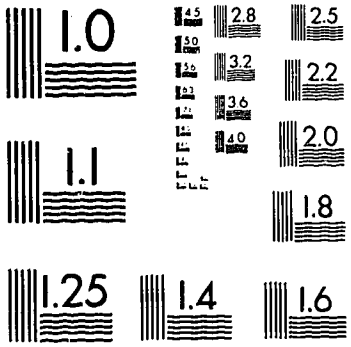


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ABSTRACT

Although rural children with mild or moderate handicaps have been integrated into the regular classroom, children with severe or low-incidence handicaps continue to be underserved by rural schools. Traditional service delivery models are inadequate in rural areas where many levels of the traditional service continuum and adequate staff and funding do not exist. Because of the diversity of rural communities, no one service delivery model can satisfy all situations. Instead, planners must design service delivery models specifically for the system and subculture in which they will be implemented. When designing service delivery systems for rural handicapped students, planners must consider 15 community and district factors, their interrelationships, and their combinations. The factors include population, climate, geography, economic lifestyle, student ages, disabilities, cost efficiency, personnel attitudes, resources, distance to services, language spoken, cultural diversity, district-resource relationship, local communication and power structures, and district special education history. Planners must also consider 10 district variables including equipment, facilities, finances, staff development system, transportation, staffing, parent involvement and training, community involvement, governance system, and interagency collaboration. The article summarizes 10 successful service delivery models for serving rural children with low-incidence handicaps. (SB)

# Models For Serving Rural Children With Low-Incidence Handicapping Conditions









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August, 1983

# MODELS FOR SERVING RURAL CHILDREN WITH LOW-INCIDENCE HANDICAPPING CONDITIONS

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Running head: Models for Serving Rural Low-Incidence

ABSTRACT

Traditional models designed to provide a continuum of services to handicapped students are inadequate for rural schools attempting to serve students with low-incidence disabilities. Because of the tremendous diversity in rural schools and communities, there is no "one" rural service delivery model. This article delineates factors that must be considered and variables that must be controlled by the rural service delivery model planner. Samples of successful statewide and local district models are described. Each model was designed by manipulation of variables such as staffing, transportation, and governance systems after consideration of district and community characteristics.

# MODELS FOR SERVING RURAL CHILDREN WITH LOW-INCIDENCE HANDICAPPING CONDITIONS

## INTRODUCTION

Historically, a majority of rural educators have not voiced problems concerning serving mildly and moderately handicapped students. Such students were typically not identified as handicapped in rural areas or were thought to have unusual learning needs and served in the regular classroom. Thus, compared to their non-rural counterparts, rural mildly/ moderately handicapped students have had minimal problems gaining the acceptance of regular classroom teachers and students.

This was partly because of the rural norm of "taking care of one's own" and partly because rural Americans inherently dislike the labeling of individuals. It is also partially attributable to the practical nature of rural educators. They tend to "make do," when given inadequate resources (in this case, lack of special education classes).

However, situations were more problematic when teachers were asked to serve students with severe handicaps and those classified in other low-incidence categories. (In rural school systems, this typically includes students having hearing impairments, emotional/behavioral disorders, blindness or other visual impairments, severe orthopedic disabilities or other health impairments, severe mental retardation, and those with multiple or severe handicaps. However, in very small rural schools, a child with mild or moderate mental retardation may have a "low-incidence handicap.")

Rural schools did not have high enough enrollments of children with low-incidence disabilities to gain funding for segregated special education classrooms or teaching specialists. They typically also had no

other available services or supportive staff. Thus, mainstreaming students who needed major adjustments in classroom curricula, materials, or activities was particularly difficult for regular classroom teachers with large numbers of non-handicapped students.

Until Public Law 94-142 (PL94-142) was in "full implementation," rural children having low-incidence handicaps were typically unserved, or at best, underserved. In fact, a national study comparing rural special education services before and after the implementation of PL94-142 indicated that tremendous changes occurred in services available to rural students with low-incidence handicaps (Helge, 1980).

Data gathered for this study via on-site and telephone interviews indicated dramatic increases in the percentages of low-incidence children identified and served. (The percentage of change was 47% from 1975 to 1980.) This was particularly true with severely handicapped populations. Before the implementation of PL94-142, many rural districts/ cooperatives had few special services for severely handicapped students. In fact, a majority of the districts/ cooperatives had previously placed such students in residential and private schools and agencies. By 1980, most sampled districts were trying to serve them in their home district/ cooperative.

In spite of the progress noted by the study, the overwhelming majority of the rural school systems involved in the sample reported that students with low-incidence handicaps were the most difficult population to serve.

## INADEQUACIES OF TRADITIONAL SERVICE DELIVERY MODELS FOR SERVING RURAL STUDENTS WITH LOW-INCIDENCE HANDICAPPING CONDITIONS

Traditional models of providing a continuum of service for students with handicapping conditions (i.e., various adaptations of the classic Reynolds framework introduced in 1962) have been vital to those planning special education services in non-rural settings. These models typically include levels of service such as those depicted below and recommend child placement based on an assessment of the level of severity of a handicap.

Hospitals and Treatment Centers
Hospital School
Residential School
Special Day School
Full/Part Time-Special Class
Regular Class/Resource Room
Regular Class With Consultation
Regular Class (Without Consultation)

However, such models are much less appropriate for rural school systems, than for others. This is especially true for rural schools located in remote geographical areas. For example, a district having two students with cerebral palsy located 250 miles from each other typically cannot cluster these students for services.

Many of the levels of the traditional continuum do not exist in rural areas. For example, many rural school systems historically sent their students with low-incidence handicaps to residential schools located outside of their states because they had no in-state option. Likewise, special day schools do not exist in many rural areas. They are simply not a practical alternative for districts in which students with similar problems are located 200-300 miles from each other.

Traditional continuum of services models also assume the existence of a greater number of staff than is typical in most rural schools. An adequate funding base for such staffing has also been assumed by designers of such models. Numerous studies have indicated that this is certainly not the rule in the majority of rural systems.

Another inclination of those proposing special education service delivery models has been to identify "the" model for rural service delivery. For example, after the passage of PL94-142, special education cooperatives became widespread. They allowed school districts to combine scarce resources so that they could pay for expensive specialized services and staff.

The predominant special education cooperative model involves hiring one or more itinerant specialists who travel as needed to isolated students requiring specialized services. These personnel provide services ranging from direct instruction of children to training staff and consulting with parents. This type of structure has been responsible for services becoming available to many previously unserved rural students with handicaps. However, cooperatives and itinerant staff shared among districts within a collaborative structure have not been a panacea as indicated below.

1. Even cooperatives have frequently not been able to afford to hire a necessary full-time itinerant staff member to serve only a few low-incidence handicapped students in widely scattered geographic terrain.

2. Itinerant staff, particularly those covering wide geographical distances in difficult rural terrain, tend to be highly stressed professionals. Attrition rates are high due to the frustrations of wasted "downtime" on the road, particularly for those who must frequently travel in inclement weather. Many itinerant personnel must be self-reinforcers not only when travelling but when housed in school buildings where their role is "different" and typically misunderstood.

3. Program continuity is difficult even under the best of arrangements when a person with specialized training related to a child's disability is only able to visit or train the local classroom teacher a few times per year.

4. Traditional itinerant service arrangements are not always an option. In many parts of the U.S., distance between students and services, geographic barriers, and/or inclement weather prohibit transportation of students or professionals on a consistent basis.

Just as urban models are not appropriate for rural schools, there is not "one" rural service delivery model for the great variety of rural school systems and their attendant subcultures. It cannot be assumed that a practice effective in remote Wyoming ranching territory will necessarily be viable on an isolated island, in part of a cluster of New England seacoast towns, or in an agricultural migrant camp. Instead, service delivery models must be individually designed for the rural school system and subculture in which they will be implemented.

## CONSIDERATIONS FOR THE RURAL SERVICE DELIVERY MODEL PLANNER

The factors listed in Table I below must be considered by those designing a service delivery system for students with low-incidence handicaps. Most importantly, the interrelationships between variables discussed below must be assessed. For example, districts with equivalent population densities should plan in significantly different ways if one school system is surrounded by mountains with relatively untraversable roads all winter and the other district is located in a flat agricultural area with mild winters.

TABLE I

FACTORS TO CONSIDER WHEN DESIGNING RURAL SERVICE DELIVERY MODELS

Relationship of District Governance System to External Resources
Population Sparsity
Distance From Student to Services Needed
Geographic Barriers
Language Spoken in the Community
Cultural Diversity
Economic Lifestyles of the Community
Community Communication and Power Structures
Ages of Students to be Served
Types and Severity Levels of Disabilities to be Served
History of Special Education Services in the District
Currently Available Resources
Cost Efficiency
Expertise and Attitudes of Existing Personnel

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Each factor is briefly described in the narrative below.

1. Relationship of District Governance System to External Resources

   A district that is administratively part of a cooperative or has access to a state's education service district typically has considerably greater resources available to it than a district where the majority of external resources must come from a centralized state education agency (SEA). This is particularly true when the isolated district is located a great distance from the SEA or when geographic or climatic barriers exist between the local district and SEA.

2. Population Sparsity.

   The population per square mile is tremendously significant for the model planner. Although a rural system is by definition relatively sparsely populated, services must be planned in a dramatically different manner for small clustered townships than for schools located on remote islands, vast rangelands, or in the isolated bush villages of Alaska. This is not only important in determining whether students with similar learning needs are available to be clustered for services but in assessing proximity to services.

3. Distance From Student to Services Needed.

Assuming a service exists, the planner needs to know the distance from child to service location or from itinerant staff member to child. Knowledge of the actual travel time will assist the planner in determining whether a service or professional should be transported to the student or vice-versa.

4. Geographic Barriers.

Absolute distance from potential services to a student is frequently complicated by geographic barriers such as mountains, untraversable roads or the necessity of taking ferries or small planes. In some area of the northeast and northwest portions of the country, roads do not exist. Personnel must either travel by light plane or snowmobile, or even detour through Canada, to reach their rural district. Because the U.S. Government owns and prohibits travel through large areas of several western states, many school personnel in such states must frequently travel an extra 2-3 hours to reach their service destinations.

5. Climatic Barriers.

In areas with severe climates or seasonal problems such as heavy spring flooding, it may be relatively unimportant (and highly frustrating) to planners that a qualified professional or program is located only an hour's distance from the child. Students with disabilities suffer when program continuity is frequently disrupted by climatic problems. Administrators also experience difficulties with planning or implementing longitudinal goals for a child. Thus, adept planners consider such factors when initially designing a plan of service delivery.

6. Language Spoken in the Community

Just as primary languages spoken by a child having a disability must be considered when designing an IEP, the primary languages of the rural child and his/her family must be taken into consideration for other purposes. This has relevance for selecting appropriate personnel, especially itinerant staff traveling to rural communities with different lifestyles and cultures than their own. It also is extremely important to the administrator who is considering clustering students for services.

7. Cultural Diversity.

Besides the most readily recognized ethnic cultures with which service planners typically try not to interfere (knowing that disrupting family life interferes with the effectiveness of services), unique rural subcultures must

be considered. Research has clearly indicated that some IEP requirements, though well intentioned, were written without extensive familiarity with various rural cultures. An example relates to difficulties implementing the requirement that written parental permission be obtained. This is particularly difficult in some rural-based cultures, having no written language.

Similarly, an awareness is necessary regarding relating special education terms (e.g., learning disabilities) to some rural-based cultures when a particular rural subculture has no concept of such a term. Some religious cultural minorities located in rural America have beliefs and traditions that are frequently at variance with school traditions. Examples include religious holidays that conflict with a school calendar of services.

Handicappped students that are part of rural subcultures that tend to be transient, such as migrant and military populations, also provide unique challenges for the rural special education planner. These include tracking children to insure program continuity.

A relatively new phenomenon facing many rural special education planners is the "boom or bust" syndrome prevalent in states prioritizing development of energy resources. Some special education administrators faced with "overnight" doubling of their special education population because of temporary influxes of workers find that by the time they locate resources to provide services, their populations have significantly decreased.

Planners must also be aware of unique community and parent expectations for the success of handicapped students.

8. Economic Lifestyles of the Community.

Rural communities, particularly those with relatively non-diversified economies, tend to schedule their lives around the requirements they face as they attempt to make a living. Service delivery planners should be aware of total community priorities and events that might influence or even interfere with service delivery. Examples include handicapped children being absent from school during peak periods of agricultural, fishing, or timber "harvesting" or during seasonal "festivals" in resort communities.

9. Community Communication and Power Structures.

The special education planner who ignores the existing communication and power structures of a rural community will probably not be required to plan such services for an extended period of time. Typically, informal systems are more potent than those that are formally outlined. Infor-

mal rules often have significant ramifications for serving students with disabilities. For example, differences between the formal and informal organizational chart have implications for who, in reality, assigns duties to the itinerant specialist, guaranteeing confidentiality of student data, and identifying the person to whom service deliverers feel accountable.

10. Ages of Students to be Served.

The planner should ascertain the ages of children to be served in the local district and in any adjacent communities/ systems in which collaborative services are being considered. The U.S. still has many one-room schoolhouses in which a teacher is responsible for a wide range of ages. Studies have indicated that such a situation entails a great deal of stress for educators, and that this stress tends to be associated with burnout. (Dickerson, 1980; Helge, 1981.) Thus it behooves the administrator to attempt to group students in similar age groups if at all possible. Exceptions, of course, would be made when developmental age was more critical than chronological age.

11. Types and Severity Levels of Disabilities to be Served.

The level of severity of a disability will frequently determine whether or not a student can receive services within the regular classroom setting. Some types of handicapping conditions tend to be more prevalent in some rural subcultures than others or in non-rural subcultures. (E.g., the National Rural Project, in its 1978-81 studies, identified that areas with colder temperatures tend to have more hearing-impaired children, and rural students located in poverty and migrant cultures tend to have greater concentrations of mentally retarded children (because of inadequate nutrition, health care, and prenatal care.)

Designing services for such unique groups of students requires specific actions by the planner. This, of course, is another reason that "one" rural service delivery model is not a viable concept.

12. History of Special Education Services in the District.

What services have been offered in the past to handicapped children in a particular service area are closely linked not only to available funding and awareness of PL94-142 regulations, but to community attitudes. In rural communities, key power sources (whether they include the school board chair or the wealthy farmer who likes children and serves as a janitor during the off-season) have pervasive influences on school services.

Rural citizens are typically unimpressed by what they are told they "have to do" for handicapped students. In contrast, they are highly motivated to provide appropriate services when the initiative is theirs. Adept administrators understand and plan to use such inherent rural community attributes, particularly when attempting changes.

In rural communities having a unique ethnic heritage, it is possible and important to plan new services that will be palatable to the native heritage and as much as possible preserve the community's self-determination and identity. It is not surprising that isolated rural communities whose only choice in the past has been to send their disabled students to communities or cities lacking their cultural emphases have resisted change - and sometimes, special education as a concept.

Models of service delivery that offer services in the local community via use of itinerant staff, technological alternatives, etc., offer other alternatives. They are discussed in a later section of this article.

13. Currently Available Resource.

While PL94-142 requires that appropriate services be available to each student in the least restrictive environment, the law does not state how such services are to be delivered. Despite rural America's reputation for inflexibility, rural citizens have, out of necessity, long tended to be creative problem-solvers. The model planner should assess all existing resources. The resulting catalog of current resources should include intra-school and external facilities, equipment, etc. The planner should then identify and plan to use "hidden" resources endemic to rural America such as its sense of volunteerism and community spirit.

14. Cost Efficiency.

When feasible, the planner should assess costs of alternate systems of providing a given service. The fiscal realities of rural schools, departments, and classroom budgets must be considered.

However, the planner will typically not be faced with evaluating monetary trade-offs between equivocal alternatives. It is more likely that he/she will have to present a need and request funds from a supervisor, a cost-conscious rural school board, or a community organization.

The administrator should be knowledgeable of budgetary accountability systems. Data gathering and subsequent presentations should consider cost efficiency in light of a varying range of potential effectiveness. He/she should

address not only local per pupil expenditure vs. out of district placement costs, but funding alternatives. The planner should be prepared to answer questions concerning the percentage of the local school district contribution for salaries, transportation, consultants, and equipment.

15. Expertise and Attitudes of Available Personnel.

It is essential that the planner not only note the grade levels and types of disabilities that existing personnel are prepared to serve, but their flexibility regarding serving as a generalist (i.e., teaching several types of disabilities) or specialist (e.g., only children with learning disabilities). Especially in rural America, the model designer must consider formal as well as informal training. Attitudes of personnel toward serving children with various disabilities are equally important. The planner may need to structure staff development opportunities designed to guarantee that students are served by personnel who respect them and are comfortable with their specific disability.

## DEALING WITH INTERRELATIONSHIPS AND COMBINATIONS OF FACTORS

The importance of understanding and considering the interrelationships of all of the 15 factors discussed above cannot be over-emphasized. Combinations of factors are critical and should be weighted more heavily than single-factor barriers to service delivery.

It is difficult to design an effective service delivery model for a rural district with multiple cultures. A planner also experiences unique challenges in attempting to design an effective service delivery model when, for example, the disabled student resides in a sparsely populated geographic area located 150 miles from essential services. His/her task is even more difficult when the student's culture is significantly different from the culture of the nearest service area, when service delivery is inhibited by geographic or climatic barriers, or when the community's power structure has low expectations for the success of such a student.

The planner should discern which of the above 15 variables are problematic. Those that appear to be most important should be identified and the planner should attempt to combat and work with those variables first. Problems that can be quickly ameliorated (e.g., by linkage with technological or other resources available through the state or by gaining the understanding and support of the local power structure), should be. Typically, the planner can merely acknowledge factors that are unchangeable "givens," such as spring flooding, when designing the service delivery plan.

Figure 1 below illustrates that planning becomes a more arduous task as the number of problemmatic "givens" that must be considered increases. As one "given" is combined with another and the planner spans out to each concentric circle of Figure 1, it is increasingly difficult to design an appropriate service model.

* * * * * * * * * *

INSERT FIGURE 1 HERE

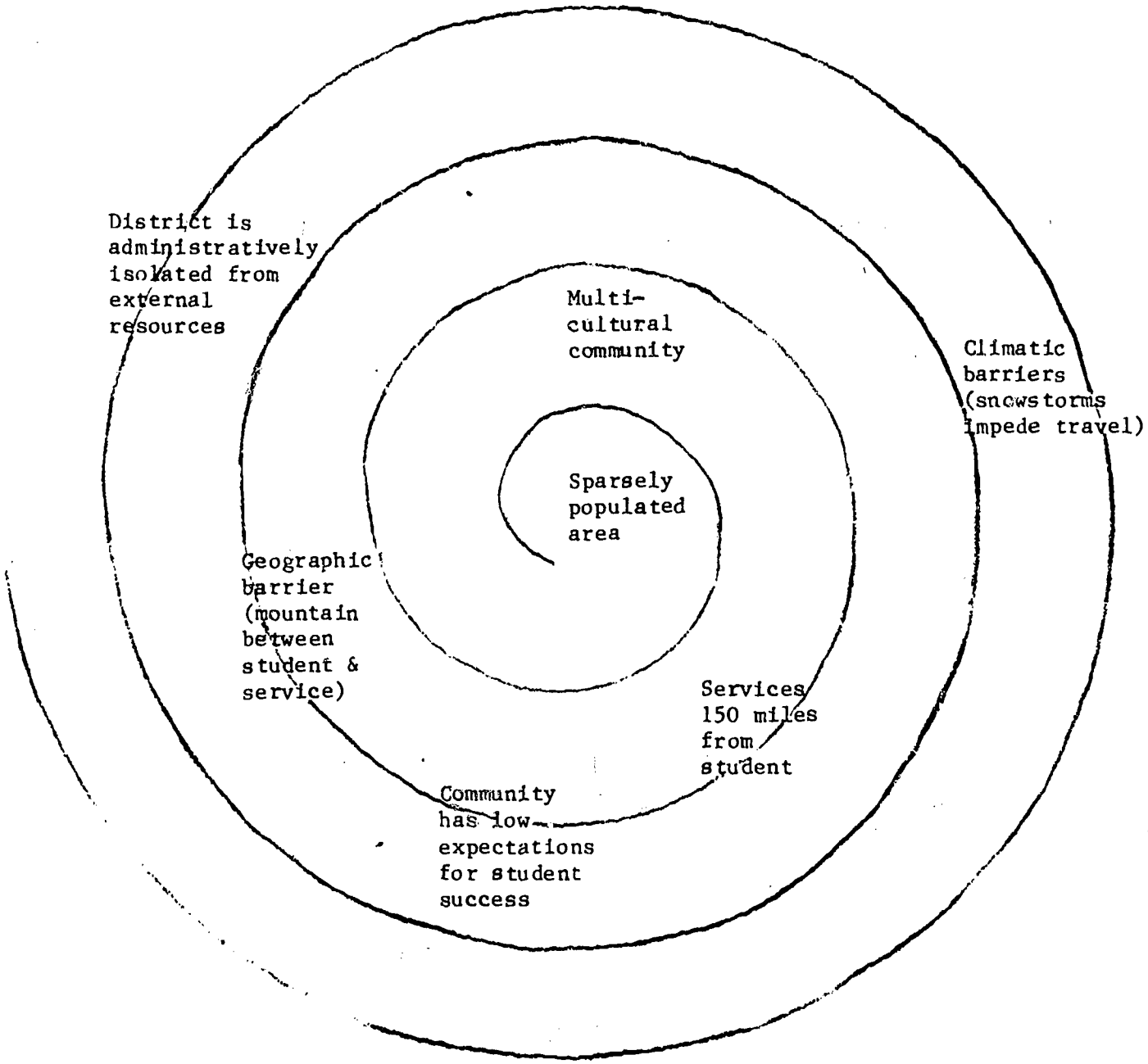
* * * * * * * * * *

MODEL DEVELOPMENT

After considering the above factors, the planner is ready to develop a workable service delivery model. There is no such thing as a pure model for rural special education service delivery. Rather, eclectic approaches are the rule; and numerous variables must be juggled such as cost vs. intensity of need or availability of alternate services.

Figure 1

INCREASING LEVELS OF DIFFICULTY IN
DESIGNING A SERVICE MODEL



Technological advances are greatly improving the options of the local rural district. For example, it is no longer necessary to decide between hiring a specialist or a generalist if a generalist can use satellite instruction (or some other technology) to supply specialized instructional content.

Variables of a service delivery model that must be manipulated so that the resulting eclectic model has a "fit" are listed in Table II below.

TABLE II

SERVICE VARIABLES THAT MUST BE CONTROLLED WHEN DESIGNING AN APPROPRIATE DELIVERY MODEL

EQUIPMENT
FACILITIES
FINANCIAL SYSTEM
STAFF DEVELOPMENT PROGRAM
TRANSPORTATION SYSTEM
STAFFING FOR SERVICES
PARENT INVOLVEMENT AND TRAINING
COMMUNITY INVOLVEMENT AND SUPPORT
GOVERNANCE SYSTEM
INTERAGENCY COLLABORATION

Figure 2 illustrates the process of designing a rural service delivery model. Factors that can present planning problems but cannot be controlled by the model designer are termed "givens." Factors that can be manipulated by the planner are labeled "variables." The planner can create an appropriate service delivery model by recognizing givens and controlling variables.

* * * * * * * * * *

INSERT FIGURE 2 HERE

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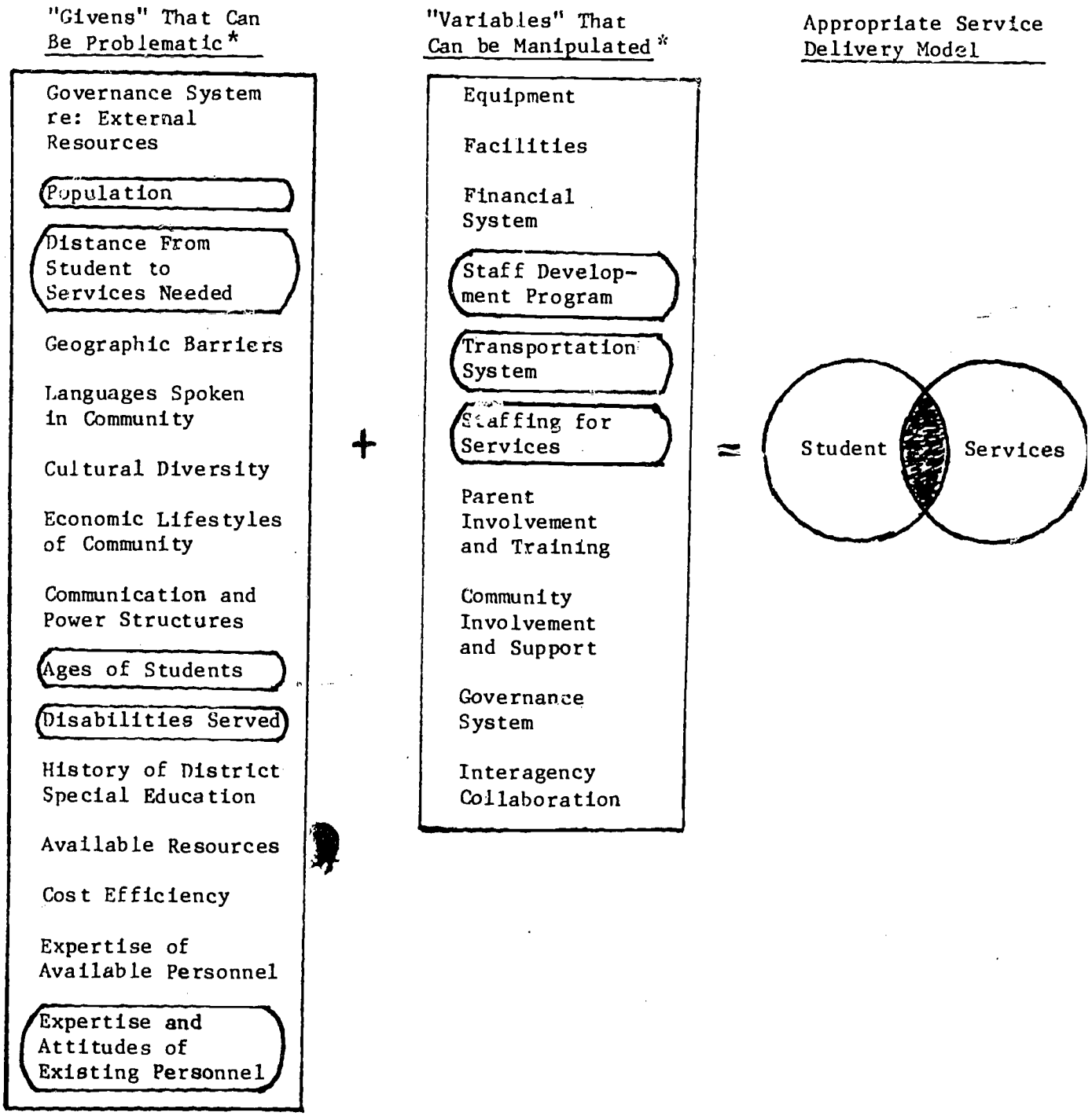
Figure 2

Consideration of "Givens" and Manipulation of "Variables" Allows the Planner to Create An Appropriate Service Model




G + V = M

*Items circled are illustrative.

SAMPLES OF SUCCESSFUL RURAL SERVICE DELIVERY MODELS

Examples of successful models of serving rural students with low-incidence handicaps are included in the narrative below. The reader is reminded that which disabilities are "low-incidence" varies greatly from district to district because of population and environmental influences. Thus, in one district, a given model may be used to serve students who are cerebral palsied or deaf. In another district, the model may be adapted to serve the only moderately retarded student in the district. Development of each model involved the recognition of factors in Table I. Each design highlights the manipulation of one of more of the variables in Table II, although none of the models controlled or changed all of the variables listed.

An adroit planner would not directly "transport" any of the sample models. Instead, he/she would consider them to be illustrations of the way "givens" in Table I are considered and factors in Table II varied so that a subculture-specific model could be created. Figure 3 illustrates the variety of formats used by the sample models described in this article.

* * * * * * * * * *

INSERT FIGURE 3 HERE

* * * * * * * * * *

Figure 3

EXAMPLES OF MODELS WHICH MANIPULATED "VARIABLES" AFTER CONSIDERING "GIVENS" OF SERVING STUDENTS WITH LOW-INCIDENCE HANDICAPS

| Sample Model | Equipment | Facilities | Financial System | Staff Development Program | Transportation System | Staffing | Parent Involvement | Community Involvement | Governance System | Interagency Collaboration |
|---|---|---|---|---|---|---|---|---|---|---|
| State-Funded IEUs | X | X | X | X | X | X | | | X | X |
| Statewide Networks of Consulting Itinerants | X | X | X | X | X | X | | | | |
| Statewide Model to Provide Consulting Services for Regular Teachers of Low-Incidence Handicapped | | | | X | | X | | | | |
| Statewide I-Team Model re: Severely Handicapped | | | | X | | | X | | X | X |
| Statewide Model to Provide Services to Culturally Different Students | | X | X | X | X | X | X | X | X | |
| Local Special Education Cooperatives | X | X | X | X | X | X | | | X | X |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Non-Categorical Resource Rooms | X | X | | X | | X | | | |
| Model Identifying and Using All Potential Resources Within an Isolated District | X | X | X | | | X | X | X | X |
| Models Incorporating Advanced Technologies | X | X | | X | X | X | X | | X |
| Model Using Paraprofessionals | | | X | X | | X | | X | |

1. STATE FUNDED INTERMEDIATE EDUCATION UNITS (IEUs)

This administrative structure involves the use of regional specialists who provide technical assistance and consultation to local district personnel. Some IEUs are designed specifically to provide special education services, and some are designed to provide all specialized services that are difficult for small districts to provide (e.g., comprehensive vocational education.) Most IEUs are administratively part of the state department of education, although one state (Nebraska), specifically separates its IEU from the state education agency.

IEU personnel typically provide services only to other professionals. This pattern is sometimes varied to demonstrate an effective technique or to train a professional to independently deliver the service in the future.

Although inservice activities are sometimes held across regions or on a statewide basis, most are specifically planned for a district or region. Some IEUs have centralized media and materials centers with extensive options for check out, and some states incorporate mobile materials centers. In some cases, "generic specialists" (e.g., resource room teachers) at the local level are supported by specialized regional consultants (i.e., those dealing with a specific type of exceptionality such as visual impairment.) This type of model is generally responsive to rural remote districts when consultant responsibilities are alligned by geographic regions vs. an entire state. The planner adapting it for his/her district would want to design safeguards so that a generic specialist did not become too dependent upon a regional specialist. This would prevent inadequate services or a lack of services in the absence of the regional specialist.

2. STATEWIDE NETWORKS OF ITINERANT SPECIALISTS

The small rural state of New Hampshire has implemented a system to serve students with the low-incidence handicaps of hearing and visual impairments. This system is operated by contract with a private firm that hires consultants to provide direct services to blind and deaf students in remote rural areas having no local personnel. The consultants also train local personnel to deliver follow-up services until they return. Items from an extensive media and materials center are taken to the local district for use when the consultants are absent. These items are varied and updated as needed.

3. STATEWIDE MODEL TO PROVIDE CONSULTING SERVICES FOR TEACHERS OF STUDENTS WITH LOW-INCIDENCE HANDICAPS

The very rural state of Vermont was funded by the U.S. Office of Special Education Programs (SEP) to develop a trainer of trainers model addressing the needs of students with low-incidence handicaps. The model involves collaboration between the University of Vermont (UV), the state department of education, and local rural districts across the state. Teacher consultants, similar to master teachers, were trained by UV faculty to train regular class teachers to mainstream and effectively work with low-incidence handicapped children. All teacher consultants became adjunct faculty of the UV, and teachers who were successfully trained received UV credits. Teacher consultants did not provide direct services unless it was necessary to demonstrate effective techniques. The model provided for consistent availability of consultants to the regular educators.

4. STATEWIDE INTERDISCIPLINARY TEAM MODEL TO SERVE SEVERELY HANDICAPPED STUDENTS

A contrast to the one-on-one model of training regular educators described above is Vermont's Interdisciplinary Team (I-Team) Model. It is organized specifically to enhance services to more severely handicapped students. The concept involves local I-Teams, a regional educational specialist (ES), and a state I-Team. The levels interface with each other, as described below. Each I-Team contains several specialists such as special educators and specialists in communications, physical therapy, occupational therapy, medicine, engineering, and carpentry.

The regional educational specialist is locally based and coordinates services for multihandicapped students in his region. He may ask a local or state I-Team member for assistance. The existence of the regional ES position reduces travel time required to deliver services. Services include assessment; staffing to generate recommendations; training to teachers, parents, educational specialists, and others; monitoring the implementation of recommendations; and coordinating training and consultative services.

Local I-Team members encourage parent support by home visits and by providing parent training. Parents participating in I-Team services also have the option of attending formal class sessions taught by state I-Team members or UV faculty.

The state I-Team serves local districts that lack a local I-Team. It provides technical assistance and training to all local I-Teams needing such services.

5. STATEWIDE MODEL TO PROVIDE SERVICES TO CULTURALLY DIFFERENT STUDENTS WITH MODERATE AND SEVERE HANDICAPS

Sparse populations of Eskimo, Indian, and Aleut families scattered across the 586,000 square miles of Alaska presented unique challenges to those attempting to upgrade the state's system for full implementation of PL94-142. The state's previous system typically involved placing students with severe and other low-incidence handicapping conditions in urban residential schools or foster care. Such a system grossly interfered with the self-determination of native families and with perpetuation of the cultural identity of remote Alaskan villages. Problems also existed with continuity of local services because of the high personnel attrition rates of newcomers attempting to live and work with bush village cultures.

A statewide model entitled Alaska Resources for the Moderately/ Severely Impaired (ARMSI) was designed to provide professional services and consultation to students and their teachers. The primary strength of the model is that services are offered within the local villages. In fact, the thesis of this model was that most local schools, with the proper degree of assistance, can provide an appropriate public education for most students.

ARMSI was initiated in 1981, and involved centralizing the coordination of all services for this massive state, although service delivery was localized. ARMSI has become the umbrella service agency and recruited experienced staff who previously worked with various fragmented service agencies. The 18 staff members thus have extensive experience working in Alaskan bush villages and knowledge concerning how to work and communicate with villagers.

Staff serve as itinerant specialists and offer three basic types of assistance: (a) direct instruction and other services to children and youth, (b) training of and consultation with school district staff, and (c) dissemination of instructional materials and information. This assistance takes place during on-site visits to the villages which occur 3-4 times per year.

Personnel stay at a school or district for about 3 days on each occasion. The visits are part of technical assistance agreements designed by ARMSI and each local district. Because the itinerant educators continue to

work with the same children for several years, the project has the potential to bring greater educational continuity. Longitudinal goals are more likely to be carried out.

6. COOPERATIVE ADMINISTRATIVE STRUCTURES AT THE LOCAL LEVEL

PL94-142 regulations specify that any LEA unable to qualify for a $7,500 allocation (based on the number of handicapped children served) will receive no pass-through funds. This guideline obviously encourages the formation of consortium arrangements to provide special services, and these have typically been titled "special education cooperatives."

The actual operation of cooperatives is as varied as the geographic terrain and climatic conditions in which they exist. Pooling funds, through various kinds of administrative structures, allows single districts that are part of a cooperative to better meet the needs of rural students with low-incidence handicaps. Where geographic distances and climatic variables are not unwieldy, districts can cooperatively hire a person to serve children who were previously unserved or underserved because a single district could not afford a full-time person to serve a few students.

Districts can also cooperatively fund and host inservice training addressing low-incidence needs, and jointly fund relevant equipment, media, and materials. Districts located in close enough proximity frequently cooperatively transport students and/or centralize diagnostic or intervention services.

7. NON-CATEGORICAL RESOURCE ROOM MODEL

This model is frequently called an interrelated classroom or simply, a resource room. It is typically used by local districts having too few students with any particular disability to warrant establishing a segregated class for children with mental retardation, learning disabilities, etc. The emphasis in variations of this model is on improving academic, behavioral, or psychomotor deficits via individualizing a child's curriculum and other learning experiences.

The types of disabilities served in each classroom vary tremendously from district to district. Students are typically mainstreamed into regular classes whenever appropriate.

In a cooperative, students are sometimes transported to a central location for the resource room. More frequently, the non-categorical service area is confined to one district or building. This ensures greater access to

regular classes and regular classroom teachers as students are mainstreamed. In fact, the strongest programs observed by the author have been those with the greatest interaction between the non-categorical resource teacher and regular educators.

One variable to be manipulated in this model is the percentage of the resource teacher's time spent providing direct services to students assigned to the resource room and the percentage of time spent consulting with their regular classroom teachers.

Some resource rooms involve students who are not classified as "special education students" so that the program will have less stigma and regular class teachers will be more likely to use materials available through the resource room. The most effective programs totally individualize the implementation of IEP goals, and many resource rooms seldom involve students actually working together.

Some resource rooms involve aides funded by the district, or by another program such as a government CETA program. Others involve parents, community volunteers, or university practicum students; and many rural resource room teachers function independently of other help.

8. MODEL TO IDENTIFY AND USE ALL POTENTIAL RESOURCES WITHIN AN ISOLATED DISTRICT

Several districts that were extremely isolated from other districts and from state resources have identified and optimally used every possible resource within their community. Communities using this approach have found that its use of community personnel as resources has created a side benefit of additional community support for their schools.

Although the model varies from community to community, the following basic components are consistently present.

a. Completion of a needs assessment at the total school and individual classroom level.

b. Completion of a resource survey of all school personnel, listing skills and competencies that could be shared with others, including children with low-incidence handicaps. Data regarding potential community and parent resources were an integral part of the resource base. Community facilities and equipment are included in the resource data bank.

c. Use of a manual card sorting or a computerized retrieval system to link the identified resources and needs. This linkage may include having one teacher, uncomfortable working with a student with a hearing impairment, view another teacher with skills in this area. It may also include using high school students in a child development class as "extra manpower" by having them assist a special education teacher with follow-up motor skill activities for students with severe physical impairments. Other schools have used unemployed certified teachers, retired teachers, and other community members as volunteers in the classroom. Isolated resort communities have actively recruited the assistance of long-term visitors to the resort community. Volunteers provide services ranging from tutoring students to furnishing transportation. They reduce staff development costs by managing a classroom while a teacher engages in inservice, peer observation, or other relevant activities.

The legalities and protocol of each model is individualized for the particular district in which it was incorporated. However, in all cases, an evolving foundation of school resources was established. Community support for the school was enhanced in each location because citizens became integrally involved in special education programming.

## 9. MODELS INCORPORATING ADVANCED TECHNOLOGIES

The use of advanced technology as a tool for serving remotely located students having a low-incidence disability is rapidly growing in popularity. For example, a variety of systems have been used to send instructions to isolated educators with inadequate training for teaching children with low-incidence handicaps. Model design ranges from consultant-teacher communication by satellite to mobile inservice vans bearing computers programmed to teach specific subject areas. Less expensive models include exchanges of videotapes and one/two-way television instruction.

Technological approaches will typically be more limited by the imagination of the service planner than by the cost of equipment. Alternate types of advanced technologies are becoming increasingly available in agencies external to schools. Many districts have found human service agencies willing to collaborate in service delivery. This is particularly true when highly specialized equipment is not used by an agency on a full-time basis. Likewise, many rural businesses have been willing

to share equipment. Adept administrators have been able to borrow equipment by emphasizing advantages to local businesses, such as enhancement of their community image and potential tax write-offs.

10. MODELS USING PARAPROFESSIONALS

Trained paraprofessionals are frequently used by rural school districts when certified personnel are unavailable. Paraprofessionals are used to support special and regular educators conducting classroom or therapy activities with a handicapped student. Tutoring activities might range from academic or psychomotor curriculum activities to counseling regarding improvement of social skills. They might also conduct follow-through exercises assigned by a speech, physical, or occupational therapist or with adaptive physical education exercises.

An essential ingredient in the effective design of a paraprofessional model is ensuring appropriate training of paraprofessionals and careful observation of their performance. Trained paraprofessionals are frequently teamed with parent and community volunteers. Typically, paraprofessional personnel are paid staff members, although there have been instances in which they functioned on a volunteer basis. Most rural paraprofessional programs have assumed that paraprofessionals will function as generalists. Their specialized tasks are generally limited to supervised follow-through activities assigned by speech, occupational, or physical therapists.

SUMMARY

Traditional models designed to provide a continuum of services to handicapped students are inadequate for rural schools attempting to serve students with low-incidence handicaps. Because of the tremendous diversity in rural school systems, there is no "one" rural service delivery model. There are, however, a number of community and district characteristics that a model designer must consider. The planner may then appropriately control variables such as usage of personnel, transportation systems, and community involvement to design an individualized model viable for the student, district, and community.

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