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AUTHOR Carlson, Robert V.
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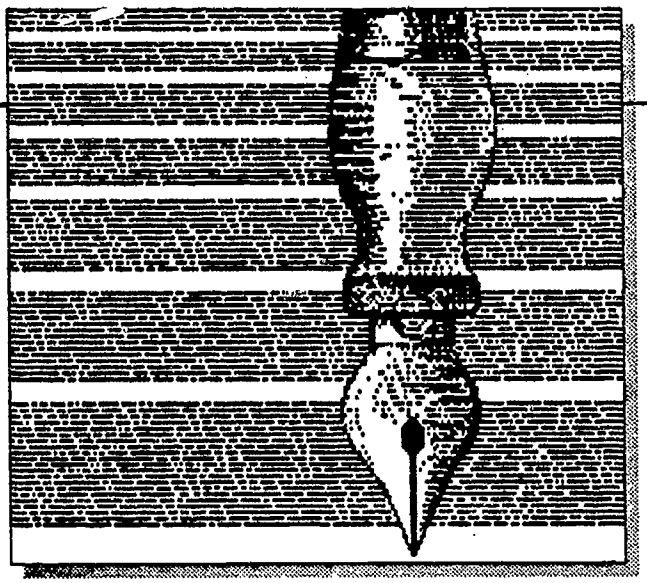
ABSTRACT

This case study examines how rural K-12 single-unit schools in Vermont have responded to the twin pressures of higher state-level standards, required under the 1984 Public School Approval (PSA) policy, and limited fiscal resources. Chapter 1 provides background information on the study population, economic and educational conditions in Vermont, and PSA standards and review processes. In chapter 2, a literature review considers the diverse, special characteristics of small, rural schools. Chapter 3 describes inputs, process indicators, outcome indicators, and qualitative characteristics of the 10 K-12 schools studied and summarizes the impact of PSA on their finances and curricula. This section also discusses how two comparable schools coped somewhat differently with school improvement mandates and limited funding. The results indicate that rural schools are facing the challenge of small size and fiscal constraints with distance learning, independent study, cross-disciplinary teaching, and multi-age groupings. Chapter 4 considers various strategies for improving educational quality at an affordable cost, including funding strategies, financial management, school-community cooperation, distance learning technologies, the 4-day school week, and integrated services. The last chapter concludes that the PSA has had a substantial impact on K-12 schools in terms of personnel appointments, curricular revisions, and facility improvements, but that these gains may be short-lived if the contingent fiscal problems are not solved. Appendices include K-12 schools statistical data, school site statistical profiles, and school site visitation summaries. Contains 101 references. (LP)



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Robert V. Carlson
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AEL
Appalachia Educational Laboratory

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ABSTRACT

The State of Vermont, like many states in the country, has embarked on an effort to improve the quality of education in its schools. In 1984, the State Board of Education approved a Public School Approval (PSA) policy that detailed a number of standards ranging from curricula to school climate to school facilities. Nearly all schools in the state have been subjected to the PSA review process and are pursuing a number of agreed-upon improvements. Vermont, similar to its rural counterparts across the country, is facing serious economic problems that strain state aid and local property tax support. These conditions prompted this study of the rural K-12 single-unit schools in Vermont.

The major research question for this study was, "How are the rural schools of Vermont functioning under the twin pressures of higher state level standards (PSA) and limited fiscal resources?" To answer this question a case study design was used, a combination of quantitative and qualitative methods. The study population included all 10 K-12 school units in the State of Vermont. These schools afforded the opportunity to examine the twin pressures across the entire K-12 program spectrum within the same administrative unit. Each school was visited for a half day, and two schools were purposefully selected for two day followup visits. Summary reports (quantitative and qualitative) were prepared for each school site and provided the basis for subsequent analyses.

Study findings demonstrate the diversity of characteristics and conditions at each of the schools sites; the significant impact of the PSA policy on personnel appointments, curricular revisions, and facility improvements; and the tight fiscal conditions that were dictating difficult personnel and programmatic choices. The results also demonstrate how the smaller and more isolated rural schools are facing the challenge of small size and fiscal constraint with a number of innovative approaches, including distance learning, independent study, cross-disciplinary teaching, and multiage grouping.

Study implications pertain to the inventive spirit of small, rural schools and also concern alternative ideas for dealing with the twin pressures of quality standards and funding. Suggestions for increasing fiscal resources include revisions to state aid, local financial management, fund raising, and development of relationships between school and community. Ideas for improving educational quality include stand-alone and distance learning technologies, the four-day week, non-size related consolidations, and school district cooperation and coordination.

Small, rural communities should avoid what appears to be the beginning of a slow, but irrevocable, decline of educational standards, exacerbated by tight fiscal conditions. Rather, community and school leaders need to rediscover the meaning of community and target their human resources, creativity, and spirituality to the challenges facing rural environments as they prepare for the 21st century. State policymakers must develop state level policies that encourage rural schools to reach for high goals by building on local strengths and resources.

CHAPTER 1: INTRODUCTION

In the minds of many citizens, taxpayers, and policymakers, rural schools pose a challenge. These schools face many critical choices due in part to limited fiscal resources, small size, and conservative community values. Since the spring of 1983, when the National Commission on Excellence in Education released *A Nation at Risk*, there have been a flurry of reports and legislative actions aimed at curing the ills that seem to beset education in the U. S. These initiatives have included many suggestions: increasing graduation requirements, expanding curricula offerings (especially in science and mathematics), greater teacher accountability and evaluation, longer school day and longer school year, school consolidation, and greater monitoring of local schools' compliance with state-adopted performance standards. The proposals for school consolidation and implementation of uniform state standards pose a particularly difficult challenge to small, rural schools. These more aggressive efforts by the state to improve local school performance prompted this investigation of how such initiatives were being played out at the local level.

Background on the Study

There has been a steady decline of the number of school districts in the United States from nearly 128,000 in 1931 to nearly 16,000 in 1987 (U.S. Department of Education, 1989). In the same period the number of one-room elementary schools (150,000) dwindled to fewer than 1,500 (Sher & Tompkins, 1977). Nonetheless, a sizable number of small schools continues to serve students in rural areas. For example, in 1987 there were approximately 83,000 schools operating in the United States; 42 percent had enrollments of fewer than 300 students (U.S. Department of Education, 1989). According to Johnson (1989) approximately 53 percent of all schools were operating in nonmetropolitan areas. Of these, approximately 27 percent were located in areas of under 2,500 persons (often recognized as a restrictive definition of rural).

On the other hand, as the push toward fewer and larger schools (and supposedly greater quality, equity, and efficiency) continues unabated, evidence continues to substantiate the advantages of smaller school units (cf. Howley, 1989; Monk & Haller, 1986; Sher & Tompkins, 1977; Smith & DeYoung, Swanson, 1988; Walberg & Fowler, 1987). In addition, rural schools and their communities share a symbiotic relationship (cf. Hobbs, 1987; Monk & Haller, 1986; Nachtigal, 1982; Peshkin, 1978; Schmuck & Schmuck, 1990). As the fate of one goes, so goes the vitality of the other. In a real sense, the decision to eliminate a school may eliminate a community as well.

The paradoxes of the 90s seem perplexing; they affect rural schools and their communities in strange ways. On the one hand, there is the insistent call for the improvement of schools so the United States can win the economic race of the 21st century. The call for higher performance of schools has spun off new educational policies with states setting a variety of new standards including beefed-up academic course offerings and more stringent graduation requirements. On the other hand, schools are facing a reluctant public unwilling to continue to shell out additional tax monies in support of these expectations. The current period of tight fiscal budgets,

huge state deficits, and a weak economy may be the culprit, or it may signal a more deep-seated mistrust on one part of the public. To complicate matters even further, public opinion polls of parents continue to show that an overwhelming majority believe their own local school is doing a good job. It may be difficult to get parents to vote more taxes for school improvement when they feel their schools are already meeting their expectations. Hence, the public may be skeptical of both the need for reform or the kinds of reform adopted.

Mounting a school improvement policy effort at the state level faces a reality check when it comes to providing additional fiscal resources to support needed improvements. Adequate and equitable funding of schools in general and rural schools in particular continues to be a major policy issue, but rural school systems continue to experience financial stress. According to Stephens (1989), among all school districts, 51 percent are both rural and small and 14 percent are rural, small, and poor. Rural, small, and poor districts enroll a total of approximately 1.3 million students. Stephens observes further that many rural school districts face such difficult problems as declining enrollments, aging facilities, limited curricula, and diminishing political influence.

Rural school facilities, according to Honeyman, Wood, Thompson, and Stewart (1988), are deteriorating rapidly and their maintenance needs are increasing. This crisis is further compounded by indebtedness: a quarter of these districts are at 199 percent of their debt limit and a majority having exercised 50 percent of their allowable limits for capital outlay. School districts with low taxing ability showed the greatest levels of deferred maintenance. Their study implies that school districts with the greatest needs generally are the least able to pay.

Brizius, Foster, and Patton (1988) suggest that rural schools will have difficulty meeting the demands of school reform. Areas of stress include additional requirements for foreign language courses, advanced science courses, and improved teacher salaries. According to Honeyman, Thompson, Wood (1989)

> ...the provisions of recent reforms add yet another costly expense to rural education budgets. These additional expenses must be accommodated even though special needs in rural areas already include dealing with high cost factors such as sparsity, diseconomy of scale, extra transportation costs, and declining rural wealth. (p. 66)

These conditions set the context for a study of small, rural K-12 single-unit schools in Vermont. This study was prompted by the concern that pressure will continue to mount for states to set new standards for schools (see, for example, *America 2000* and *Educating America, State Strategies for Achieving the National Education Goals*) and to view many small—especially rural—schools as inadequate and inefficient (cf. Sher, 1988; Sher, 1986). In the press for solutions to educational quality and funding problems, small rural schools may face a second wave of effort to consolidate despite the existence of more productive alternatives (Monk & Haller, 1986; Nachtigal, 1989; and Nachtigal, 1982). In any regard, it seemed as though greater documentation of the impact of a state policy targeted at school improvement during difficult fiscal times was in order.

Research Questions

The general research question for this study was:

> How are the small, rural K-12 single-unit schools of the State of Vermont functioning under the twin pressures of state level educational standards (Public School Approval [PSA]) and limited fiscal resources?

The following questions guided the inquiry process in answering the main research question of this study:

1. What are varying persons' perceptions of the twin pressures of higher standards and limited resources?

2. What are the perceived strengths of these schools?

3. What are the perceived weaknesses of these schools?

4. What changes have been made or are in progress at these schools?

5. What are the perceived advantages and disadvantages of the K-12 organization and in what ways is it being maximized?

Study Population and Design

Population

The schools of this study were the remaining 10 K-12 school units in the State of Vermont. These schools represent the last vestige of the traditionally designed rural school, resembling their one-room predecessors, which have nearly vanished from the educational landscape. Each of these schools is a single unit with a school board and principal in charge of the K-12 spectrum of curricula and programs. The K-12 schools of Vermont have a mean enrollment of 423 students with a range of 235 to 720 students, located principally in rural areas.

These 10 schools were chosen for study because they: (1) provided variability in size, location, and organizational styles, (2) had strong potential in serving as proxies for other rural schools across the United States, (3) enabled viewing impact simultaneously across all grades (K-12) operating within the same organizational and governance structure, (4) permitted contrasting a comparable set of schools, and (5) were a manageable number of schools for collecting both quantitative and qualitative data. The small number of schools to be studied provided the opportunity to visit and observe each of the schools in operation. All ten schools agreed to participate in the study.

Design

A case study design (Merriam, 1991) guided the investigative process of this study. Case study methodology relies on multiple sources of information, including documents, interviews, and observation. Essentially three stages were followed in answering the aforementioned research questions. Stage one included reviewing state statistical reports, including PSA reports, for the past several years on each participating school. Stage two included a site visit to each school to verify state data and to observe its physical and socio-political conditions. Stage three included a purposeful sample of two schools for more in-depth site visits, observations, and interviews.

This study was conducted during the 1991-92 school year.

State of Vermont

Some background on Vermont will help place the schools studied in context. Vermont, which is known as the Green Mountain State, was first settled by the French in 1666. The first English settlement appeared in 1690. Vermont joined the Union as its fourteenth state on March 4, 1791. Rural in character, Vermont has a land area of 9,273 square miles and a 1990 population of 562,758, which represents a 10.2 percent increase over its population in 1980 (U.S. Census, 1990). Vermont is arguably the most rural state in the nation, with two-thirds of its residents living in communities of 2,500 or less, compared with the national average of slightly over 25 percent.

Economics

Vermont is experiencing the same economical downturn as the rest of the country which is particularly severe in New England. The state nonetheless remains very resilient economically. According to the U.S. Department of Commerce, Vermont is one of only two states with positive income growth in the entire New England region. Vermont ranks sixth in U.S. in average annual rate of growth in per capita income 1985 to 1990 and sixteenth for lowest unemployment (4.9% v. nationwide average of 5.5%) in 1990 (U.S. Department of Commerce, 1991).

Vermont's economy is diversified, with manufacturing (22%), services (26%), and wholesale and retail trade (16%) predominating. Farming represents about two percent of the earnings in Vermont.

Vermont's per capita income in 1990 was $17,511, or 94 percent of the national average of $18,691 (U.S. Department of Commerce, 1991). The Governors' Center at Duke University ranks state governments by revenues as part of the Fortune 500; Vermont (number 321) comes in right behind Fruit of the Loom.

Education

Vermont's Department of Education reported the 1991-92 total public school enrollment (K-12) as 97,465 students in its 377 school districts and unions. Approximately 38 percent of these students attend school in rural areas and 58 percent attend school in small towns. A little over 10 percent of these students come from economically deprived backgrounds. Vermont schools employ 7,106 teachers, 455 superintendents and building principals in 59 supervisory unions.

In part because of the long-held tradition of local control, less than 20 percent of the school boards operate K-12 systems. It is quite common for each school, whether elementary, middle, or secondary, to have its own school board. Only 14 of 323 school boards, however, employ their own superintendents. Most school superintendents, in fact, serve anywhere from five to nine school boards. Each of the K-12 single-unit schools of this study operates within a supervisory union but has its own school board and building principal.

The majority of funds (57 percent in FY90) supporting Vermont schools comes from the local level. The state's share most recently (FY93) has slipped to less than 28 percent and five percent is funded from federal aid. Most federal grants are used to fund special and compensatory education programs and help cover administrative costs. Total state aid for FY 1990 was over $559 million.

The average spending per pupil for FY 1988 was just under $4,000 with a range from a high of just over $5,000 to a low of a little over $3,000. Based on property values (equalized grand list) in 1989, the state's average value per pupil was around $3,200, with the highest quintile average value of $9,400 to the lowest quintile average of $1,500. A recent state school finance report (Vermont Department of Education, 1990) concluded the following:

1. While a few Vermont districts spend at very high or low levels, for most districts there is no great difference in student spending. Differences that do exist do not appear to be the result of the amount of tax capacity available to districts.

2. Most students have had access to comparable level of financial resources, but this is changing. In recent years, higher spending districts have accelerated their spending at a significantly faster rate than lower spending districts. (pp. 1-2)

Some serious gaps of services seem to exist for preschoolers, particularly in the birth to age three group. Head Start and Early Childhood Special Education are reaching 39 percent and 65 percent respectively of those eligible for services. On the other hand, the Early Education Initiative is reaching 13 percent of those eligible, Early Compensatory Education is reaching only 6 percent, and Early Childhood Special Education (birth-three) is reaching 14 percent. (Vermont Department of Education, 1991)

As with other states, Vermont is making a serious effort to improve education across the board. It enjoys the third lowest number of students per teacher in the U.S. Teacher salaries average 27th in the nation.

In regard to student performance, Vermont ranks seventh of the 50 states in high school graduation rate. About 17 percent of all students who enter the ninth grade in Vermont at some point drop out and do not graduate from high school on schedule. Vermont high school students scored at about the national average on Scholastic Aptitude Tests (SAT), although they lag behind when the scores are adjusted for racial differences (Vermont Business Roundtable, 1989). During the 1990-91 school year, the Vermont Department of Education piloted (in 137 schools) a portfolio assessment program (writing and mathematics, grades four and eight). Generally the results were very positive, with notable progress in both writing and math skills between grades four and eight (Vermont Department of Education, 1991).

Public School Approval Policy (PSA)

In September 1984, and with revisions in 1987, 1990, and 1991, Vermont adopted a comprehensive set of standards for approving the public schools (PSA). These standards address requirements in the following areas: instructional practices; curricula coordination; school climate; graduation requirements; subjects area of language arts, mathematics, science, social studies, the arts, second language, health education, physical education, home economics and industrial arts, business education, vocational-technical education, computer study, traffic safety and driver education, library-media, guidance, co-curricular/extracurricular activities, special education, compensatory education; assessment of student performance; school leadership and staff development; and facilities, health services, and student records (Vermont Department of Education, 1984).

This new initiative (PSA), by the Vermont State Board of Education and the Vermont State Department of Education, was a significant departure from previous state standards and mandates. Previous standards were considered more permissive and seemed primarily concerned with physical facilities and square footage requirements. The PSA policy is much more comprehensive and is based, in part, on the literature that seeks to investigate characteristics of effective schools. The PSA represents a departure from Vermont's tradition of deferring to local control the task of defining quality of education. It places the state in a position of ensuring that a set of universal standards of performance apply across the entire state, right down to the classroom level.

The PSA process involves a self-study, a site visit by a team of Vermont educators, visiting team report based on the aforementioned standards, school site response and plans for meeting cited deficiencies, conditional approval based on submitted plans, state department of education verification of implementation of needed improvements, and final approval by the State Board of Education.

As of December 1991, of the 365 buildings in Vermont, 25 had been approved, 320 are in conditional status (pending approval), and 20 schools are yet to be visited (E. Haggett, personal communication, December, 1991). This process has thus far generated approximately 10,483 required improvements. These improvements run the gamut from building changes, to hiring additional personnel, to developing new curricula. More details on the impact of the PSA policy on the K-12 schools in this study are explored in Chapter 3.

As is often the case, such statistics and descriptions do not fully reveal what values or attitudes Vermonters have toward their schools. The following observation from Burkhardt and Mayo's (1989) research on Vermont schools provides a perspective on the challenge facing state policymakers and local leaders in improving schools:

> Vermont communities take special pride in their independence from burdening state mandates, and emphasize that local control without interference from the state creates Vermont's "school personalities." This perspective, usually considered to be an asset, may prevent rural schools from seeking and receiving assistance when needed. (p. 15)

Vermont citizens face a conundrum of sorts in meeting higher educational expectations and standards while maintaining their cherished and traditional Yankee spirit of individualism and independence.

CHAPTER 2: LITERATURE ON SMALL AND RURAL SCHOOLS

A body of literature about rural education exists and helped guide the inquiry process. My intent is not to provide an exhaustive review of this literature but rather to consider a few salient points that may help explain the findings of this study.

Small Schools

Beckner (1983) discusses small schools from several perspectives. Table 1 summarizes his observations.

Beckner suggests that student learning in small schools builds more self-reliance, helps in character development, and improves human relations skills. Typically, small schools face fewer problems of discipline, drugs, vandalism, and truancy.

A number of studies have tried to pin down the effects of size and its influence on a number of variables like achievement, social growth, and psychological adjustment. However, the results are sometimes contradictory or inconsistent. The ERIC Clearinghouse on Educational Management (1982) concluded in their review of school size research that "many small schools offer good programs with per pupil expenditures that are lower than those of larger schools; efficiently run small schools can cost about the same as inefficiently run large schools" (p. 4).

Table 1. Advantages and Disadvantages of Small Schools

Categories	Advantages	Disadvantages
Community Relations	closer control & informal accountability	conservative values & sense of inferiority
Finance	easier to know and control expenditures	not inherently efficient lack economic diversity
Administration	closer relationships less red tape	little or no assistance can become too cozy
Teachers	relationships with others more personal	difficult to attract & keep, more preparation
Students	morale higher	fewer course choices
Curriculum & Instruction	more individualization, learner centered, & independent study	underdeveloped methods for small groups & resources limited

Huling (1980) reports similar conclusions of the advantages of small schools. She suggests that students in small schools are less alienated and less expendable than students in large schools. Numerous studies (Barker & Gump, 1964; Holland & Andre, 1987; Lindsay (1984); Morgan and Alwin, 1980; Ratsoy & Bumbarger, 1976; Schoggen & Schoggen, 1988) support the conclusion that a larger percentage of students in small schools participate in school related and extracurricular activities than do their counterparts in large schools.

Fox (1980) points out that part of the difficulty with school size research and inconsistent findings may be a consequence of not considering other costs—such as transportation—which change with school size. Guthrie (1979) supports Fox and points out, for example, that savings of centralized purchasing of larger consolidated systems often are washed out by increased distribution costs. Sher and Tompkins (1977) argue that small schools tend to be concentrated in rural areas, which are often less prosperous and thus cannot generate as much taxation revenue.

Howley (1988) concludes from his review of recent studies of the effects of small schools that "[s]tudent achievement in small-scale schooling equals or exceeds student achievement in large-scale operations. This result seems to hold whether the unit of analysis is individual student, schools, or districts" (p. 19). He suggests that the achievement advantage may be influenced by: small class size; good student affect; strong financial support, relative to SES; productive use of financial resources, relative to SES; and productive cooperation of students, staff, and community (p. 20).

In a more recent review of research on school size effects, particularly with secondary schools, Fowler (1992) concludes: "The overwhelming weight of research studies confirm beneficial effects for small high school size, and detrimental effects for large high school size" (p. 16).

It is somewhat of a puzzlement in understanding the success of small schools in regard to academic achievement when, according to several studies (Barker, 1985; Monk, 1987; Haller, Monk, Spotted Bear, Griffith & Moss, 1990), these schools offer fewer courses and less comprehensive programs, particularly in mathematics and science, than larger schools. Haller, Monk, and Tien (1992) addressed this issue in a recent study that attempted to determined if there were differences in higher order thinking skills between larger and smaller schools. They found that although larger schools offer more advanced courses and have more students taking them, size has no influence. They concluded that, "While large schools offer more advanced courses than do small ones, those offerings appear to have no influence on student achievement" (p. 18).

The ERIC Clearinghouse on Educational Management (1982) provides a Delphic comment on the school size issue: "The optimum school size is one that supports the kind of education the community wants at a cost it is willing to pay" (p. 4). Unfortunately, this observation begs the question of equity and equal educational opportunity for children. What "community" are we speaking of and who is to pay? Such issues are bound to be contested for many years to come.

Rural Schools

As Sher and Tompkins (1977) suggest, most small schools exist in rural areas; therefore, the rural context provides an additional layer of influence concerning the educational process. Carlson (1992a) reports on a range of research and related readings concerning rural schools and rural communities. Several points seem worth noting.

First, between 1/5 and 1/3 of the U.S. population lives in rural areas (depending on definition). Approximately 46 percent of our nation's public schools are located in rural or small town locales (U.S. Department of Education, 1992). Second, living in the rural context seems to expose persons to values that differ from those to which their urban counterparts are exposed. For example, rural people tend to cherish family and tradition, value face-to-face contacts, judge the validity of information based on who said it, learn to make do with less, and cultivate self-sufficiency. Third, rural educators suggest that working in a rural environment: (1) is less stressful, (2) produces more personal contacts and familiarity, (3) means getting

along with fewer resources, (4) means having to work with less well-informed adults and parents, (5) sometimes results in a sense of professional isolation, and (6) demands more in terms of work.

Finally, Carlson (1992) concludes:

> rural areas present professionals with a paradox. On the one hand, they identify many strengths of rural environments that seem to provide them with a desired quality of life that includes a sense of belonging, less stress, a sense of personal worth, and so forth. On the other hand, rural areas are faced with limited resources and create a sense of professional isolation. (p. 45)

In regard to student performance in rural schools, Stern (1991) summarizes related research on outcomes of rural schooling. She reports "that in terms of national test scores rural students are matching or exceeding the national averages, but that in other measures, e.g., high school graduation (67% v. 73.1%) and college-going rates (56.8% v. 61%), they are behind their counterparts elsewhere" (p. 15).

K-12 Districts and Schools

Research focused specifically on the K-12 school organization seems limited. Barker (1985) and Barker and Muse (1983) however, provide both a national and regional view of K-12 schools. From a survey of K-12 school districts, enrolling 900 students or fewer in 45 states, they compiled statistics on information about rural districts, school administration, teachers, student performance, and school programs. The sample included 816 randomly selected districts of the 4,124 rural districts in U.S. The response rate was 78.7 percent. Their summary data were based on 1982-83 school year statistics. Table 2 highlights some of the findings.

They also found that Spanish was the most commonly offered foreign language (41.8%) versus German (9.7%) or French (18.9%). Other offerings included calculus (35.9%), chemistry (79.4%), and computer science (60.3%).

Ward (1988) studied 52 unit (K-12) school districts in a nine-county region of east central Illinois. The districts were divided into four categories of: urban (>general population greater than 10,000),

Table 2. Self-Reported K-12 Statistics

Variable	U.S.
Average student enrollment	436
Average student enrollment per school	188.5
Average geographical size of district in square miles	245
Mean farthest one-way distance students based (miles)	19.0
Average number of elementary teachers in district	14.4
Average number of secondary teachers in district	15.7
Average teacher/student ratio	1:14.5
Average number of different subject preparations for secondary teachers	3.5
Mean number of graduating seniors	34.5
Percent of graduating seniors with 110 or above (SAT)	2.6
Percent of graduating seniors going on to college	38.6
Percent of graduating seniors going to technical school	14.1

large rural (general population less than 10,000 and student enrollment greater than 1000), medium rural (small communities with pupil enrollment between 500 and 999), and small rural (small communities with pupil enrollment of less than 500). Ward concluded that small, rural schools are not offering substandard programs or services. In particular, Ward found that the small rural districts had:

- lower pupil-teacher ratios at the secondary level,
- lower average administrator/teacher salaries,
- lower student mobility,
- wealthier in equalized assessed valuation per pupil,
- higher per capita tuition charges,
- higher operating costs, and
- expenditure of a larger proportion of resources on core education programs.

The average scholastic test scores (American College Test) did not differ among his schools, although some small rural districts did have low achievement levels. His analysis suggests consolidating schools might lower per pupil costs but might just as well increase salaries for administrators and teachers. Further, Ward found greater variance within his four groupings than between them, which suggests the limitation of developing a policy for consolidating small rural school districts. He concluded:

> Public policymakers need to attend to problems of school performance, but to isolate one particular district type—such as small, rural school districts—does a disservice and masks the real problems. (p. 6)

Lutz and Lutz (1987) report on a K-12 school in rural Texas faced with legislated academic mandates but reluctant to comply. The 1982 and 1983 legislation respectively mandated a state-wide curriculum in all grades and subjects, a "no pass/no play" rule, longer school year, and testing for teachers and pupils. In this school, one of the co-authors was a science teacher at five grade levels (4, 6-10), teaching six straight periods, with a 10-minute break in the morning, 20-minute lunch. The typical day started at 7:45 a.m. and ended at 3:45 p.m. Laboratory materials were in short supply, although the board of education approved several thousand dollars in purchases. Parent resistance to academic instruction was common. As one parent asserted "It (science) won't help milk the cows" (p. 11). This resistance carried over to the state mandates. The authors observed:

> What if Dairyland isn't the public school equivalent of Harvard; no one in Dairyland wants it to be. They are proud of their school, its basketball team, its former graduates, and (at least publicly) its present students. In Dairyland, families are important. One is born in Dairyland, grows up, and goes to school, usually meets their future spouse in high school, gets married, and raises their family, all within 50 miles of the Dairyland school.

The citizens of Dairyland basically felt that the state did not have the right to control the education of their children or shape their children's values. They saw more education as a threat to family values and the greater likelihood of their children leaving Dairyland.

Concluding Comments

Stern (1991) proffers a summary on the current conditions of rural schools in the United States. She argues that at the national level there is information on:

- the poor quality of rural school facilities, and the generally good record of the rural school bus transportation system;
- the increasing availability of special programs to rural areas;
- the potential of rural schools as a community resource and of the community as a learning vehicle for the schools;

- the extent to which rural schools can be helped or hindered by state reform efforts, depending on their resources;
- the performance of rural students in several educational outcomes indicators; and
- the expanding range of public and private endeavors to assist rural schools and school districts. (p. 23)

The preceding review of literature helps confirm the diverse, special characteristics of small schools, rural schools, and K-12 districts and schools. Establishing universal, state-level policies that are not sensitive to these special and unique qualities bodes ill for small, rural schools and the students they serve. Chapter 4 discusses in more detail alternative policy and local options in addressing the special needs of rural schools as revealed by this study.

CHAPTER 3: STUDY FINDINGS

Snowflake Bentley, a Vermonter, was recognized for his observations of the unique characteristics of snowflakes. His results provide an apt metaphor for the findings of this study. That is, as with snowflakes, the K-12 schools in Vermont share a great deal in common. On the surface, and from some distance, they appear to be very similar to each other. However, as one begins to examine each one in greater detail, their uniqueness becomes more evident.

The general research question for this study was to determine the extent to which the K-12 schools in the state of Vermont were impacted by the twin pressures of state mandated education standards and limited fiscal resources. To help interpret the impact of these twin pressures and to place the findings in their proper context, each of the K-12 schools was examined in some detail. Therefore, the first part of this section on findings provides a rich description of the K-12 schools involved in this study, from both a quantitative and qualitative perspective. The second part of this section summarizes the impact of PSA on these schools' finances and curricula. The third section explores in more detail how two comparable K-12 schools are coping somewhat differently with school improvement mandate and limited funding. The final section discusses the findings.

K-12 Schools Characteristics

This section outlines the quantitative data and qualitative information garnered from various statistical reports and gathered through site visits, observations, and interviews. The first subsection, Quantitative Findings, provides a summary of the statistical data that permit an overall description of the K-12 schools in Vermont. Several sources (cf. Jolly, Hord, & Vaughan, 1990; Monk & Haller, 1986; and Stephens, 1991a) helped in identifying relevant variables that are reported in this study and seem to have some relevance to examining and describing rural schools. Stephens (1991a) was particularly helpful in providing alternative indicators and a framework (i.e., context, input, process, and outcome) for organizing these data. (See Appendices A and B for raw data on each K-12 school.)

The next subsection summarizes the qualitative information obtained in site visits. Data from each visit were summarized into the categories of location, physical facilities, school climate, administrative leadership, community involvement, PSA impact, and K-12 usage. (See Appendix C for a breakdown of qualitative information collected and summarized for each K-12 school.) Pseudonyms have been used for each K-12 site.

Quantitative Findings

Appendices A and B provide the data for this section of the study findings. Appendix A provides a summary of 56 variables which form the database for subsequent school site summaries. In Appendix B are school site tables, one for each school site (10), which summarize 26 indicators[1] for each school, the K-12 schools, and Vermont schools. The tables in

[1]A breakdown of the variables follows: **context**—pupil per square mile, percentage of unemployed, median adjusted gross income, and percentage of children in poverty; **input**—square feet per pupil, percentage of state aid, local tax burden index, income per pupil, K-6 tuition, 7-12 tuition, per pupil cost, percentage of advanced degrees, average experience of teaching staff, average teacher salary, percentage of students receiving free and reduced lunches, and percentage of special education pupils; **process**—math offerings, science offerings, foreign language offerings, graduation requirements, and average class size; and **outcome**—attendance rate, completion rate, postsecondary attendance rate, average SAT math, and average SAT verbal scores.

Appendix B were designed to constitute a short summary, by school site, of a subset of indicators for which there seems to be greatest variability of data. The quantitative findings are grouped by the categories of context, input, process, and outcome.

Context

All 10 of the schools in this study have been classified as rural by the National Center for Education Statistics (Johnson, 1989). Eight of the schools serve districts in which the student population is sparse—10 or fewer students per square mile (see, Coe & Howley, 1989, for an example of sparsity as part of the definition of "rural").

The economic activity of the majority of the communities in this study differ slightly from the two major sources of employment in Vermont (services [25.8%] & manufacturing [21.9%]). For the communities of this study, service ranks first, but the second most important employment opportunity is trade (wholesale and retail) (Vermont Department of Employment & Training, 1991).

Other indicators of financial well being (unemployment, median adjusted gross income, and children in poverty) suggest some diversity among the schools. Epsilon shares the dubious honor of having both the highest unemployment rate (11.7%) and the lowest income ($16,065) of the group. Beta has the highest percentage of children in poverty (24.3%). Alpha appears stronger economically, with the highest income level ($24,725) and lowest percentage of children in poverty (3.3%).

When considering school factors (e.g., enrollment, school square footage, and age of building) other contrasts emerge. One school (Epsilon), for example, occupies a building that is 165 years old and still used extensively. The school has, however, recently added a new facility to house its media center, special classes, and other regular classrooms. Other schools (Alpha, Zeta, Eta, and Lambda) have, in the last five years, made significant improvements to their facilities. Gamma is facing a major challenge in upgrading its physical facilities that are preventing PSA approval; the citizens thus far have turned down two bond proposals.

Input

The major inputs explored in this study include financial support, teacher qualifications, and the student body. Nearly all the schools in this study receive state aid for operating costs above the state average of 30 percent. The average for the K-12 schools is nearly 37 percent. The highest support of 50.44 percent is provided to Eta, which coincidentally has one of the highest local school effective tax rates[2] (1.52). On the other end of the spectrum, one school (Lambda) receives no state aid for operating costs and only one percent of aid for bond indebtedness. Its local tax burden rate is the lowest of the group (.84), which is explained in part by the fact that a regional power company provides nearly half of the taxes for the school's operating costs.

The state average personal income per student is approximately $67,000 and only one school (Kappa—$71,736) in the K-12 group is above the state average. Not surprisingly, Epsilon School has the lowest income per student ($33,318) of the K-12 schools. This circumstance is consistent with Epsilon's highest unemployment and lowest median adjusted gross income for the K-12 schools.

Another interesting source of local revenue, often viewed by some citizens and board members as a no-lose practice, is tuition income at the secondary school level. The site visits revealed that a number of schools (Delta, Epsilon, Zeta, & Iota) rely, to a large extent, on tuition students to balance their school budgets. These tuition students are seen as filling available spaces without increasing local costs.

The financial health of a school is often reflected in its capacity to pay high teacher salaries and, as a consequence, being able to attract and retain experienced teachers with advanced degrees. As a group, all schools studied pay below the state average of $32,000 or the national average of $32,249. Lambda is the closest to the state average, with an average salary of $31,819. Not surprisingly, 65 percent of its staff possess advanced degrees (well above the average of 38.5 percent for the group) and also have

[2]School Effective Tax Rates are one indication of a local tax burden or effort. This tax rate is calculated by dividing a district's school property taxes by its equalized grand list value. (Vermont Department of Education, Information Systems Unit, 1990.)

the second highest average years of experience (14.3). This may well explain Lambda's high per-pupil expenditure of $5653, which sets it apart from the rest of K-12 schools with an average of $3856. Also, it is not surprising that Epsilon has the lowest teacher salary ($22,913) though its staff average 13 years of teaching experience. Teacher turnover in the K-12 schools over the past year has been minimal, at an overall annual average rate of 2.8 persons for the K-12 schools as a group.

The percentage of special needs students also varies. Using free and reduced lunch as an indicator, the percentage of disadvantaged students range from 17 percent to 38 percent. Beta, Delta, Iota, Eta, and Lambda all fall above the group mean of 25 percent. As a group of schools, they serve more than the state average of 12.7 percent in special education programs.

Process

Process indicators focus primarily on graduation requirements, curricular offerings, class size, teaching load, and the availability of such personnel as counselors and special educators. Graduation requirements surprisingly vary from a low of 17.5 (Beta) to a high of 24 Carnegie units (Lambda), with an average of 20.75.

The K-12 schools' respective programs of studies were a primary source on determining the scope and sequence of curricular course offerings. Generally, across the board there is more comparability than difference, which would be expected. On the other hand, certain schools seem to place more emphasis in particular curricular areas than others. For example, in foreign language, Epsilon provides seven offerings, whereas Zeta provides only two. The group average is 4.6 offerings. A similar discrepancy is observable in the fine arts, with Epsilon again on the low side (1.2 offerings) and Zeta on the high side (8 offerings). The group mean offering in fine arts is 5.32 courses. In math and science, the differences in the lowest number and highest number of course offerings between the K-12 schools is four for math (6 v. 10) and five for science (5 v. 10).

Average class size ranges from 11 (Delta) to 21 (Beta), with an overall average of 15.19 students.

Outcome

The outcome indicators include rates associated with school suspension, pregnancy, vandalism, completion, attendance at postsecondary institutions, and average Scholastic Aptitude Test (SAT) scores. As is often the case among rural schools, the rates of suspension, pregnancy, and vandalism for the K-12 schools in this study are negligible. The attendance and completion rates on average for these schools are 95.28 percent and 96.92 percent, respectively, with two schools (Delta & Zeta) posting a 100 percent completion rate.

The average postsecondary attendance rate for this group of schools is 55.2 percent. Beta School has the lowest rate (39 percent), closely followed by Kappa (40 percent). On the other end of the scale, Alpha, Delta, Iota, and Lambda all posted rates in excess of 60 percent.

The average combined (verbal and math) SAT score for the K-12 group is 897, equal to the state average and very close to the national average of 900. Kappa School has the lowest combined score (766) and Gamma School has the highest (1000).

Qualitative

Each of the K-12 schools was visited for a half day. The visitation protocol essentially followed this pattern:

1. a 45—60 minute interview of the principal which involved posing the research questions of this study and reviewing and gathering additional statistical data;
2. a tour of the school, usually conducted by one or two students who had been associated with the school for some length of time; and,
3. observations and spontaneous interviews of teachers and students during the tour of the building.

The impressions drawn from each visit were summarized in a site summary report and organized into the categories of location, physical facilities,

school climate, administrative leadership, community involvement, PSA impact, and K-12 usage. Each school's report was sent to its principal for comment on the accuracy of the summary. All principals were contacted by phone and some returned their suggested revision by mail. Only minor changes were suggested, but these helped increase the accuracy of the summaries. Appendix C provides a copy of each site summary.

Location

The diversity of sites and locations in the state is evident from the brief descriptions in the site summaries. One school (Alpha) is located less than an hour's drive from the state's only Metropolitan Statistical Area of over 100,000 people, whereas other schools (Gamma, Delta, Epsilon, and Zeta) are located primarily in northern and central Vermont in very small communities (i.e., populations between 700 and 1500 people) and in much more isolated areas. Two K-12 schools are centralized schools that draw students from several communities, and, as a consequence, they are not located within any town (like the other schools in this study). Such diversity, indeed, is a characteristic feature of rural education in the United States.

Physical Facilities

As can be inferred from the spreadsheet data (Appendix A), and as mentioned above in the Context section, the facilities of these schools range in age from 165 years to one year. The site visits brought home these distinctions more sharply. This contrast was sharpest at Epsilon, whose 165-year-old building sits next to a facility just two years old. Both buildings are aesthetically pleasing from the exterior. For example, the old building has a New England charm of large, multi-paned windows that reveal its historical heritage. The new facility is also reflective of its time and contemporary architecture. It has a much lower profile, fewer windows, and narrower clapboard siding. However, the interiors differ tremendously in light quality, space, and building materials. Zeta School also brings home the impact of new architecture and the use of light and color in walls and flooring. Beta School originally employed the open classroom school plan of the late 60s and early 70s, now partitioned for self-contained classrooms. Lambda School has the most unique architecture of the 10 schools. The building is 32 years old, but looks very new. It is laid out in six-sided "pods" with a great deal of glass in classroom windows and hallway corridors. The building interior is ablaze with light on a bright day. Two schools (Gamma and Kappa) are experiencing problems with the safety and accessibility of their facilities. Gamma School, in particular, has its PSA approval status on hold primarily due to a facility problem. Thus far, Gamma has not been able to secure voter approval for the bond issue that would support construction to resolve the problem.

School Climate

School climate can be an elusive quality, difficult to judge in a short visit. On the other hand, a school's first impressions to an alert outsider can provide initial insight to the general nature of its social and emotional environment. In the main, the climate of these schools reflects an intimate and friendly tone with a great deal of personal attention given to students by school personnel. One exception to this generalization is the Beta School, where the school's layout and large size seem to preclude a more intimate and informal atmosphere. Beta also was experiencing tension associated with teacher contract negotiations, which may have colored the researcher's perceptions.

The greatest strength of small, rural schools was exemplified in the positive response of the students in Gamma School to a recently transferred autistic student. The students at Lambda School demonstrated their concern for others by posting a large banner in the front windows of the school to welcome back the school secretary, who had been absent with an injured shoulder. Epsilon School also demonstrated that small size and limited wealth need not be handicaps in generating ideas, energy, and commitment to providing a high quality educational experience for their students. This school was recently recognized as part of the National Recognition Program of the U.S. Department of Education.

Administrative Leadership

As suggested previously, each K-12 school seems to have a unique set of qualities; the same observation applies to their administrators. The leadership styles seem interactive and closely related to the size of the school and the nature of the school's operation. At Alpha, which has a large enrollment of 720 students, the principal handles many administrative details associated with the school's population, whereas, the principal of Gamma School (with an enrollment just under 250 students) finds herself drawn into the personal problems of teachers and students and engages in frequent one-on-one dialogues. All of the administrators in these schools speak about student, faculty, and community involvement and how important it is to ensure opportunities for this involvement.

Surprisingly, administrative staffing at each of the schools varies considerably. Alpha, with its large population, has three full-time administrators possibly because of its higher tax base. Beta School, with a weaker tax base but just 100 fewer students than Alpha, has no assistant principal(s). Lambda School, with a stronger tax base and just under 250 students, is staffed with a fulltime administrator, a parttime assistant administrator, and a teacher designated as a coordinator at the elementary level (K-5).

Community Involvement

Across the board, community people are involved in these schools at one level or another. At one level, this involvement concerned use of the facilities for a wide range of community and social group activities. For example, for exercise the senior citizens of Zeta walk about inside the school building in the early morning and after school. At Alpha, the school was advertising their annual Crafts Show and Turkey Dinner. The school gymnasiums of all these schools provide a range of physical activities of various sorts for various ages and members of the community.

At another level, community members provide direct support through volunteering in the library, reading to kindergarten children, tutoring students, making class presentations, or participating in planning groups. Gamma School, for example, as part of its Incentive Grant from the Vermont Department of Education, organized a restructuring committee made up of community members, administrators, and teachers who are engaged in exploring and creating new approaches at the school. Community members are playing a significant role in examining old assumptions and generating new ideas.

A third level is the raising of extra monies to support many of the school's activities. Epsilon has a foundation that provided two thirds of the funds to support the new facility, and Gamma has an annual fundraising event in the summer but also raises money throughout the year to support student trips to places as diverse as Boston and the former Soviet Union. The service and booster clubs of Kappa provide scholarship funds as well as special needs like uniforms for the school band.

Only Beta School seems to have little community involvement. This finding may be attributable in part, perhaps, that it provides services to three distinct and geographically separate communities.

Use Made of K-12 Organization

At present the K-12 organizational structure is somewhat unique for school organizations. It is more common today to find schools typically organized K-6, 7-9, or 10-12. Where middle-level education exists, there may be separate facilities usually containing grades 5-8, but again with great variation among school systems. The population of schools for this study provided a unique opportunity to observe the degree to which the K-12 organizational structure was embraced by the professional staff or seen as a relic from the past and being undesirable.

All organizational plans in education entail perceived advantages and disadvantages. The K-12 organizational structure is no exception. Teachers in the same building frequently held opposing views as to the value of a K-12 arrangement. The current middle-level education movement in Vermont in some ways seems to encourage segmentation of the school into three distinct levels (e.g., elementary, middle, and high school) even in a facility that houses all grades.

Students also held a view of the K-12 arrange-

ment. The student guides who provided tours of their schools presented an opportunity to explore such views. In several schools, a middle-level program had recently been organized and the students suddenly found themselves no longer enjoying some of the benefits of being part of a 7-12 arrangement. Constrained from social contacts with upper level students and excluded from certain social functions (such as dances) these students resented the middle-level arrangement. On the other hand, administrators and teachers in schools that have operated for some time with three levels within the K-12 structure spoke of younger and older students being encouraged to mix (except for upper grade dances) and saw a mutual benefit to these interactions.

In any regard, the following list represents views shared across the schools of this study. Teachers and administrators saw the K-12 organization as having certain advantages and disadvantages.

Advantages

climate
- facilitates a sense of family
- allows seeing students holistically and respecting their learning styles and development over time

student relationships
- permits older and younger students and siblings to share in school-related activities
- encourages older children to be respectful of younger children
- permits upper-level students to serve as teacher aides and tutors for lower grades

curriculum and instruction
- enables the long view on a child's development, particularly in special subjects
- permits more teacher dialogue between levels, particularly for students with learning or behavior problems
- enables teachers to have more knowledge about the curricula at different grade levels
- permits interdisciplinary and cross-grade projects
- prevents the likelihood of losing students in the system
- allows lower-level teachers to call upon upper-level teachers for assistance in science, writing, and math
- permits more exposure to male teachers at the elementary level
- provides an opportunity to focus on schoolwide learning goals on a K-12 basis
- provides the opportunity for elementary classes to use secondary level facilities such as labs, home economics and industrial arts equipment, etc.

Disadvantages

climate
- creates feelings of being a lower priority on the part of elementary teachers
- establishes a pecking order by giving secondary school needs a higher priority

student relationships
- exposes younger children to negative social behavior of older students, particularly on buses and in corridors

curriculum and instruction
- requires additional preparation of special-subject teachers in meeting the needs of K-12 students
- results in high school teachers teaching middle-level classes in order to fill in their teaching load

administration
- splits the attention, energy of administrators across the entire K-12 spectrum
- forces modifications and adaptations across levels in developing schoolwide policies

The K-12 structure seems ideal for monitoring child growth and development over time and teaching social respect and responsibility by older students toward younger students. The K-12 arrangement also helps maximize the expertise and resources across grade levels. At the same time, however, there seems to be countervailing forces. The middle school movement (and other efforts at recognizing the special developmental needs of students at different age levels) can divide even a K-12 school into at least three distinct camps trying to meet the curricular and extracurricular needs of secondary students. For instance, often upper-level bus and class schedules put lower-level students in a position of having to adapt to such priorities.

In any regard, it seems that these schools were only by chance able fully to appreciate what the K-12 arrangement offers them. Busy schedules, resentments toward teachers of other levels, and yearnings for a school with only one developmental level of students, all seem to work against recognition of the strengths of a K-12 plan. Yet, lacking such recognition, teachers and administrators—as well as students—are not likely to work toward developing the virtues of the K-12 plan.

PSA Impact

The general research question of this study was to determine the impact of increased quality standards for public schools. To help in determining this impact on the K-12 schools, the Public School Approval reports at the Vermont Department of Education, with the site visits conducted by the researcher, helped document specific school-level changes that were required by the PSA review process.

As described earlier in this report, the PSA review process involves a self-study and a review team visit from which a report is generated. It should be noted that beyond the site visit by the review team and subsequent visits by state department personnel to verify proposed improvements, the local school is responsible in designing and implementing plans to meet the required state standards. Once the school can document having met the required changes, the school receives approval for up to ten years by the State Board of Education. At present, four of the K-12 schools (Alpha, Beta, Iota, and Eta) have received approval, a process which took, on average, just over five years to accomplish. Approval is conditional or pending for the remaining schools, which means, in effect, that they are working on the various remedies outlined in their approved plans of action.

As stated earlier in this paper, the PSA policy is very comprehensive and addresses a broad range of requirements. To assess the impact of this policy at the building level, evidence was collected on the financial and curricular impact of PSA requirements.

Fiscal Impact

The financial impact of PSA was evident in the following:

- hiring additional personnel (e.g., art, guidance, special education, fulltime nurse, library media specialist, early education coordinator) (Six schools: Alpha, Beta, Delta, Epsilon, Eta, and Kappa);

- purchasing additional equipment (e.g., library furniture, computers, science labs) (Six schools: Alpha, Gamma, Delta, Epsilon, Zeta, and Iota);

- purchasing additional curricular materials (e.g., health education, home economics, art, industrial arts, textbooks, library holdings) (Seven schools: Beta, Delta, Epsilon, Zeta, Eta, Kappa, and Lambda);

- implementing new efforts (e.g., funds for staff improvement) (Two schools: Delta and Lambda); and,

- improving physical facilities (e.g., new addition for library media; increased storage space; making facilities wheelchair-accessible; new kindergarten facility; science lab improvements; new additions for classrooms, administration, and support services) (Eight schools: Alpha, Gamma, Delta, Epsilon, Zeta, Iota, Kappa, and Lambda).

It is difficult to cite an overall dollar figure spent by these schools in order to comply with PSA standards. The big expenses were personnel and facilities; six of the 10 schools made or will have to make significant physical plant improvements. As mentioned earlier, one school (Gamma) has requested an extension due to the refusal of the community to appropriate bond issues for capital outlay. Another school (Zeta) is facing a heavy financial burden due to its building improvements, which were sizable. Staff reductions are deemed in order to minimize the current budget deficit at Zeta.

Curricular Impact

With respect to curriculum, PSA requirements indicated the need for:

- using only certified teachers in music and math;
- adding dance and drama instruction;
- developing K-12 curricular goals as well as scope and sequence in all subject areas;
- increasing coordination and evaluation within grades and subjects;
- teaching media skills to all students;
- developing continuity in writing skills between grade levels;
- updating science labs and textbooks;
- improving student/teacher ratio in science and math;
- updating maps, globes, and simulation games in social studies;
- requiring science projects of all students prior to graduation; and,
- integrating computers with other subjects and ensuring computer literacy.

Not all of these curricular requirements applied to each school. Nearly all the schools, however, did need to make significant investments of time and energy in articulating their curricular goals and scope and sequence in nearly all subject areas, K-12.

Long-Term Impact

The review of PSA reports and visits to the schools provides a basis for concluding that the PSA process has had a substantial impact on these K-12 schools. The amount of effort, time, and money devoted to building and curricular improvements represents a sizable investment by both the state and these local communities and schools. As thorough and long-reaching as this impact has been, however, there is also a sense that many of the changes may be short lived.

For example, at Zeta School the impact of PSA included major reconstruction of its physical facilities. Zeta now occupies a very attractive and aesthetically pleasing building. Community members seem proud of their facility, and it appears they are making considerable use of the new found space. That is the good news. The bad news is that the school is facing a significant budget deficit caused in large part by the higher costs attributable to bond payments. The side effect of these rising costs, coupled with inadequate state aid, is that the school is facing cutbacks in personnel. The net effect of these cutbacks may be to undermine other PSA standards. Unfortunately this problem is not unique to Zeta.

For example, even though Alpha School has added new space and personnel, its enrollments continue to increase, placing stress on the present facilities and its building site. Gamma, Delta, Zeta, Eta, and Kappa schools are facing comparable budget problems and contemplating a variety of cost-saving strategies that most likely will affect personnel and program quality. Beta School's fiscal problems seem to be manifesting themselves in tension over settling a union contract and how much the board feels it can afford to pay its teachers. Epsilon and Lambda Schools seem to be somewhat insulated from these problems, in part because of local sources for additional revenue. In Epsilon's case it is a private foundation and in Lambda's case it is a power company that provides nearly half of the

school's local property tax revenue.

A comment by the principal of Eta captures the current fiscal condition of the majority of schools:

> The economy is somewhat depressed in this area. We had to cut $135,000 from our budget this year. No more field trips and the budget is frozen for the rest of the year. I believe it will hit home and the community will realize we have taken from the kids long enough.

Maybe he is right, but it will take more than faith to help members of the community appreciate what it means to freeze or reduce expenditures. Level funding and budget cuts usually require the elimination of a number of activities (e.g., field trips) and personnel (e.g., elementary guidance counselors, teacher aides, and other special area teachers). The fate of all schools—especially rural schools—responds to expansions and contractions in the economy at large. Rural schools, poorly funded even in the best of times, are easily disrupted whenever costs or expectations increase. When economic times are bad, increased costs and expectations can make it seem that consolidation (i.e., school closure) is the only "solution" (DeYoung & Howley, 1992).

Similar Challenges/ Contrasting Styles

To help the reader appreciate first hand how small, rural schools are coping with the twin problems of limited fiscal resources and higher educational standards, more detailed data were developed from longer site visits at two schools. The schools chosen, Gamma and Delta, were selected because of their contrasting styles and comparability of problems. Both schools have:

- physical facilities problems,
- a need for curricular improvements and expansion,
- comparable small enrollments,
- a limited number of professional staff,
- somewhat isolated communities, and
- comparable budget constraints.
- Gamma School is actively engaged in a reshaping/restructuring process and is discussing and initiating major changes. Delta School, more conservative, is moving more slowly in addressing its problems and potential areas for change. The purpose for the second visit was to discover more about the changes being contemplated, the approaches being followed, and the perceptions people had concerning various proposals.

Table 3 (pg. 22) provides data on selected indicators for these two schools.

As can be observed in Table 3, the two schools are comparable in many ways. There is, however, evidence of greater poverty at Delta School, as reflected in the higher percentages of children in poverty and pupils eligible for free and reduced lunch. Delta also has a higher percentage of special education students.

Each school was visited for two days in January 1992. Interviews were conducted with approximately 80 percent of the faculty, a small sampling of students, and a fewer number of school board members or parents. Short classroom visits and other observations took place as well. Essentially, people were asked to express their views on the well-being of the school, issues currently facing the school, and their perceptions of various changes being discussed or implemented. A summary of these visits follows.

Gamma School

Gamma School was visited by the PSA review team in October 1986. The team recommended that all subjects have a K-12 scope and sequence; that only certified personnel be hired; and that time allocations for science, social studies, arts, health, and physical education be increased at the elementary level. These items were addressed and corrected. The big challenge has to do with physical

Table 3. Data Profiles of Gamma & Delta Schools

Indicator	Gamma School	Delta School	K-12 Schools
CONTEXT			
Pupil/Square Mile	5.3	4.9	7.0
Unemployed	7.4%	6.7%	7.6%
Median Adj. Gross Income	$19,889	$17,235	$19,194
Children Poverty	3.7%	14.6%	11.1%
INPUT			
Square Foot/Pupil	132.1	132.3	157.2
State Aid	31.57%	40.26%	36.87%
Tax Burden	1.58	1.04	1.24
Income/Pupil	$36,963	$38,441	$47,313
K-6 Tuition	$ 3,475	$ 2,200	$ 3,574
7-12 Tuition	$ 6,250	$ 5,775	$ 5,613
Per Pupil Cost	$ 4,336	$ 3,629	$ 3,857
Advance Degrees	38%	28%	39%
Average Expense	9.4 yr.	13.2 yr.	11.7 yr.
Average Salary	$26,750	$25,230	$27,010
Free & Reduced Lunch	17%	34%	25%
Special Ed Pupil	15%	18.1%	13.7%
PROCESS			
Math Offering	8	8	8
Science Offering	6.75	6	7
Foreign Language Offering	4	3	4.6
Graduation Requirements	22	20	20.8
Average Class Size	15	11	15.2
OUTCOME			
Attendance Rate	97.5%	95%	95.3%
Completion Rate	96.4%	100%	96.9%
Post Secondary	50%	64%	55.2%
Average SAT Math	500	400	462
Average SAT Verbal	500	400	434

facilities. Gamma needs to provide adequate space for music, make the main building and art class wheelchair-accessible, make improvements in nurse and guidance offices, provide storage for physical education, and provide ventilation for art and science materials. The school board decided to address these facility problems by proposing new construction and renovations. Two bond issues to support these improvements have been turned down by the taxpayers of Gamma. A third bond vote was being considered for late spring, 1992, but has been delayed to spring of 1993.

An increase in student enrollment has, moreover forced Gamma to convert a home economics room into a regular classroom. A halftime home economics teacher now shares a classroom with the foreign language teacher; the curriculum, in fact, has been dramatically altered. This latter point illustrates the spirit at this school. That is, when faced with serious challenges, the school has been able to use these situations to stimulate an innovative response, as a result of which the school seems to excel.

In part through the assistance of funds received as part of a restructuring grant from the Vermont State Department of Education, Gamma has initiated a number of changes and has more under review. The changes in progress at present include:

- a change in the secondary level schedule that permits larger blocks of time for cross-disciplinary teaching;
- interdisciplinary courses (e.g., Pond project, energy unit);
- delivery of courses by telecommunications (satellite science course) in the middle grades;
- business partnership involving business internships and a vice president teaching in an economics course at Gamma;
- pilot-testing of the Vermont portfolio system for assessing student progress in math, writing, and French;
- teaming of teachers and multiage classes;
- parent discussion groups in kindergarten classes;
- parents assisting in science instruction;
- Friday folders (for parents) outlining teachers' instructional plans;
- parent learning contracts for assisting junior/senior students independent study projects; and,
- student advisory council (in addition to the traditional student council).

As exhaustive as the list is, the school restructuring team is considering even more changes. For example, they would like to alter the curriculum of the school so that students are taught the essentials by grade 10, thus permitting more experiential and individualized learning opportunities in the remaining two years. Courses like industrial arts, home economics, and business are being rethought with an eye for making these courses more relevant to students' future needs.

The current approach to solving one facility problem calls for a building that would be shared with town government, thus creating a true community center. This plan, if successful, would entail cost-sharing with the town, allow several services to operate from the facility, open the facility to private use outside of regular school hours, and encourage integrated services for the families and children of the Gamma community.

The change process has challenged participants. Some staff members feel overwhelmed. But there is considerable excitement as well. Members of the staff see in their restructuring plans opportunities to meet student needs now and in the foreseeable future. The school is exploring uncharted waters, and, as ideas float to the surface, the reactions of professionals and community members are often slow and difficult to gauge. Some ideas are radical and may mean that some personnel will be reassigned. Budget constraints, and the consequent

need to reduce costs, further complicate the change process. There is the real danger that proposed changes will be seen as merely cost-cutting solutions.

Some students did express concern that their education is of a lower quality as a result of the program and curricular changes. These students also felt excluded from the decision making process. As one student expressed it, "[t]his is a comfortable place but sometimes too protective." Some students seem to believe that the old adage, "The more things change, the more they stay the same" applies to Gamma.

In any regard, it appears that considerable energy, time, and commitment have been devoted at Gamma to examining or reexamining basic assumptions about schooling. The principal and the faculty, with support from community leadership, are, overall, willing to face their problems (e.g., limited resources, outdated facility, irrelevant curricular offerings, high internal and external expectations, etc.) and give license to their ingenuity and creative spirit. Time will tell whether they can sustain the energy needed for the long haul, particularly as they face difficult and ambiguous choices.

Delta

The PSA visit to Delta School was two years later than Gamma's (December, 1988), but similar issues surfaced in the site visit. Required curricular improvements included curriculum guides with goals and scope and sequence in all major content areas; updating of texts, particularly in science; greater coordination and evaluation between levels and subjects; and implementation of a staff development program. With respect to the physical facilities, concerns were raised about safety, sound control, classroom crowding (including the library), congested student flow in hallways and stairwells, ventilation, temperature control, and school bus discharge. Space at the school is at a premium, with little to spare for private conferences, workrooms, or instructional space for specialized personnel.

Progress has been made on developing curricular scope and sequence, with plans for meeting computer technology and health concerns yet to be completed. Resolution of facilities problems is constrained by lack of funds. The feasibility of consolidation with neighboring towns has been considered. In any regard, some changes are in progress and they include the following:

- school wellness team made up of volunteer teachers, which is exploring a number of ideas for the school (e.g., new health curriculum, thematic instruction across grades and subjects, four-day week, and school-based enterprise);
- an intervention team for the seventh and eighth grades;
- schoolwide learning strategies for work-study skills;
- Project Harmony (a program to foster exchanges with schools in the former Soviet Union);
- social studies night;
- parttime French language class for grades five through seven;
- summer school for seventh and eighth grade students experiencing academic difficulty; and,
- an initiative to develop a school improvement policy.

The improvements outlined above are important but are not as far reaching, nor do they have the depth of involvement, as improvements at Gamma. On the other hand, the approach at Delta is different. The teachers and board agreed in their contract to a voluntary staff development program called Initiative For Improvement (IFI). Many of the preceding changes were funded through this policy. Essentially, the school board agreed to set aside funds (SY 92 - $30,000, SY 93 - $40,000, & SY 94 - $50,000) to provide an

> incentive and opportunity for teachers to receive extensive training and supervision in skills which improve teaching performance, education programs, or overall school effectiveness. It is also a

> program designed to encourage teachers to utilize their time outside of the regular school hours to support programs which will provide varied experiences to benefit the educational community. (Teachers Contract, 1991-92, p. 15)

The latter emphasis on activities "outside regular school hours" is controversial among some members of the teaching staff. Some faculty feel that many of the approved projects were not significant or might have been accomplished as part of their regular teaching responsibilities. These critics viewed the policy as a way of getting extra income for teachers without addressing the problem of an inadequate salary schedule. The policy has nonetheless encouraged teachers to propose ideas for which they received financial support.

One of the efforts that emerged is the Wellness Committee, and charged, among other things, with addressing the climate of the school. Their most recent deliberations have far-reaching potential, as they are beginning to consider the value of going to a four-day week for regular classes and using the fifth day for a variety of activities or projects. One project of some interest is initiating a school-based business enterprise (Sher, 1977) involving students and members of the community.

Delta seems to be in the very early stages of considering further dramatic changes and in the meantime is facing serious fiscal decisions. The extent of state aid for 1992-93 is not clear but early signals suggest level funding or slight reduction is the best that can be expected. This circumstance will entail reductions in services provided (e.g., reducing the number of aides, eliminating one bus/driver, quarter reduction in English, etc.), which may discourage experimentation. Delta must also be mindful of cutting any programs or personnel, since the school depends on a sizable number of tuition students (80 of 320 at the present time); cuts may be perceived by parents of tuition students as reducing program quality. The withdrawal of tuition students will have significant financial implications. Delta faces substantial fiscal challenges of which have the potential to extinguish the now evident spark of innovation.

Discussion of Study Findings

This study was initiated to determine how the small, rural K-12 schools of Vermont were bearing the twin pressures of increased educational standards, as promulgated through the State of Vermont's Public School Approval standards, and limited fiscal resources. These small, rural schools exhibit unique qualities and approaches at remaining viable, healthy institutions. Although the Public School Approval policy of the State Board of Education had significant impact on these schools, these gains, as measured by compliance to PSA standards, may be short-lived if the fiscal problems facing Vermont and its rural communities are not solved.

People in New England (and particularly in Vermont) pride themselves on local control. Yet, as this study demonstrates, the state of Vermont played a significant role in school improvement as measured by its PSA policy and related standards. Although the state aid picture was healthier in the early years of PSA (33-35 percent state share), more recently the state's share of local school expenses slipped to 28 percent. The irony of this drift towards reduced state support for state-mandated changes is a continuing source of contention between local boards and the state board of education.

Vermont did not follow the approach used by its neighbor to the west. New York State's school improvement efforts (the Regents' Action Plan, initiated in 1982) provided financial incentives to local districts to hire new teachers and develop new curricula, particularly in mathematics, science, and social studies. Votraw (1991) documents the influence of this policy and its financial incentives on three rural schools in northwestern New York. Much of the substantial benefits that accrued could be attributed to the extra funds provided by the state.

Until the state of Vermont can fund desired improvements, real improvement is not likely; such improvements that do emerge may disappear as

these schools search for ways to economize. State policymakers must take into account the diversity of needs and practices that characterize local schools and communities. These practices are neither obscure nor so unusual as to defy reasonable policymaking, as this study has shown.

CHAPTER 4: IMPLICATIONS OF STUDY FINDINGS

The findings of this study illustrate the contextual challenges that small, rural schools confront as they seek to improve the services they provide. This section considers a number of ideas about how rural K-12 schools (in particular) and rural schools (in general) can develop their positive qualities at an affordable cost. These ideas address issues of both fiscal resources and program quality.

Fiscal Resources

Taxation—like religion and politics—is inherently controversial. In rural places, small size, remote location, and limited fiscal base sharpen this controversy. The net financial effect of maintaining small schools in rural areas is an "inefficiency" often reflected by higher per pupil expenditures. For example, Vermont spends more than all but seven states in the nation on a per pupil basis, although the state ranks only 24th in average income. Vermont has a large number of school districts and a low student-teacher ratio. Vermont ranks 47th in population, but 23rd in the number of school districts. In consequence, Vermont has the third largest student-teacher ratio in the nation (Woolf, 1991).

The net effect of these statistics is that there are certain inefficiencies built into the cost of education in Vermont and in rural areas generally. The sustenance of the small community school, particularly K-12 units, results in communities having to make some difficult choices. The sense of community that often depends on the school comes at a modest premium. If the relationship is as valuable as it appears to be, then ways must be found to provide this modest premium.

What are the options for schools and their communities when faced with serious financial constraints? Are there viable alternatives to cutting the school budget? Can rural communities adopt strategies that conserve revenues and produce quality? Are there options that will allow rural schools and their communities to have their cake and eat it too? Rural areas have faced similar challenges and have found workable solutions in the past.

Before exploring alternatives, it may be well to examine the most often proffered solution for rural fiscal problems: school consolidation. A widely practiced policy that results in the merger of small schools into bigger units, consolidation is seen as reducing overhead costs and yielding a more economical per student expenditure. Unfortunately the research on school consolidation (Haller, 1991; Haller & Monk, 1988; Sher, 1986; Sher & Tompkins, 1977; and Streifel, Foldesy, & Holman, 1991), school busing (Linton, 1992; Lu & Tweeten, 1973), and school size (Butler & Monk, 1985; Coleman & LaRocque, 1984; Fowler, 1992; Guthrie, 1979; Haller, Monk, & Tien, 1992; Jess, 1980; Marion, McIntire, & Walberg, 1991; Walberg & Fowler, 1986) does not support the conventional wisdom that "bigger is better." In fact, the research cited tends to support the conclusion that "smaller is better" and that initial savings (e.g., administrative overhead) are often washed out by other increases in expenses (e.g., teacher salaries, transportation, bonded indebtedness, and equipment). The limitations of consolidation, the disadvantages of larger schools, and the wrenching negative social effects of school consolidation produced in a community, together suggest the importance of exploring alternative strategies.

Other strategies to addressing rural fiscal problems include the following: state aid, financial management, fund raising, and joint development of the school and community.

State Aid

It is estimated that $600 million will be spent on elementary and secondary education in Vermont which amounts to $6,000 per student or $1,000 per every Vermont resident (Vermont Department of Education, 1990). The Foundation aid (basic aid as a percentage of Foundation Cost) to Vermont schools for FY 92 was 30.01 percent. This reflects a steady decline in percentage of support from FY 88 when it was 36.71 percent. However, in dollar amount the general state aid for FY 92 was $148,200,731 versus $111,957,303 in FY 88.

Vermont's state aid foundation formula attempts to address issues of equity (student and taxpayer) and adequacy. Aid is determined by need minus resources. Need is defined as students (weighted long-term membership, which includes factors of students in poverty and student sparsity) times foundation costs (set annually as a figure at which an elementary student education can meet the requirements for state board approval). Resources equal the "equalized grand list" (one percent of local property valuation) times foundation tax rate (set annually by the legislature).

A recent report of the Vermont Department of Education (1990) concluded that for the most part "there is no great difference in student spending" (p. 1). However, "higher spending districts have accelerated their spending at a significantly faster rate than lower spending districts" (p. 2). In regard to taxpayer equity the report concludes that "there is a great difference in the school property taxes paid by Vermonters." However, "[r]egardless of the degree of a district's tax burden, there appears to be no association between the level of burden and the amount a district spends to educate its children" (p. 2). Finally, as to adequacy of funding, it appears that most schools "spend enough money to provide each student with an adequate education" (p. 2). However, the average per pupil expenditure in Vermont's K-12 schools ($3,857) is just below the FY 92 weighted foundation cost of $3900. That is, these schools are achieving at the borderline of the state's definition of minimal adequacy.

A review of Vermont's state and local funding of schools suggests several conclusions. First, some local residents are willing to spend more for their schools, regardless of their ability to pay. Second, communities that are paying more tend to maintain or increase their financial support of schools. Third, the K-12 schools of Vermont overall are barely keeping pace with funds to provide an education that meets Public School Approval Standards. In fact, four of the K-12 schools (Gamma, Epsilon, Eta, and Lambda) are among the 50 schools facing the highest tax burdens in Vermont. Finally, support for Vermont schools is driven primarily by cost factors rather than by any assessment of "learning value per unit of expenditure" (Verstegen, 1991).

These conclusions indicate the need to explore other strategies for funding schools in Vermont. In other words, the K-12 schools of this study appear to perform quite well on the outcome indicators (see Appendices A & B), enjoy wide community support and extensive use (Appendix C), but are barely maintaining an adequate program for meeting state standards and are facing serious problems in raising funds locally. These conditions warrant the consideration of how the state allocates monies. For example, other states include such factors as small size, isolation, and sparsity—or a combination of these factors and others (e.g., tax effort and local wealth)—in determining state aid for local schools (Verstegen, 1990). Space does not permit a full review of each of these factors and the particular adaptations being made by 31 different states. These efforts, however, demonstrate a recognition of the special needs of rural, small schools and a desire to find ways to provide funding that enables their preservation and continued improvement.

Verstegen (1991) concludes that five critical questions should be considered in the debate over school funding:

> First, what actual levels of support are needed to adjust for additional costs in rural, small schools and districts? Second, is educational equity threatened if states fail to provide sufficient additional funds to rural areas? Third, how should state

agencies measure local ability to pay? Fourth, what conceptions and measures can specify the level of 'rural overburden' that affects local tax systems? Finally, what options are available to enhance curriculum in small, rural schools and districts?

One area of particular concern is the recruitment and retention of qualified teachers. Small, rural schools historically have had difficulty in recruiting teachers particularly in specialized areas (Carlson & Matthes, 1986) and in being able to afford competitive salaries. For example, the schools in this K-12 study pay below the state's average ($27,000 v. $32,000), with Epsilon paying the lowest average salary ($22,913). Regardless what a district pays, teachers' salaries usually represent nearly 80 percent of the budget. Thus, the debate over how much to pay teachers can easily become contentious, driving a wedge between the teachers and members of the community. As mentioned earlier, this eventuality afflicts Beta School and its community.

There are other alternatives to softening the impact of teachers salaries at the local level. Monk (1990) and Monk and Walker (1991) report on an effort by the State of Texas to provide added funds to rural and urban schools so that they may offer salaries comparable to their suburban counterparts. Carlson (1991) reports another approach followed in Baselland, Switzerland, where the teachers' salary scale is standardized across the entire canton (state), thus ensuring comparability of pay regardless of size of school or the isolation of its community. This approach ensures that teachers are paid a standardized rate across a geographical region. Moreover, such a plan substantially reduces the tension generated by local contract negotiations. At present 12 states (Delaware, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Ohio, Oklahoma, South Carolina, Tennesee, Texas, and West Virginia) provide a statewide teacher-salary schedule. The legislatures in these states set the minimum salary and allow local school boards to pay more than the minimum, if they so desire. As Schmuck and Schmuck (1989) observed, it is often very difficult for school board members to be sympathetic to teachers' salary and fringe benefit demands when they earn less themselves and have few fringe benefits or none.

It should be recognized that there are state aid strategies being used in different parts of the U.S. and in Switzerland that offer viable policy alternatives for rural school problems. These ideas have potential for Vermont; they warrant further examination.

Financial Management

Getting funds to support education at the local level is only half of the problem. How these monies are managed is of equal importance. Freitas (1992, pp. 28-30) summarizes promising fiscal practices suggested by a nationwide sample of school administrators from geographically diverse rural school districts. Some of the suggestions include:

- Use sweep accounts to keep investment income at the highest possible return.
- Have investments mature on payroll day or on Monday instead of Friday.
- Sell anticipation notes annually (returns district funds 10 to 12 months early, thus allowing investment of funds at arbitrage advantage).
- Implement fifty-percent tax collection during the summer.
- Increase student count—implement all-day kindergarten and establish incentives to increase attendance at all levels.
- Increase student fees (e.g., vocational training fees and hot lunch prices).
- Implement a four-day week to reduce costs.
- Cooperate with other districts for specialized personnel, materials, and other resources.
- Contract food services.
- Institute better investment strategies—move from small local bank to state investment pool to maximize interest earnings.

- Form consortia of schools to get the best price in a bidding process for all expensive items and equipment.
- Be aggressive in energy conservation measures.
- Pool efforts in insurance and investment programs.
- Refinance debt.
- Pay bills where discounts are offered; otherwise, pay bills as near to the deadline as possible.
- Reduce the use of substitutes in the high school by using staff members who have preparation periods.
- Share or exchange custodial and maintenance service with other agencies.
- Seek bids and comparison pricing for all purchases.
- Develop partnerships with local organizations.

Obviously, some of these suggestions are more practical and appropriate than others, depending on circumstances. The general message is to maximize those funds received and to build citizen confidence by demonstrating prudent management of school funds.

Fundraising

The K-12 schools of this study demonstrate the potential for fundraising efforts at the local level. The approaches used by the schools in this study varied from a foundation at Epsilon to a variety of fundraising activities at Gamma, to the service clubs' donations at Kappa. In addition to these approaches, several of the schools, Gamma and Zeta in particular, actively sought state and private grants. Gamma also was deriving financial benefits from its business partnership with a local industry. Several conclusions may be drawn from these entrepreneurial efforts:

- Many (typically untapped) financial resources exist locally.
- Local citizens, parents, and businesses are willing to contribute funds and services to their local school.
- The spirit of altruism can help support local schools.

These conclusions might suggest some of the following fundraising strategies:

- establishing an education foundation to raise revenue from outside sources (cf. Edwards, undated; Powell, 1986; White & Morgan, 1990);
- establishing an alumni organization to solicit contributions to school-related funds (e.g., scholarship, athletic, academic, field trips, etc.);
- applying for all relevant federal, state, and private grant awards;
- establishing a local school-business partnership (Warden, 1986); and,
- recruiting persons from the community who have had fundraising experience to develop and manage a fundraising strategy,

It is important to stress that fundraising historically has not been seen as a necessary or even desirable activity for a local school. As state aid and the local tax situation becomes seriously constrained, however, local school leaders may need to find ways to supplement school budgets.

Small, rural schools seem to have some special strengths upon which to capitalize. One strength is the willingness of rural citizens to volunteer their time and money for what is perceived as a "worthy cause." This potential may be rooted in people's desire for a sense of community and reinforced by a traditional rural value of helping one's neighbor. The school and its many needs often provide a visible outlet for these commitments.

An example was observed in a central Vermont community. The school in this community occupied a very crowded, outdated facility that had four classrooms and no space for a library, special subjects and personnel, cafeteria, or gym. The school nurse's space was limited to a bunk and small cabinet crammed under a stairwell. In spite of these conditions, several attempts to pass a bond issue failed. Lack of support was reasonably attributed to a weak tax base and a large percentage of low-income families. Out of desperation, some parents went door to door seeking help in finding a solution to the school's facility problems. The net result of this effort was the construction of a sizable addition to the school supported by donated funds, materials, and labor. No bond issue was needed. The school avoided debt, strengthened relations with community, and provided for the needs of its students. Such efforts are uncommon today, though once the norm. The point, however, is not that school construction should proceed in this fashion but that communities can rally themselves to more than one way on behalf of their public schools. Small schools have potential to tap the spirit of community in support of the local school.

School-Community Development

Rural schools and their communities share similar fates. As the economic health of the community goes, so goes the financial support for its school(s). However, this condition is often seen as a one-way street from the community to the school, a viewpoint that overlooks the interactive relationship of the two in fostering the economic and social well-being of the community. In addition, rural citizens often share the perception that the local investment in their students leads the better educated students to move away from the community after they graduate from high school. The net effect of viewing schools as separate from their communities is the unhealthy competition for limited fiscal resources and the lost opportunity that may come from fostering a more synergistic relationship.

Many ideas promote making greater use of the school and its resources in preventing the downward spiral of economic health in a community. The ideas take such forms as entrepreneurial training, school-based enterprises, lifelong learning, and school/community development. Each is considered, next, in turn.

Entrepreneurial Training. Entrepreneurial training involves embedding entrepreneurial concepts in the curriculum with the eye toward helping students to understand their community better and toward recognizing the school's potential for nurturing local entrepreneurs. Spears, Combs, and Bailey (1990) describe how a school in South Dakota experimented with revamping courses and developing new courses that cultivated "a sense of independence and responsibility for making things happen as well as an understanding of the economic environment in which businesses must operate" (p. 14). The courses included: research and development, rural economics, advanced creative writing, historiography, journalism, photography and art, and home economics. These courses were designed as collaborative and experiential efforts. Outcomes of this venture included greater respect of students, relevance for the school's curriculum, improved communications with the community, and a change in attitude by students as to the potential for staying or returning to live in this community.

School-based Enterprises. School-based enterprises were first recommended by Sher (1977) for improving a rural community's financial base. These businesses are initiated by students and teachers in the school and eventually mature as independent business ventures in the community. The entrepreneurial curriculum has a strong emphasis on experiential learning and the acquisition of business skills that can be carried over after graduating from high school.

The process begins with a survey of the community and the determination of a business opportunity suitable for the school and students to operate. The school helps in finding start-up capital and expertise to initiate the venture. Some ventures might include a variety of services (e.g., food, elderly, child care, repair, computer) and product production (e.g., bird houses, refuse recycling bins, stuffed animals). The businesses provide a setting in which students can earnestly apply the skills and knowledge taught in a variety of high school courses.

Carlson (1992b) found that school-based enterprises require leadership and a commitment of effort that small rural schools are not frequently able to muster. A successful venture could nonetheless pay many dividends to the community, the school, and to the students.

Lifelong Learning. Lifelong learning stresses the importance of providing for people in a community the opportunity to continue their learning beyond secondary school. Elevated levels of illiteracy are common in rural areas. People in rural areas often feel isolated, without access to new knowledge and skills. Rural schools and their personnel represent a valuable resource for meeting the educational needs of the adult population in a rural community.

Lifelong learning opportunities in rural schools can take many forms including: formal offerings (e.g., standard courses taught by teachers or qualified community members, for-credit courses from nearby colleges, distance learning courses taught over interactive television systems), nonformal offerings (e.g., programs that focus on topics like rural leadership, human service delivery, community development, training courses for local businesses), and informal educational activities (e.g., arts, crafts, book discussion groups, handyman skills). Lifelong learning helps to further the sense of community. As Galbraith (1992) reminds us, "Lifelong education and community are the foundation of a free and democratic society" (p. 17).

School/Community Development. School/community development recognizes the interdependent nature of schools and communities in rural areas. Community development includes economic development. That is, it is a "process to emphasize the common interests of people and evolve new possibilities for production, distribution, and consumption of goods and services" (McREL, undated, p. 5). The school, together with community leaders, plays a central role in identifying missing services and products and in designing systems to fill the gaps. This effort can take the path of a school-based enterprise, or it can be based in the community, with the support and involvement of the school.

Schools are often in a unique position to provide the person-power of teachers and students, space and equipment, services (e.g., career counseling, assessment, and vocational training), purchasing and payroll power, and financial capacity necessary to attract outside funds into the local economy. For example, one study (Hobbs, 1982) found that in Missouri the rural schools had an employment multiplier of 1.6, which, in effect, meant that for each school district job added, an average of .6 additional jobs were added in the community. Sederberg (1986) concluded from his study of the economic role of rural schools in Minnesota that "[t]he primary role of schools in rural areas should be community development—improving quality of life through education, socialization, and access to opportunity" (p. 19). Nachtigal (1982) reports several case studies of schools which, in conjunction with and attuned to community needs, made a significant impact on the economic viability of their communities.

It seems that in a period of tight fiscal conditions, wiser use of state and local human and economic resources is needed. The ideas discussed here can help maintain or improve the economic health of both the rural community and its school. Hobbs (1987) offers several recommendations on how rural schools and rural education can effectively support community economic development. He suggests that there is a

> ...need for providing sound basic education and training students to become more capable of innovation, entrepreneurship, and working members of problem solving teams. We also emphasize the need for continuing education, more educational attention paid to the locality, and educational partnerships that can contribute to both improved education and improved prospects for community economic development. (p. i)

But maybe more importantly, Hobbs (1987) believes that "the specific ideas, while useful to know about, are not as important as the intention of school and community to become active partners in improving the quality of life of their community" (p. 41).

Program Quality

The economic health of a community is quite often tied to the quality of its school, and vice versa. Rural schools provide comfort and supportive interpersonal relations, but they have difficulty providing a challenging environment for intellectual growth. The schools of this study demonstrated the potential for providing a nurturing and caring environment that seems to enhance the social-emotional development of their students. On the other hand, these schools, in part because of their small size and limited resources, cannot provide the breadth and depth of curriculum often desired for meeting the needs of their students. Small, rural schools are in general often seen as serving the at-risk and average students reasonably well, particularly at the elementary level, but the able student only marginally, particularly at the secondary level.

The K-12 schools in this study reflect this problem and are struggling to meet state standards (PSA) and to maintain a variety of curricular offerings, particularly in grades 9-12. Subjects like art, health, computer technology, drama, and dance were most frequently mentioned in need of improvement in the PSA reports. Otherwise, these K-12 schools offer the typical range of secondary course offerings, with some schools emphasizing more courses in one curricular area than another. Table 4 illustrates these ranges.

The variability in secondary course offerings among these schools might raise the question of equal opportunity for a comparable education, which seems to depend on where a student resides. A student attending Epsilon, for example, has overall fewer course-credit options (32.95) in the subject areas listed above when compared with other K-12 schools (e.g., Eta [48.75], Alpha [48], and Beta [46]).

Epsilon demonstrates how a small rural school of 240 students can compensate in other ways,

Table 4. The Range of Subject Offerings for the Vermont K-12 Schools

Subject	Number of Credits	
	Low	High
English	5	9.5
Mathematics	7	10
Science	5	10
Foreign Language	2	7
History	4	8
Fine Arts	1.2	7
Vocation/Technical	2	5
Computer Technology	.5	3
Graduation Requirements	17.5	24

however. Although not reflected in Table 4, through the use of telecommunications offerings, Epsilon offers courses in advanced placement government, advanced placement calculus, analytical geometry, and Russian language and culture. Other schools that are on the low end of credit offerings (e.g., Gamma [37.75], Delta [38.5], and Lambda [40]) do not have telecommunications opportunities but employ other methods such as independent study to augment their regular offerings.

In addition to program quality issues, teachers, administrators, and students of these K-12 schools quite frequently expressed their concern for a lack of diversity within the student population. As one student put it, "After the first couple of years in school everyone knows each other and things seem to stay the same all the way through school." This student was reflecting upon a conundrum for small, rural schools. The smallness of these schools provides intimacy and closeness in interpersonal relations that can be quite comforting and encouraging. On the other hand, in a graduating class of 15 students or a school of 250 students where there is minimal student turnover, there are few surprises in pupils' behavior; the opportunity to cope with diversity is minimal. Students' behavior becomes predictable, and, at its worst, the students are trapped by certain behaviors and expectations.

The concern for diversity has prompted many efforts to participate in a variety of exchange and travel activities in the K-12 schools studied. These efforts have been quite extensive, involving French classes exchanging letters and trips with students and schools in Quebec. Other schools conduct annual trips to major commercial and cultural centers like Boston, New York, and Washington, D.C. Project Harmony has been well received in Vermont. This project entails the exchange of letters and art work and student travel to Russia. Administrators, teachers, students, and parents are on constant alert for opportunities that offer meetings and interactions with students from a variety of places, social backgrounds, and cultures. These pursuits help reduce the sense of isolation experienced by many persons in small, rural schools.

There are, however, other options that these schools and rural schools in general might consider in coping with program quality and isolation issues (cf. American Association of School Administrators, 1981). Monk (1988) reports a number of traditional and nontraditional approaches appropriate to small rural schools. Traditional approaches include: narrowly specified district consolidation, state aid for necessarily small schools, regionally delivered services, and state sponsored residential schools. Modified approaches include: broadly specified district consolidation, locally conceived district consolidation, and state aid tied to low enrollments. The nontraditional ideas include: stand-alone program learning, distance learning technologies, variations on itinerancy, four-day week school, enhanced diversity, non-size related state aid reform, and non-size related consolidations.

Space does not permit extensive review of these various approaches, some of which are already being practiced to some degree in Vermont. Those practiced include: broadly specified district consolidation (union schools), itinerancy of specialized personnel (special teachers, speech, etc.), and enhanced diversity (exchange programs). However, a subset of approaches seems to have some relevance to Vermont schools and other rural schools that are worthy of further investigation. These include stand-alone and distance learning technologies, four-day week, non-size related consolidations, and school district cooperation or coordination.

Stand-alone and Distance Learning Technologies

Different combinations of stand-alone and distance learning technologies may help in filling significant gaps in curricular offerings. Stand-alone technologies are designed so that they require little or no onsite teacher instruction. They include programmed learning packages, computer-assisted instruction, correspondence courses, and videotaped courses. Distance learning technologies include audio conferencing, audiographics teleteaching, instructional television, and satellite one-way or two-way television. These technologies can be supplemented by facsimile (FAX) machines, telephones, and site coordinators. Barker

(1992) provides a comprehensive overview of these technologies, including costs and the issues in installing and using them. Obviously "there is no free lunch," and each approach carries certain advantages and disadvantages. Nonetheless, advancements in microwave, fiber optics, and cable systems mean that rural schools now have opportunities not previously available. As Barker puts it,

> In geographically remote and isolated schools, instruction via some form of telecommunicated distance learning may indeed be the 'next best thing to being there.' In many cases, it will have clear advantages over some of the more traditional alternatives. (p. 45)

Four-Day Week School

The states of Colorado, New Mexico, and Oregon have, since the early 1980s, experimented with the four-day week school. The four-day week school has proven to save money and enhance programing in most cases. Essentially five days of instruction are taught in four longer school days (i.e., 7.5 hours) with the fifth day (either Friday or Monday) being a flexible day, during which time other activities may be scheduled (e.g., teacher inservice, extracurricular activities, remedial services, enrichment programs, independent study, etc.) or students may be left to pursue other out-of-school activities (e.g., parttime employment, work on the farm, internships, volunteer work).

Extensive research on the four-day week school reported by Bauman (1983), Brubacher and Stiverson (1982), Daly and Richburg (1984), Grau and Shaughnessy (1987), Nachtigal (1982), Reinke (1987) seems to indicate more pluses than minuses in this new schedule. Some of the pluses include:

- lower energy, transportation, and substitute teacher costs (10-23 percent),
- lower absenteeism of students and teachers,
- greater time-on-task and more learning time with fewer interruptions,
- more time for staff development and extracurricular activities,
- lower drop outrate,
- higher teacher morale and student enthusiasm,
- financial savings that could be applied to other programmatic needs, and
- increased potential for community use of school facilities.

Some of the minuses include:

- difficulties to return to a five day week schedule if desired,
- increased costs for some parents,
- increased teacher stress,
- tiredness in younger children,
- impact of holidays on the schedule,
- concerns expressed for children transported greater distances,
- problems scheduling programs and activities with traditionally scheduled districts, and
- impact on bus contracts and work time of bus drivers.

In regard to student achievement, some studies show significant gains, others marginal gains, and in some cases no significant differences from those students who follow a normal school schedule.

A variation of the four-day week is a four-and-half-day-week. Whatever the plan, however, extensive community involvement and support in changing the schedule must be secured. Special waivers from the state department of education or special enabling legislation may also be required to permit schools to experiment with this arrangement. The four-day week does offer the opportunity to realize some savings that may be redirected to curricular and instructional improvement. Delta School is presently exploring this possibility.

Non-size Related Consolidations

Consolidations of a non-size nature are targeted at consolidating a variety of different organizations in a community. The idea is to create a coordinated administrative entity that would collaborate in areas of complementary interests. For example, families and children in need may be better served by the collaboration of health, mental health, social, and educational services. Presently, these services are highly fragmented and they often work at cross-purposes as a result. Gamma School is exploring this alternative in the design of their new facility. If their explorations lead to implementation, cost-sharing on the facility with the local town government and the rental of space to other agencies will help strengthen links to the community and provide additional revenues for the school. It has the potential of being a win-win situation especially for both clients and taxpayers. Consolidating or integrating services can provide cost savings in a variety of ways, but the more important benefit, may entail preventing greater costs later on.

For example, as stated in the section on the State of Vermont, the Vermont Department of Education (1991) reports the degree to which the preschool population in Vermont is under served. There are, no doubt, many reasons for this circumstance, including limited fiscal resources to serve these children and their families. On the other hand, the success of early intervention and the prevention of higher costs later on (i.e., providing services to at-risk children and families services) challenges the wisdom of not providing more comprehensive services to the preschool population. Establishing preventive services for preschool children and their parents provides an ideal target population for applying a model of integrated, collaborative services in small rural communities. As the former Surgeon General Koop (Symposium, 1990) observed,

> In this country, health and education services are provided by a complex mix of public, private and voluntary agencies and organizations. We must develop new organizational relationships at the family and community levels among schools, physicians, public health agencies, and social service organizations. In addition, federal and state systems must allocate necessary resources and establish conditions that facilitate the development of these new organizational relationships in local jurisdictions. (p. 7)

A key concept in Koop's observation is "local jurisdiction." It needs to be recognized that no one model or approach will fit all local circumstances. Local leaders, in league with school officials, need to understand the unique qualities of their local jurisdiction and attempt to forge appropriate relationships. Helge (1992) comes to a similar conclusion and identifies fifteen variables that help distinguish the unique qualities of rural communities when exploring what she calls "family-community partnerships." There is a rich body of literature (e.g., Corrigan, 1990; Ford Foundation, 1989; Kagan, 1990; Massey, Stout, Boyd, & Volanty, 1991; Melaville & Blank, 1991; Verzaro-O'Brien, 1992) that can provide models, concepts, strategies, and case examples of efforts at merging and focusing resources in the service of children and families.

School District Cooperation and Coordination

The major distinction between school district cooperation and coordination is that the former is informal and voluntary, whereas coordination is both more formal and more strongly urged—if not mandated—by the incentives and disincentives of state level policies. School district clusters comprise one example of school district cooperation. Nachtigal (1989) reports on the success of school district clusters designed to facilitate interdistrict cooperation in the midwest. Essentially five to seven school geographically proximate districts of similar size agree to commit themselves to a three- to five-year time span during which they meet periodically to share problems, ideas, and solutions. Usually an individual from a nearby institution of higher learning facilitates the cluster's work and a state department of education person participates in meetings and activities of the cluster. Clusters can focus on a variety of common concerns and needs, including staff development, curriculum development, administrators' inservice, cooperative

planning for sharing programs and resources, instructional improvement, and school/community economic development. The success of clusters depends on the commitment of its members. As Nachtigal observes,

> Throughout our work, we have been careful not to create just another organization. We wanted the clusters to live or die on their own merit. If the activities were sufficiently valuable they would continue. If not, they would cease to exist. (p. 73)

Stephens (1991b) identifies the major differences between school district cooperation and coordination. Efforts at coordination rely more on formal rules, joint goals and activities, vertical or horizontal linkages, greater investment of resources, and the greater influence of higher-ranking members. School district coordination also poses a greater threat to organizational autonomy. Typically, coordination efforts are induced by state regulations or legislative action. State departments of education, in joint planning with local school districts, typically provide the leadership in the creation of a statewide system of coordination.

Educational service agencies (ESAs) exemplify school district coordination. ESAs usually come in two forms: special districts and cooperative educational service agencies. Special districts tend to be service-oriented and multi-county in nature. Their services are determined by members of local school districts and the state department of education. Cooperative service agencies are also service-oriented and interdistrict in nature, but their services tend to be almost exclusively determined by the local school district members. According to Stephens (1991b, p. 139) these service units tend to offer such services as: direct instructional services to student (e.g., exceptional students and vocational-technical programs); indirect instructional services (e.g., staff development, media, library, and curriculum consultant services); and management services (e.g., data processing, cooperative purchasing, planning, and information services).

CHAPTER 5: SUMMARY

Future Research Possibilities

This study answered some questions about small, rural schools (particularly K-12 units) in the current atmosphere of higher expectations for school performance and lower financial resources to match these rising expectations. On the other hand, further research efforts are necessary.

First, investigation of other small rural schools in Vermont and elsewhere, as they respond to the dilemma of rising expectations and decreased support, is needed in order to identify innovative solutions. It is generally accepted that standards (whether state or federal or both) are required in order to ensure that students receive a fully adequate education. On the other hand, there may be other costs (e.g., social and personal) associated with the imposition of such standards that rural communities, parents, and taxpayers must endure in the present or in the foreseeable future. These additional burdens not only jeopardize attainment of the standards, but they can irreparably harm the social capital on which educational success depends. Further research seems desirable in determining the effects of these twin pressures on small, rural schools and their communities and what role, if any, the state should play in ensuring that the additional costs do not outweigh (or even negate) the intended benefits.

Second, further research may be warranted in examining the educational benefits and limitations of the K-12 organization. This studied surfaced a number of perceptions concerning how the K-12 single-unit school actually or hypothetically benefits students' learning. Complaints about the K-12 structure and an apparent schism between the elementary, middle, and secondary levels of these K-12 schools also appeared. There is little doubt that conventional wisdom (e.g., views of children's developmental "needs," teacher preparation norms, certification requirements) holds that separate facilities for these different groupings constitute a better education. From this vantage, K-12 schools are an outmoded and a problematic form of education. This study, however, concludes that small, rural K-12 schools offer unique opportunites for learning and community involvement that warrant further study.

Third, this study identified many interventions for increasing educational opportunities for students and community members in small rural communities. Further study of how these various options are viewed at the local and state levels and what, if any, barriers exist that prevent their adoption or experimentation with them are worthy of further investigation.

Finally, this study reviewed a significant body of literature concerning rural schools and their communities. The researcher suspects this literature is not widely known among either rural practitioners or state-level policymakers. Further study of these impressions and the exploration of alternative dissemination strategies may be in order.

Conclusion

This study of small, rural K-12 schools was initiated with the desire to understand better how small, rural schools in the state of Vermont are

coping with the twin pressures of increased expectations and shrinking resources. Results reveal the level of complexity surrounding these small schools and their unique qualities and approaches to remaining viable, healthy institutions. It is clear that the Public School Approval policy of the State Board of Education in Vermont has had a substantial impact on these schools. It is, however, equally clear that these gains (as measured by compliance to PSA standards) may be short-lived if the contigent fiscal problems are not solved.

In exploring the implications of this study, several alternative ideas that have potential application to rural areas are proffered for dealing with both financial and quality concerns. These alternatives are not offered as risk-free, ironclad solutions that ensure the solution of the problems. Rather, they are offered in the spirit of stimulating ideas that reasonable people can discuss and debate, in order to inform efforts that may enhance the quality of life in rural places.

Senge (1990) argues that the greatest danger systems confronted when facing limits to growth is to sacrifice their standards. This observation applies in this case; the standards include but are not limited to those expoused by the state. A bumper sticker can often bring home a point more clearly than a lengthy discourse. Senge observed the following sticker: "If all else fails, lower your goals" (p. 108). It would be a tragic mistake if rural schools and their communities fell into this trap, hastening the demise of the rural way of life and its valuing of family and community. Rural schools need state-level policies that encourage them to reach high goals by building on local strengths and resources.

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APPENDIX A:
K-12 SCHOOLS STATISTICAL DATA

Statistical Data on K-12 Schools in Vermont

CODES CONTEXT **INPUT**

Sch Code	Ppltn	Ppltn Dns	Pupil Dsn	Unempiy	MdnAGInc	Chdrn Pvty	Ecnmy Aty	Dstnc Town	Enrllmnt	ADM	SchSqFt	Age Bldg	Age Addtn	% Rehab	FndtnLvy
Alpha	2480	59.5	12.8	8.6	24725	3.3	serv/trde	22	720	563	122000	50	1	0	1304066
Beta	1570	32.4	5.1	7.4	17235	24.3	serv/trde	21	604	541	74000	21	n/a	0	1221997
Gamma	785	21.4	5.3	7.4	19889	3.7	serv/trde	23	249	237	32900	58	22	40	716034
Delta	1035	24.8	4.9	6.7	17235	14.6	serv/mnft	18	328	246	43386	78	13	0	670660
Epsilon	698	17.3	4.7	11.2	16065	9.6	serv/mnft	35	240	197	44157	165	2	10	622472
Zeta	1474	25.3	4.7	8	19624	5.7	serv/trde	5	362	324	70000	1	n/a	0	954664
Iota	2300	56.5	11.2	6.3	17254	10.6	serv/trde	35	501	454	66721	39	4	0	1068589
Eta	2977	52.4	7.8	7.4	19159	15.4	serv/trde	10	514	492	73000	22	3	0	1065373
Kappa	2465	143.3	6.7	6.4	19448	13.6	serv/trde	3	447	397	92250	62	20	10	952357
Lambd a	1170	32.5	6.6	6.6	20404	9.8	serv/trde	29	261	243	46000	32	20	0	2227210
VT Ave		62.53	7.3	6.4	19340	10.3	serv/mnft								
US Ave															
K12 Total	16954	465.4	69.8	76	191038	110.6		201	4226	3694	664414	528	85	60	10803422
K12 Ave	1695.4	46.54	6.98	7.6	19103.8	11.06	serv/trde	20.1	422.6	369.4	66441.4	52.8	8.5	6	1080342
St. Dev.	803.9	37.2	2.9	1.5	2448.1	6.3		11.4	147	137.6	28016	45.5	8.4	12.6	462861.5

Statistical Data on K-12 Schools In Vermont

StateAid	Tx Burden	Inc/Stdt	K6 Tuitn	7-12 Tuitn	Per Ppl	%Adv Dgre	% Certfd	AveExpr	AveSlry	TchrTrvr	Rce/Ethn	%F&R Lnch	%SpEd	Lmtd Eng	Gifted
47.44	1.33	46151	4150	5400	3494	25	100	10	29552	1	white	13	11.5	0	n/a
39.94	1.04	39859	4000	5400	3442	44	100	8	27928	2	white	38	11	0	n/a
31.57	1.58	36963	3475	6250	4336	38	100	9.4	26750	4	white	17	15	1	n/a
40.26	1.04	38441	2200	5775	3629	28	100	13.2	25230	3	white	34	18.1	0	2
30.08	1.6	33318	3700	5300	3807	33	100	13	22913	4	white	19	12.5	0	n/a
35.92	1.24	54303	4200	5300	3544	34	100	8	26048	3	white	19	11	0	n/a
47.97	0.95	50533	2750	5500	3122	34	100	13	27339	4	white	30	11.9	0	n/a
50.44	1.52	55177	3500	6500	3929	55	100	13	27602	3	white	30	18.5	0	20
45.1	1.25	71736	3800	5700	3612	29	100	15.5	24921	2	white	21	14.1	3	n/a
0	0.84	44648	3960	5000	5653	65	100	14.3	31819	2	white	29	13.1	0	n/a
30.01	1.24	67031			3914				32000				12.7		
*operating					3238				32249	0.09					
368.72	13.63	473129	35735	56125	38568	385	1000	117.4	270102	28	0	250	136.7	4	22
36.87	1.36	47312.9	3573.5	5612.5	3856.8	38.5	100	11.74	27010.2	2.8	0	25	13.67	0.4	2.2
14.7	0.3	11365.7	641.5	459.7	708.4	12.7	0	2.7	2498.9	1	0	8.2	2.8	1	

Statistical Data on K-12 Schools in Vermont

PROCESS

Sch Code	PreSch	Kdg	CmptrTch	English	Math	Science	FrgnLang	History	FneArts	Voc/Tech	Cmptr Tch	GrdReqmt	AvCls Sz	Tchng Ld	Lbr/ Mdia
Alpha	EEE	Y	cmptlab	8	10	7	4	6.5	6	2.5	3	18	20	6	Y
Beta	EEE	Y	cmptlab	7	10	7	4	5	7	5	1	17.5	21	6	Y
Gamma	all 4 yr.	Y	cmptlab	5	8	6.75	4	5	4	3	2	22	15	5	Y
Delta	N	Y	none	9	8	6	3	4	5	3.5	0	20	11	5	Y
Epsilon	EEE	Y	cmptlab	5.25	6	5	7	4.5	1.2	2	2	22	14.7	6	Y
Zeta	Y	Y	complab	9.5	7	7	2	7	8	3	0.5	20	13.5	5	Y
Iota	EEE	Y	cmptlab	5	8	7	5	5	5.5	4	2	20	16.5	5.5	Y
Eta	Chpl	Y	complab	9	8	9.5	5	8	5	3.75	0.5	22	16.5	6	Y
Kappa	EEE	Y	complab	8	8	10	6	8	5.5	0	2	22	14	6	Y
Lambda	Indpnd	Y	complab	5	7	5	6	5	6	5	1	24	8.7	5	Y
VT Ave															
US Ave															
K12 Total				71.75	80	70.25	46	56	53.2	31.75	14	207.5	151.8	55.5	
K12 Ave				7.175	8	7.025	4.6	5.6	5.32	3.175	1.4	20.75	15.18	5.55	
St. Dev.	0	0	0	2.3	1.2	1.6	1.5	1.2	1.8	1.5	0.8	2	3.5	0.5	

Statiscal Data on K-12 Schools in Vermont

OUTCOME

CnsigSrv	HdcpSrv	StffDev	SpnsrRt	PrgncyRt	VndlsmRt	AttdncRt	CmpltnRt	AvSATVBL	AvSATMth
2	5	27200	1.5	0	low	95	98.3	453	482
1.5	3	16000	6	2	low	95	94.8	410	475
1.25	3	5000	2	0	0	97.5	96.4	600	500
1	2	40000	0	0	low	95	100	400	400
1	1	5475	1	5	low	93.3	97.1	400	460
1.5	1	14840	0	0	low	98	100	420	445
1.5	2	11000	1	0	2	95	91.4	438	484
2	1	12000	1	1	0	94	99	491	504
1.5	0	59613	18	1	low	95	88.2	377	389
1	2	15444	5	0	0	95	94	452	470
		1600000		0.057			94.9	431	466
		2900000		0.082				424	476
14.25	20	206572	35.5	9		952.6	969.2	Total	897
1.425	2	20657.2	3.55	0.9		95.26	96.9	4341	4629
0.4	1.4	17195.2	5.5	1.6		1.4	2.8	Total	900

Table Sources, Indicator & Data Year:

VT Department of Employment and Training
- Unemployment Annual Average - 1991

Vermont Department of Education, Information Systems Unit
- Pupils per Square Mile - 1991
- Median Adjusted Gross Income - 1989
- Students in Poverty - 1991
- Expense Per Pupil - FY 1992
- State Aid - FY 1992
- Tax Burden - FY 1991 (residential property tax/equalized grand list)
- Income per Student - 1989
- Tuition Rates (K-6 & &-12) - FY 1992
- Special Education Pupils - FY 1990
- Completion Rates - FY 1990
- Post Secondary Education - FY 1990

Vermont Department of Education, Child Nutrition Unit
- Free and Reduce Lunch - 1992

Vermont Department of Education, School Improvement Team
- Square Feet per Pupil - 1992

Local School or School District
- Percentage of Advance Degrees - FY 1992
- Average Years of Teaching Experience - FY 1992
- Average Teachers' Salary - FY 1992
- Curricular Offerings in Math, Science, Foreign Language - FY 1992
- Graduation Requirements - FY 1992
- Average Class Size - FY 1992
- Attendance Rate - FY 1992
- SAT Scores - 1991

APPENDIX B:
K-12 SCHOOL SITE STATISTICIAL SITES

Indicator	Alpha School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	12.8	7.0	7.3
Unemployed	8.6%	7.6%	6.4%
MdnAdjGrsInc	$24725	$19104	$19340
ChdrnPoverty	3.3%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	169.4	157.2	n.a.
State Aid	47.44%	36.87%	30.01%
Tax Burden	1.33	1.24	1.24
Income/Pupil	$48151	$47313	$67031
K-6 Tuition	$4150	$3574	n.a.
7-12 Tuition	$5400	$5613	n.a.
PerPupilCost	$3494	$3857	$3914
AdvncDegrees	25%	39%	n.a.
Avrge Exprnc	10 yr.	11.7 yr.	n.a.
Avrge Salry	$29552	$27010	$32000
F&R Lunch	13%	25%	n.a.
Sp Ed Pupil	11.5%	13.7%	12.7%
PROCESS			
Math Offrng	10	8	n.a.
Sci Offrng	7	7	n.a.
FrgnLangOffg	4	4.6	n.a.
Grdtn Rqmnts	18	20.8	n.a.
AvrgeClsSize	20	15.2	n.a.
OUTCOME			
Attdnce Rate	95%	95.3%	n.a.
Cmpltn Rate	98.3%	96.9%	n.a.
Post Scndary	61%	55.2%	n.a.
AvrgeSATMath	492	462	466
AvrgeSATVrbl	453	434	431

Note: n.a.=not available

Indicator	Beta School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	5.1	7.0	7.3
Unemployed	7.4%	7.6%	6.4%
MdnAdjGrsInc	$17236	$19104	$19340
ChdrnPoverty	24.3%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	122.5	157.2	n.a.
State Aid	39.44%	36.87%	30.01%
Tax Burden	1.04	1.24	1.24
Income/Pupil	$39859	$47313	$67031
K-6 Tuition	$4000	$3574	n.a.
7-12 Tuition	$5400	$5613	n.a.
PerPupilCost	$3442	$3857	$3914
AdvncDegrees	44%	39%	n.a.
Avrge Exprnc	8 yr.	11.7 yr.	n.a.
Avrge Salry	$27928	$27010	$32000
F&R Lunch	38%	25%	n.a.
Sp Ed Pupil	11%	13.7%	12.7%
PROCESS			
Math Offrng	10	8	n.a.
Sci Offrng	7	7	n.a.
FrgnLangOffg	4	4.6	n.a.
Grdtn Rqmnts	17.5	20.8	n.a.
AvrgeClsSize	21	15.2	n.a.
OUTCOME			
Attdnce Rate	95%	95.3%	n.a.
Cmpltn Rate	94.8%	96.9%	n.a.
Post Scndary	39%	55.2%	n.a.
AvrgeSATMath	475	462	466
AvrgeSATVrbl	410	434	431

Note: n.a.=not available

Indicator	Gamma School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	5.3	7.0	7.3
Unemployed	7.4%	7.6%	6.4%
MdnAdjGrsinc	$19889	$19104	$19340
ChdrnPoverty	3.7%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	132.1	157.2	n.a.
State Aid	31.57%	36.87%	30.01%
Tax Burden	1.58	1.24	1.24
Income/Pupil	$36963	$47313	$67031
K-6 Tuition	$3475	$3574	n.a.
7-12 Tuition	$6250	$5613	n.a.
PerPupilCost	$4336	$3857	$3914
AdvncDegrees	38%	39%	n.a.
Avrge Exprnc	9.4 yr.	11.7 yr.	n.a.
Avrge Salry	$26750	$27010	$32000
F&R Lunch	17%	25%	n.a.
Sp Ed Pupil	15%	13.7%	12.7%
PROCESS			
Math Offrng	8	8	n.a.
Sci Offrng	6.75	7	n.a.
FrgnLangOffg	4	4.6	n.a.
Grdtn Rqmnts	22	20.8	n.a.
AvrgeCleSize	15	15.2	n.a.
OUTCOME			
Attdnce Rate	97.5%	95.3%	n.a.
Cmpltn Rate	96.4%	96.9%	n.a.
Post Scndary	50%	55.2%	n.a.
AvrgeSATMath	500	462	466
AvrgeSATVrbl	500	434	431

Note: n.a.=not available

Indicator	Delta School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	4.9	7.0	7.3
Unemployed	6.7%	7.6%	6.4%
MdnAdjGrsInc	$17235	$19104	$19340
ChdrnPoverty	14.6%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	132.3	157.2	n.a.
State Aid	40.26%	36.87%	30.01%
Tax Burden	1.04	1.24	1.24
Income/Pupil	$38441	$47313	$67031
K-6 Tuition	$2200	$3574	n.a.
7-12 Tuition	$5775	$5613	n.a.
PerPupilCost	$3629	$3857	$3914
AdvncDegrees	28%	39%	n.a.
Avrge Exprnc	13.2 yr.	11.7 yr.	n.a.
Avrge Salry	$25230	$27010	$32000
F&R Lunch	34%	25%	n.a.
Sp Ed Pupil	18.1%	13.7%	12.7%
PROCESS			
Math Offrng	8	8	n.a.
Sci Offrng	6	7	n.a.
FrgnLangOffg	3	4.6	n.a.
Grdtn Rqmnts	20	20.8	n.a.
AvrgeClsSize	11	15.2	n.a.
OUTCOME			
Attdnce Rate	95%	95.3%	n.a.
Cmpltn Rate	100%	96.9%	n.a.
Post Scndary	64%	55.2%	n.a.
AvrgeSATMath	400	462	466
AvrgeSATVrbl	400	434	431

Note: n.a.=not available

Indicator	Epsilon School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	4.7	7.0	7.3
Unemployed	11.2%	7.6%	6.4%
MdnAdjGrsInc	$16065	$19104	$19240
ChdrnPoverty	9.6%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	184	157.2	n.a.
State Aid	30.06%	36.87%	30.21%
Tax Burden	1.6	1.24	1.24
Income/Pupil	$3318	$47313	$67031
K-6 Tuition	$3700	$3574	n.a.
7-12 Tuition	$5300	$5613	n.a.
PerPupilCost	$3807	$3857	$3914
AdvncDegrees	33%	39%	n.a.
Avrge Exprnc	13 yr.	11.7 yr.	n.a.
Avrge Salry	$22913	$27010	$32000
F&R Lunch	19%	25%	n.a.
Sp Ed Pupil	12.5%	13.7%	12.7%
PROCESS			
Math Offrng	6	8	n.a.
Sci Offrng	5	7	n.a.
FrgnLangOffg	7	4.6	n.a.
Grdtn Rqmnts	22	20.8	n.a.
AvrgeClsSize	14.7	15.2	n.a.
OUTCOME			
Attdnce Rate	93.3%	95.3%	n.a.
Cmpltn Rate	97.1%	96.9%	n.a.
Post Scndary	56%	55.2%	n.a.
AvrgeSATMath	460	462	466
AvrgeSATVrbl	400	434	431

Note: n.a.=not available

Indicator	Zeta School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	4.7	7.0	7.3
Unemployed	8%	7.6%	6.4%
MdnAdjGrsInc	$19624	$19104	$19340
ChdrnPoverty	5.7%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	193.4	157.2	n.a.
State Aid	35.92%	36.87%	30.01%
Tax Burden	1.24	1.24	1.24
Income/Pupil	$54303	$47313	$67031
K-6 Tuition	$4200	$3574	n.a.
7-12 Tuition	$5300	$5613	n.a.
PerPupilCost	$3544	$3857	$3914
AdvncDegrees	34%	39%	n.a.
Avrge Exprnc	8 yr.	11.7 yr.	n.a.
Avrge Salry	$26048	$27010	$32000
F&R Lunch	19%	25%	n.a.
Sp Ed Pupil	11%	13.7%	12.7%
PROCESS			
Math Offrng	7	8	n.a.
Sci Offrng	7	7	n.a.
FrgnLangOffg	2	4.6	n.a.
Grdtn Rqmnts	20	20.8	n.a.
AvrgeClsSize	13.5	15.2	n.a.
OUTCOME			
Attdnce Rate	98%	95.3%	n.a.
Cmpltn Rate	100%	96.9%	n.a.
Post Scndary	57%	55.2%	n.a.
AvrgeSATMath	445	462	466
AvrgeSATVrbl	400	434	431

Note: n.a.=not available

Indicator	Iota School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	11.2	7.0	7.3
Unemployed	6.3%	7.6%	6.4%
MdnAdjGrsInc	$17254	$19104	$19340
ChdrnPoverty	10.6%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	133.2	157.2	n.a.
State Aid	47.97%	36.87%	30.01%
Tax Burden	.95	1.24	1.24
Income/Pupil	$50533	$47313	$67031
K-6 Tuition	$2750	$3574	n.a.
7-12 Tuition	$5500	$5613	n.a.
PerPupilCost	$3122	$3857	$3914
AdvncDegrees	34%	39%	n.a.
Avrge Exprnc	13 yr.	11.7 yr.	n.a.
Avrge Salry	$27339	$27010	$32000
F&R Lunch	30%	25%	n.a.
Sp Ed Pupil	11.9%	13.7%	12.7%
PROCESS			
Math Offrng	8	8	n.a.
Sci Offrng	7	7	n.a.
FrgnLangOffg	5	4.6	n.a.
Grdtn Rqmnts	20	20.8	n.a.
AvrgeClsSize	16.5	15.2	n.a.
OUTCOME			
Attdnce Rate	95%	95.3%	n.a.
Cmpltn Rate	91.4%	96.9%	n.a.
Post Scndary	65%	55.2%	n.a.
AvrgeSATMath	494	462	466
AvrgeSATVrbl	438	434	431

Note: n.a. = not available

Indicator	Eta School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	7.8	7.0	7.3
Unemployed	7.4%	7.6%	6.4%
MdnAdjGrsInc	$19159	$19104	$19340
ChdrnPoverty	15.4%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	142	157.2	n.a.
State Aid	50.44%	36.87%	30.01%
Tax Burden	1.52	1.24	1.24
Income/Pupil	$55177	$47313	$67031
K-6 Tuition	$3500	$3574	n.a.
7-12 Tuition	$6500	$5613	n.a.
PerPupilCost	$3929	$3857	$3914
AdvncDegrees	55%	39%	n.a.
Avrge Exprnc	13 yr.	11.7 yr.	n.a.
Avrge Salry	$27602	$27010	$32000
F&R Lunch	30%	25%	n.a.
Sp Ed Pupil	18.5%	13.7%	12.7%
PROCESS			
Math Offrng	8	8	n.a.
Scl Offrng	9.5	7	n.a.
FrgnLangOffg	5	4.6	n.a.
Grdtn Rqmnts	22	20.8	n.a.
AvrgeClsSize	16.5	15.2	n.a.
OUTCOME			
Attdnce Rate	94%	95.3%	n.a.
Cmpltn Rate	99%	96.9%	n.a.
Post Scndary	52%	55.2%	n.a.
AvrgeSATMath	504	462	466
AvrgeSATVrbl	491	434	431

Note: n.a.=not available

Indicator	Kappa School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	6.7	7.9	7.3
Unemployed	6.4%	7.6%	6.4%
MdnAdjGrsInc	$19448	$19104	$19340
ChdrnPoverty	13.6%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	206.4	157.2	n.a.
State Aid	45.1%	36.87%	30.01%
Tax Burden	1.25	1.24	1.24
Income/Pupil	$71736	$47313	$67031
K-6 Tuition	$3800	$3574	n.a.
7-12 Tuition	$5700	$5613	n.a.
PerPupilCost	$3612	$3857	$3914
AdvncDegrees	29%	39%	n.a.
Avrge Exprnc	15.5 yr.	11.7 yr.	n.a.
Avrge Salry	$24921	$27010	$32000
F&R Lunch	21%	25%	n.a.
Sp Ed Pupil	14.1%	13.7%	12.7%
PROCESS			
Math Offrng	8	8	n.a.
Scl Offrng	10	7	n.a.
FrgnLangOffg	6	4.6	n.a.
Grdtn Rqmnts	22	20.8	n.a.
AvrgeClsSize	14	15.2	n.a.
OUTCOME			
Attdnce Rate	95%	95.3%	n.a.
Cmpltn Rate	98.2%	96.9%	n.a.
Post Scndary	40%	55.2%	n.a.
AvrgeSATMath	389	462	466
AvrgeSATVrbl	377	434	431

Note: n.a.=not available

Indicator	Lambda School	K-12 Schools	VT Schools
CONTEXT			
Pupil/Sq.Mi.	6.6	7.0	7.3
Unemployed	6.6%	7.6%	6.4%
MdnAdjGrsInc	$20404	$19104	$19340
ChdrnPoverty	9.8%	11.1%	10.3%
INPUT			
Sq.Ft./Pupil	176.2	157.2	n.a.
State Aid	0%	36.87%	30.01%
Tax Burden	.84	1.24	1.24
Income/Pupil	$44648	$47313	$67031
K-6 Tuition	$3960	$3574	n.a.
7-12 Tuition	$5000	$5613	n.a.
PerPupilCost	$5653	$3857	$3914
AdvncDegrees	65%	39%	n.a.
Avrge Exprnc	14.3 yr.	11.7 yr.	n.a.
Avrge Salry	$31819	$27010	$32000
F&R Lunch	29%	25%	n.a.
Sp Ed Pupil	13.1%	13.7%	12.7%
PROCESS			
Math Offrng	7	8	n.a.
Sci Offrng	5	7	n.a.
FrgnLangOffg	6	4.6	n.a.
Grdtn Rqmnts	24	20.8	n.a.
AvrgeClsSize	9.7	15.2	n.a.
OUTCOME			
Attdnce Rate	95%	95.3%	n.a.
Cmpltn Rate	94%	96.9%	n.a.
Post Sndary	68%	55.2%	n.a.
AvrgeSATMath	470	462	466
AvrgeSATVrbl	452	434	431

Note: n.a.=not available

APPENDIX C:
K-12 SCHOOL SITE VISITATION SUMMARIES

Alpha School

Location

Situated within an hour's drive from a Metropolitan Statistical Area and near to an interstate highway makes this school an ideal location for persons seeking lower housing costs, a country life style, and relatively easy access to a population center for jobs and shopping needs. As a result, the school and community are growing in numbers, with the school experiencing 40-50 new students each year. The size of the town where Alpha is located is approximately 2,500 people.

Physical Facilities

The original school building, built in 1903 and burned in 1941, was replaced the same year. Subsequently, two additions were added to the rear of the 1941 building in 1973 and 1990, respectively. The older section houses the elementary classes (K-4), the '73 addition is used primarily for the high school (9-12) classes, and the more recent addition houses the middle school (5-8) program. The new addition also includes space for a combined school and community library. Even with the new addition, the school appears to be filled to capacity, which is a concern since the present school site will not easily permit additional expansion. For example, in order to comply with PSA requirements for art classes at the elementary and middle school levels, a classroom was subdivided to provide the extra space. This arrangement necessitates these students to walk through the senior high school art room. Also, present bond obligations require the acceptance of transfer students from neighboring communities. Of the 720 students attending Alpha, approximately 120 are tuition students. The school has a large gymnasium, a separate cafeteria (which was the gym in the old facility), an up-to-date science lab, a music room and space for instrumental lessons, an industrial arts room, a living arts room, and a centrally located computer lab with 20 new computers, color monitors, and networking capacity.

The building and particularly the new additions are pleasant, have white walls, good lighting, and appear clean and well maintained. The elementary classrooms seem stocked full of activities and displays of students' work. These rooms are in the old section of the building with darker wooden floors and wood surfaces.

School Climate

It appears the school operates in a very business-like manner and is very busy. The main office and guidance offices have a steady flow of students. This includes elementary students having behavior problems to senior high students receiving free ski passes for maintaining straight A averages. There is also a positive tone in the school and teachers and students are friendly and appear relaxed. Some concerns were expressed over the segmentation of the school into its distinct levels of elementary, middle, and high school. Also a feeling exists, particularly at the elementary level, that the school's schedule and priorities are driven by high school needs, activities, and programs.

Administrative Leadership

The school has three fulltime administrators. The principal is in charge of the school overall. He shares with the assistant principal and administrative assistant discipline matters, curriculum development, and coordination of programs. The principal appears to be a very hands-on administrator directly coordinating the activities and messages in the office. All three administrators share playground supervision during the lunch period. The principal takes some pride in promoting and helping to implement a middle level program that supplanted a traditional junior-senior high school configuration.

Community Involvement

The school does serve as a center for the community. The school is open from 5:30 a.m. to 11:00 p.m. on week days. Daily after 3:00 p.m. a variety of activities are scheduled in the school including Four H Club and Boy or Girl Scouts. Other activities include an annual Crafts Show and Turkey Dinner. Three years ago, the community approved a bond issue four to one to build 10 classrooms, two science labs, a computer lab, a faculty room, and a community library. However, last year the school budget was defeated.

PSA Impact

Status—Visited October 1985 and approved June 1991.

Financial

Additional costs included:

1. Hiring an art teacher, dividing a room for art classes, and providing art materials and supplies.
2. Expanding guidance services by increasing elementary guidance to 2 1/2 days per week, increasing second guidance position to fulltime, and increasing secretarial time.
3. Hiring teachers to work in the summer on curriculum development and for teachers to act as curriculum coordinators in math, English, science, and social studies.
4. Hiring a summer school driver education teacher.
5. Purchasing extra equipment and materials for science and a table and 20 chairs for the library.

Curriculum

Recommended improvements included:

1. Making greater use of the K-12 spectrum and developing a K-12 continuum in curricular offerings.
2. Developing goals, scope, and sequence in all subjects and designating a person in charge of curriculum coordination.
3. Upgrading science lab and making accessible to elementary students.
4. Discontinuing the use of a 3/5 time uncertified teacher in math.
5. Making the computer lab accessible to all students, evaluating student skills, centralizing and cataloging software, and integrating computers in the classroom.
6. Expanding seating in the library.

K-12 Usage

The size of the school's enrollment, the physical plant arrangements for the three levels of elementary, middle, and secondary, and different locations for teachers to eat lunch seem to limit the degree to which the school is maximizing its K-12 organization. In addition, the teachers expressed some sense of rivalry between levels, with elementary teachers feeling the school reflects more of the needs of secondary level

students and faculty. Also, there were some concerns expressed of younger children being overwhelmed and exposed to the language of older and more boisterous students. On the other hand, some teachers mentioned having access to subject specialists at the high school, particularly in science and math, as being a plus of the K-12 organization. Others felt that the K-12 arrangement permitted some inter-age experiences like tutoring, story reading, or sharing as in the computer lab. Some even speculated that the behavior of older students was toned down because of the presence of younger children.

Beta School

Location

Beta is an union school serving three towns located on the eastern edge of Vermont. The population of the town nearest Beta is approximately 1,570 inhabitants, which is the larger of the three communities served by this union school. Beta is located just outside of this town on a site specifically selected for the union school, permitting ample space for the physical plant, athletic fields, and elementary school playground.

Physical Facilities

The school is a massive one-story building built just over 20 years ago and presently houses 600-plus students. Finding a parking place can be challenging and is indicative of the additional parking space required to run a contemporary educational program. The entrance way from the buses is canopied, protecting the students from the elements as they enter the school. The students enter into a very wide entrance and hallway that minimizes crowding. The school is an open classroom design divided up by portable partitions. Some classroom partitions are on three sides, leaving one side wide open; some "rooms" are partially surrounded on four sides, leaving a small space for entering into the classroom space. Carpeting and low acoustical ceilings help dampen the sound throughout this open area. Separate rooms with permanent walls are provided for a sizable gym, cafeteria, business area, home economics, industrial arts, and the media/library area. The open classroom layout permits easy accessibility to the respective classes. The facility appears well maintained and in good shape for a 20-year-old building.

School Climate

Teachers and staff seem to go about their duties in a professional manner. The school has experienced some administrator and teacher turnover in the recent past. Some conflicts exist between the school board and teachers over contract negotiations, contributing to a tense climate. Teachers and students were cordial to each other, but there was not the relaxed manner often observed in rural schools.

Administrative Leadership

The present principal has been in the position for her second year, thus has not had time to impact the school to the degree she might desire. In addition, the principal handles a full load administratively without assistance. The principal has adjusted the school schedule to allow the teachers to meet on a daily basis. Mondays are devoted to special education matters, Tuesdays address cooperative learning, Wednesdays focus on teaming, Thursdays are held for general faculty meetings, and Fridays are a social time at which a paper plate award is given to staff members for something special. The principal has a vision for the school and hopes to experiment with flexible scheduling, make extensive use of cooperative learning, develop a peer evaluation system, move towards an ungraded elementary program, and explore a thematic curriculum for the high school.

Community Involvement

The principal is making some effort to involve the community and parents in the school. Presently volunteers are helping the school with the implementation of their portfolio system.

PSA Impact

Status—Visited the spring of 1988 and approved January 1991.

Financial

Additional costs included:

1. Hiring an early education coordinator, a halftime guidance counselor, a fulltime special educator, and a special services coordinator.
2. Purchasing materials for health education and home economics.
3. Providing for ground maintenance items and storage space redesign.
4. Providing substitute teachers for teachers to participate in inservice program planning.

Curriculum

Recommended improvements included:

1. Developing curricular goals, scope, and sequence in drama and dance.
2. Developing a library skills program for K-6 students.

K-12 Usage

Some strong negative feelings were expressed by teachers concerning the K-12 arrangement at the school. The feelings were focused on younger children having to be exposed to older students whose behavior and language were not exemplary. Pictures in lockers and disruptive behavior on the school buses added to these feelings. Other teachers expressed more positive feelings for the K-12 configuration, which permits greater interactions between levels and helps in creating a family atmosphere.

Gamma School

Location

Gamma School and its small town of approximately 800 people is situated among some rolling hills in the northeastern portion of the State of Vermont. Many years ago, the community chose to go it alone rather than join in a union school district. This decision has set in front of the community members and its one thriving business enterprise a nearly insurmountable challenge—one that continues to test the ingenuity and determination of this small community in light of calls for excellence in education. The school has had a history of rejected school budgets, although not in the last six years, and two recent bond proposals have failed to pass.

Physical Facilities

The school facilities are made up of several buildings situated in the center of town in a campus-like arrangement. The main building built late in the 19th century, is the oldest structure and houses grades 7-12. The elementary and special services are located in three separate bilevel structures. Other structures include the gymnasium, which also provides space for music on the stage and art on the second level and a separate building for industrial arts. The main building includes space for the library, which serves all grade levels, and a cafeteria located below ground level. The home economics teacher is forced to share a classroom, since her room had to be taken over for an extra elementary class due to increased enrollment. The business classroom also serves as their computer lab and is open to students when business classes are not being held. Because of the age of the structures, especially the main building, there is evidence of wear and tear, limited and cramped space, and a need for upgrading—particularly in making the facilities handicap accessible. Gamma School's enrollment is approximately 250 students.

School Climate

What might be lacking in ideal physical plant surroundings is more than compensated for in the strong sense of community in the school. This is exemplified in the students' support and nurturing of a recently enrolled autistic student and the faculty support and involvement in exploring restructuring ideas. As some of the students expressed it, "we may not have everything a school should have but we are satisfied with what we have. We have close friends and know everyone quite well." The social climate is positive and it appears everyone is working to keep it that way.

Administrative Leadership

The present principal was appointed following the controversial departure of a former principal. Over a dozen or so years, this principal has been able to build respect and motivation to address the problems of a small school. Presently a restructuring committee made up of community members, school administrators, and teachers are actively challenging old assumptions about school design and programs. A recent grant from the State of Vermont is underwriting this restructuring effort and many ideas are being explored and/or implemented. Included in their list of possible changes are: reducing 12 years of curriculum to 10 years, creation of a multilevel structure (e.g., K-3, 4-6, 7-8, and 9-12), interdisciplinary courses, use of telecommunications, business partnerships, use of portfolios for student evaluation, learning center for instructional support services, senior independent study program, team teaching, kindergarten parent education program, parent volunteers in science education, Friday folders to parents outlining upcoming assignments and lessons, and the use of larger blocks of instructional time. The principal is playing a very active role in stimulating ideas and exploring funding options. She makes a special effort to involve teachers, parents, and community members in these deliberations.

Community Involvement

Involvement of community members is an important factor in the school's success to present and is seen as critical to its future plans. Community involvement has come in many forms, from parents participating in discussion groups concerning child rearing practices with 5-6 year old children to having citizens in the community act as mentors for 12th graders' independent studies to planning and suggesting alternative views for restructuring the school. Extensive effort has been made to get community input on a new facility that is needed in order to remain in compliance with public school approval standards. A community center concept is being explored that will permit the sharing of space with community groups, town government, and other social service agencies. It appears members of the school and community are continuing to explore alternative ideas for bringing the school closer to the lives of all members of the community.

PSA Impact

Status—Visited October 1986; conditional approval extended to December 1991; and further waiver on building improvements pending.

Financial

Additional costs included:

1. Making art room accessible for physically handicapped.
2. Purchasing new computers.
3. Providing adequate space for music instruction, making buildings handicap accessible, treating acoustically the nurse and guidance offices, providing storage for physical education, and providing ventilation for art and science materials.

Curriculum

Recommended improvements included:

1. Developing K-12 scope and sequence curricula in all subjects.
2. Employing only certified personnel.
3. Increasing time allocation for elementary level science, social studies, arts, health, and physical education.
4. Expanding arts to include dance and drama.
5. Providing faculty training in computers.
6. Providing instruction on audio visual equipment before seventh grade.
7. Providing learning stations for elementary school science.

K-12 Usage

The K-12 organization and small size of Gamma School permits a greater degree of flexibility and a high degree of informality. Teachers have greater knowledge as to what is taught at all levels, and as the school contemplates moving content and skills into a 10-year program, this knowledge is helpful. The K-12 arrangement also permits seeing their students holistically and seeing the connection to other subjects, thus encouraging more interdisciplinary work. The K-12 organization makes it easier for parents to understand the overall program of study. The students seem to also benefit because they tend not to get lost in the system, with dialogue being encouraged across grade levels. Lower level teachers can and do call upon upper level teachers concerning content and related activities. Upper level students are able to help younger students through tutoring, peer counseling, and mentoring.

Delta School

Location

Delta School is situated in a small town of just over 1,000 inhabitants. This community sits in a valley in central Vermont somewhat isolated from any large population center. It takes about 30 to 40 minutes driving time to reach the next larger community. Many of the residents commute these distances for employment, since there are only five working farms and small businesses in the community. On the other hand, the valley with a large stream passing through, the hills, and forest provide a idyllic setting that belies a community facing difficult economic times.

Physical Facilities

There are three distinct sections to the school. The elementary school section, which houses the elementary grades, cafeteria, and home economics room, was built in 1913 and is a two-story facility. The second section constructed in 1978 is a one-story addition that stretches out from behind the two-story wooden frame building. The wing is a brick and block construction that contains the main office, the junior-senior high classrooms, the library, and art and industrial arts rooms. Across the driveway is the a third facility built in 1984, which houses the gym and music classroom. Efforts have been made to upgrade the two-story elementary classrooms with carpeting, new lights, and hallway and stair improvements. Although the school does not have a computer lab, the industrial arts area has a glassed enclosed area that contains six computers and the business classroom also has five new computers. Also, several computers are scattered throughout the K-6 classrooms. The library has just received a CD-ROM computer for conducting literature searches. The facility is short on space and is not handicap accessible on the second floor of the old building. Additional space is needed for the library, special education, guidance, and for small-group meetings. The hallway in the secondary section is very crowded during passage of classes. A number of improvements are needed before the school can meet public school approval standards. Delta School's enrollment is approximately 320 students, including 80-plus tuition students.

School Climate

A friendly tone exists in the school. Teachers seem very interested and concerned about their students and the students seem to have a pleasant relationship with one another. Some teachers refer to the school as having a family-type atmosphere. Students seem proud of their school and its accomplishment, especially in sports. A Wellness Committee of teachers and the principal has been established to explore ways of improving the school's climate.

Administrative Leadership

The school has a fulltime principal who quite often is called upon to substitute for aides and/or teachers when others cannot pinch hit. He has a person-oriented style and is somewhat low keyed and laid back. He makes an effort to involve the teachers in any major decisions affecting the school. He has been at the school for only a short period (in his third year), thus is still developing insight on needed and desired changes. The established Wellness Committee made up of mostly teachers and the principal is presently examining ideas surrounding a four-day school week with a fifth day for a number of optional activiti. ike a school-based enterprise of some sort. Another effort that emerged from teacher-school board negotiations is an Initiative For Improvement (IFI) policy—a voluntary staff improvement program. The board has agreed to put $30,000 into the fund for 1991-92. Some IFI activities have included teachers attending workshops on cooperative learning, participation in Project Harmony (an exchange program with the

former Soviet Union), establishment of a buildingwide wellness committee, seventh and eighth grade intervention team, and summer school teaching. Some teachers, however, view the IFI fund as unnecessary, since teachers should be doing these activities as part of their regular responsibility, thus requiring extra payment. Also discussions are being explored to develop a competency-based student evaluation system.

Community Involvement

There is strong support for the school, even in present hard fiscal times. This has not always been the case, but more recently the community has approved school budgets with little or no discussion. The school gym is constantly used by members of the community. The elementary grades seem very effective in getting parents to come in for conferences. There is strong support and involvement with students and their numerous activities. The elementary grades make use of parent volunteers.

PSA Impact

Status—Visited December 1988 and conditional approval September 1992.

Financial

Additional costs included:

1. Hiring a fulltime nurse.
2. Modifying and improving the facilities including safety concerns, sound control, classroom crowding, hallway congestion, ventilation, and school bus discharge.
3. Ordering textbook and related materials.
4. Improving the industrial arts area.
5. Providing inservice training funds.
6. Providing storage area for chemicals.

Curriculum

Recommended improvements included:

1. Requiring 120 clock hours for one hour of credit.
2. Having proper certification for math teaching.
3. Updating science lab materials and texts.
4. Ensuring social studies instruction in the elementary grades and coordination with Englis
5. Having a certified music teacher for the elementary grades and developing curriculum in dance and drama.
6. Developing continuity in writing skills between grade levels.

7. Developing K-12 curriculum in second language and coordinating instruction with other subjects.

8. Developing skill level requirements in computers and ensuring teacher use in other subjects.

9. Teaching media skills to all students, expanding book collection for primary grades, and developing K-6 library skills curriculum.

10. Increasing coordination and evaluation of curriculum in the school and with sending schools.

K-12 Usage

The K-12 organization is seen as a plus. It enables a sense of family. The high school students serve as aides and tutors in the elementary classrooms. The older and younger students share buses; brothers and sisters ride together. Members of family help with homework assignments. The music teacher and principal both spoke of the challenge meeting such a spectrum of needs and the added time required for more preparations, etc. Also, many teachers spoke of more that could be done on a K-12 basis. For example, each year the school celebrates a Winter Carnival, but this has not involved the elementary grades.

Epsilon School

Location

Epsilon is located in the northern half of Vermont, known for its pastoral land and scenic views that draw tourists year round. The town in which Epsilon is located is small, with a population of approximately 700 people. On the other hand, smallness is its virtue and Epsilon School enjoys wide community support and is seen as integral to the quality of life in this somewhat geographically isolated community.

Physical Facilities

The facilities are a mix of the old and new. The main building of the school that houses the principal's and guidance counselor's offices plus several classrooms, study hall, and gymnasium was build in 1827. Its outward appearance belies an interior of small and crowded rooms, particularly on the second floor and the gym. The new facility that was built in 1989 houses their media center including library, computer lab, and interact TV, as well as new science labs, home making, fifth and sixth grades, and special education. The new facility is attractive, clean, and well lighted. It offers a sharp contrast to the old building. A short distance from the main campus and located in the town is a building in which the art and industrial arts classes are located. Further down the road, approximately a mile, is the elementary grades, K-4, facility. The school's enrollment is 240, 30-plus of whom are transfer tuition students, making it one of the smallest K-12 schools in Vermont.

School Climate

If one word would capture the school's climate, it would be pride. Pride in the fact that Epsilon recently received National Recognition by the U.S. Department of Education, pride in its new facility, and pride in its innovative practices including interact TV, schoolwide theme-oriented projects, state and nationally recognized teachers, involvement in portfolio development in math and writing, heterogeneous and mainstreaming practices, and team teaching. In addition, the school enjoys a great deal of community support, exemplified in parent volunteers aiding in their environmental science program and a Russian language and culture course. In spite of being ranked among the lowest schools in average teacher salary, there is a school spirit of celebration in its smallness that permits close personal relations between and among teachers, students, and parents.

Administrative Leadership

The principal has been at this school for a short period of time, although he has had a number of years of experience in school administration in other locations in Vermont. He has a halftime assistant principal and two administrative assistants. The principal takes some pride in gaining national recognition and having a commitment to quality instruction. This latter point of view resulted in the removal of four less than effective teachers. The principal also recognizes how hard his teachers work, after school and on weekends, and yet receive low wages in comparison to other teachers in the state.

Community Involvement

The smallness of both the community and school lends itself to community involvement. As mentioned earlier, parents participate as volunteers in a variety of ways and are responsive to requests for assistance. Some of its financial problems are alleviated by a foundation controlled by the school board, which can underwrite costly projects like the new school addition, two thirds of which was supported by this private fund. The school has been fortunate to receive such strong financial support from some of its more wealthy members in the community.

PSA Impact

Status—Visited April 1987 and conditional approval September 1991.

Financial

Additional costs included:

1. Expanding the art program to the elementary grades and increasing the art teacher's assignment to fulltime.
2. Hiring a study hall monitor.
3. Increasing the space and coverage for the elementary school library.
4. Initiating physical improvements and new courses in industrial arts.
5. Building a 12,000 sq. ft. facility to provide storage, laboratories for science, additional classroom space, and work and conference space for teachers.

Curriculum

Recommended improvements included:

1. Developing a K-12 scope and sequence and greater coordination with sending schools in English, math, and science.
2. Improving the student/teacher ratio in math and science.
3. Requiring one year of art and incorporating drama, dance, choral, and instrumental music.
4. Ordering updated and modern maps, globes, and simulation games in social studies.

K-12 Usage

The separate location of grades K-4 in a building one mile from the grades 5-12 facility inhibit greater interaction between levels. However, Epsilon has pioneered thematic teaching projects involving all levels

in the school, which reinforces the interdependence of subject matter and breaks down grade level barriers. There is a recognition of the K-12 continuum and the advantages of smallness that permit a respect for individual learning styles and long-term development. There are cross-grade activities, and their portfolio system permits focusing on specific learning goals and their impact on students over time.

Zeta School

Location

Zeta School is located in northeastern Vermont, sometimes referred to as the Northeast Kingdom. The school is just off a major truck route between this area of the state and communities located further south and west. The community has about 1,500 people, many of whom work in a neighboring medium-sized town that acts as a commerce center for this area.

Physical Facilities

The fall of 1990 marked the completion of a major construction and renovation effort that upgraded the old school facility and added additional space. This construction effort resulted in going from a 55,000 sq. ft. facility to a 70,000 sq. ft. facility. Great care appears to have been taken to provide pleasant surroundings with the use of glass walls, ample lighting, gray carpeting, and white painted interior walls. The new construction resulted in a large media/library/computer lab area with designated space for the elementary grades. The new gymnasium is very large and designed so that the community can have easy access while the remaining portions of the building can be secured. A kindergarten classroom was included in the new construction and the building was made fully accessible for handicapped persons. The remaining stage area from the old high school building has been converted to an auditorium for small productions and music presentations. These changes and improvements enabled the closing of an older elementary school facility just north of the town where Zeta is located. The school houses approximately 410 students, of which 52 are tuition students from neighboring towns.

School Climate

The climate reflects a strong emphasis on academic performance. Much is made of report card grades and getting on the honor roll. Report cards are distributed by the principal and assistant principal to the high school students in the main office area. In addition to the granting of school letters for athletic performance, letters can be received for outstanding academic performance. A dinner with a speaker provides an opportunity to recognize these students and to award their letters. The school takes pride in its closeness of staff and students. The principal knows everyone's name, they have a Big Brother, Big Sister program, and high school students tutor younger students. When a fire drill is held, older kids rush to exits to guide younger children through the doors. The school atmosphere is much like family and there is concern for each member. The cleanliness and new facility with its bright lighting adds an aesthetic quality often not found in rural schools.

Administrative Leadership

The principal is committed to making improvements in the school and to provide motivati for students and teachers towards academic excellence. The varsity letter awarded for high academic p rfor-mance is one example of his commitment. In addition, he personally calls any absent students to determine the reasons for their absence. The school has also been successful in receiving two school restructuring grants from the state department of education. Presently, the school has developed seventh- and eighth-grade teams of teachers who share a common planning time each day. The elementary teachers are also

developing teams that will teach interdisciplinary units and will have a common resource of volunteers. Grades 9-12 have an interdisciplinary project for one week in the spring. The principal and his assistant principal both teach classes, in addition to their administrative duties. As is often the case in small rural schools, the school administrators are heavily involved in school and community activities.

Community Involvement

The new school facility is a source of community pride and has become a community center. All community groups are encouraged to use the school at no charge. Usage includes women's volleyball, men's basketball, coed volleyball, and the senior citizens have measured off a specified distance for before and after school walking exercise. The senior citizens also volunteer in the school library and tutor elementary students in reading. A strong effort is being made to make the community feel ownership of the school and feel comfortable to enter and use the facility.

PSA Impact

Status —Visited May 1988 and conditionally approved September 1992.

Financial

Additional costs included:

1. Making the facility fully handicap accessible.
2. Constructing a kindergarten facility.
3. Providing expanded and improved library space.
4. Making science lab improvements.
5. Outfitting classrooms for social studies.
6. Providing space for small-group counseling classes.
7. Improving ventilation.
8. Improving health services space.

Curriculum

Recommended improvements included:

1. Reducing class sizes at the primary and intermediate levels.
2. Developing goals, scope, and sequence curricula for English, math, science, social studies, arts, health education, physical education, industrial arts, business education, and second language.
3. Purchasing new computer equipment and developing related curriculum.
4. Hiring an elementary school counselor.

5. Adding speech/language services and a special education aide.

6. Offering art classes on a K-12 basis.

K-12 Usage

Recent curricular improvements have stressed the K-12 spectrum and facilitated communications between levels particularly in science and math. The Big Brother, Big Sister program connects older students with younger ones. Cross grading and teaming within levels are part of their restructuring plans and are in progress.

Iota School

Location

Iota School in located in a community of 1,800 people in the central portion of the state. The school is located in town and, as a result, is able to draw upon volunteer students from a nearby higher education institution. Because of this college, the demographic makeup of the community includes traditional Vermont families mixed with transient students and their faculty.

Physical Facilities

The original building is 39 years old and was expanded and improved upon in 1988. This addition increased space for classrooms, storage, administration, support services, and improved internal traffic flow. The mix of old and new facilities lends some confusion to an outsider in finding the administrative offices or art and music rooms. In any regard, it appears maximum effort was made to get the greatest payoff of their bond monies to satisfy space requirements. The rooms appear on the small size including the gym, computer lab, industrial arts room, and cafeteria. The elementary wing reflects a comfortable tone with open doors, a variety of displays of students' work and curriculum activities, and hospitable teachers. The school houses approximately 500 students.

School Climate

There is a familiar and friendly tone to the school. Everyone seems to know what is expected and they go about their responsibilities in serious manner. A student spoke of attending Iota because of friendly students and supportive faculty. She could choose among several schools and chose Iota. Some teachers enjoy a popularity with the students. This is particularly true of the French teacher who offers classes from level one to advanced placement.

Administrative Leadership

The present principal come to Iota in 1986 and his assistant principal was appointed in 1988. The assistant principal is in charge of discipline, physical plant, and transportation. The principal has made an effort to raise academic standards and expectations. The school offers advanced placement courses in chemistry, physics, English, history, and French. The principal has stressed a decentralized governance approach that places greater responsibility on faculty and students for solving problems and making their own decisions. Some of these responsibilities are shared in a school climate committee and in the student council. Both groups have initiated new changes and have assumed responsibility for monitoring these changes and for making the necessary corrections. The principal believes that everyone must share in making the school a pleasant place and to recognize one another for their contributions. In the past he has felt that it has been the wish of the faculty to delegate this to the principal and he feels that it must be more

broadly shared.

Community Involvement

Because of the school's proximity to a higher education institution, there is an open exchange of students and faculty from this institution with the school. They volunteer as classroom tutors, make class presentations, and participate in discussions and debates surrounding contemporary political issues. They also support the school's Big Brother, Big Sister program. Otherwise, the school is fairly typical of a small town school in providing facilities for a wide range of child and adult activities.

PSA Impact

Status—Visited November 1985, conditional approval September 1989, and approved March 1992.

Financial

Additional costs included:

1. Adding new facilities in order to create additional space for classrooms, storage, library/media, art, 4-8 science lab, administration, and support services.

Curriculum

Recommended improvements included:

1. Emphasizing writing-across-the-curriculum in English.
2. Integrating computer literacy and calculator skills in math.
3. Requiring each student be involved in a science project by graduation.
4. Emphasizing more written expression in French and its coordination with English and social studies.
5. Establishing greater coordination of curriculum with feeder schools.

K-12 Usage

Some of elementary teachers spoke highly of the K-12 organization because it provides a mix of older and younger students. It also provides the opportunity for elementary students to be exposed to male teachers. The computer teacher spoke positively of the K-12 arrangement because it allows an opportunity for children to be exposed to computers before coming to the high school. He works very closely with the elementary teachers in providing technical assistance and curriculum advice. A biology high school teacher spoke positively of liking the K-12 arrangement and she encourages the elementary teachers to visit and observe her animal collection. She wished she had more time to plan activities with the elementary teachers. Other teachers expressed some disappointment that more was not made of the K-12 organization.

Eta School

Location

Eta School is a union school located on a main state road in an open area between the two towns that it serves. Between these two communities, there are nearly 3,000 residents. These communities are located in proximity to the state capital, thus many of its residents work in the various bureaucracies of state

government. This contributes to a bedroom-like community life style that is more typical of suburban communities. In addition, there are a number of residents whose children quality for free and reduced lunch subsidies. The demographics become one of contrasts between old-low income Vermont families and new college-educated professional class families.

Physical Facilities

Eta School is set back from the highway on a small knoll, providing a fair amount of open space around the school. The building itself is a one-story structure with various wings to accommodate the different levels of students and subjects. Eta School was originally a 7-12 school facility when it opened in 1969. However, this changed when a neighboring community's elementary school had to be closed and additional space was added to the high school facility in 1988. The school's enrollment is just below 500 students, with nearly half of these students in grades K-4. The elementary enrollments contrast sharply with grades 9-12, which serve only 110 students. The higher enrollment at the elementary level may pose some space problems as they work their way through the grades. Adding the elementary grades after the high school was in operation for some period of time has presented some problems in adapting the facilities. This is best observed in the library and its attempt to meet the needs of the K-12 spectrum, including space for elementary story time and study space for high schoolers. Plus, the library has had to give up limited space to a computer lab. Also, the French/Latin teacher does not have a room of her own and is forced to move from room to room with her teaching materials on a cart. On the other hand, the gymnasium and cafeteria are large, permitting ample space for the different levels of students. The halls are decorated extensively with children's art (replicas of different periods of art) as part of a Children's Art Museum. Generally the building was clean and well maintained.

School Climate

There was some tension in the building over equity and priorities given to different levels of the school. Some feelings were expressed over the dominance of the secondary program in setting priorities for the school and the focus on a number of changes at the middle school level. These efforts appear to take a great deal of the time of both principals leaving less time to attend to the elementary level needs. Also, teacher negotiations have not gone well and have entered into the fact-finding stage with a likelihood of going to arbitration. Some success has been made, however, in reducing noise and confusion in the corridors by going to a more self-contained middle level program.

Administrative Leadership

There are two fulltime administrators for the school who appear to share many of the administrative responsibilities. The principal has provided leadership in recognizing the special needs of students and the strengths of a K-12 arrangement. Some changes include moving to cross grading at the elementary level and more self-containment at the middle level. The middle level changes are attempts to move away from the traditional junior high structure and place more emphasis on the learner versus the subject matter. These changes have meant confronting some turf issues normally associated with a traditional junior-senior high school set up. For the middle level, study halls have been eliminated, core subjects identified and taught from 8:20 to 11:04 each day, and efforts are being made to involve parents more—including parent-teacher conferences.

Community Involvement

In part because of the school's isolation from either of the towns that it serves, this seems to limit community involvement. Except for the normal parent attendance at school-related functions the school

does not feel a close attachment to a "community" per se.

PSA Impact

Status—Visited fall 1986 and approved December 1991.

Financial

Additional costs included:

1. Hiring a fulltime certified nurse.
2. Hiring a library-media specialist.
3. Increasing library holdings and improving student traffic flow.

Curriculum

Recommended improvements included:

1. Developing goals, scope, and sequence K-12 for English, math, science, social studies, and communications skills.
2. Offering music instruction at least weekly in grades seven and eight.
3. Improving access to computers and incorporating computer literacy across the curriculum.
4. Increasing coordination between elementary and secondary school levels.

K-12 Usage

Current rivalries and greater attention to middle level changes have created some impediments to K-12 articulation. The special teachers in art and music have an appreciation for the K-12 spectrum, which affords them the opportunity to impact and observe growth and development over time. Other cooperation seems to be more episodic and voluntary in nature. For example, a science teacher indicated his interest in working with the elementary grades by offering to build an aquarium for the second grade and willingness to work with a child who seems to have a great deal of interest in science. Overall, there seems to be more of a climate of competition than cooperation.

Kappa School

Location

Kappa School is located a few miles from a medium-sized city in Southern Vermont. This community of about 2,500 people is made up mostly of blue collar workers who work for the companies and businesses located in the immediate area. The town is a bedroom-type community, but does have a long tradition as a community and seems to take pride in both the community and its school. The town has a number of service groups including Rotary, American Legion, and its auxiliary that are active school supporters.

Physical Facilities

The original building which is an impressive three-story facility with a marble walled exterior, was built in 1929. A second addition was added in 1971. Thus, the school is a mix of old and new and is facing

some tough decisions on meeting requirements to upgrade the old portions of the school. Major improvements are needed for compliance with fire and health requirements, ventilation, and temperature control (recently corrected). The school is experiencing some crowding in the lower grades, which has necessitated creating three classrooms of K/1 students. The school enrolls about 450 students, of which only 100 students are in grades 9-12. The school also has 35-40 tuition students. The multilevel nature of the school building seems to inhibit cross-grade and cross-level communications among teachers. A teachers' room is located on the third floor, but rarely do first floor teachers use it.

School Climate

The principals and teachers convey a friendly tone and seem to have a good rapport with their students. The students speak of the school's smallness and the ability to get to know everyone real well. A secondary teacher spoke of the school's smallness, as well, and the family-type atmosphere of the school. He was also praiseworthy of the K-12 organization of the school, which permits teachers to communicate with each other over student needs and progress. Personnel in the school feel appreciated and supported by the community.

Administrative Leadership

There are two principals in the school, one of whom is overall responsible but primarily works with the junior-senior high grades. The other principal is in charge of the elementary grades. Both are experienced administrators and have served in various administrative roles. They have supported some creative and leadership efforts of their teachers. For example, the school provides a humanities focus through the interdisciplinary team of theater, art, and home economic teachers. Two science teachers have been very active in the supervisory union in developing a K-12 science curriculum and providing inservice training for teachers. An effort is being made at developing a multiage program at the elementary level. In spite of the school's budget problems, these administrators seem committed to providing a good education for their students and looking for alternatives to make this possible.

Community Involvement

It appears the community is well aware of the school's financial and building plight. Various service organizations and booster clubs have provided funds or conducted fundraising efforts to supplement the school budget and to provide scholarship funds. For example, band uniforms were acquired in this manner. In return, the seniors perform voluntary work like raking leaves in the fall for elderly members of the community. The school is available at night for community and church groups.

PSA Impact

Status—Visited May 1988 and conditional approval September 1991

Financial

Additional costs included:

1. Providing building improvements.
2. Providing additional support services.
3. Purchasing additional curriculum materials.

4. Adding parttime staff.

Curriculum

Recommended improvements included:

1. Developing a K-12 scope and sequence for English, math, science, arts, and second language.
2. Doing research on citizen participation and developing a K-6 social studies curriculum.
3. Providing microcomputers and computer literacy prior to graduation.
4. Providing access to nonprint materials in the library and remaining open for the entire school day.

K-12 Usage

Efforts are being made to take advantage of the K-12 organization of the school. For example, older students act as aides and tutors for younger students and the secondary science program provides equipment and hands-on materials for the elementary level students. Generally, the interactions between older and younger students are seen as positive. On the other hand, some concerns were expressed about younger children riding on the school buses with older children and a smoking area for older students not providing the best role model. For the administration, the K-12 arrangement permits setting learning goals on a total school basis affecting all grade levels. For the administration, the three levels of elementary, middle, and secondary requires extra time and duplication in producing handbooks, policy development, handling curricula matters, and handling discipline cases.

Lambda School

Location

Lambda School is located just outside a small village of just over 1,000 people in the southern part of the state. The school sits on top of a small knoll, somewhat secluded in a forested area. A power company located within the school district's boundaries provides nearly half the tax monies to support the school's budget.

Physical Facilities

The architecture of the school is unique. The layout of the building is a one-floor plan with a common corridor connecting four six-sided pods and a gymnasium. Each of the pods are designated for specific classes and support services. One pod is devoted to the elementary grades (K-5), another for secondary grades (9-12), one pod is devoted to a science lab and industrial arts, and a fourth pod houses the cafeteria and art and living arts classrooms. The gymnasium juts out at the end of the main corridor and has its own lobby and entrance, permitting community use without having to enter and exit from the main building. In 1971, a library and office space were built and located between two pods and connected to the main corridor. Extensive use has been made of glass walls and glass bricks, some of which are being covered for energy saving and fire safety purposes. The glassed walls provide an easy opportunity to observe what is going on in the classrooms and halls. The rear of the school has a southerly orientation, which provides a great deal of natural light particularly on a sunny day. The school appears very clean and well maintained. The school's enrollment is approximately 260 pupils, 23 of whom are tuition students.

School Climate

There is a very friendly tone to the school and an openness to outsiders that is very comfortable.

Classrooms particularly in the elementary and middle grades reflect a great deal of purposeful activities. At varying locations in the corridors, the walls have been painted by students, approval for which is granted by the school board. There is no evidence of vandalism or graffiti in or around the school. A family-like atmosphere seems prevalent and felt by members of the staff. The school's secretary, who had been out with an injured shoulder, had returned to the school to be greeted by a large banner displayed in the classroom windows welcoming her back.

Administrative Leadership

The school employs one fulltime and one parttime administrator, and an additional person who is a fulltime classroom teacher helps coordinate the elementary grades for which she receives extra compensation. The principal covers the high school grades and the vice principal covers the middle level grades (6-8). Much of curriculum changes, improvements, and teacher inservice are planned and coordinated at the district level. The school and district take a slow and deliberate approach to changes. For example, it took 15 years for changes in business education. English/language arts, math, science, and social studies have gone through three revisions. Teacher inservice has three strands going simultaneously focusing on cooperative learning, gifted and talented students, and creative thinking. Teachers are expected to show competence in each of these areas.

Community Involvement

The parents are very supportive of the school, in spite of the fact that most parents must work to support their families. The community has a large percentage of older citizens, including many over 85. They are invited to school events and a grandparent program. A van is provided for their transportation. Teachers are also strong supporters of school/community functions. A recent Educational Fair had 100 percent of the teachers there and talent night and concerts draw 20 of 28 faculty to these events.

PSA Impact

Status—Visited April 1990 and conditional approval is pending.

Financial

Additional costs included:

1. Making building improvements including making the building handicap accessible.
2. Sharing costs on the EEE program.
3. Purchasing additional books for the library.
4. Renovating the kindergarten.
5. Facilitating curriculum development.
6. Providing resources for staff development.

Curriculum

Recommended improvements included:

1. Establishing better coordination with sending schools in English, math, science, social studies, and second language.

2. Providing a fully certified math teacher at the secondary level.

3. Developing a scope and sequence in drama, music, and dance.

4. Expanding library holdings and integrating library skills with other subjects.

5. Integrating computers with other subjects and ensuring computer literacy.

K-12 Usage

There exists a strong commitment and support for the K-12 organization of the school. The teachers and the principal talk of the value of the K-12 continuum and appreciating the development that takes place in students over time. The ability to observe these changes and to reassure students of potential changes is a consequence of the K-12 organization. The size further enhances establishing a close relationship with the students and their families and to share in the students' growth over time. The specialize areas of library, physical education, home economics, industrial arts, and music are a total school resource especially the elementary grades. High school students serve as aides in the primary grades and in the office. In fact, during the recuperation of the secretary, these aides filled in and kept the office operating very smoothly. The younger children are part of the older students' activities and support sports, K-12 events, and concerts. Some negatives were also expressed—part of which are due to size, including limited funds for extras like computer hardware and software greater breadth of curriculum, and extracurricular activities. Also, the kids have a limited set of peers with whom to interact although the school does participate in international exchanges including Spain.

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