R		A		R		A	R	
14. Plan preschool workshop	A	A	R	R	R		A	A	

Committee deliberations.

It is preferable that the Multiunit School concentrate on only one curriculum area during its first year. The curriculum area to be developed dictates the number and identity of consultants to be involved in the school's operations. This consultant help should be available as needed and in sufficient amount; systematic and thorough curriculum improvement requires long hours.

Any evaluation design should include measures of the success of the Multiunit operation per se, of the progress of curriculum improvement, and of the inservice and preservice growth of the entire staff, including interns or student teachers.

Finally, very careful attention must be given to designing the preschool workshop. The critical tasks in designing it and the nature of its content are indicated in Table 2.

The preschool workshop should be planned and arrangements for it made very early to assure maximum attendance and easier access to personnel and materials. Lead in designing it should be taken by the Wisconsin Department of Public Instruction, teacher education consultants, and the Multiunit principal. Printed materials and video tapes for use during the workshop are available from the R & D Center through the Wisconsin Department of Public Instruction.

The content of the workshop, listed in Table 2, represents a minimum which must be accomplished if the Multiunit School is to open smoothly. Attending the workshop should be all consultants, the Multiunit principal, and the Unit leaders and teachers of the Multiunit School. According to the objective sought at any given time, this group may meet as a whole or break into smaller groups of System-Wide Policy Committee (SWPC), Instructional Improvement Committee (IIC), and Units.

Given the objectives that need to be achieved, the preschool workshop should ideally be at least three days in duration.

Assuming that the workshop can prepare the staff adequately to open school, there remains a series of critical tasks to be accomplished during the first year of operation. These tasks are indicated briefly in Table 3. It should be noted that these can be viewed as consisting of two fundamental

types: the achievement of operational skills and the improvement of curriculum and instructional practice. The former must be accomplished first and is likely to require the major part of the first year. The latter will develop slowly at first and will progress more rapidly towards the end of the first year and during the second.

TABLE 2. THE PRESCHOOL WORKSHOP (PHASE II)
PERSONNEL INVOLVED
(R=responsible for accomplishing task; A=advise)

A. PREPARATION FOR THE WORKSHOP

Tasks	District Administrators	District Consultants	DPI Consultants	Teacher Education Institution Consultants	Multiunit School Principal	Unit Leader Representatives	Unit Teacher Representatives	All Unit Leaders	All Unit Teachers
1. Arrange time and assure attendance of all concerned	R		A	A	R				
2. Secure speakers and materials	A	A	R	R	R	A	A		
3. Arrange procedures for evaluating the workshop			R	R	R	A	A		

TABLE 2. (Continued) (R=responsible for accomplishing the objective; I=involved in accomplishing objectives; A=advise)

B. CONTENT OF THE WORKSHOP

Objectives	District Administrators	District Consultants	DPI Consultants	Teacher Education Institution Consultants	Multiunit School Principal	Unit Leader Representatives	Unit Teacher Representatives	All Unit Leaders	All Unit Teachers
1. Familiarize staff with the Multiunit concept			R	R	R			I	I
2. Establish Units, schedule Unit meetings, decide priorities for Units		A	A	A	R			R	R
3. Schedule IIC meetings, decide priorities for IIC		A	A	A	R			R	
4. Schedule SWPC meetings, decide priorities for SWPC	R	R	A	A	I	I	I		
5. Familiarize staff with curriculum area to be emphasized		R			I			I	I
6. Plan and coordinate first week of instruction		I	A	A	R			R	R
7. Plan first few in-service half-days		I	R	R	R			R	I

TABLE 3. THE FIRST YEAR OF OPERATION (PHASE III)
PERSONNEL INVOLVED
(R=responsible for accomplishing task; A=advise)

Task	District Administrators	District Consultants	DPI Consultants	Teacher Education Institution Consultants	Multiunit School Principal	Unit Leader Representatives	Unit Teacher Representatives	All Unit Leaders	All Unit Teachers
1. Effective functioning of SWPC	R	R	A	A					
2. Effective functioning of IIC		A	A	A	R			R	
3. Effective functioning of Units			A	A	R			R	R
4. Conducting information program	R		A		R	A	A		
5. Planning and conducting in-service half-days		A	R	R	R			R	
6. Developing curriculum area selected for emphasis		R			R			R	R
7. Implementation of evaluation procedures		R			R			R	R
8. Planning for second year of operation	R	A	A	A	R			R	R

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IDENTIFIERS

ABSTRACT

From a beginning concept in 1965-1966 has emerged a flourishing practice of the concept of individually guided education in Wisconsin elementary schools completely organized into Instruction and Research Units. This practical paper and a set of correlated video tapes were prepared to be used especially by school personnel interested in the Multiunit school which provides a facilitative environment for three functions: (1) modifying current practices and developing an effective system of individually guided education within each building; (2) participating in research, development, and dissemination activities that are essential to the continuous refinement and extension of the system of individually guided education; (3) conducting relevant preservice and inservice education of teachers and other educational personnel.

A rationale is presented for recommended changes in the elementary school by giving estimates of the current status of the typical age-graded self-contained elementary school and by hypothesizing the nature of elementary schools in the next decades. The Multiunit organization, the differentiated staff roles essential to the smooth functioning of the Multiunit school, and some implications for a system of individually guided education, for the education of teachers, and for research and development are described.