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ABSTRACT

This review explore the debate on optimal school size and discusses policy options available to states for expanding curricular offerings in small rural schools. Policy options are divided into three broad categories: traditional, modified traditional, and nontraditional. The report explores the possibilities available under each approach, documents instances where various policies have been pursued, and offers speculation regarding largely untried alternatives. The traditional approach reflects the belief that low enrollment levels contribute to inadequate program offerings. Policies falling under this rubric include mandates for small districts to consolidate into larger ones. The modified traditional approach is similar except that it is more tolerant of locally developed means of raising enrollment levels. The nontraditional approach differs substantially from the other two because it places less emphasis on low enrollment as the primary source of difficulty for small rural schools. Instead, problems are viewed as having more to do with the utilization of available technology, the quality and nature of teacher resources, low fiscal capacity, and nonsize-related features of ruralness (such as isolation). The goal of the nontraditional approach is to address more directly the perceived causes of difficulty rather than to increase school sizes. It calls for further development of instructional technologies, more creative uses of itinerant services, alternative scheduling (such as the four-day week), and programs designed to enhance diversity. The document takes the position that each of the three policies holds promise, and pays particular attentions to the possibilities associated with residential schools (the traditional approach), locally designed reorganizations (the modified traditional approach), and the use of instructional technologies (the nontraditional approach). (TES)

Disparities in Curricular Offerings: Issues and Policy Alternatives for Small Rural Schools

by

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EXECUTIVE SUMMARY

The debate about optimal school size continues. On the one hand, research-based objections are being raised about states' longstanding practice of reorganizing smaller schools into larger ones. At the same time, however, recent reports support the traditional view that bigger is better. Proponents on each side in the debate point to the virtues of the particular argument they advance. In the midst of this turbulence are state policymakers concerned about improving curricular offerings in small rural schools. This paper reviews a range of policy options available to states.

Policy options for expanding curricular offerings in small rural schools can be divided into three broad categories: traditional, modified traditional, and nontraditional approaches. This review explores the possibilities available under each heading, documents instances where various policies have been pursued, and offers speculation regarding future, largely untried alternatives.

The defining characteristic of the traditional approach is the belief that low levels of enrollment contribute to inadequate program offerings. According to this approach, the state is well-advised to increase enrollment levels, so long as the increases do not adversely affect the ability of the state to monitor and enforce standards.

Specific policies falling under this rubric include the provision of mandates or incentives for small districts to merge into larger units according to plans developed by the state. Efforts to facilitate the

regional delivery of services also fall under this heading, as do some recent proposals to establish residential schools on a state or regional basis.

The modified traditional approach is similar to the traditional approach except that it is more tolerant of locally developed means of increasing enrollment levels, even when these conflict with the state's larger view of what would be ideal. Accordingly, state-developed plans for district organizational structure play a smaller role. States exhibit greater willingness to allow individual districts to design reorganizations attentive to local circumstances. This approach also includes a greater willingness to provide additional state aid to small districts, irrespective of the state's view of how reasonable it is for the district to remain small. In contrast, the traditional approach described above distinguishes between districts on the basis of necessity for their small size and countenances additional aid only for those districts judged to be necessarily small.

The nontraditional approach differs substantially from the previous two because it places less emphasis on low-enrollment levels as the primary source of difficulty for small rural schools. Instead, the problems of small rural schools are viewed as having more to do with the utilization of available technology, the quality and nature of teacher resources, low levels of fiscal capacity, and nonsize-related features of ruralness (e.g., isolation rather than small size). The goal of this approach is not to make small rural schools into large rural schools. It is rather to address more directly the perceived causes of difficulty.

The approach includes proposals for the further development and utilization of instructional technologies, more creative uses of itinerant services, alternative scheduling (such as the four-day week), and programs designed to enhance diversity.

Each of the three policy approaches holds promise. In this paper, particular attention is paid to the possibilities associated with residential schools (the traditional approach), locally designed reorganizations (the modified traditional approach), and the utilization of instructional technologies (the nontraditional approach). The primary purpose of the review is to enlarge the range of options state-level policymakers consider as they develop policy for small rural schools.

INTRODUCTION

State policymaking for small rural schools has entered an interesting period of flux. Serious research-based objections are being raised about the longstanding efforts of states to reorganize small rural districts into larger organizational entities. For example, several recent important studies of the American high school either have been silent on the question of size or have explicitly stressed the virtues of smaller size (Boyer, 1983; Goodlad, 1984; Lightfoot, 1983; Powell et al., 1985). Other explicit studies of school and school district size have concluded that size either makes little difference in terms of efficiency or, if it does, its benefits are not dependably realized in practice (Walberg & Fowler, 1987; Monk, 1987; Monk & Haller, 1986).

At the same time, research supports the traditional view that larger size is more efficient (Illinois State Board of Education, 1985; Riew, 1986), and evidence points to a resurgence of state interest in pursuing reorganization policies more aggressively (Haller & Monk, 1988).

In light of this turbulence, it is desirable to review the policy options available to states as they seek to improve curricular offerings in small rural schools and districts. There is little doubt that such improvements are needed. Disagreements arise over how states can best respond. This review is designed to survey the possibilities and to examine the advantages and disadvantages of each. It is divided into three major sections, each corresponding to a particular approach to the problems of small rural schools. While these three approaches compete

with one another and vary in their level of acceptance, no attempt is made to draw summative conclusions about their relative merits. Rather, the goal is to describe the components of the approaches and discuss policy alternatives consistent with each. The purpose is to provide an evenhanded listing of options for policymakers interested in developing coherent state policies regarding small rural schools.

THE TRADITIONAL APPROACH

The traditional approach presumes that low proximate enrollment levels are the major source of problems for small rural schools. These problems include inadequate course offerings, heavy burdens on taxpayers, and the stunted social development of youth.[1] Notice the use of the term proximate. Thanks largely to technological developments, it is becoming increasingly important to differentiate among various conceptions of enrollment. Students can now learn together in relatively large groups without being proximate to one another. Proximate enrollment levels refer to the number of students placed into physical space with one another during schooling activities.

Further, the traditional approach presumes that variation in local district organizational structure is dysfunctional given state regulatory responsibilities. According to this view, a state can do a better job at

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[1] While it is common to argue that small size contributes positively to the social outcomes of schooling (see Hamilton, 1983), there is a competing argument. It holds that small size limits diversity in what students are exposed to and has the ultimate effect of narrowing students' aspirations. More will be said about this competing argument in the discussion of the nontraditional approach, p. 16.

monitoring compliance and enforcing state, not to mention federal, rules and regulations if there are as few exceptions as possible to a given organizational structure. This view reflects admiration for what standardized organization structures can accomplish, and discounts concerns over the uniqueness of needs in particular regions or types of schooling organizations.[2]

Various policies have emerged that reflect the twin views that small proximate enrollment levels are inherently problematic and that a standardized state organizational structure is felicitous. Three of these policy initiatives--narrowly specified consolidations, special aid for necessarily small schools, and regional services--have extensive track records, while the fourth--residential schools--is relatively new and currently attracting attention. Each is discussed below.

Narrowly Specified District Consolidation

While school district consolidation can take many forms,[3] the defining characteristic here is that the change be consistent with a limited range of prespecified conditions laid down by the state. It is

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[2] Smith and DeYoung (1988) concluded that it is an interest in educational control rather than the pursuit of program quality that motivates consolidation efforts, particularly those occurring today. Also see, Haller & Monk (forthcoming).

[3] For example, it is possible for one district to annex another. Alternatively, two or more districts may merge together and thereby surrender their individual identities and form an entirely new organizational entity. Or, district boundaries may be redrawn such that what was previously a separate district is apportioned among neighboring districts.

through these conditions that the state pursues its perceived interest in standardizing the organization of districts.

States have pursued this policy in a variety of ways ranging from the use of outright mandates to more permissive approaches, where prespecified reorganizations are encouraged through the use of financial incentives. New York is a prototypical example of this more permissive approach. It provides districts with a range of prespecified options (centralization, annexation, and consolidation), all of which operate under the aegis of a State Master Plan of District Organization. This master plan spells out the reorganizations the state believes to be desirable. Districts coming into compliance with the master plan receive substantial financial rewards.[4]

A variant on the permissive approach entails imposing penalties on districts refusing to comply with the state vision of the preferred organizational structure. Cohn (1975) proposed the explicit use of penalties. More typically, states impose financial penalties in more subtle ways, an example of which is described below.

State Aid for Necessarily Small Schools

In keeping with the view that small size creates problems, a case can be made for providing additional state revenues to schools that are necessarily small. While these extra resources may not be able to solve all problems, they can be used to offer specialized courses that would otherwise be missing from the schools' curricula.

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[4] For more on the New York approach, see Monk & Haller, 1986.

Historically, special aid for necessarily small districts has been a popular policy. Lyle Wright (1981) found 2[illegible] states employing some form of special funding for small/isolated school districts. But this policy typically requires states to be specific about what counts as a necessarily small school. Attempts to distinguish between schools that are small out of choice rather than out of necessity have been controversial. Gerald Bass (1980) found no fewer than 11 different methods being used by states to draw this distinction.

Moreover, this option can work at cross purposes with companion state efforts to consolidate districts. Those schools receiving the additional aid have less reason to accept consolidation. To the extent that the necessarily small categorization of these schools is debatable, the state may find itself undermining its parallel efforts to consolidate districts. For those districts not receiving the aid, the policy acts as a penalty for refusing the consolidation solution. While it may be sensible to impose a penalty on districts that refuse unreasonably to accept consolidation, it is worth noting that the consequences fall most directly on students rather than on those who are presumably more directly responsible for a district's recalcitrance, namely taxpayers and voters.

Regionally Delivered Services

The delivery of services on a regional basis is a second well-established means of increasing proximate enrollment levels short of the consolidation of individual school districts. Under this option, the state can achieve some of the advantages associated with higher proximate

enrollment levels and, at the same time, preserve local district autonomy. These services may be offered during regular schooling hours and may entail the daily transportation of students. Alternatively, services may be offered during less conventional times, such as Saturdays, Sundays, summers, and other vacations.

The willingness of a state to endorse such regionally delivered services reflects an admission, grudging or otherwise, that consolidation in itself will not achieve target levels of proximate enrollments. By permitting what amounts to a partial consolidation of individual districts through the pooling of students for particular courses, the state attempts to take increased advantage of opportunities to enlarge proximate enrollment levels.

But a dilemma is imbedded here. To the degree that the state facilitates the use of regional services, it can find itself undermining the case to be made for reorganizing constituent districts into larger administrative units. After all, why should a district merge with a neighbor if it can offer on a regional basis the programs it finds most difficult to provide? If the state provides financial incentives designed to encourage the delivery of services at a regional level, the reluctance of individual districts to consolidate is further enhanced.

One response to this dilemma is for the state to restrict the kinds of services that can be offered regionally. For example, restrictions can be imposed such that only vocational and special education services can be offered regionally. The rationale is that even in relatively large districts, these courses frequently fail to attract sufficient

enrollments. In contrast, so the thinking goes, if a district is so small that it cannot cost effectively offer core academic courses, the preferred solution is district consolidation. A serious drawback to this approach is that it places the state in the position of having to decide what does and does not count as an acceptable non-core course offering. Defensible criteria for making this judgment are difficult to develop.

A second difficulty is the danger of complicating the state's organizational structure through the proliferation of regional service centers of one sort or another. Again, the solution is to restrict the scope of these service agencies and to standardize their operation. While a state pursuing the traditional approach might prefer to avoid regional services entirely, it may feel compelled to offer them in the interest of efficiency. The state may seek to contain the adverse effects of regionally delivered sevices on administrative complexity by restricting them to a common organizational structure and range of activity.

State-Sponsored Residential Schools

State-sponsored residential schools are an extension of the regional concept described above. The goal is to join individual districts on a state (or substate) level to provide a range of state-selected educational services. What distinguishes this initiative most clearly from the regionally delivered services described above is its residential character. These residential schools operate during the regular school year and are free of the need to transport students to and from their homes on a daily basis. They are structured around particular areas of

the curriculum that are most costly to offer in low-enrollment settings. Examples include advanced academic subjects, such as calculus, foreign language, and science. Course work in the fine arts and vocational education areas could also be offered through this delivery system.

Proposals for residential schools are highly controversial, in part because local districts are reluctant to lose students. One response to the controversy could be to limit the residential character of the schools. For example, a residential school could be structured, not so much as a four-year substitute high school, but rather as a school students would attend for relatively short blocks of time, such as a single semester. A student from a rural high school might attend the state residential school for one semester in the sophomore year to take a block of advanced science, humanities, and social science courses and then return to the home school for the balance of the sophomore year, as well as the junior and senior years. A more ambitious program could provide for a return to the residential school for a followup semester, say, during the senior year. Such students would benefit not only from the opportunity to study an advanced and specialized curriculum not offered in their home school, but also from the opportunity to meet and interact with students from all around the state.

While such an approach may reassure communities over the loss of their youngsters, several potentially serious problems remain. For example, not all subjects lend themselves to relatively short, intensive periods of study. Moreover, the local district is likely to face difficulties reintroducing into the home curriculum students who have

attended residential schools. If students return already having learned material contained in the home school's curriculum, articulation problems may be serious. Finally, there are important questions to ask about how to best select students to attend residential schools. States would want to guard against these residential schools turning into elite institutions that detract from equality of educational opportunity.[5]

Clearly, these are important questions and problems. But, it should be equally clear that these questions and problems are neither unanswerable nor insolvable. For example, time spent in the residential school could be supplemented with longer term contact through the mail or perhaps through periodic meetings during summers or vacations. By expanding the contact beyond a one semester in-residence block of time, problems stemming from the shortness and intensiveness of the contact can be addressed. Concerns about elitism and articulation could be dealt with by broadening the opportunity and making it available to all students in schools with gaps in their curriculum.[6] If, for example, one-half of a school's sophomore class were to attend the residential school during the first semester and the second half were to attend

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[5] It is also possible for them to become "dumping grounds" for youngsters local districts find uncooperative. However, the periodic nature of the residential schools envisioned here ought to reduce the likelihood of this outcome.

[6] It is worth noting that curricular gaps are not unique to small rural schools. A recent study in New York found a surprisingly high incidence of gaps even in large secondary schools. According to the New York results, small high schools are not the only schools to deny their students opportunities to study advanced placement courses and calculus. For more, see Monk (1987).

during the second semester, all students could emerge with a common experience on which the home school could build. Moreover, the teaching resources freed in the home districts, attributed to the absence of half the sophomore class, could be devoted to curriculum development.

There is a myriad of possible variations on this idea. For now, the key point is that it fits squarely under the traditional approach rubric. The goal is to increase proximate enrollment levels using a state-specified organizational structure. However, like the more familiar regional approach described above, residential schools pose a dilemma for the state. The increased proximate enrollments come at the expense of greater complexity in the organizational structure of education and reduced incentives for individual districts to consolidate. Likely responses to this dilemma are state-imposed restrictions on what can and cannot be offered by residential schools, as well as a standardized organizational structure.

Synthesis

What ties these four policy options together is their common goal of engineering increases in proximate enrollment levels, coupled with at least a sensitivity to implications for the administration of the resulting state-level organizational structure. The approach reflects an ongoing and only partially resolved tension between its two central goals. The state must balance its interest in increasing enrollments against adverse effects on its perceived ability to regulate and monitor. It is not a case of increasing enrollments at any consequence. Rather, the consequences are carefully considered and appropriate constraints are imposed.

In the next section, we consider an alternative approach, wherein efforts to increase proximate enrollments are pursued with less concern over the impact on organizational complexity.

THE MODIFIED TRADITIONAL APPROACH

What changes here is the presumption in favor of a standardized organizational structuring of schools. Instead of presuming that the state has an interest in a prespecified and standardized organizational structure, the presumption is that the state's interests are better served by facilitating flexibility in how local units organize themselves in their pursuit of state standards.

Under this approach, low proximate enrollment levels continue to be viewed as the major source of problems for small rural schools. But rather than conclude that either overtly imposed reorganizations (as is the case when mandates are issued) or more covertly imposed reorganizations (as is the case when financial incentives to reorganize in particular ways are provided) will solve these problems, the conclusion is that the problems facing small rural schools are multifaceted and unavoidable.

The underlying idea is that state-imposed consolidations, both the overt and covert varieties, are likely to create as many new problems as they solve and that, on balance, there is not much to be gained. The problems created by imposed reorganizations may be difficult to measure quantitatively. They include such things as a loss of a community's identity and a sense of having been taken advantage of, but according to

this approach, these problems are nevertheless real and potentially quite substantial.[7]

The belief that imposed reorganizations produce more problems than gains leads to two strands of state policy. The first concerns efforts to consolidate districts and has several parts; the second deals explicitly with the distribution of state aid.

District Consolidation

The consolidation policy consistent with the modified traditional approach contains no coercive elements. Mandates are not issued, nor are financial incentives provided to encourage particular kinds of consolidations. However, the state continues to be interested in facilitating consolidations wherever possible. Why? Because low proximate enrollment levels continue to be viewed as a serious source of problems, and consolidation increases enrollments. However, the consolidations sought are those least likely to generate new problems.

Broadly specified district consolidation. One way to achieve consolidation under this approach is through a broadening of reorganization options. Instead of insisting on an all-or-nothing approach to consolidation, a state can become more tolerant of partial reorganizations. The formation of central high school districts, such as those found in Illinois, is a good example of a partial reorganization. Rather than combine the entire K-12 program, this type of reorganization

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[7] For research on the effects of school consolidation see DeYoung & Boyd (1986), Monk & Haller (1986), Peshkin (1982), and Sher (1986).

merges only the secondary program. Separately organized boards retain authority over the elementary programs of the multiple districts, and a separate board is formed to govern the secondary program offered by the central high school district. While the central high school district has been and continues to be controversial,[8] there may be merit to the idea, particularly in rural areas when social and economic differences across communities are not large.

States can also broaden reorganization options by making the regional service alternative more flexible. Instead of providing for a single regional entity whose offerings are standardized across the state, a series of regional organizations could be formed. An example of this flexible approach can be found in Massachusetts, where districts have the option of forming either union districts, regional districts, or collaborative arrangements. Union districts can share administrative services and can employ a shared superintendent.[9] Regional districts are tailored to the needs of particular combinations of participating districts. These needs are revealed by studies conducted by local planning boards. Unlike New York, where the regional organizations have a common purpose, the regional districts in Massachusetts vary depending on locally identified needs. Finally, there are collaboratives in Massachusetts where existing organizational units enter into agreements

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[8] The Illinois State Board of Education (1985) has issued a report highly critical of the state's failure to achieve a unified K-12 approach to education.

[9] For more on the shared superintendent, see Sederberg (1985).

to conduct educational programs and services that complement and strengthen existing programs. While the Massachusetts approach emphasizes flexibility and accommodation to locally assessed needs, the state department of education retains substantial authority and must approve proposed regional and sharing activities.

The key point is that states following this approach would establish multiple collaboratives, which vary in their range of services and membership. A given school district might belong to several different collaboratives or regional organizations.

Locally conceived district consolidation. A second way to avoid creating new problems as a byproduct of imposed consolidation entails letting the individual districts involved specify the details of their consolidation. This approach requires even greater tolerance for variation in the organizational structuring of school districts, since the details of individual consolidations may be as variable as the characteristics of the participating districts.

An example can help clarify what is involved here. Suppose two districts wish to join together but will do so only if they can dictate the terms of the "marriage." They may wish to stipulate that certain schools remain open, that certain communities be guaranteed representation on the school board, that debts of the individual districts be distributed in particular ways, and so forth. These conditions would vary from consolidation to consolidation. In theory, the correct specification of the conditions could facilitate consolidations that heretofore have been either impossible to achieve

voluntarily or so rife with controversy as to dissuade even the most proconsolidation state from imposing its will.

Synthesis. Notice the effects of multiple collaboratives, central high school districts, and locally conceived consolidations on the complexity of the state's educational system. As these highly variable organizational entities become more numerous, states will need to find a means of regulating and monitoring compliance with state standards. While this may be difficult and costly, the effort is viewed as worthwhile to avoid the difficulties associated with artificially imposed reorganizations. In sharp contrast, these policy options are an anathema to the traditional view described above.

State Aid Tied To Low Enrollments

The second strand of policy under the modified traditional approach concerns the distribution of state aid. This option entails a greater willingness on the part of the state to aid small schools irrespective of their reasons for remaining small. The willingness to provide aid stems from the belief that small size creates problems, some of which can be solved by increasing expenditures. For example, additional state revenues can be used to improve curricular offerings.

The recognition that imposed consolidations can be counterproductive frees the state from having to distinguish between necessarily small and other kinds of small schools. However, the state may still wish to ensure that the additional revenues are spent in state-approved ways and may, therefore, attach restrictions on how the additional school aid can be spent. Receiving districts may be required to show that they are

spending the funds to improve curricular offerings rather than to reduce local taxpayer burdens.

Just as was the case above, there is an element of the state working at cross-purposes here. On the one hand, it wants to facilitate whatever district consolidation (partial or otherwise) that it can; on the other hand, it is willing to bear at least some of the costs of operating a small program. To the degree that the state becomes willing to bear these costs, local incentives to reorganize, even partially, will be diminished. As a result, the state may find itself sanctioning the operation of districts that are smaller than it would prefer to see.

THE NONTRADITIONAL APPROACH

In sharp contast to the previous two approaches, the nontraditional approach demurs on the presumption that low enrollments are the major source of problems for small rural schools. Instead, these schools' problems are viewed as having more to do with the utilization of available technology, the quality and nature of teacher resources, low levels of fiscal capacity, as well as with factors associated with ruralness per se (e.g., isolation and a lack of diversity). The concern here is not about low proximate enrollment levels.

It follows that making small rural schools into big rural schools will not have the intended desirable effects. As a consequence, little attention is paid by this approach to consolidation and other means of engineering increases in proximate enrollments. In its place arises an emphasis on accepting small size as a given and on taking steps to increase the viability of small schools.

This is, as the name suggests, a less well-established approach to small rural schools than those considered above. However, proponents of small schools have been active for many years. The seminal work of Barker and Gump (1965) led to an impressive research effort demonstrating the salutary effects of small schools on such educational outcomes as self-esteem, high participation and low alientation, and even cognit achievement, particularly for marginal students. More recently, a st by Lindsay (1982) demonstrated similar results. Moreover, as Lamitie (1987) pointed out, technological advances are likely to make small size a much less serious barrier to the offering of a comprehensive curriculum than has ever been true before.[10]

The results of these studies and efforts to preserve small schools can be seen in state policy proposals that are consistent with a tolerance for small school size. These policies are to a large degree experimental and speculative. They are nevertheless instructive and capable of provoking new insights into how states can best deal with their remaining small rural schools.

The first two policy options discussed below deal with innovative uses of technology as a means of overcoming the problems engendered by smallness. The final four options attempt to solve important small rural school problems in ways other than increasing proximate enrollments.

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[10] For more about the role of technology in education, see Willet, Swanson, & Nelson (1979). For more recent information, see Barker (1986), Hanson (1986), and Appalachia Educational Laboratory (1986).

Programmed Learning Materials

Programmed learning materials, computerized or otherwise, attempt to anticipate the learning needs of students. If a programmed learning package is completely self-contained in the sense that it does not require the presence or involvement of an on-site teacher, that program has a stand-alone feature.[11] To the extent that such stand-alone programs become available, it will be relatively straightforward to enlarge curricular offerings in any school.

However, with good reason, skeptics question the promise of programmed learning materials. Questions center around whether such programs are possible, cost-effective, and politically feasible. Moreover, the market demand for the kinds of stand-alone programs needed most by small rural schools may be insufficient to support their development.[12]

How might such programs, if they were to become available, be utilized within classrooms? If the material were used solely to supplement on-site teaching resource , the potential for making small

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[11] Levin & Meister (1985) use this term in their study of computer software and its development and utilization.

[12] There are signs of progress regarding how possible such programs are. For example, Carnoy, Daley, & Loop (1985) discuss the recently developed "intelligent" computer-assisted instruction systems, which draw on artificial intelligence methods from computer science to provide more sophisticated presentation, branching, and diagnosis of learners' needs. Several experimental systems of this type are currently being tested in U. S. schools.

rural schools more viable would be severely curtailed. Students would presumably learn more through the additional instructional resources offered by the programmed materials, but districts would not be able to economize on the supply of teaching resources.[13] The real promise for small rural districts can be realized only to the degree that programmed materials substitute rather than supplement on-site teacher resources.

This substitution, however, need not involve the loss of an on-site teacher in a classroom setting. What it does involve is a reduction in the number of on-site teachers necessary to provide a curriculum of a given breadth and depth. If programmed materials that reduce the level of subject matter expertise required for the on-site teacher become available, considerable potential exists for improved curricular offerings in small rural schools. Such programmed materials are envisioned below in conjunction with distance learning technologies and are referred to as externally dependent learning programs.

Distance Learning Technologies

Numerous means are available for taking advantage of larger size without affecting proximate enrollment levels. Schools and classes can be linked together through the use of telephone lines, cables, and radio and television transmission of various kinds. Current interest in two-way interactive instructional television and its potential for

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[13] Walker (1983, p. 107) concluded that microcomputers would actually add to rather than reduce the costs of education.

broadening curricular offerings in small rural schools is on the rise.[14] Over time, the range of technological options has been increasing. It seems reasonable to expect this trend to continue.

Even if technological possibilities improve by becoming more reliable and less costly, important additional barriers must be overcome. As Galvin (1986) demonstrated, schools using distance technologies to share programs must negotiate problems ranging from the trivial (e.g., agreeing on a common time for a class to be offered) to the more substantive (e.g., achieving a stable balance where each participating school feels like it is contributing to the shared enterprise).

Despite these problems, distance technologies--particularly if they are coupled with the externally dependent learning programs mentioned above--have considerable potential. Consider the following example of how a coupling of these two innovations could work together in a small rural secondary school.

Imagine a school with 25 students at each of four grade levels, 9-12. Assume the school is located in a rural and isolated area, is separately organized, and is governed by its own elected school board. The school employs four teachers and has a teacher/pupil ratio that compares favorably with other, much larger districts in the state. As

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[14] For information about specific projects in New York and Illinois, see Shafer et al. (1985) and West et al. (1986), respectively. For an overview of projects with explicit reference to an additional four projects in Iowa, Utah, Texas, and Oklahoma, see Wall (1985).

indicated, the school is organized by grade levels--each class operates as a self-contained unit with one teacher.

These four teachers have been specially trained. Each is a generalist and a manager of instructional resources, not unlike a librarian. These teachers understand the nature of how students learn different subject matters. They are knowledgeable about how students learn foreign languages, mathematics, science, literature, and so forth. They do not have detailed subject matter expertise in these areas. Rather, they know where and how to obtain this subject matter expertise.

Moreover, the classrooms have been equipped so that the necessary subject matter expertise is readily at hand. One source could be stand-alone programmed materials (if and when these become available). A second, more likely source will be externally dependent learning programs, which draw upon the teaching expertise of the on-site teacher but which also presuppose ready access to additional sources of subject matter expertise. These external resources might take the form of a consultant who is hired on retainer to respond to questions that arise during instruction. These calls might be made during an actual class, although, more realistically, questions might be allowed to accumulate so that a call at an appointed time might serve several purposes. The call might be made by telephone or it might make use of interactive television technologies. In addition, the consultant could make periodic visits

to the site.[15] The consultant and the on-site teacher could also work together to develop and implement the curriculum, as well as to assess student progress. A teacher in this setting could anticipate working with several external consultants, each dealing with a separate subject area.

Telephone and data transmission lines are enabling schools to be in contact with external sources of subject matter expertise. For example, two-way television makes it possible for students in an isolated rural school to join classes taking place elsewhere. The on-site teacher in the hypothetical setting envisioned here could continue to provide day-to-day supervision and could manage contact with an instructor at a distant site. Students would have the opportunity to interact directly with the external instructor, as well as with classmates from potentially many different sites.

While this scenario holds open the possibility of dramatically enhanced curricular offerings in small rural schools, much hinges on the ability of the teachers and the quality and nature of their training. For this approach to succeed, substantial changes would have to occur in

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[15] Wall (1985) reported on several states conducting experiments along these lines, mostly from a university base. For example, the Tele-Language for High School Students project at the University of Nebraska-Lincoln combines teleconferences with locally supervised independent study. The Wyoming Teleconferencing System at the University of Wyoming entails connecting an instructor to three distant sites to introduce a lesson. After the lesson is played from videotape, the live instructor returns to the network and conducts a seminar. The SURGE, ERG program at Colorado State University uses tapes of live classes combined with periodic professor visits to remote sites.

how teachers in small rural schools are trained. It will be no small undertaking to become knowledgeable about both the resource base and the nature of how learning takes place in a variety of fields. The net result may be a reduction in the number of teachers employed in small rural schools (a byproduct of lowering the teacher/pupil ratio) but an increase in educational requirements. States might find themselves issuing separate certificates for teachers in small schools, certificates requiring both a different kind and level of training compared to the certificate earned by teachers in other kinds of schools.

Variations on Itinerancy

The use of itinerant teachers is a longstanding remedy for the problems of small rural schools. The idea is to transport a teacher to students rather than the reverse. The regional delivery units described earlier have made extensive use of itinerant teachers, particularly in music, art, speech, foreign language, etc.

The reason this option is listed here, rather than under the traditional approach, is that it reflects a tolerance for low enrollments. Instead of transporting students to some central site at which instruction to a relatively large group is offered, the teacher makes serial visits to remote sites, in effect repeating the same lesson to different, often small, groups. The implicit tolerance for the resulting low enrollments, not to mention the resulting duplication of effort, makes this approach incompatible, at least on conceptual grounds, with approaches emphasizing the importance of increasing proximate enrollment levels.

Recent proposals have called for increased use of itinerant teachers. Ernest Boyer, for example, described some innovative applications of the itinerancy concept. He described a group of rural North Dakota schools, where a portable classroom bringing both special teachers and equipment spent one term at each school in the region. In one instance, a woodworking van spent 8-12 weeks at each school providing intensive instruction (Boyer, 1983, p. 129-30).

The Four-Day Week

Four-day schedules are designed to accomplish two goals. The first is to save resources. These savings stem primarily from reduced expenditures on transportation and heating fuel. While studies have shown that savings to school districts on four-day schedules are real, some of the savings may simply be shifted to households in the form of additional costs. If families need to pay for child care services and perhaps incur additional heating and transportation expenses because their children are home on the fifth day, savings realized by the larger community may be substantially lower than the savings realized by a particular school district.

The second goal of the four-day week is to use the savings realized by the school district to improve curricular and other aspects of the educational program. Nachtigal (1982) reported positive experiences with experimental four-day programs in two Colorado districts, Cotopaxi and Westcliffe. Not only were the districts able to realize savings, but there was not indication that students' academic standing suffered.

Indeed, indications were that the time students spent in school was more effectively utilized. School days were longer, but there were fewer interruptions (most extracuricular activities were scheduled for the fifth day) and students were found to spend more time on task.

Further, there was evidence of improved program planning and development. The planning sessions, sometimes involving more than one school, could be financed at least in part by the savings realized from the four-day operation. Thus, the four-day schedule may offer a self-financing means of improving the quality of instructional programs. Further research is needed to assess the long-term viability of such a strategy. Moreover, there are questions to answer about the advisability of structuring elementary, as opposed to secondary, programs along these lines.

Enhanced Diversity Arrangements

One of the complaints about low proximate enrollment levels is the lack of diversity in the student body, which may result in stunted student aspirations. It is possible for small schools to be highly homogeneous, which is likely to have narrowing effects on students' aspirations. A state might choose to address the diversity problem directly by sponsoring exchange programs of various kinds. Students could be exchanged across communities for blocks of time--for example, a week to a full semester. Communities within a state could be paired and an ongoing exchange could be established. Moreover, faculty and administrators could temporarily exchange locations. The opportunity for a student, teacher, or administrator to spend an extended period of time

in a distant community could significantly broaden horizons, particularly if the pairings were well-conceived.[16] However, there seems to be a loose link in this argument between low school enrollments and diversity. It is possible for small schools to be highly diverse. Indeed, this may even be likely in a bonafide rural small school district. Such a school could serve an entire community and thereby enroll a wide range of students, including the children of local business leaders, professionals, manual laborers, other blue-collar workers, and people on welfare. Compare this small rural school with a considerably larger suburban bedroom community school, wherein students come from families with highly similar socioeconomic characteristics. However, there are those who are skeptical of how diverse rural communities are. Nachtigal, for example, argued that rural schools in contrast to urban schools serve more homogeneous communities (1988).

Nonsize-Related State Aid Reforms

Nonsize-related state aid reforms address financial problems in small rural schools that are not directly related to the number of students enrolled. For example, one of the byproducts of small enrollment levels is greater variation in fiscal capacity among school districts. The expanded tax base concept has been proposed as a means of

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16 The Small Schools Network of The Regional Laboratory for Educational Improvement of the Northeast and Islands has organized a teacher exchange program across states. For more information, contact the Small Schools Network at 83 Boston Post Road, Sudbury, MA 10776.

joining together districts' respective tax bases, while maintaining their separate organizational autonomy (Dembowski & Kemmerer, 1984).

A second example involves what might be called discrepancy aid. The fiscal capacity of a school district can be measured along several different dimensions. The most common is property wealth; a more recent index currently used by a small number of states is income. The availability of these two indices (property wealth and income) has made it clear that school districts differ in how discrepant these two measures of capacity are (Lamitie, 1987). Rural districts, especially those located in recreational areas, tend to be highly discrepant and show relatively high levels of property wealth and low levels of income wealth.

Such discrepancies can be addressed by including an income-based measure of fiscal capacity in state aid formulas. Alternatively, or in addition, aid can be paid to districts directly on the basis of the discrepancy between the indices.

SUMMARY

This review has described alternative means through which the curricular offerings of small rural schools can be enhanced. The options are numerous and address problems from competing perspectives. To guide thinking about these options, the review was divided into three sections, each corresponding to a broad policy approach. Table 1 provides an overview of the three approaches and lists the policy options consistent with each. A major theme in the review is that each approach has

advantages and disadvantages. Indeed, the discussion reveals that for each approach, some new and exciting policy options exist.

A further theme is that it is not a question of one approach or policy being right and the others wrong. Nor is it a matter of choosing one policy to the exclusion of all others. Rather, states typically have the opportunity to pursue a combination of policies. The challenge is to devise a desirable mix given the many historical, geographical, and even cultural factors that can vary substantially from one state to the next. However, it needs to be recognized that some of the policies discussed here would work at cross-purposes. A coherent state policy regarding small rural schools presupposes sensitivity to, and perhaps even some tolerance for, inconsistency in the operation of such schools.

Table 1

Descriptions and Suggested Options for Three Approaches to State Policy Regarding Small Rural Schools

Traditional Approach

Seeks to increase proximate enrollment levels and standardize district organizational structures

The traditional approach presumes that low levels of enrollment contribute to inadequate program offerings. Further, it holds that variation in local district organizational structure is dysfunctional.

- supports district consolidation in line with narrowly specified conditions
- provides additional aid for necessarily small schools
- allows for delivery of services on a regional basis
- provides for delivery of educational sources through a variety of residential school programs

Modified Traditional Approach

Seeks increases in proximate enrollment, but more tolerant of variance in district organizational structures

Low proximate enrollment levels continue to be viewed as problematic. However, state-imposed consolidations are seen as producing more problems than gains. Here, the state's interest is in facilitating consolidations between interested districts.

- tolerates a variety of reorganization options, e.g., central high school districts, multiple collaboratives
- allows districts involved to specify details of consolidation
- provides additional state aid to small schools generally

Nontraditional Approach

Little concern about proximate enrollment; seeks to increase visibility of small schools

The nontraditional approach to policy options differs substantially from the previous two. Low proximate enrollment is not viewed as the major source of problems for small rural schools. Innovative and heretofore untried approaches are viewed favorably in efforts to increase curricular offerings to students.

- makes no attempt to force or facilitate school consolidation
- advocates use of programmed instruction computerized or otherwise, to enlarge curriculum
- utilizes distance-learning technologies
- advocates special preservice training for rural teachers, who serve as managers of instructional resources
- encourages the use of itinerant teachers
- uses four-day school week to reduce transportation and heating costs and to enhance curricular and other aspects of the educational program
- encourages student, teacher and administrator exchanges to enhance diversity
- advocates nonsize-related state and reforms, e.g., expanded tax base and discrepancy aid

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