

School Size Choices: Comparing Small and Large School Strengths

By Janet C. Fairman



In this article, Janet Fairman expands the discussion of school quality, suggesting that small schools have certain strengths compared to larger schools. Data from her study of small high schools in Maine, as well as research literature, suggest that compared to large schools, small schools allow for greater personal attention to students, have greater flexibility in scheduling, programming and instructional decisions, and often have stronger school-community connections that support student achievement and serve important community needs. Using quantitative measures of quality, Fairman notes that school size alone explains very little of the variation in 11th grade MEA scores, while on other measures there are only small differences based on school size. She suggests that as school systems are redesigned for greater cost efficiency, we should be mindful of the strengths of both small and large high schools and make these strengths part of all high schools, no matter their size. 🐉

Comparing the relative strengths and weaknesses of small and larger school systems is a difficult task.¹ Some things are easily quantified—test scores, graduation rates, and per-pupil spending, for example. Other aspects of school quality are not easily reduced to numbers. What we deem to be a high-quality education for students depends on our individual and community values and goals, and goes beyond the tangible outcomes of test scores. Schooling itself is a complex process, influenced by many different variables that cannot be fully specified or understood. Specifically, the local context in which schooling takes place (including a variety of socioeconomic factors), and the individuals working within school systems, have a tremendous impact on what and how things happen in schools.

Valid arguments can be made for either small or large schools, but there are no conclusive data that indicate one is consistently better than the other. As with many things, it all depends. As policymakers and the public debate what kind of schools we want and can afford in Maine, we need to consider the relative strengths of small and large schools, and design schools that meet the needs of the particular students and communities they serve.

CONTEXT OF THE CURRENT DEBATE

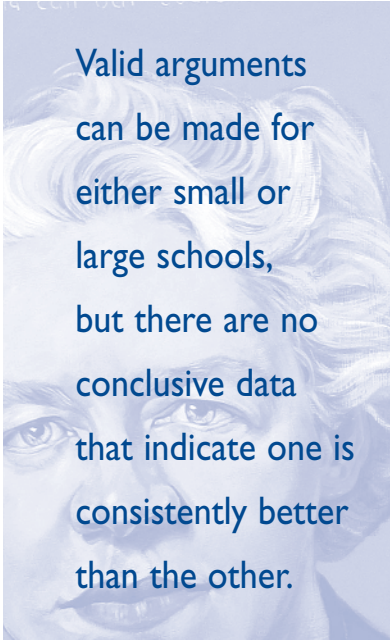
Along with the appropriate way to fund education, the need for greater efficiency and equity in education has been the subject of heated debate at both the state and local levels. Many argue that an over reliance on local property taxes hinders both the adequacy of funding for education and equitable opportunities for high quality in education (Trostel 2004; Vermont State Department of Education 1998). Moreover, it has been clear for some time that the rising costs of education and the perception of a high local property tax burden make numerous, very small school districts and schools unaffordable. Although both very small and very large schools tend to have diseconomies of scale that make them more costly per student, Maine has many very small schools, and only a few schools in the medium-to-large range. Further, the projected decline in school enrollments will serve to increase the cost per student for small schools, and

will make the closing of some schools likely.

Because of these factors, policymakers have recommended increased effort to regionalize administrative, service, and other educational costs to achieve greater efficiency, as well as the consolidation of smaller school systems. The recommended incentives for systems that regionalize or consolidate include financial and technical assistance (Task Force 2004). Many school systems have already explored cooperative agreements for purchasing supplies or providing bus transportation—sometimes with success and sometimes without success. For local taxpayers, streamlining administrative and other costs of education seems like an obvious choice. Certainly, few people would argue against eliminating administrative costs for school systems that no longer operate schools but tuition out their few students to other school systems. In these situations, it would seem more favorable for school systems to consolidate so that parents have a real voice in where their children attend school.

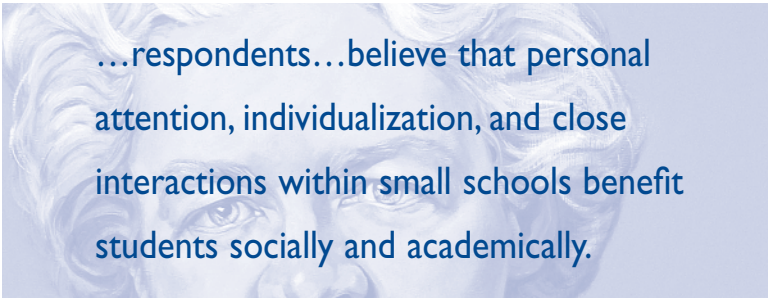
Choices about school funding, structure, and governance are related to many factors, including economic resources in the state, tax structure, job and transportation infrastructures, the state's geography and population densities, and lifestyle choices. At a state level, decisions to change the funding or structure of school systems must consider many different, interconnected areas of public policy at once, as well as the unique character of Maine. Given the geographic isolation of some communities, and the desire of many residents to live in rural or coastal areas, there are practical limits to school consolidation as well.

At the local level, debates about the pros and cons of consolidation go beyond predictions of potential "bottom line" cost savings, and center on quality of life issues. Values such as community identity, connectedness of school and community, individ-



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ualized or personal attention in schooling, and concerns about the sustainability of small communities have all supported a tradition of small community schools in Maine. These values continue to be very strong in the state. Further, perceptions about the benefits of small community schools have been validated by the findings of studies in Maine and other states, as discussed below.



...respondents...believe that personal attention, individualization, and close interactions within small schools benefit students socially and academically.

At a time when policymakers in Maine feel the need to create larger schools for greater efficiency, there are recommendations from national organizations and efforts across the nation to create smaller schools, or “schools within schools” (particularly for large high schools) in order to improve the level of meaningful interaction among students and between students and adults, and to create more personal, individualized programs that support students’ different needs (National Association of Secondary School Principals 2004). Studies of at-risk youth also emphasize the need for connectedness or a sense of belonging (Dynarski 2000; Levine 2002; Meier 2002). This article focuses on some additional research on small schools—particularly small high schools—in Maine.

SMALL SCHOOL STRENGTHS

A study of public high schools in Maine, conducted by the author in April 2003, analyzed quantitative data on school quality and performance, and qualitative data from telephone interviews with administrators and school guidance counselors, in order to obtain a comprehensive picture of how small schools compare with large schools. A sample of 23 high schools out

of the 95 grade 9-12 high schools was stratified by enrollment size, student poverty rate, and student achievement on the MEAs. Among other questions, respondents in schools with enrollments of less than 500 students were asked to describe how the small size of their school affected different aspects of their school (e.g., curriculum, climate, facilities, budget, and student achievement). Respondents discussed both the negative and positive aspects of small school size; interestingly, many of them had prior experience working in larger schools.

Among the strengths mentioned, respondents consistently emphasized the ability of small schools to provide a greater degree of personal attention to students in the classroom and in the school as a whole. Personal attention to students took many different forms. For example, respondents described many ways that small schools can individualize or customize the curriculum to meet students’ needs, because the average class size is smaller.² With fewer students in the classroom, teachers can spend more time working with each student and can develop individual learning plans to meet students’ needs, and students can learn at their own pace. An assistant superintendent explained, “teachers have a really good understanding of the kids they work with, due to the smaller class size. Students get lots of individual attention.” A principal said, “meeting students’ needs is much better with small schools, both in terms of the curriculum and helping them meet the Learning Results.” School administrators also said they had the flexibility to revise course offerings to meet changing needs from one year to the next. A principal stated, “I’ve asked students who went on to the university what they think, and they felt that the smallness of the school and the attention they got offset the lack of programs or AP courses.”

Respondents also stressed the importance of close personal interactions within small schools, and between the school and community, which create a climate where students, teachers, administrators and parents know each other well. A principal commented: “Teachers know all the kids and their parents. It’s closer knit, like family.” In small communities, many students attend school with the same group for several years. Administrators said students in their schools feel there

are adults in the school who know them well, and that students feel they can approach adults with problems or concerns. A superintendent said: “Students feel they can approach teachers and get a lot of support. They see their teachers as mentors.” And a principal said: “[on a recent survey], 75% of our kids here said they feel there’s someone they can go to if they have a problem.” Administrators valued the ability to know each student by name and to talk with students. A superintendent said: “It’s important to recognize every student you see in the hall.” A principal commented: “I worked in a high school with 900 kids and I felt that was too big. I know all the kids by name here. Education should be personalized.”

A persistent theme was the view that small schools are more likely to identify problems and intervene with at-risk students. “Teachers get to know kids. Fewer students slide through the cracks,” is a view repeated by many of the respondents. One principal described how his school was able to respond quickly to the needs of a student who had been kicked out of his home; other students became aware of the problem and sought help from the principal. Another principal described how he worked to convince a student to finish high school rather than quit school and help out with the family fishing business full time. Because of their smaller enrollments, small schools are able to set up advisor-advisee programs where small groups of students meet several times a week with a teacher-advisor to discuss social and academic goals. One principal explained: “Every kid has a personal learning goal. We’re on the way to meeting the Learning Requirements. This has only been possible with the advisory system, and would be harder to do in a large school.”

Clearly, the respondents in this study believe that personal attention, individualization, and close interactions within small schools benefit students socially and academically. Moreover, respondents feel they are more likely to identify students needing academic or other kinds of help than they would be in larger schools. These strengths are difficult to translate into numbers, but may be among the most important benefits of small schools for some students.

Beyond Maine, the benefits of small schools have drawn increased attention from researchers and policy-

makers. Some states are beginning to shift away from the historical trend of bigger schools and districts by revising their educational policies to support the development and maintenance of small schools.³

Besides evidence that smaller learning environments have positive impacts on student achievement, research also describes the importance of school-community connections, and suggests residents tend to be more actively involved in schools that are small than in schools that are large (Cotton 2001). The community’s involvement in a school benefits the school in different ways—through fundraising for special programs and needs, supporting teachers in the classroom and beyond, providing positive role models for students, and affirming the value of education for students. The school is an important part of a community’s identity, cohesion, and viability, particularly for rural communities (Peshkin 1978). School buildings serve as community centers when no other facilities might be available (Vermont State Department of Education 1998). Schools also can be a source of pride and loyalty. In more concrete terms, a school can increase local property values, encourage families to locate in a community, and increase the sales of local merchants and service contractors (Barkley et al. 1996; Petkovich et al. 1977; Sell et al. 1996). The relationship is reciprocal and benefits both parties.

There also has been an increased focus on the need to improve high school student achievement. The National Association of Secondary School Principals (NASSP) recently issued a revised report with recommendations for strategies to improve teaching, learning, and achievement at the high school level. The report acknowledges the importance of personalizing students’ educational experience. It states: “Although some students might be able to make it through four years of high school despite the lack of any personal connections, all students require a supportive environment—some more than others” (National Association of Secondary School Principals 2004). This statement supports the idea that a small school environment may be more critical for some students in supporting academic success.

The National Association of Secondary School Principals (NASSP) recommendations for strategies to

strengthen students' relationships with peers and teachers in high school include:

- creating small units in high schools;
- limiting a high school teacher's responsibility to no more than 90 students per term;
- developing a personal education plan for each student;
- providing an adult advocate for each student.

Recommendations for strategies to address individual students' needs include:

- allowing for flexible scheduling;
- allowing students to attend a public high school that best meets their needs;
- developing alternatives to tracking;
- using teaching strategies and environments that meet students' different learning needs;
- designing programs of study tailored to students' individual needs, including more off-campus learning (e.g., service learning, internships, vocational courses, college credit courses) (National Association of Secondary School Principals 2004, 5-6).

In Maine, and across the nation, schools face serious challenges in their efforts to help all students achieve at high levels, to encourage students to finish high school, and to identify and prevent depression, drug use, and suicide among youth. Designing schools that incorporate the strengths of small schools—including frequent, personal interactions and individualized learning plans—may serve to benefit not only at-risk students, but other groups of students as well.

SCHOOL QUALITY AND PERFORMANCE

School quality can also be described in quantifiable terms, including indicators of academic performance, curricula, physical facilities, safety, and other resources for learning.

Test Performance

Researchers have analyzed test scores by school size in Maine and in other states. So far, the evidence indicates that small schools perform quite favorably when compared with large schools, and perform better than expected given the high levels of poverty for the smallest schools (Fairman et al. 2003; Management Analysis and Planning Associates 1998; Vermont State Department of Education 1998).

In Maine, Maine Educational Assessment (MEA) scores generally increase slightly as the size of the school increases. However, the variation in test scores is quite large (as much as 20 points). Many small schools outperform large schools. School size is one predictor of MEA scores for the 4th grade and 11th grade MEAs, but has not been found to be a good predictor for 8th grade MEAs. Moreover, MEA scores increase only slightly when one compares average scores for small schools with average scores for larger schools. For example, the averaged 11th grade MEA school scale scores for schools with 750 pupils are only one to four points higher than for schools with 200 pupils, depending on which subject test is compared. As we noted in our study, and Trostel points out in his article in this issue, average 11th grade MEA scores decline as high school size increases beyond 800-1,000 students.

In our study, the highest average 11th grade MEA scores and the highest average percentage of students meeting or exceeding the performance standards for reading, math, and science were found in grade 9-12 schools in the 501-750 enrollment size (see Table 1). Average 11th grade MEA scores were lower in the 23 schools with different grade configurations. On average, these schools are much smaller than the grade 9-12 high schools, and also have higher levels of student poverty (see Table 2). Thus, including these schools in the analysis increases the size of the correlation between school size and MEAs.

School size alone explains only a small part of the variation in test scores. In Trostel's analysis (in this issue), MEA scores for one year were averaged across three subject tests (reading, writing, and math). Although school size and test scores were found to be correlated, school size only explained about 5% of the

TABLE 1: Descriptive Statistics, 11th grade MEAs, for 95 grade 9-12 High Schools, by Enrollment Size
(mean attending enrollment: 616)

	Enrollment Band					
	100 - 200 students	201 - 300 students	301 - 500 students	501 - 750 students	751 - 1,000 students	1,001 - 1,500 students
	Mean	Mean	Mean	Mean	Mean	Mean
2001 - 2002 secondary per-pupil cost	\$5,873	\$7,116	\$6,779	\$6,571	\$5,947	\$5,894
2001 - 2002 free-reduced lunch percent	44%	34%	24%	17%	16%	18%
2001 - 2002 drop out rate	2%	4%	4%	2%	2%	4%
2001 - 2002 graduation rate	87%	87%	85%	90%	89%	82%
Science 1999 - 2002 cumulative average scale score	526	526	527	529	527	527
Math 1999 - 2002 cumulative average scale score	525	526	527	530	527	528
Reading 1999 - 2002 cumulative average scale score	539	540	541	542	540	541
Science 1999 - 2002 - percent meet or exceed standards	8%	6%	8%	11%	9%	8%
Reading 1999 - 2002 - percent meet or exceed standards	44%	47%	50%	54%	49%	51%
Math 1999 - 2002 - percent meet or exceed standards	17%	16%	19%	25%	19%	21%

2001 - 2002 attending enrollment was used to create the enrollment bands.

variation in test scores for 11th grade MEAs and 2% of the variation for 4th grade MEAs. The correlation was not statistically significant for 8th grade MEAs. MEA scores seem to be correlated more strongly with socioeconomic factors (e.g., student poverty levels, median household income, and parents' educational levels) than with school size (Fairman et al. 2003; Thompson 1998). This finding indicates a need to better understand how a variety of socioeconomic factors, including community culture, influence academic goals and achievement. Changing school size alone will not address the persistent effects of poverty on student achievement.

Studies of school performance in other rural states also have found that small schools perform well in comparison with large schools. For example, a 1998

TABLE 2: Descriptive Statistics, 11th grade MEAs, for 23 Schools with Secondary Grades (K-12, 6-12, 7-12, or 8-12), by Enrollment Size
(mean attending grade 9-12 enrollment: 144)

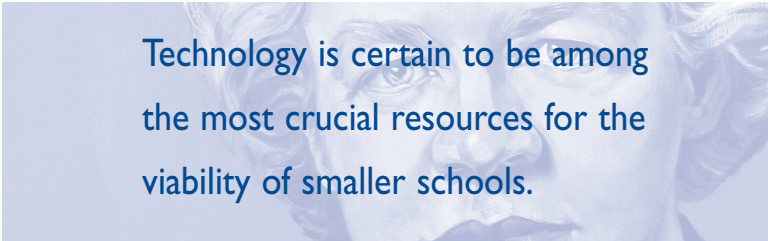
	Less than 100 students	100 - 199 students	200 or more students
	Mean	Mean	Mean
2001 - 2002 secondary per-pupil cost	\$9,161	\$7,016	\$6,914
2001 - 2002 free-reduced lunch percent	43%	48%	41%
2001 - 2002 drop out rate	1.7%	2.1%	2.4%
Science 1999 - 2002 cumulative average scale score	527	525	525
Math 1999 - 2002 cumulative average scale score	527	524	524
Reading 1999 - 2002 cumulative average scale score	540	538	538
Science 1999 - 2002 - percent meet or exceed standards	3%	5%	4%
Reading 1999 - 2002 - percent meet or exceed standards	46%	40%	42%
Math 1999 - 2002 - percent meet or exceed standards	19%	13%	12%

2001 - 2002 attending enrollment was used to create the enrollment bands.

study in Vermont concluded that students in the smallest Vermont schools did as well or better on state tests than did students in larger schools, despite lower income and education levels in the smaller communities

(Vermont State Department of Education 1998). A 1998 study of Wyoming high schools found that students in small schools outperformed state and national norms on standardized tests, and were admitted to state colleges at high rates. This study also found that small high schools in Wyoming had innovative ways to provide a rich curriculum and were flexible in their scheduling and programming (Management Analysis and Planning Associates 1998).

The available data from Maine and other states strongly suggest that small schools, with their small class size and individual attention, tend to minimize the impact of socioeconomic factors that typically lower students' academic achievement, resulting in higher than expected achievement in these schools (Howley et al. 1999; Johnson et al. 2002).



Technology is certain to be among the most crucial resources for the viability of smaller schools.

Other Achievement Indicators

Besides test scores, other indicators of school performance and student achievement include: graduation rates, dropout rates, and the percentage of students going to post-secondary school education. In the author's study of 95 grade 9-12 high schools in Maine, there were only small differences observed in these indicators across six enrollment bands. The graduation rate for high schools with 500 or fewer pupils was two to five percentage points lower on average than for schools with 501-750 or 751-1,000 pupils, but was higher than for schools with over 1,000 pupils. The dropout rate was two percentage points higher on average in schools with 201-500 pupils than for schools with 501-1,000 or with fewer than 200 pupils (see Table 1). In the sample of 23 high schools in our study, small schools reported the same or higher percentages of students going on to post-secondary education.

Studies in other states and nationally have found higher graduation rates, higher rates of post-secondary school attendance, and lower dropout rates in small high schools compared with large high schools (Funk et al. 1999; U.S. Department of Education 2001)

Instructional Quality

It is important to look beyond test scores, graduation rates, and dropout rates to get a full understanding of school quality. A key factor is the quality of instruction and learning that takes place in schools.

Unfortunately, we don't have adequate data to compare schools of different size at this level. There are some survey data available (from students, teachers, and principals), but the reliability of self-reported or second-hand-reported instructional practices is not high. Even if a survey had a high response rate from a large percentage of the schools in the state, it would still be difficult to generalize the findings to all schools in the state.

One might expect a higher level of quality in classroom instruction from larger schools, given that larger schools have, on average, a higher percentage of teachers with advanced degrees (Trostel 2004). Yet there remains considerable variation in teaching quality and learning opportunities within and across schools. The small differences observed in average test scores between small and large schools in Maine seem to indicate that factors other than teacher education level help small schools perform well. We don't have adequate data to compare the quality of courses, textbooks, instructional strategies, or the quality of students' learning activities across schools of different size in Maine. A comprehensive evaluation of instructional quality entails time-consuming (and costly) study of the instructional materials used in classrooms, classroom observations, and interviews.

Curriculum

A comparison of graduation requirements across the sample of 23 Maine high schools in our study revealed little difference between small and large schools, with small schools sometimes requiring slightly more credits or years of math and science, on average, than medium- to large-sized schools (751-1,000 pupils).

In curriculum, large schools have an advantage over small schools in that they have enough staff and students to offer a larger number and variety of courses, including advanced courses, and extracurricular and cocurricular offerings. Yet as our study found, small schools are finding ways to offer students advanced coursework. Many of the small schools have formed cooperative agreements with neighboring schools and districts to “swap” courses via the ATM or ITV systems.⁴ Schools also allow flexibility in their scheduling so students can take college courses. Several of the small schools in this study had students taking advanced courses over the Internet with universities, such as advanced math or science courses.

The state’s laptop computer initiative has drastically reduced the isolation of small, rural schools. Teachers and students can access information, people, and institutions around the world through the Internet and electronic mail. The potential for technology to improve the breadth and depth of school curricula has not yet been fully explored, particularly at the high school level. Technology also can be an efficient way to provide professional development opportunities to educators in more isolated areas. Technology is certain to be among the most critical resources for the viability of smaller schools.

The impact of budget cuts has been particularly devastating in some areas of the curriculum for small schools. For elementary schools, music and art programs have been reduced or eliminated in many small schools. At the high school level, industrial arts, business education, and other electives have been reduced or eliminated in some small schools, and sports programs have been reduced. According to administrators interviewed in our study, reductions in these kinds of curriculum offerings may disproportionately impact at-risk students.

Facilities and Learning Resources

School facilities are another area where large schools have an advantage over small schools. In our sample of 23 high schools, even the smallest had school libraries, gyms, computer labs, science labs, industrial arts facilities, and outdoor playing fields. On average, the smallest high schools did not have

separate auditoriums, outdoor tracks, or tennis courts.

Computer and library resources are critical for student learning. While smaller schools have a smaller total number of computers and library book titles, fewer students have to share these resources, resulting in better ratios in smaller schools. When these resources were compared for the sample of 23 high schools, the smallest (500 or fewer pupils) had almost half the number of students sharing one computer than did larger schools (501-1,000 pupils). Small schools had 1.9-3.2 times more library book titles per student than did large schools. Technology does make it possible for schools of any size to obtain textbooks, novels, poetry, non-fiction, assessment materials, databases, and other information resources via the Internet. However, our study did not collect information about the age or quality of computer and library resources, and this may be an area where there are differences between small and large high schools.

School Climate and Safety

Studies comparing small and large schools have generally found less crime, violence, theft, and fighting in smaller schools (Cotton et al. 2001; U.S. Department of Education 1999). In an era of escalating incidence of school violence (sometimes even in very early grades), it is important to structure our schools and classrooms in ways that increase opportunities for children to develop trusting relationships with caring adults, and that allow educators the chance to get to know students and become aware of potential problems. Schools that limit the number of students within a teacher’s responsibility, and form structures for real conversation between teachers and students (e.g., the advisor-advisee programs), may promote positive school climate and school safety.

SCHOOL COSTS

Evaluating the cost to educate students requires that we look not only at district average per-pupil costs but also at costs on a school-by-school basis. There is considerable variation in per-pupil costs across schools of all sizes. We also need to better understand the variation in costs for different components of educa-

tion, such as in transportation. Some of this work is being done now, and will inform the state's decisions on funding under the Essential Programs and Services model. Understanding how some small schools can perform well while maintaining lower than average costs would be helpful.

In addition to looking at comparisons in school spending, we need more information on the actual impacts of school consolidation efforts in Maine and in other states that are similar to Maine. Specifically, we need to know: (1) What are the fiscal impacts? And what are the hidden costs? (2) What are the social impacts on students, teachers, and communities? (3) What are the educational impacts on student achievement? (4) What lessons can we learn from examples of both successful and less successful consolidation efforts?

Transportation cost is one issue for school consolidation. According to one study, the cost to bus rural students is more than twice the cost to bus urban students, and almost 50% more than the cost to bus suburban students (Killeen et al. 2000). Busing students out of town to consolidated or regional schools could increase both transportation costs and the time students spend on school buses.

Some researchers have taken a closer look at the cost to construct schools. In one study, researchers compared school construction costs and found that small schools can be built at a lower cost per student or per square foot than large schools (Lawrence et al. 2002). Other researchers have noted the generally poor quality of construction of post World War II school buildings, and the lack of proper maintenance due to budget reduction efforts. The result is a generation of school buildings that were not designed to last and will need to be replaced at an increasing rate. Designing and building schools to last, and spending the money needed for maintenance, would seem to be more cost efficient over the long term than replacing schools every 40-50 years (Hansen 1992; Lawrence et al. 2002).

BUILDING ON LARGE AND SMALL SCHOOL STRENGTHS

Overall, medium-to-large schools appear to have an advantage over small schools in terms of their

per-pupil costs, breadth of curricular offerings, facilities, and teacher education levels. The evidence on student achievement is inconclusive. In Maine, medium-to-large schools have, on average, somewhat higher MEA scores than small schools. Medium-to-large high schools have, on average, somewhat higher graduation rates than small ones. On the other hand, very small and medium-to-large high schools in Maine have lower dropout rates than small or very large high schools—although the differences are small. Studies in other states have found higher graduation rates, higher post-secondary school attendance, and lower dropout rates for small high schools compared to large high schools.

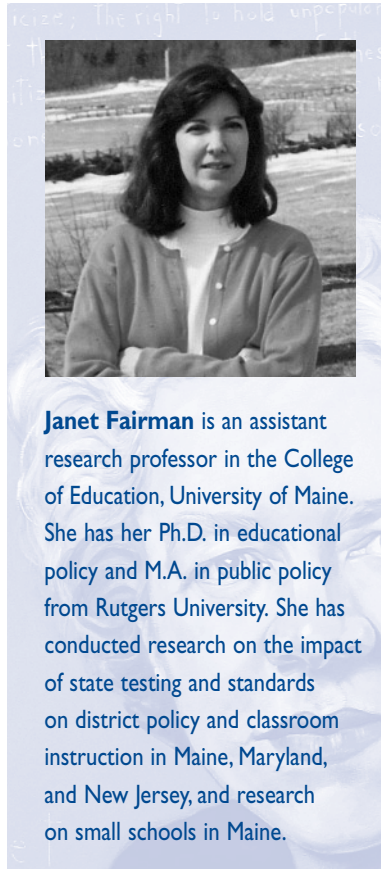
Small schools have an advantage in their flexibility over scheduling, programming, and instructional decisions, and may allow for a greater degree of personalization and individualization in students' learning experience. The small class size and close interaction of students with staff in small schools may be an important factor in keeping the dropout rate low, and in helping students to overcome a variety of problems that interfere with learning. Small schools appear to minimize the effects of socioeconomic factors that typically lower academic achievement, thus resulting in higher achievement than would be expected. National data show that small schools have less violence and crime than large schools.

Further, one cannot dismiss the importance of the community-school connections that support students' achievement and serve important needs of the community. The involvement of parents and other community members in schools serves to strengthen schools and student achievement. Schools must continue to find ways to engage parents and the larger community.

What seems clear is that small schools perform very well in comparison to large schools, and that both small and large schools have important strengths we value. Economic costs alone will not determine choices over school size and structure. Choices also will be influenced by geography, lifestyle choices, community needs and values, and the particular needs of students. As we redesign schools for greater cost efficiency, we need to make sure that sufficient structures and supports are built into school systems to meet the needs of communities and students. If making schools bigger

or consolidating students from diverse communities results in higher dropout rates for at-risk students, then the social and economic costs associated with higher dropout rates will not offset the cost savings. Likewise, the alienation of some parents from bigger schools will not serve the interests of schools, parents, students, or communities.

As we redesign school systems for greater cost-efficiency, we should try to make the strengths of both small and large high schools a part of all high schools, no matter their size. Coupled with adequate funding to support improvements in teaching and learning, we should be able to continue the strong tradition in Maine of helping all students perform at higher levels. 🐟



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ENDNOTES

1. Unless otherwise noted, all data and interview excerpts cited in this paper are from the report, *Research on Small Schools* (Fairman et al. 2003). The views expressed in this article reflect my own and not those of any institution with which I am affiliated.
2. Sample schools with 500 or fewer pupils had an average class size of 13-16 pupils, while larger schools averaged 19-22 pupils. The total school staff-to-student ratio was fairly consistent across all size schools in the sample.
3. For example, Florida passed legislation limiting school enrollment size for future school construction (Florida Department of Education 2000). Vermont found that small schools add value “to student learning and the community cohesion” and increased funding for small schools (Vermont State Department of Education 1998). Maryland considered legislation to support the renovation of small schools (Maryland General Assembly 2001).
4. The “asynchronous transfer mode” system (ATM) is a broadband fiber-optic networking system that provides the necessary bandwidth capacity to carry real-time interactive voice, video, and data over telephone networks. The system links high school classrooms and other sites across the state. “ITV” is the interactive television system, which has sites set up in some high schools.

Please turn the page for references.

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