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PROGRAMS FOR THOSE RURAL SCHOOLS WHICH ARE NECESSARILY EXISTENT.

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NATIONAL COMMITTEE FOR CHILDREN AND YOUTH

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DESCRIPTORS= *ADMINISTRATIVE PERSONNEL, AUTOINSTRUCTIONAL AIDS, AUTOINSTRUCTIONAL PROGRAMS, FLEXIBLE SCHEDULING, NONGRADED SYSTEM, *RURAL EDUCATION, RURAL SCHOOLS, *SHARED SERVICES, SPECIALISTS, SCHOOL ADMINISTRATION, SCHOOL BUILDINGS, SCHOOL COMMUNITY RELATIONSHIP, *SCHOOL ORGANIZATION, SCHOOL CLOSING, STAFF UTILIZATION, SPECIAL SERVICES, TEACHER AIDES, TEAM TEACHING, DISTRICT OF COLUMBIA

NECESSARILY EXISTENT RURAL SCHOOLS ARE DEFINED AS THOSE WHOSE STUDENT BODY IS LIMITED DUE TO EXTREMES OF DISTANCE, TERRAIN, CLIMATE, OR SPARSE POPULATION. DOCUMENTED REPORTS OF PROJECTS COMPLETED AND IN PROGRESS POINT OUT THE FOLLOWING PROMISING PRACTICES--NONGRADED INSTRUCTION, TEAM TEACHING, UTILIZATION OF TEACHER AIDES, MULTIPLE CLASS TEACHING, SHARED SERVICES, FLEXIBLE SCHEDULING, AND MODIFIED SELF-INSTRUCTION. THE GREATEST PROBLEM IS ENLIGHTENED LEADERSHIP FOR THE SMALL SCHOOL. THIS PAPER WAS PREPARED FOR PRESENTATION AT THE NATIONAL CONFERENCE ON PROBLEMS OF RURAL YOUTH IN A CHANGING ENVIRONMENT (SEPTEMBER 1963). (SF)

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ABSTRACT

PROGRAMS FOR THOSE RURAL SCHOOLS WHICH ARE NECESSARILY EXISTENT

by

Ralph G. Bohrson and Dr. Elbie L. Gann

Many schools in the United States are small. Even though members of large districts, extremes of distance, terrain, climate, and sparse population restrict the numbers of students available for such schools. Since 1953, many people have sought ways for these necessarily existent small schools to improve educational quality with a reasonable expenditure of money, time, and energy. In some states education agencies are evolving for themselves a new role, that of partnership in educational development for small schools.

The problems of small, rural schools are: (1) limited funds, (2) lack of availability and retention of good teachers, (3) limited number of adults and students to meet challenges, (4) inadequate facilities, (5) absence of understanding of changing times, and (6) lack of enlightened administrative leadership.

Natural advantages of small schools are their potential flexibility and closeness to students and community environment.

Summary reports of projects completed are presented on the Catskill Area Project in Small School Design (New York), The Education Resources Program (Goddard College), The Rocky Mountain Area Project for Small High Schools (Colorado), The Rural School Improvement Project (Berea College), and The Upper Susquehanna Valley Project (Bucknell University).

Projects in progress are the Texas Small Schools Project, and the Western States Small Schools Project, involving an agreement among the states of Arizona, Colorado, Nevada, New Mexico, and Utah.

Promising practices include continuous progress in nongraded elementary and high schools, team teaching designed especially for small schools, use of teacher aides, practices which can be employed in the one-teacher school of today, multiple class teaching and technological devices to be used within the classroom, sharing teachers and sharing able students for special programs, supervised correspondence courses, programed instruction materials, and ways of scheduling flexibility.

PROGRAMS FOR THOSE RURAL SCHOOLS WHICH ARE NECESSARILY EXISTENT

INTRODUCTION

The purpose of this paper is to cite examples of teaching activities which have been employed since 1957 to assist schools in rural communities to overcome the limitations of small size and isolation.

The emphasis of this paper should be construed as a substitute for adequate school district organization and appropriate school consolidation. Technological, scientific, and cultural changes since the '30's have reduced severely the probability that the tiny school district and the one-teacher school can provide educational excellence for twelve years. Yet smallness is a confusing term. A district may be large in square miles and patron support and small in pupil enrollment and tax base. Even the geographically large district, with adequate money but sparse settlement, cannot always justify large expenditures on low pupil-teacher ratios. Merely changing the district lines is insufficient unless youngsters leave school better prepared for the problems ahead.

Simply stated, the goals of education are mental and physical fitness. When broken into workable parts, the distinguished achievement of these goals is allegedly beyond the reach of the conventionally operated small school. Yet the children in these schools deserve the excellence advertised as the earned birthright of all Americans, and there is hope for the small school in the space age because there are some organizational solutions for the school which must remain small in numbers. The technological and cultural changes which spawned the rural school problems, when blended with the accumulated knowledge in learning theory and pedagogy, can be combined to form workable answers. The state education agency, emerging as a partner in educational development, is a new resource available in some states. The resources available through books, pamphlets, articles, and reports are extensive. The people who can help solve the problems are growing in numbers and know-how. Listing of resources may be found in the final pages of this document.

LIMITATIONS

This paper is limited to those operations and practices which most directly influence the teaching-learning environment within the small rural school. For present purposes, the small school is defined as (1) that high school in a rural setting which enrolls 200 or fewer students in the upper four grades, or (2) that elementary school which sends youngsters to the small high school. In many cases, elementary and secondary school will be housed in the same building.

Rather than to present an exhaustive list of examples of small school operations, the authors have chosen to synthesize cases which are, have been, or most probably will be effective. All practices have not been directly observed. Many have not been exhaustively evaluated by scientific measures. The measures of effectiveness, resting for the most part upon the authors' judgments, rest upon reports of teachers, students, and seemingly unbiased

eyewitnesses or upon documents of reputable reporters. Where cases and projects are reported, it is because they have met one or more of the following criteria. The practice or organizational concept was:

1. developed especially for or within small and often rural schools;
2. reported as having come from small schools;
3. demonstrated by teacher(s) of such schools;
4. reported with written reference to its probable application for small schools.

Two general observations need to be kept in mind as the discussion progresses: (1) Because school districts exercise varying but somewhat major degrees of local control, the accompanying materials must be viewed in light of the philosophies, objectives, local and regional expectations, and cultural majorities and minorities which predominate in the particular locale. (2) To our knowledge, no school has applied the composite of organizational and operational components related below. Therefore, little is known, except speculatively, about the potential impact which all reported programs could have upon student learning.

THE PROBLEMS OF SMALL RURAL SCHOOLS

For many years, the small rural school has prepared most youngsters for life elsewhere. In today's urbanized setting, the problems of the small school become more conspicuous and the facts of its educational life more unsettling. Although the small school in a rural setting has the potential for excellence, its inherent weaknesses and acquired problems often obscure its potential.

Seven educational facts of life seem to be most obvious for the rural dweller: 1/

1. Funds: Many rural areas have low valuation or excessive costs per student. Therefore, inadequate services and facilities result.

2. Teaching personnel: Good teachers are hard to catch and hold. Small communities often do not offer recognition and encouragement to them. More is expected personally and professionally from them. Salaries and programs may not be attractive enough to assure continuity. Young teachers sometimes consider small schools as a step in their cycle of upward social and economic mobility.

3. Resources: The limited number of human resources within the community and the physical isolation can support an educational timidness which may seriously reduce the opportunity to offer a broad and penetrating curriculum. Education provided by the school cannot be restricted to the people and experiences within its walls. In the urbanizing society, the physical and cultural distance of rural towns impose a major resource limitation.

4. Students: The standard student range of capabilities, interests, and needs exists in small schools just as in large ones. However, the minimum number of students with such differential requirements is a restricting factor. Language problems, special education challenges, gifted students, individual

course requests, all create extraordinary demands on the financing, organization, and teacher specializations. There are sometimes too few students available to provide a challenging academic competition.

5. Facilities: In this time of advanced educational technology, providing appropriate, well-equipped, and attractive classrooms, laboratories, and individual study space is difficult for any school. The typical small school was built 25 or more years ago and is probably not adequate in the space age.

6. Understanding: Frequently, school board members and community leaders have not had the opportunity to gain understandings necessary to provide for the emerging educational needs of children in an increasingly mobile and complex society. Sometimes the absence of community pride in its school results in very little effort to improve.

7. Leadership: Because of the above six problems, the small school's capacity to attract high-quality, continuous administrative leadership is very limited. The tenure of superintendents in small schools is very low.

NATURAL ADVANTAGES

Nevertheless, a small school, adequately organized, having clear understandings of its problems, may achieve a level of excellence unexpected by many. Such schools have two natural advantages widely sought by larger organizations: 2/

1. There is potential flexibility. Fewer people -- students, teachers, administrators, parents -- and hence fewer things --classrooms, buildings, etc. -- may eliminate or reduce logistical complications.

2. There is potential closeness. All persons associated with small schools may more easily be treated as individuals. With fewer total students, the teacher with the gumption and know-how can come closer to true individualization.

These potential strengths will not automatically assure high quality programs; however, cognizance of the problems, plus creative plans of action can result in improvement.

PROGRAMS SEEKING SOLUTIONS

Coordinate attack on rural education problems is fairly recent. Since 1957, a number of projects have succeeded in directing new attention, applying new patterns, or modifying older practices. Generally assuming that taxpayers are reluctant to pay for experiments, the people of the projects have sought "laboratory money" from foundations and elsewhere, expecting that, after trial, responsible and respectable answers can then be applied more reliably in regular programs.

PROJECTS COMPLETED

These projects, usually including a group of schools, were coordinated

from a central source, from a college, university or state department of education. Reports are available on each. Although each has been officially completed, significant practices remain for observation and evaluation. We briefly review five projects:

1. Catskill Area Project in Small School Design (New York)
2. The Education Resources Program (Goddard College)
3. The Rocky Mountain Area Project for Small High Schools (Colorado)
4. The Rural School Improvement Project (Berea College)
5. The Upper Susquehanna Valley Project (Bucknell University)

The Catskill Area Project in Small School Design

The Catskill Area Project was initiated in 1957 under the joint sponsorship of Teachers College, Columbia University; Oneonta State Teachers College; and the Boards of Cooperative Services of the several school districts located around Oneonta, New York. 3/ Member schools experimented with multiple class teaching, supervised correspondence courses, shared services, film teaching, programed instruction, and technological devices for teaching. Also, gifted youth seminars were conducted on the campus at Oneonta. The project covered three years, during which extensive inservice development programs were conducted with the project teachers and project school administrators. The Ford Foundation provided partial financial support.

The Education Resources Program

In 1957, a project was initiated by Goddard College in attempting to provide better qualified teachers to small multigrade elementary schools throughout the state of Vermont. 4/ The work was carried out principally with those schools located nearest Goddard College. The program placed emphasis on providing promising student teachers and competent supervision for the participating small elementary schools. Saturday morning seminars on the college campus have also provided for the needs of able and ambitious high school youngsters. The Ford Foundation provided partial financial support.

The Rocky Mountain Area Project for Small High Schools

The RMAP was initiated in 1957 under the sponsorship of the Colorado State Department of Education. 5/ In the beginning it involved five small high schools, and the number eventually grew to 32. The Ford Foundation provided partial financial support.

This project explored multiple class teaching, intraclassroom grouping for instruction, the Baxter and White Physics and Chemistry films, youth seminars of able students, use of correspondence courses, and broader uses of community resources. The work level was with teachers and administrators of small local schools. The RMAP directly involved a state department of education acting in partnership with experimenting schools. To facilitate this role, it waived restrictive regulations if adequate experimental design could be developed.

The Rural School Improvement Project

In 1953, a small school improvement project was initiated in southeastern Kentucky under the sponsorship of Berea College and with partial financing by the Fund for the Advancement of Education.

> "There were five basal areas in which most of the work of the project was concentrated. These areas were: (1) the teacher; (2) the pupil; (3) the community; (4) the building, equipment, and grounds; and (5) the program of supervision utilized in carrying out the activities within the other four named areas. The Project activities were centered about the teacher, since two of the fundamental assumptions of the Project were (1) good teachers are indispensable for good schools; and (2) good schools make for good communities. Efforts in all the five areas were ultimately directed at the intellectual, social, physical, and emotional growth of the pupil." 6/

The Upper Susquehanna Valley Project

The Upper Susquehanna Valley Project, headquartered at Bucknell University, emphasized projects in science, curriculum improvement, and use of the Harvey White Physics films. 7/ In addition, they have conducted programs to give special attention to gifted youngsters to compensate for the "scarcity of educational and cultural facilities in the rural school." Most recently they have emphasized projects in programed materials in mathematics for superior students. The project has received financial assistance from the National Defense Education Act and from the Ford Foundation.

PROJECTS IN PROGRESS

Each of the following reported projects involves more than 100 schools. The Texas Small Schools Project operates presently on a regional improvement plan. The Western States Small Schools Project results from a compact of five states agreeing to experiment, research, coordinate certain of their activities, and share findings. Some reports are available from both projects.

The Texas Small Schools Project

In 1959, the Texas Education Agency initiated a statewide small school improvement. 8/ The state was divided into nine regions and each region organized itself to conduct inservice programs throughout the calendar year. Consultation, coordination, and encouragement were provided from the Texas Education Agency. An educational development project, the Texas schools have selected applicable practices from other projects, including the NASSP Staff Utilization Study. The groups then modified the programs for their own use. The Texas Small Schools Project continues and is significantly shaping the role of the Texas Education Agency. It is the only one of those reported which is operating without outside financial assistance.

The Western States Small Schools Project

Experience in working on active solutions for the necessarily existent

small schools indicates that many of the problems cannot be attacked by a single school system, or even a single state. 9/ The proposed solutions, to be useful, must be diversely tested. Quite logically, then, a regional effort is the next step in discovering, testing, and documenting new practices. The Western States Small School Project represents such an effort. It includes Arizona, Colorado, Nevada, New Mexico, and Utah. The project is possible because all five state departments of education have formally agreed to associate for this purpose. The states which comprise the Western States Small Schools Project are similar in many ways as are their rural schools. Notable is the fact that they contain few students rather than too many. But differences among states and schools strengthen testing features of the project.

The WSSSP provides the opportunity for each state to focus upon its unique problems and, as well, to cooperate with its neighbor project states in finding the answers common to all. Findings resulting from this program are likely to contain implications for small schools in other regions, as well as for large schools. The project represents an organization unique to the education scene. For the first time, five state education agencies have agreed formally to cooperate in providing financial and moral support to small schools whose personnel are willing to experiment on solutions to their common problems.

Flexible scheduling, techniques for the one-room schoolhouse, programed instruction, teaching English as a second language, continuous progress programs, shared services, technological innovation are the areas being explored. Specific cases from all the above projects will be presented in the following section.

PROMISING PRACTICES

ORGANIZING FOR INSTRUCTION

Learning must be done by the individual. Although each learner is influenced by the people and materials around him, the change in behavior or attitude or understanding must be achieved first in his mind. The small school may more easily organize for individual learning and such organization need not necessarily be the same as in the large schools.

Such organization in philosophy, expectation of achievement, student grouping, teacher assignment, curriculum sequence, use of school time, and expected student behavior is good only if the combination provides excellent experiences for all youngsters. We cite some innovations, with specific examples of their application.

Nongraded or Continuous Progress

The present single-grade class in elementary and secondary schools (large and small) assumes concept, understanding, and bodies of content can be packaged for a group of students. Today's standard teaching practices conjoining with the "content packages" imply that all students at one age or ability can learn the same thing at the same time. This forms the ill-conceived academic

bed of Procrustes described by two authors when they object to the lock-step grade system wherein "the slow are pulled and stretched to fit the grade. Sometimes -- [illegible] 'nonpromoted' -- left behind, where presumably another year of stretching will do the trick. The quick are compressed and contracted to fit the grade. In time, they learn to adapt to a pace that is slower than their natural one." 10/

To combat this anachronism, all small schools could attack some of their critical problems through ungrading the curriculum, and could thus provide for the continuous progress of students, in keeping with the realities of individual differences.

Some small schools are experimenting with new ways of organizing content that encourage and permit all students to develop and progress at rates in keeping with their individual capacities for learning. 11/

As a first step in a continuous progress program "two teachers who are normally assigned the first and second, and second and third grades, respectively, in the Bicknell Elementary School in the Wayne School District are experimenting with ungraded primary units. Each teacher will have approximately the same number of students from each of those three grades. The concept of continuous progress will determine the level of materials and learning experiences for each child or group of children." 12/

In Arizona, Kayenta is scheduling simultaneously four high school years of social studies and English, to facilitate team teaching, large and small group instruction, and to assist in the individual development of each student. 13/

Springfield, Vermont has developed a nongraded secondary school. The purpose of the plan is to enable students to gain machine trades experience while simultaneously pursuing a high school education. Since the community and school are small, all students requesting such work experience could not be accommodated during any one semester or quarter. Consequently, students were allowed to "take five weeks off" during the school year to gain the desired trade skills in a machine tool company. Because all high school teachers then found their classrooms at any five-weeks period only partially filled with academic students, they found it necessary to devise methods, materials, study schedules, and teaching techniques which would assist students who ranged from no progress to advanced second semester achievement. Since it is known that the normal high school range of students' achievements far exceeds four years in one high school subject, it is not necessary, or even desirable, that all students be working simultaneously on the same point of learning.

Use of self-instructional materials, classes converted to consultation sessions for individuals and small groups, achievement tests taken by individuals at times of assignment completion, lectures presented by tape recorder, individual slide and movie projection stations, and rare plenary class sessions are all observable changes in this school. Here, the teacher functions often as resource organizer, consultant, tutor, and coordinator of learning. The student may proceed semi-independently in conventional text

work, programed materials, and home assignments, and cooperative trades training. He will take tests, begin new units of work, prepare and conduct experiments, and discuss literature at the time when his intellectual and academic progress are adequate. Each classroom, at any given hour of the school day, may house students, grades 9 - 12, who are progressing through a given subject or discipline with the help of a range of materials and people. Through this organization, it is possible for a student to take a work program "down town" and continue work on his advanced English course in the evening. He may consult with the teacher after work, before school, or at other scheduled times. He is always enrolled as a student. 14/

Team Teaching

Any team must have members who specialize so that the team skill is greater than the separate skills of its members. Team teaching in the small high school is no exception. An example would be two or more teachers from different subject teaching assignments who jointly plan, conduct, and evaluate a single class or parts of several classes. This may include large and small group and individual instruction, joint presentations, and cooperative evaluation of student achievement and of the program offered. The same plan might work with several teachers assigned to the same subject area -- a plan not usually feasible in the small rural school.

An example of the cross-disci·line team was developed at Helena, Alabama. The block-of-time schedule (two or three hours scheduled for the course) allowed the two-teacher team greater flexibility in planning and teaching. The Great Ideas theme:

> "comes from the organized knowledge of the social studies and the humanities, with special emphasis on history and literature. Because of the flexible use of time and the employment of team teaching procedures, the program requires facilities which permit assembling students in both large groups for lectures and demonstrations and (in) seminar-type groups for discussion activities." 15/

Teacher Aides

Having aides should help professional teachers devote more time to their unique function of teaching. The routine tasks -- requiring skills extraneous to teaching -- are handled by a qualified, trained aide. "This plan cannot be promoted as a money-saver: indeed, it will cost more money. But as a plan for the wiser use of teachers' time and, therefore, as a wiser expenditure of public funds for securing quality instruction, it will appeal to almost everyone." 16/

In Quemado, New Mexico, one teacher explored use of an adult aide to assist her to improve the first and second grade reading program. The teacher's objectives were to increase the pupils' work recognition skills, and to improve the students' comprehension in word meaning.

Following is a quote from the teacher's report:

"We felt our problems stemmed from an overload of clerical-type duties, together with several grades being taught by one teacher . . . . (T)he goal was to be accomplished by using a teacher aide for routine clerical duties, supervision of follow-up seat work, and other such routine matters. The teacher would concentrate on the reading program and its various phases . . . . The teacher aide performed a wide variety of duties. Some were daily; others as needed each week:

Typing materials needed by the teacher
Mimeographing and duplicating materials for classroom use
Taking care of attendance records
Collecting money
Conducting opening morning exercises
Oral sentence work with the first grade
Flash card drill with the first grade
Checking workbooks and papers (with teacher supervision)
Helping children make up work after being absent (with teacher supervision)
Giving spelling tests to the second grade for individualized program
Checking out library books
Playground supervision" 17/

Experienced teacher aides could provide extensive assistance in the starting activities for continuous progress classes. However, at this time, documentation is not available on this practice for small schools.

The One-Teacher School

In certain areas, the one-teacher school may be needed for some time to come. 18/ As example, Nevada has seventeen school districts, corresponding in boundary to county lines. The Elko District exceeds in square miles the combined areas of Massachusetts, Connecticut, Delaware, and Rhode Island.

With its distances, scattered population (with few exceptions), and extensive district organization accomplishments, Nevada still has isolated one-teacher schools.

A prime example is the school in the mining camp of Scheelite, located nine miles from Dead Horse Well. According to the Nevada WSSSP Director, the camp is quite inaccessible for as much as three months of the school year. In 1962-63, this school contained seven pupils -- five in the primary grades, with the remaining two working on special needs because their educational achievement lagged far behind their chronological age of 14 years. The teacher had a multigraded and an ungraded school. A third-grade boy had as his own project a rather comprehensive study of the entire state; while simultaneously one 14-year-old had as her project the improvement of her own reading, using the tape recorder as an aid. Evaluation showed excellent growth by both students. With teacher help, the other students worked on similar but individual problems. All of the youngsters, including the first-graders, became proficient in use of tape recorders and projectors. 19/

CLASSROOM ACTIVITIES

The core of instructional improvement in any school is the organization for learning. As contrasted to organization for instruction, this section considers the activities of the teaching-learning process within the classroom.

Multiple Class Teaching

This technique allows for one teacher to offer two or more related subjects simultaneously. The subjects, usually at the secondary level, may be offered in one room or in several rooms. "In schools which have already employed this technique, the multiple subjects taught have been in related areas, with the thought that related subjects contain a core of 'common knowledge' which might be taught to all groups at the same time." 20/

According to one analysis:

> "The role of the teacher is somewhat different in a multiple class. Students have more freedom to progress on their own initiative, responsibility, and rate of speed. The teacher's responsibility is less to hold the student's immediate attention and more to assist in new learning, guide and encourage progress and evaluate achievement. This gives the teacher more opportunity to adapt learning to local needs and to guide individual development." 21/

A multiple class method of offering industrial arts and shop courses "consists of scheduling an individual general shop program throughout the school day." This is a nongraded course. The students may register for the general course at any free time during their scheduled day. At Port Gibson, Mississippi, "students begin each semester with two or three weeks in the classroom, during which time they study about industrial processes generally, concentrating on those processes which they will later be exploring in the shop-laboratory. In the shop, students engage in a variety of activities on a rotating basis, so that on any given day some will be working with woods, others with metals, and still others with electrical apparatus." 22/

In Mosca, Colorado, a multiple class included auto mechanics, lapidary, and mechanical drawing. Five students took auto mechanics; two students, lapidary; and three students, mechanical drawing. The courses were offered for a total of 70 minutes, four days per week. Setting up a double class is not easy:

> "Difficulty arises the first week or two when the teacher must get each group started . . . . The teacher says, 'It was bedlam the first week, when no one knew what to do and the students all wanted help at once. But soon the students were all working on their own initiative at different speeds. It was then easy for me to rotate among them for help and checking.'" 23/

In a New York school, a multiple class was offered in business law. The program was designed to meet differential needs and abilities. The students had different objectives in mind when they enrolled for the course, so that

the class was divided into three groups: advanced business law, college-prep, and practical business law. Learning guides were developed and made adaptable for individual use so that "each pupil might do as many activities as he wished." 24/

Technological Assistance

Teaching relies for its effectiveness on the quality of its communications. Like other professions, teachers require added devices and equipment to assure excellence in learning experience.

The 16 mm movie projector can be used to enable the teacher to team up with "experts on film." One solution to the problem of limited teacher qualification or time is the use of the Harvey White Physics and John Baxter Chemistry series. Both are complete high school courses on film. The excellent lectures and demonstrations on film, if combined with individualized activities provided by the local teacher, have provided a high quality science offering.

> "Juniors and seniors at Ridgway, Colorado, entered a basement room for their physics films. The blinds were adjusted and a student projectionist started the film, while others prepared for note-taking. Meanwhile, across the hall, the teacher led the general science class in a discussion period. These students then studied while the teacher expanded upon the film and gave individual attention to the physics students." 25/

The tape recorder is also effective in providing teacher flexibility. For instance, it is now possible for a capable teacher to be several places at once. The teacher at Bennett, Colorado, taught typing I and shorthand I simultaneously. In his classroom the shorthand youngsters were grouped surrounding the tape recorder, the typing students faced in another direction. Sometimes the groupings were reversed. 26/ By taping a class lecture prior to its delivery, he accomplished several tasks:

> He closely supervised his typing students while the tape recorder gave directions.
> He taught another class on the other side of a glass partitioned room.
> He was out of the room on a field trip, on consultation or in in the projection room with a film. 27/

In 1963, several Colorado schools conducted an experiment using the amplified long distance telephone as a teaching device. The general plan was to demonstrate that five schools located at distances ranging from 265-124 highway miles from Western State College could simultaneously conduct a classroom lecture and discussion. Using the conference-call facilities of the Mountain States Telephone Company, small high schools in five separate points of western Colorado were connected to the college campus. The college professor, seated in his office in the college at Gunnison, delivered a 30-minute lecture simultaneously to the American History classes in each of the five schools. On the following day, the students held a 30-minute question period by telephone with the professor. The plan was considered workable because:

"The quality of questions was good when the students were not confronted with an immediate pressure to perform. Some research and review was possible at the end of the lecture and prior to the question session."

Lecture topics selected for the series were The Roaring Twenties, The Depression Decade, and Hot War -- Cold War.

According to the report, the advantages of the telephone amplified lecture are:

"Availability of specialized lecture personnel on a short-term basis.

"Simplicity in preparation i.e., the lecturing professor need not travel 200 miles one way to deliver the lecture.

"Availability of instantaneous two-way communication (an advantage over conventional television, taped or printed lectures, or radio)." 28/

SHARING PEOPLE AND SERVICES

Cooperation in attacking a problem is a rural tradition. This applies to family, the community, and farm and ranch business. The principle, as applied to rural schools and called "shared services", may include sharing of facilities, teachers, students or equipment. The simplest form, the shared purchasing of supplies, may reduce the per student cost because of bulk rates available. Also, districts may jointly contract for specialists whose time and talents would be wasted in a single, low enrolment district. Less traditional programs may share regular teachers and sometimes able students.

Sharing Teachers

"At 8:00 a.m. on a given morning in Duchesne, Utah, one could see five teachers from the high school drive north on the highway to Altamont. About twelve miles out of town they could wave to a similar carload of Altamont teachers going to Duchesne. This is the Duchesne County School District "shared teachers" program in action. The result -- teachers teaching only those subjects for which they have a college preparation, fewer daily preparations for teachers, and students being better taught than ever.

The 'traveling' teachers in this district exchange on alternate days. To accommodate this arrangement, classes meet for 100 minutes." 30/

Sharing Able Students

Small schools admittedly have not provided challenges for the able and gifted. Part of the reason is, again, too few students to justify the cost of a special program.

The partial answer -- "pool the gifted students by bringing them together periodically for advanced, cooperatively developed 'seminars in ideas.'"

This program can be provided by Saturday programs at a college campus, 31/ by after-school or evening sessions 32/ or by released time from school. The programs, usually for no academic credit, are to afford the "panoramic view" in the field of ideas. Other organizational concepts could provide deeper or different experiences, according to the objectives developed by the participating schools.

MODIFIED SELF-INSTRUCTION

Too few teachers, transfer students' demands, broadening students' perspectives, and increased pressures for continuous progress programs have forced development and use of techniques and materials which facilitate individualization of instruction. Such instruction frees students to progress individually. Also, such flexible student progression "will require some individual teaching and guidance, some small group instruction, some partner instruction, and a certain amount of large class instruction." 33/

This does not require face-to-face teaching at every instant. However, it requires some latitude and freedom and many special materials.

Supervised Correspondence Instruction

This may broaden the school's course offering, aid the qualified teacher in providing self-instructional materials for students, or help the new teacher get a subject matter foundation. "Those who have had experience with this method seem to feel that unless the word 'supervised' is taken in its most literal meaning, the chances of success will be lessened considerably." 34/

A teacher at Simla, Colorado, supervises a double class correspondence course, Spanish I and II. He says about the courses;

> "I teach toward the work sheets which the college sends us. I give a six weeks' grade, based on speaking and general work. We listen to records and use the tape recorder to check our pronunciation . . . the tape recorders assist us a great deal in offering a course like this." 35/

Sequenced Self-Instructional Materials (Programed Learning)

Use of good programed materials opens nearly unlimited possibilities for the small school. The following description from the journal of a New Mexico teacher clearly indicates methods and organization, combining programed instruction with multiple class teaching:

> "I used the SRA programed text in Modern Mathematics for Algebra I. Seventeen freshmen were enrolled and used the materials. Some of the students, together with a transfer, were not able to enroll for this course at the regular hour due to conflicts. Consequently, the five (one senior, two juniors, and 2 sophomores) took the course in a multiple class situation with Algebra II, and one took it during studyhall. Especially at the first of the year, I used a few minutes at the beginning of the period to discuss new topics. Later, that

practice seemed to become impractical because of the different rates of student progress. A topic might not be pertinent to more than two or three. Instead, I helped them individually or in groups of two." 36/

Variations in student progress require modifications of reporting their achievement to parents. In Des Moines, New Mexico, "the method of reporting . . . is not through use of letter grades A, B, C, D, and F. Instead, a special card reports the student's progress on an individual linear scale of advancement through the course. No letter grades are given except as colleges and employers request semester grades. Then a conversion scale is used." 37/

FLEXIBILITY IN SCHEDULING

All schools are equal on the clock. However, minutes for learning can be used more effectively and here the small school has the advantage of potential flexibility. The rigid time schedule in the small school is both unnecessary and contrary to the limited research evidence available.

As stated earlier, the learner's needs, abilities, and rates of learning vary widely. "It seems logical, therefore, in scheduling, that the length of (learning experiences) should vary according to the nature of the subject, type of instruction, and abilities and interests of the pupils." 38/

Methods of providing flexibility vary widely, from reducing scheduled learning periods to modules of 30 minutes (so that a period may be 30-60-90-120 minutes long), to increasing periods to 100 minutes to facilitate shared teacher's programs. Other variations are possible, including "floating periods," rotating periods, classes which meet more than once daily, and other classes which meet less often than daily. For those schools having rigid state or other requirements, it is possible to have "half the schedule constant to allow for legal or traditional rigidity, with the other half (morning or afternoon) flexible." 39/

Examples of minor scheduling flexibility are numerous. We know of none yet which display the total flexibility available as one strength of smallness.

CONCLUSION

The authors have attempted to state the problems, the strengths of small schools and certain of the practical solutions which have been demonstrated and documented. Obviously, the paper does not provide enough solutions. For instance, it strikes only a glancing and feeble blow at rural school finance. It provides no new ideas for suddenly increasing numbers of students, where this would be desired. Although an excellent administrative organization may attract good teachers and hold them longer, if they employ new techniques, they will probably need to work just as hard, or harder.

The paper has attacked more directly the problems of limited human resources, understanding, and poor facilities. By different organization within the school and the classroom, and by selective use of new technological devices,

methods, materials, and know-how, the necessarily small school may climb from its present reputation as the "graveyeard of public education." The concept of individualizing instruction and of "continuous progress" for each youngster, if blended and combined with applicable methodology, could provide the true answer to the small school's problems. However, sufficient teachers are still not available who know how and are willing to experiment on this blend.

The document provides no answer to the greatest problem -- that of enlightened leadership for the small school. This may be chiefly a problem of money -- "too little pay for good men." Although money may be a partial answer, the authors believe the problem to lie deeper. The heart of the challenge probably resides in the changing structure of society, the values of which are attached to a highly urbanized and industrialized nation. The complicated corporate structure which underpins and enmeshes the modern society is now so completely accepted (and often little understood), that simplicity of organization found in rural school systems is regarded by many as inferior. Attracting and holding superior leaders, willing constantly to swim against the current of human understanding, may be all but impossible.

FOOTNOTES

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