What's So Big About Small Schools?
The Case for Small Schools: Nationwide and in North Dakota

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Abstract: A growing body of evidence points to the *size* of schools as a significant determining factor in academic achievement. Large schools are often far less successful at educating students than small schools. This paper shall first examine the data which support this claim and the reasons why small schools might work better. Finally, our conclusions will be applied to North Dakota small schools, which have been under pressure from state government to dissolve and consolidate. Academic achievement data will be analyzed to show that ND small schools in fact outperform ND large schools.

A hundred years ago, the average American student was far more likely to attend a one-room schoolhouse than one of the large, comprehensive high schools which have become so familiar to us today. Indeed, a hundred years ago, the average American student would not have attended high school at all: the vast majority of students only attended school at most through the eighth grade. As Thomas Toch reports, only about 10 percent of American students attended high school in the years leading up to the turn of the century.[1] By 1910, that figure had risen slightly, but it still remained at a mere 35 percent.[2] Today, this figure may seem shocking, but it was not considered so at the time. High school was largely meant to be a preparation for college, and as only about 4 percent of all students would go on to attend college, this was not seen as a pressing problem.[3] It was not long, however, before changes came to the American educational system. Progressive-era reforms had a great impact: first, the vigorous campaign against child labor made it more difficult for teenagers to find adequate employment and thus more common to stay in school; second, reformers like Ellwood Cubberley and John Dewey stressed the importance of education for all, regardless of one's intent to attend college or enter one of the professions. As a result, it became necessary to find some way of educating vast new numbers of students, not all of whom could be assumed to need or

[1] Toch, *High Schools on a Human Scale,* p. 2.
[2] Conant, *The American High School Today,* p. 6.
[3] Ibid., p. 6.

desire a college-preparatory education. The "comprehensive" high school was thus born: influential educators recommended that schools be constructed on a large scale, with the capacity to house hundreds or even thousands of students, and with the ability to meet the wide variety of its students' educational needs. James Conant, in several studies supported by the Carnegie Foundation, reasserted the virtues of the comprehensive high school. His 1959 book, *The American High School Today*, particularly singled out "the elimination of the small high school" as a "top priority."[4] And so it was, then, that numerous small schools were shut down; their school districts subsumed into new, larger, and more "efficient" districts, and a great many shiny new "comprehensive" high schools were built to take their place. In 1920, there were 271,000 public schools in the United States; by the late 1980s, there were only 83,000. The number of school districts also declined dramatically, by approximately 90 percent. These numbers are made even more significant by the large increases in population that occurred during this time: from 1920 to 1990, the U.S. population more than doubled, from 106 to 248.7 million citizens. Most of this consolidation occurred during the years 1930 to 1970, during which average daily attendance rose from 87 to 440 students; since that time, the number of schools and districts has largely leveled off.[5] Due to these rapid, nationwide changes, about 60 percent of American high school students today attend schools with enrollments of over 1,000 students.[6]

But while the construction of large, comprehensive high schools continues largely unabated, the justification for doing so has essentially disappeared. A growing body of data now shows clearly that small schools, by nearly all significant measurements,

[4] Conant, p. 37.
[5] Berry, "School Inflation," *Education Next*, fall 2004, p. 56-58.

outperform large schools. Students in small schools perform better academically, graduate at higher levels, are more likely to attend college, and earn higher salaries later on in life. They participate more in extracurricular activities, have better rates of attendance, report greater positive attitudes towards learning, and are less likely to face school-related crime and violence. Their teachers report greater job satisfaction, and are more likely to feel as if they are succeeding in their work. Their administrators and teachers are often more able to identify problems, respond innovatively and effectively, and adapt to change. Their parents and relatives are more likely to become involved in the school. Small schools are often characterized by personalized attention, curriculum integration and specialization, relational trust and respect, a student sense of belonging, a strong positive ethos, greater accountability, and a sense of communal mission. The towns and neighborhoods in which small schools are found also benefit, by providing a central meeting place and source of activity, building community ties and relationships, enhancing the democratic process through mutual goal-setting and decision-making, providing added economic activity, and acting as a source for community pride and identity. These findings have been confirmed by numerous studies, and have drawn the attention and support of influential educators and foundations, most notably the Bill and Melinda Gates Foundation, which in 2000 committed $350 million towards the transformation of large, comprehensive high schools into smaller, more effective learning communities. As researcher Mary Anne Raywid concluded, there now exists enough "reliable evidence of the positive effects of small school size of student success," and conversely, the "devastating effects of large size on substantial numbers of youngsters,"

[6] Toch, p. 5.

that it has become "morally questionable not to act upon it." School size, as Raywid points out, may in fact be the "ultimate educational issue."[7]

Much time has been spent in America discussing educational policy matters such as curriculum reform, school funding, class size, testing, accountability, choice, and so on. This paper does not dispute the importance of such reforms; indeed, many of them are necessary, and have even shown great promise. This paper shall contend, however, that few of them will work properly without first changing drastically the nature of schools themselves. As Kathleen Cotton writes, "small size alone is certainly not enough… to improve the quality of schooling. What small size does is to provide an optimal setting for high-quality schooling to take place. It facilitates the use of organizational arrangements and instructional methods that lead to a more positive school climate and higher student learning."[8] This paper shall first examine the data which support the claim that small schools work better, and then shall provide reasons why this might be so. Second, conclusions from these studies shall be applied to small schools in North Dakota, which have recently been under pressure to dissolve and consolidate. Academic achievement data will be analyzed to show that ND small schools in fact outperform ND large schools. In brief, this paper shall conclude that small schools are more effective than large schools, and shall recommend that in light of this conclusion, ND state policy be constructed in such a way as to preserve small schools whenever reasonably possible.

The Case for Large Schools

[7] Raywid, "Small Schools: A Reform That Works," *Educational Leadership*, 55 (4), p. 34-39.
[8] Cotton, "New Small Learning Communities: Findings from Recent Literature," Northwest Regional Educational Laboratory, School Improvement Program.

A proper understanding of the case for small schools can only be had in light of the case for large schools, which was made by educational reformers like Ellwood Cubberley and James Conant, and which has now been the prevailing traditional wisdom in the United States for nearly a century. A hundred years ago, when this policy first began to be advocated, the world of industry was highly influenced by what was known as the "scientific industrial management" model of manufacturing.[9] Techniques to improve efficiency were transforming American industry, exemplified by Henry Ford's revolutionary assembly-line system of mass production. These ideas filtered into the work of education reformers, who believed that the modern American school should be constructed with no less efficiency than the modern American factory. As Ellwood Cubberley, dean of Stanford's school of education, wrote in 1916:

> Our schools are, in a sense, factories in which the raw products (children) are to be shaped and fashioned into products to meet the various demands of life. The specifications for manufacturing come from the demands of the twentieth century civilization, and it is the business of the school to build its pupils to the specifications laid down. This demands good tools, specialized machinery, continuous measurement of production to see if it is according to specification, the elimination of waste in manufacture, and a large variety in the output.[10]

School size was important, according to Cubberley, just as factory size was important: it improved efficiency and economies of scale. Cubberley believed that large schools were better than small schools for three principal reasons: first, they reduced the ratio of administrators to teachers, thus cutting costs; second, they provided more adequately specialized instruction; third, they took advantage of large facilities to reduce overall expenditures.[11]

[9] Clinchy, p. 7.
[10] Ibid., p. 7-8.
[11] Berry, p. 58.

Likewise, James Conant, the esteemed former president of Harvard and ambassador to Germany, believed strongly in the virtues of large schools, and in fact believed "the elimination of the small high school" to be a "top priority" in the improvement of American education, as he wrote in his influential 1959 book, *The American High School Today*.[12] Central for Conant was the notion that the comprehensive high school was a uniquely American institution, tied closely to the American ideals of equality of opportunity and status. Conant saw the American system as standing in sharp contrast to the European system, which separated students (often along class lines) into separate schools often as early as age ten or eleven, and in which no more than 20 percent of students were allowed to take college preparatory courses. Conant defined the American "comprehensive high school" as a "high school whose programs correspond to the educational needs of *all* the youth of the community." This, for Conant, meant the provision of both a "variety of vocational programs" and "programs for those who have high academic ability."[13] Conant was particularly concerned that high schools were not providing an adequate education for talented students: "In all but a few of the schools I visited," he wrote, "the majority of the bright boys and girls were not working hard enough."[14] Beginning from these quite admirable premises, Conant went on to argue that only large schools could "achieve the economies of scale necessary to supply students with the range of courses required by their diverse educational needs."[15] Small schools, he believed, would tend to either provide academic courses that did not fit the needs of those students who were not college-bound, or would

[12] Conant, p. 37.
[13] Ibid., p. 12-13.
[14] Ibid., p. 23.
[15] Toch. p. 4.

instead provide a slate of elementary and vocational courses that would not properly challenge academically talented students for whom college was an option. As a result, he believed small high schools to be "satisfactory only at exorbitant expense."[16] His conclusion, then, was that small high schools should be consolidated into larger, more efficient schools able to meet the educational needs of all American students:

> In many states, the number one problem is the elimination of the small high school by district reorganization… citizens who wish to improve public education might well devote their energies to mobilizing opinion in behalf of district reorganization directed toward the reduction of the number of small high schools.[17]

To be fair, Conant did not specifically advocate the creation of megaschools with enrollments of over a thousand students: he defined "small high schools" as those with enrollments of under one hundred students. As Toch points out, however, his rhetoric "led educators to think in terms of vastly larger secondary schools."[18] And as Conant did not choose to examine whether academic achievement was affected by school size, he provided no warning against creating schools that were too large. Conant's advice was taken by many in the educational community, and the trend towards the construction of large, comprehensive high schools that had begun during the Progressive era continued on with renewed vigor. Many educators today still use Cubberley and Conant's arguments in favor of the large-school status quo, defending the idea that large schools provide more resources to students more efficiently at lower cost, and are thus preferable to small schools. Their arguments, however, were wrong then, and they are wrong now.

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[16] Conant, p. 37.
[17] Ibid., p. 38.
[18] Toch, p. 5.

"Large schools," wrote Deborah Meier, "neither nourish the spirit nor educate the mind… What big schools do is remind most of us that we don't count for a lot."[19] Beginning in the early 1980's, researchers began to point to large schools as a serious problem in American education. Ernest Boyer in *High School: A Report on Secondary Education in America,* John Goodlad in *A Place Called School,* and Theodore Sizer in *Horace's Compromise* all described the too-large size of many high schools as creating an impersonal and uncaring atmosphere which was detrimental to a positive learning environment.[20] Deborah Meier and other educators in East Harlem's District 4, quite desperate to do something to improve the abysmal condition of their district's public schools, decided to replace many of their overlarge and failing schools with new small schools, often in the very same buildings. Their successes were quite remarkable. Deborah Meier's first venture, the Central Park East schools, proved to be a catalyst for change both in New York and in other areas of the country. Her 1995 book, *The Power of Their Ideas: Lessons for America from a Small School in Harlem,* described her efforts. The Central Park East Secondary School (CPESS), which was modeled after Meier's small Central Park East elementary schools, opened in 1985 with 80 seventh-graders and today educates 450 students in grades 7-12.[21] Since then, Meier writes, over 95 percent of CPESS students have received their diplomas, and 90 percent of those students went on to attend college—stunning figures for a public school system in which the citywide graduation rate averages only 50 percent. Moreover, this remarkable achievement was accomplished with a student body in which a majority of students were

[19] *Targeted Literature Review*, Bill and Melinda Gates Foundation, 11 October 2001.
[20] Toch, p. 11.
[21] Meier, *The Power of Their Ideas,* p. 30.

African-American or Latino, and usually low-income or poor.[22] Meier was able to achieve similar results with Julia Richman High School, which had been classified by the state of New York as a "failing school" for 14 years running, and was plagued by low graduation and attendance rates and high levels of violence and vandalism. Meier and her colleagues transformed Julia Richman into six autonomous small schools, housed in the same old building. The transition period was not without its difficulties, but it met with great success: instead of one failing school which graduated fewer than 10 percent of its students and was troubled by violence, the Julia Richman Education Complex is now six remarkably successful schools which boast graduation rates of nearly 90 percent, a very large number of students who go on to attend college, and have no violence or disciplinary problems to speak of.[23] And smallness allows the new Julia Richman schools to innovate in ways that would have been nearly impossible before the break-up: one of the schools, Manhattan International, is reserved exclusively for recent immigrants with limited English skills. Another, Urban Academy, targets "second-chance" students who have faced disciplinary problems at other schools, and a third, Talent Unlimited, prides itself on its fine arts, music, and performance programs. Both students and teachers report a sense of belonging and community that is, sadly, all too often absent in larger comprehensive high schools: as one Urban Academy teacher puts it, Julia Richman schools "give kids a home."[24] Even some of the drawbacks that one might associate with small schools, like the inability to provide certain extracurricular activities or courses, are ameliorated by the Julia Richman schools' ability to band together when necessary: for high school sports, for example, the schools all compete together as the Julia Richman

[22] Meier, p. 16.
[23] Cook, Ann. "The Transformation of One Large Urban High School." Ed. Clinchy, p. 117.

Education Complex. Perhaps the most important element of the success of Central Park East and Julia Richman is simply the fact that students and teachers *know* one another: instead of being cogs in a large, impersonal bureaucratic machine, teachers and students at Meier's schools know each other by name, and often form close relationships with one another. "Above all," Meier writes,

> Small schools mean we can get to know a student's work, the way he or she thinks… This close knowledge helps us demand more of them; we can be tougher without being insensitive and humiliating. It also means we know their moods and styles—whom to touch in a comforting way and whom to offer distance and space in times of stress. It means that every school feels responsible for every kid and has insights that when shared can open up a seemingly intractable situation to new possibilities.[25]

For her work, Deborah Meier won a MacArthur Fellowship, and her books and articles have influenced educators both in New York and nationwide. New schools modeled after her Central Park East and Julia Richman schools are slowly becoming more common, especially in New York, even if they are far from becoming the norm anytime soon.

But impressive as Meier's results are, they alone do not provide conclusive evidence that small schools are in some way inherently better or possess more potential to educate effectively than large schools. They are, after all, only one example of success, and one swallow does not a summer make. The history of education reform is filled with remarkable success stories that have spawned books, workshops, seminars, energetic reform efforts, and precious few results. In order to be truly convincing, small-school successes would have to be shown to be both replicable and widespread. Indeed, "until recently," writes Mary Anne Raywid, "much of the evidence cited in support of small schools consisted of case studies of particular instances—the sort of evidence that

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[24] Toch, p. 26.
[25] Meier, p. 111.

skeptics could dismiss as unreliable or atypical."[26] But a growing body of evidence now can be cited in favor of the small-school movement: as Raywid writes, quantitative studies have "firmly established small schools as more productive and effective than larger ones… with a clarity and at a level of confidence rare in the annals of education research."[27]

One of those studies was conducted by Christopher Berry, while a postdoctoral fellow at Harvard University's Program on Education Policy and Governance. As Berry wrote in the fall 2004 issue of *Education Next*, "Small schools, once derided as relics of the education system and obstacles to national progress, now lie at the heart of one of America's most popular reform strategies… yet there has not been enough rigorous research examining the effects of school size on student achievement."[28] Berry chose to examine the labor-market value of a year of schooling, comparing the value of a year spent in a small school to a year spent in a large school. To do so, as Berry wrote, he "estimated the increase in wages that can be attributed to an additional year of schooling for workers born in each of the 48 mainland states during the 1920s, 1930s, and 1940s… Second, I examined the relationship between the increase in wages associated with an additional year of schooling and the average size of a state's schools." In the first stage of his analysis, Berry controlled for "a variety of factors that could affect wages, such as labor-market experience, marital status, and residence in a large city." In the second stage of the analysis, Berry accounted for factors which may effect the value of each state's education, such as "average district size; student-teacher ratio; length of the school term; teachers' wages (measured relative to average wages in the state); and the state

[26] Raywid, "Small Schools: A Reform That Works," *Educational Leadership*, 55 (4), p. 34-39.
[27] Raywid, "Current Literature on Small Schools," *ERIC Digest*, Jan. 1999.

government's share of funding for public education." After controlling for the above factors, Berry found that students who had attended smaller schools received substantially larger salaries than students who had attended larger schools. "Increasing a state's average school size," wrote Berry, "was associated with a decline of one-third of a standard deviation in the rate of return to education for students educated there. In plain English… a 3.7 percent decline in earnings for a high school graduate." Berry's findings are not above reproach—a skeptic may well charge that, since Berry did not examine any data more recent than 1966, his study has somewhat less relevance for students of today. Years ago, it may well have been possible for students to receive an adequate education in small schools, but that may not be as true today, given the rapid advances in science and information technology—small schools may not have the resources available to provide today's students with the necessary tools to survive in today's technology-driven labor market. It must be remembered, however, that such arguments were made by Cubberley and Conant as well, who thought that small schools would not be able to adequately equip students for the needs of the newly industrialized and quickly advancing labor market. Berry's study shows their arguments ultimately to be false, as small schools in fact educated their students, it appears, even more adeptly for the labor market than did large schools. If Cubberley and Conant's arguments were false 100 and 50 years ago, there is reason to doubt such arguments today. While more evidence is needed to definitively show the superiority of small schools to large, Berry's study serves to buttress quite strongly the arguments of the small-school movement.

And if more evidence is needed, there is more evidence to be had. Raywid writes that "the large-scale quantitative studies of the late 1980s and early 1990s… firmly

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[28] Berry, p. 56-58.

established small schools as more productive and effective than large ones."[29] Raywid cites several of these studies: a 1995 study (Lee and Smith) which examined academic performance in nearly 12,000 students from 800 U.S. high schools found that "students learn more and better in small schools." Several other studies examining academic performance have confirmed this finding, including a 1994 study of 20,000 students in the Philadelphia public school system (McMullan et. al.), a 1993 survey of 13,000 Alaskan public school students (Huang and Howley), and others that have examined all public school scores in a particular state (Fowler 1989, Heck and Mayor 1993).[30] These findings hold true for all grade levels, and become even more important as students get older (Mosteller 1995). A 1994 study (McMullan, Sipe, and Wolf) found that "students make more rapid progress toward graduation." Refuting one of the central justifications made for large schools, researchers at NYU have discovered that small high schools actually spend less money per graduate than large high schools, making them more economically efficient.[31] In 1987, a study found that students in small schools report greater satisfaction than those in large schools, and drop out with less frequency (Pittman and Haughwout). Significantly, disadvantaged students appear to take particular advantage of small schools, perhaps because of the personalized attention they are able to offer (Lee and Smith, 1995; Oxley and McCabe 1990; Wehlage et al. 1987). School size, as one researcher noted, "exerts a unique influence on students' academic achievement, with a strong negative relationship linking the two: the larger the school, the lower the students' achievement levels (Howley, 1994)."[32] Kathleen Cotton, a researcher at the

[29] Raywid, "Current Literature on Small Schools," *ERIC Digest*, Jan. 1999.
[30] Raywid, "Small Schools: A Reform That Works," *Educational Leadership*, 55 (4), p. 34-39.
[31] Toch, p. 10. The remainder of these studies are cited by Mary Anne Raywid.
[32] Raywid, "Current Literature on Small Schools," *ERIC Digest*, Jan. 1999.

Northwest Regional Educational Laboratory, says that "the jury's no longer out" on small schools.[33] Study after study has shown the positive effects of smallness on academic achievement, and coupled with Berry's data showing the positive effects of small schools in terms of the labor-market value of education, the case for small schools has been quite powerfully made indeed. Deborah Meier's schools in East Harlem, and other small school success stories like hers, were not aberrations—a large part of their success can now safely be attributed to their small size.

"Having now built a strong quantitative case for the benefits of small schools," Raywid writes, "more recent literature has moved on to other things."[34] One of the topics currently being considered is the optimal size of schools—while most researchers agree that small schools are best, it is not clear how small they should be. Deborah Meier's Central Park East Secondary School caps its enrollment at 450 students, but as Meier writes, "we feel our enrollment… is actually too big. It requires more subdivisions than is ideal."[35] The optimal enrollment for CPESS, Meier believes, would be closer to 350; she recommends that most schools should be reduced to a size of about 300-400 students.[36] A 2002 report, commissioned by the Rural School and Community Trust, found that the upper limit of effective high schools was an enrollment of 300 students, and stressed that it is very difficult for *any* school to be too small, if it is provided with adequate resources and teachers.[37] Others place the upper limit somewhat higher: the Cross City Campaign for Urban School Reform, for example, recommends capping high

[33] Boss, Suzie. "Big Lessons on a Small Scale." *Northwest Education Magazine,* 6 (2).
[34] Raywid, "Current Literature on Small Schools," *ERIC Digest,* Jan. 1999.
[35] Meier, *The Power of Their Ideas,* p. 53.
[36] Meier, "The Big Benefits of Smallness," *Educational Leadership,* 54 (1), p. 12-15.
[37] *Dollars and Sense: The Cost Effectiveness of Small Schools.* The Rural School and Community Trust, 2002.

school enrollment at 500 students.[38] Kathleen Cotton, in a synthesis of small-school literature, writes that although "a few put the maximum at 500 students, most assert that an upward limit of 400 is best. Others note that the size of the most successful urban high schools is smaller still, with enrollments closer to 200 than 400."[39] As Raywid notes in her synthesis of small school research, "in general, those who emphasize the importance of the school as a community tend to set enrollment limits lower than do those who emphasize academic effectiveness, at least as measured by test scores."[40]

Researchers and educators disagree about the best types of small learning communities as well. The issue is more complex than simply chopping up large schools into smaller ones—as one might expect, there have been a great variety of attempts to ameliorate the negative effects of large schools, not all of which actually involve creating separate and autonomous schools out of larger schools. As one researcher put it, "there is no one model for the creation of small learning communities. Their variety is as individual as the schools and school systems in which they are housed."[41] Kathleen Cotton, in her research synthesis, provides a brief synopsis of the different strategies used to create small learning communities out of big ones. One method, she writes, is that followed by Deborah Meier: the creation of autonomous small schools. These schools, she writes, "may be in their own building or in a building with other school(s), but are organizationally, fiscally, and instructionally independent." Another type of small learning community has been termed the "school-within-a-school (SWAS)." A school-within-a-school, Cotton writes, "operates within a larger 'host' school, either as the only

[38] Raywid, "Current Literature on Small Schools," *ERIC Digest*, Jan. 1999.
[39] Cotton, "New Small Learning Communities: Findings from Recent Literature," Northwest Regional Educational Laboratory, School Improvement Program.
[40] Raywid, "Current Literature on Small Schools," *ERIC Digest*, Jan. 1999.

SWAS in that school or one of several. Schools-within schools represent different degrees of autonomy, but typically have their own personnel and program, and their students and teachers are self-selected. Staff of a SWAS must defer to the principal of their host school on matters of school safety and building operations." Slightly less independent than schools-within-schools are "mini-schools," which are like schools-within-schools in that they have their own curriculum and instructional approach, but are different in that they are subject to the authority of the host school and must make requests for resources to the host school. Less independent yet are "houses," which are small groupings within a larger school which to some extent share courses and teachers, and have their own student government and disciplinary policies. Large schools have also tried to create small communities within their schools in other ways, by instituting "pathways" or "pods" that lead to specific careers, or by mandating "homeroom" each day for small numbers of students who, it is hoped, will form relationships among themselves and with their homeroom teacher. Research comparing these different types of small learning communities is not extensive, and it is likely too soon to come to conclusions about their relative efficacy. It may be noted, however, that if the existing research shows that smallness is itself a significant factor in student success, a logical inference would be that these sorts of arrangements will be effective insofar as they create truly cohesive and autonomous small learning communities. Those arrangements which combine small with big may experience difficulties in the degree to which they retain the characteristics of large schools. As one teacher at Julia Richman argued, "Houses don't work because you need autonomy for teachers for them to feel truly

[41] Sammon, 2000. Cited in Cotton, "New Small Learning Communities: Findings from Recent Literature."

responsible for kids, and houses don't create autonomy. You can't go halfway. If teachers don't feel responsible, they don't invest themselves."[42]

Although researchers and educators are not agreed on the proper size of small schools and the best type of small learning community, nearly all small-school advocates will generally agree that smallness, although important, is likely not in and of itself a "magic bullet" which will cure all the ailments of American education. Rather, smallness simply lays the foundation which makes it possible to create an environment favorable to education. It is, of course, conceivable for a small school to exist which is also bad. Such schools, in fact, may be in some ways worse for students, since the variety of opportunity normally available at a large school will not exist, thus subjecting students to a uniformly poor educational experience. Those caveats aside, however, smallness continues to be stressed as a *necessary*, if not sufficient, condition for successful schools. As one team of researchers concluded,

> Researchers who have studied small schools have stressed that reducing school size alone does not necessarily lead to improved student outcomes. Instead, they have concluded that school size should be seen as having an indirect effect on student learning… *school size acts as a facilitating factor for other desirable practices.* In other words, school characteristics that tend to promote increased student learning—such as collegiality among teachers, personalized teacher-student relationships, and less differentiation of instruction by ability—are simply easier to implement in small schools.[43]
> (emphasis added)

Likewise, Deborah Meier writes:

> A good school is a work in progress: a place to tinker, fix, and sometimes even to throw out and start over. Creating such a school requires keeping in mind both visionary ideas and mundane daily details. A good school is never satisfied with itself. As a result, there's never enough time. But it turns out that everything is easier when we get the scale right. Getting the size right is the necessary, though not sufficient, first step.[44]

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[42] Toch, p. 26.
[43] Vishner, Teitelbaum, and Emanuel, 1999. Cited in Cotton, "New Small Learning Communities: Findings from Recent Literature."
[44] Meier, "The Big Benefits of Smallness," *Educational Leadership,* 54 (1), p. 12-15.

School size, it can be confidently stated, is important aspect of successful schools, but the creation of small schools must be accompanied by an adequate understanding of *why* small schools work better than large schools. In order to come to informed decisions about the proper size of small schools, and about the optimal types of small learning communities to create, it is necessary to first examine the *reasons* behind their success.

The Bill and Melinda Gates Foundation, which has committed $350 million to "supporting small schools as a corrective to the large, impersonal 'shopping mall' high schools of the last fifty years," identifies three principal areas in which high schools must excel in order to be effective: social organization, academic organization, and normative climate.[45] The Gates Foundation defines social organization as "the relationships that have been set up in a school that govern multiple types of interaction," such as "the teachers' professional community, the degree of personalization in the school, and the school's governance and decision-making processes." Academic organization is defined as possessing two key dimensions: first, "the division or integration of the curriculum," and second, "students' opportunities to learn, such as the type of ability grouping schools use to track students, course offerings and sequencing, and the variation in students' courses of study in the same school." Lastly, normative climate is defined as "the values, norms, and mores that characterize the environment or climate of the schools." Researchers and educators have identified multiple areas in which small schools significantly outperform large schools; locating them within these constructs allows us to examine each in an ordered, logical fashion. Many of the attributes of successful small schools will fall under more than one category; a few will perhaps not fit snugly in any.

[45] *Targeted Literature Review*, Bill and Melinda Gates Foundation, 11 October 2001.

Examining each attribute, however, will allow us to come to a better understanding of why small schools work, and what sort of small school works best.

Social Organization

Perhaps the single most important factor in the success of small schools is the degree of *personalized attention* which they make possible. "Knowing one's students matters," writes Deborah Meier, "including, and perhaps especially, those who are hardest to know."[46] But in large schools, Meier points out, such personal interaction is all too often impossible. In most large public high schools, with enrollments in the thousands, and in which each teacher is responsible for as many as 150 or even 200 students per day, it is simply not possible for teachers to know their students personally. Students who stand out for one reason or another—for high academic ability or athletic talent, as well as for severe academic and disciplinary problems—will receive some form of personalized attention, but the vast majority of "average" students will not. This means, among other things, that most students (likely as many as 70-80 percent) in large schools are deprived of meaningful communities of learning which include adults as vital, influential members. "We've cut kids adrift," Meier writes, "without the support or nurturance of grown-ups, without the surrounding of a community in which they might feel it safe to try out various roles and listen into the world of adults whom they might someday want to join as full members."[47] Meier is not alone in her beliefs, either: Kathleen Cotton, in her research synthesis, writes:

> Small school/learning unit proponents typically declare that a major reason these schools are safer and more successful than large schools is that staff members are much more

[46] Meier, *The Power of Their Ideas,* p. 111.
[47] Meier, *In Schools We Trust,* p. 12.

> likely to know all of their students well. When teachers and students are able to build relationships, both are motivated to work and to make a success of the schooling enterprise. Teachers, moreover, can become knowledgeable about students' learning strengths and needs and identify ways to respond to them in a way that is not possible in the typical large high school.[48]

Significantly, this level of personalized attention often allows teachers to give extra help to the students who need it most. Students in large schools, since they usually do not form meaningful relationships with their teachers, are always in danger of "falling through the cracks" of the system. In small schools, teachers will be more able to know their students' needs, and thus will be better able to respond to problems that may go unnoticed in a large school. In light of this, it is not surprising that disadvantaged students are found to respond particularly well to small-school environments. Personalized attention may directly benefit students in all sorts of ways: students are likely to have higher levels of academic achievement when teachers are able to meet their specific academic and personal needs, and are in turn more likely to graduate. And numerous studies have shown that the relationships made in small schools enable adults to positively influence students' post-high school choices, particularly with regard to college attendance.[49] In sum, it appears that personalized attention, of the kind that only small schools can provide, is a critically important factor in educational success.

Another important factor in the success of small schools is *effective governance.* Deborah Meier has something to say about this as well:

> Ideally, a school's total faculty should be small enough to meet around one common table. Whether it's hammering out a solution to a crisis or working through a long-range problem, sustained attention over time is required of everyone… We thus need a faculty

[48] Cotton, "New Small Learning Communities: Findings from Recent Literature."
[49] Downey 1978; Walberg and Walberg 1994; Marian and McIntire 1992; Bensman 1994, 1995; *Seattle Weekly* 1997; Bush 1993. Cited in Raywid, "Small Schools: A Reform That Works," *Educational Leadership,* 55 (4), p. 34-39.

> small enough so that knowing one another's ideas and work is feasible within the normal constraints of a 24-hour day, and without putting kids in second place.[50]

In large schools, such around-a-table faculty meetings are impossible. Many researchers and educators report that large schools are often characterized by formality and bureaucracy, which should not surprise anyone; managing an institution with the responsibility of educating thousands of students to state and federal standards could hardly be otherwise. As Oxley notes, "the research on school size… suggests that one way in which large schools produce negative student outcomes is through their adverse effect on school management, particularly on consensus-building and staff involvement in decision-making."[51] Seymour Sarason writes that "our educational system has all the features of a non-learning system: it learns nothing from its failures, and it is incapable of learning from and then spreading a 'success.'"[52] A rigid, rule-bound, bureaucratic system, such as that which large schools require simply to manage the day-to-day business of education, is simply not able to learn from its failures and repeat its successes. But in small schools, faculties are often small enough to include everyone in the decision-making process, and as a result can rapidly identify problems and implement appropriate solutions. As Meier points out, "only in a small school can we try something on Monday, put it into effect in Tuesday, and change our minds on Wednesday."[53] Effectively-governed small schools, as a result, will be far more successful in finding and implementing educational strategies that work for them: no school, after all, is precisely alike, and the top-down reforms and mandates necessitated by a large, bureaucratic system are unlikely to be optimal for the majority of schools. This, of course, does not

[50] Meier, "The Big Benefits of Smallness," *Educational Leadership,* 54 (1), p. 12-15.
[51] Cited in Cotton, "New Small Learning Communities: Findings from Recent Literature."
[52] Sarason, Seymour. "Contexts of Productive Learning." Ed. Clinchy, p. 192.

mean that small schools are *necessarily* well-governed; rather, it is simply to point out that small schools provide for the *possibility* of effective governance in a way that large schools cannot. In large part, Meier was referring to effective governance in her comment that "everything is easier when we get the scale right." If everyone is agreed that reforms are necessary to improve American education, it is then only logical to create schools small enough to allow for the effective implementation of such reforms. Large schools, hidebound as they are by bureaucracy, will in nearly every instance find it impossible to properly implement the necessary reforms.

Closely tied to the notion of effective governance is the creation of an *effective teaching community*. The Gates Foundation identifies the presence of an effective teaching community as an essential component of the social organization of successful schools. These teaching communities, the Foundation asserts, will be characterized by "a collective focus on student learning, collaborative instructional activity, a shared understanding of what students should be learning and how to facilitate learning, a shared sense of purpose among school staff, deprivatized instructional practice, and reflective professional dialogue."[54] This sort of teaching environment, the Foundation argues, will "encourage teachers to open their classroom doors and share their work with peers."[55] But in large schools, the sheer size of the faculty, often compounded by an impersonal, bureaucratic environment, makes it difficult for teachers to cohere into a purposeful teaching community. Successful teachers will often withdraw into their classrooms, taking advantage of their anonymity to implement effective teaching strategies and offer challenging courses, but seldom will such teachers have the ability to make much of an

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[53] Meier, "The Big Benefits of Smallness," *Educational Leadership*, 54 (1), p. 12-15.
[54] *Targeted Literature Review*, Bill and Melinda Gates Foundation, 11 October 2001.

impact beyond their classroom doors. In small schools, however, the small faculty size is often far more conducive to the creation of a collaborative environment, in which teachers know and trust one another, and are able to participate in a free exchange of ideas. As the inherent attributes of large schools make the creation of such effective teaching communities extremely difficult if not impossible, it is reasonable then to assume that small schools will by and large possess more effective teachers than large schools.

Finally, the social organization of small schools is often characterized by higher levels of *parent and community involvement.* As Deborah Meier writes,

> Schools are intimidating places for many parents—parents feel like intruders, strangers, outsiders. And nothing seems more foolish than going to parent night and seeing a slew of adults who don't know your kid, have very little investment in him or her, and whose opinions and advice make one feel less, not more, powerful. When the school is small enough, probably someone there knows your kid well enough, and maybe also likes him or her enough, to create a powerful alliance with you. Smallness doesn't guarantee such an alliance, but it makes it reasonable to put time into creating one. In large urban schools, by contrast, such meetings are often not useful to any of the parties. This could be why some parents don't show up; they're reserving their time for more important things.[56]

"The recent literature on small learning communities," writes Kathleen Cotton, "identifies parent and community participation in the life of the school as both needed and easier to achieve than it is in large schools…. like school staff and students, parents respond favorably to the smaller-scale and more personalized climate."[57] Several studies have demonstrated a positive correlation between small school size and increased parent and community involvement, which is almost universally acknowledged to be hindered by the sheer size and forbidding formality of large schools. And increased parent and community involvement means that small schools are more often seen as integral parts of

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[55] Sebring et al., 2000. Cited in *Targeted Literature Review*, Bill and Melinda Gates Foundation.
[56] Meier, "The Big Benefits of Smallness," *Educational Leadership,* 54 (1), p. 12-15.

the community; parents and community members are more likely to feel a sense of ownership and pride in their schools when they are actively involved in the life of the school and its decision-making process.

Overall, these bonds between students and students, students and teachers, teachers and teachers, and parents and teachers make for a learning community which truly becomes a *community*, in the best sense of the word: all of its members alike sharing an agreed-upon purpose and goal, towards which everyone works to the best of their ability, making use of each member's unique gifts and talents. Put this way, it is nearly an obvious truism that small schools will work better than large schools; *of course* students will learn better in such communities than in large, impersonal schools in which they are more often numbers than names. Some will argue, however, that this sort of communal social organization is harmful to some children, who seem to thrive on the anonymity that large schools provide, and who sometimes feel trapped by the constraints of a smaller community. This criticism, to a certain extent, must be acknowledged as valid—all children are different, and there will necessarily be some students who will find themselves more comfortable in large schools than in small schools. And small communities are not necessarily good communities—if they become negative or harmful in some way, their very lack of anonymity often means that students lack avenues of escape. But one must always remember that hard cases make bad law: while a few students may not benefit from small learning communities, the vast majority will. This has been confirmed by numerous studies and long observation; it is simply beyond reproach to observe that most teachers are more effective when allowed to work together, and that most students learn better in a caring, nurturing, and purposeful environment in

[57] Cotton, "New Small Learning Communities: Findings from Recent Literature."

which they are given personalized attention by their teachers and parents. If the only benefits of small schools were the aforementioned, it would be enough to demonstrate their superiority to large schools. There are, however, more benefits to be had.

Academic Organization

James Conant, as has earlier been mentioned, regarded the *comprehensive* nature of the large high school to be the most important attribute by which it could be recommended. Instead of neglecting the secondary education of the largest portion of American society, the comprehensive high school would educate those who were not, in one way or another, either suited for or in need of a college education. Thus Conant regarded an adequate vocational curriculum as essential for the educational needs of most students, who would thereby be provided with the skills they would need in the modern, industrial labor market. This rationale, while not without a certain degree of condescension, was in many ways quite reasonable: most jobs, in Conant's day, did not require a college education. The comprehensive high school would thus give students what they needed most, as well as at least some academic education, which they certainly had not received under the old system. Today's educational system remains largely the same: in nearly all large high schools, some students are placed in the college-preparatory track, where they learn subjects such as biology and calculus; and others are placed on the general-education, or vocational track, where they study topics like "earth science" and "consumer math." But while this system may have been defensible fifty years ago, it is most unequivocally not suited for today's world. According to the U.S. Department of Commerce, "students with a bachelor's degree earned 61 percent more than students with

only a high school diploma in 2000, compared to a wage gap of only 27 percent a decade earlier."[58] In yesterday's economy, the large amount of industrial and manufacturing jobs available to unskilled and moderately skilled workers meant that it truly was not necessary to possess a college diploma to secure adequate employment. In today's economy, however, most industrial and manufacturing jobs have been replaced by knowledge-based positions, in which creativity and education are necessary prerequisites. As Toch writes, "the new economy requires a new and different priority: that nearly every student be educated well enough to enter college."[59] America's large, comprehensive high schools simply do not prepare many of their students for college, and so no longer meet the educational needs of Americans. As Cotton writes,

> Researchers and practitioners have known for many years that, ordinarily, once placed in a given track, a student's fate is sealed: the system is not sensitive enough to changes in students' intellectual development and does not review placements for appropriateness. Probably for the foregoing reasons, research has been developing for decades that placement in a low or "average" track has a negative impact on students' academic performance and self-concepts—and tracking confers few benefits even for those in high tracks. Yet, despite these repeatedly corroborated findings, most high schools continue to track their students. Sometimes this obduracy is based on lack of understanding about the negative effects of tracking, but just as often, school personnel simply do not know what else to do. And it may be that so long as we continue to send students to large comprehensive high schools, there will be no real alternative.[60]

Thankfully, an alternative exists. Small schools, as a direct result of their smallness, are far less likely to allow vast numbers of students to fall through the cracks of the system. Small schools, with their cohesive and purposeful learning communities, in which all students receive personalized attention, and in which teachers, parents, and community members are heavily invested, are more likely to be characterized by high levels of expectation for *every* student. Toch reports that many small schools "reject the

[58] Toch, p. 6.
[59] Ibid., p. 5.
[60] Cotton, "New Small Learning Communities: Findings from Recent Literature."

notion of 'comprehensiveness'… they want to prepare *every* student for academic success."[61] As Cotton writes, "Small school practitioners… have found that heterogeneous groups of students—those that large high schools do not seem to be able to serve effectively—can be accommodated and educated productively in small learning environments."[62] Of course, it must be remembered that small schools will not *necessarily* forsake tracking in favor of educating all students to a high level; not all small schools do so. Additionally, it is conceivable for large schools to stop the practice of tracking (although almost none have done so), and instead commit to giving *all* students the tools they need to attend college and succeed in today's labor market. But if they do so, then large schools will have admitted that their very reason for being—their *comprehensiveness*—no longer exists. There is no reason for large schools to exist if their mission is merely to do what small schools have already done better for years.

In addition to providing students with a superior academic education, other features of the academic organization of small schools exist to recommend them as well. Given the opportunity afforded teachers in small schools to form relationships with and provide personalized attention to their students, teachers are often able to engage students with innovative, "active learning" methods of teaching, rather than simply relying on the stand-and-deliver lecture method so common in most schools. Teachers are also able to integrate their curriculum in ways usually impossible in large schools: at Deborah Meier's Mission Hill school, for example, the entire school studies ancient Egypt at the same time, turning the hallways into the Nile River with exhibitions about Egyptian art,

[61] Toch, p. 14, emphasis added.
[62] Cotton, "New Small Learning Communities: Findings from Recent Literature."

history, mathematics, and science along the way.[63] Instead of dividing up the day into discrete 47-minute periods, small schools are often able to demonstrate to their students how different fields of knowledge tie together—which often proves to be an amazingly effective way of motivating students to learn about subjects which they previously had not thought to "matter." Finally, small schools are often able to focus on specific areas of interest, thereby affording parents and students greater educational choice. The Julia Richman Educational Complex, for instance, offers schools that cater to ESL students, artistic students, and students uncomfortable in traditional educational environments; other small New York schools nearby cater to a wide variety of other interests and needs. Small schools, in general, afford an opportunity for innovation in academic organization that large schools cannot, in addition to their higher expectations for students and lower incidences of tracking.

Normative Climate

In addition to matters of social organization and curriculum, and in a sense over and above such matters, all students require safe, respectful, and caring learning environments, in which they feel a tangible sense of belonging. It is an obvious truism that students learn less well when they are more concerned about avoiding gang-related violence then they are about learning, are spoken to in a condescending manner, or feel as if they are mere cogs in a vast, impersonal education machine. The Gates Foundation cites several studies which show safety and order to be "essential elements of an effective

[63] Meier, *In Schools We Trust*, p. 30.

learning environment."[64] Small schools, in many studies, have been shown to have markedly fewer incidences of violence: a 1999 report of the U.S. Department of Education found that large schools have 875 percent more crime, 270 percent more vandalism, 378 percent more theft, 394 percent more physical attacks, 3,200 percent more robbery, and 1,000 percent more weapons incidents than small schools.[65] As Deborah Meier writes, "the data are clear that the smaller the school, the fewer the incidences of violence, as well as vandalism and just plain rudeness… Anonymity breeds not only contempt and anger, but also physical danger."[66]

Likewise, small schools are often characterized by atmospheres of mutual respect, made possible by the personal relationships, understanding, and sense of common purpose that smallness makes possible. "Students and teachers in schools of thousands cannot know one another well," writes Meier:

> …and if we do not know one another, we may mishear one another. Families, teachers, staff, and students may assume disrespect where none was intended. The more diverse our students' backgrounds, and the greater the gap between our faculty's and kids' cultures, the greater the misunderstanding may be…A culture of respect rests on mutual knowledge, and even then it's hardly automatic. Small schools make such knowledge a possibility.[67]

Racial tensions and misunderstandings unfortunately plague many American schools, and as Meier rightly points out, such tensions will never be resolved unless all sides can come to better understand and respect one another. Additionally, many schools report that increased respect, both by students for teachers and by teachers for students, often accompanies the abandonment of the rule-bound bureaucratic environment in which most

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[64] American Association of University Women, 1992; Lee, Chen, & Smeardon, 1996. *Targeted Literature Review*, Bill and Melinda Gates Foundation, 11 October 2001.
[65] *Dollars and Sense: The Cost Effectiveness of Small Schools.* The Rural School and Community Trust, 2002.
[66] Meier, "The Big Benefits of Smallness," *Educational Leadership,* 54 (1), p. 12-15.
[67] Ibid.

of our large schools function. Julia Richman teachers, for instance, speak of their schools' environment as noticeably different from conventional high schools. "In most high schools," one teacher says, "you approach kids as an authority figure. It's a power play. And it usually doesn't work. There's no grown in students' maturity. At Richman, you know the kid and his style and there's mutual respect. Things don't escalate." An Urban Academy science teacher sums it up: "It's not us versus them here."[68]

Another significant aspect of the normative climate of small schools, even if somewhat intangible, is the sense of belonging that many students feel. In large schools, most students, if they are not star quarterbacks or academic standouts, have trouble fitting themselves into any sort of positive community. As a result, many students, simply to survive, form their own communities in which to belong, which are often directed towards negative ends. Some anthropologists have done quite interesting work on the social organization of the high school cafeteria—invariably, students will divide themselves into groups: jocks, cool kids, math nerds, band geeks, artsy kids, Goths, skateboarders, etc., into nearly as many adolescent stereotypes as one can imagine. Unfortunately, as Meier writes, very few of these groups regard adults as a significant part of their subculture, and thus a majority of students find themselves in peer groups which are "disconnected from the culture that schools are designed to impart."[69] Small schools, on the other hand, do a much better job of including all of their students in a positive, learning-based culture. Although doubtless it is impossible to abolish cliques among teenagers, small schools force students of different backgrounds and interests to get to know one another, if only because there are fewer people to know. And the

[68] Toch, p. 27.
[69] Meier, "The Big Benefits of Smallness," *Educational Leadership,* 54 (1), p. 12-15.

personalized attention which teachers are able to provide allows students to be a part of a culture of learning which includes adults in a significant way, rather than a subculture in which adults exist only at the margins. Teachers are better able to influence students in such environments, as both students and teachers feel themselves to *belong* to the same community: the school itself. There is no sense in which a large school can feel like a tight-knit community; many students in such schools report seeing classmates of theirs on graduation day for the first time in their lives. The sense of intimacy, community, belonging, and common purpose which small schools often impart is, in a sense, the most important characteristic of small schools, as it serves to make possible so many of the traits which make small schools successful. Personalized attention, effective governance, teacher collaboration, parent and community involvement, high expectations, low rates of violence, mutual respect—all of these are made easier in communities which are truly *communities*; where people truly feel bound together by their mutual effort towards a common goal.

There are other reasons why small schools are more effective than large schools: transportation costs, for example, are often prohibitive in large rural school districts. Rising fuel costs has made busing students highly expensive for many schools, sometimes to the point where consolidating two or more small rural schools actually becomes a more expensive proposition than leaving them as is. Studies have shown, too, that long bus rides often have the effect of negatively impacting students' academic performance and discouraging involvement in extracurricular activities, simply due to the large chunks of time that bus rides remove from each day.[70] Small schools are also

[70] Beaumont & Pianca, 2000; Howley and Howley, 2001. Cited in *Dollars and Sense: The Cost Effectiveness of Small Schools.* The Rural School and Community Trust, 2002.

important to many of the small communities and neighborhoods in which they are found: in many small towns, the school represents a major local employer and source of economic vitality. A 1991 study of rural depopulation trends found that small towns that had lost their schools to consolidation were declining in population at significantly higher rates than towns which had not.[71] In addition, small town schools "are responsible for a sense of community and collective identity. Local schools educate generations of friends, family, and neighbors, providing a shared experience and continuity from one generation to the next… For rural communities especially, the closure of the local school can leave a gaping void."[72] A 1996 study of eight rural North Dakota small towns found that people in towns which had lost their schools to consolidation "reported declining participation in local organizations and activities… they also rated their quality of life significantly lower than did residents of communities that had retained their local schools."[73] Just as small schools are beneficial to the students which attend them, so too are small schools often beneficial, and indeed vitally important, to the small towns of which they are a part.

It may be thought, given the overwhelming evidence in favor of small schools, that educators nationwide would be doing everything in their power to get rid of large schools, create new small schools in their place, and protect the small schools which are already in existence. Somewhat staggeringly, however, such is not the case. Across the country, large, comprehensive high schools continue to be built, and a majority of American high school students continue to attend schools with enrollments surpassing one thousand students.[74] Between 1988 and 1998, the amount of high schools with

[71] Dreier & Goudy, ibid., p. 16.
[72] Ibid., p. 17.
[73] Sell et al., 1996, ibid., p. 17.
[74] Toch, p. 5.

enrollments of over 1,500 students doubled.[75] Small rural schools often face pressure from their state governments to dissolve and consolidate with larger schools nearby, by means of regulations which make certain types of funding contingent upon enrollment figures, or require all schools to provide certain types of classes or facilities.[76] Such is the case in North Dakota, where many of its small schools are under heavy pressure from the state Department of Public Instruction to consolidate with larger neighboring schools.

The Case for Small Schools in North Dakota

North Dakota is an overwhelmingly rural state; none of its cities surpass 100,000 people in population, and over half of its 642,200 residents live in rural areas or in small towns of fewer than 10,000 people. Like rural areas across much of the Great Plains, rural North Dakota is rapidly losing population. The statistics are grim: in the last several years (save 2004), North Dakota has been the only state in the Union to lose population. Cass County, which contains Fargo (ND's largest city), is the only county in the state to significantly and consistently gain population. Per-capita income, while also increasing slightly in recent years, has been trending downwards since the mid-1970's. Those that remain are aging rapidly, as many of the state's young people go elsewhere in search of better-paying jobs and greater opportunity. Small towns are usually hit the hardest, as many residents leave for larger communities like Fargo and Bismarck, if not for another state entirely. The trends are perhaps most obvious in North Dakota's small schools, many of which are feeling the pinch of declining enrollments and tax revenues. As recently as 1995, North Dakota's public schools enrolled 118,600 students; since then,

[75] *Dollars and Sense: The Cost Effectiveness of Small Schools.* The Rural School and Community Trust.
[76] Ibid.

enrollment has declined precipitously, to 99,421. Many forecasters believe that these trends will only continue, and so, faced with this rising tide of depopulation, and with entering kindergarten classes sometimes numbering in the single digits, many North Dakota small schools have decided to close their doors.

It is this rising tide that worries North Dakota's Department of Public Instruction (DPI), which in recent years has led the charge to consolidate North Dakota's small schools into larger ones which, it hopes, will be sustainable over the long term. In 2000, the DPI put forward a proposal to the state legislature to consolidate North Dakota's 214 school districts into 62 mega-districts, centered around what the DPI considered to be sustainable population centers. While the proposal did not immediately mandate the closure of small schools, its stated intent was to put the machinery in place to make such closures possible, and hopefully more probable. The proposal met with widespread disapproval, as it was (rightly) seen as targeting many North Dakota schools for eventual closure; understandably a sensitive issue in many small communities. It was quickly and decisively killed by the state legislature, but the DPI did not give up without a fight. Instead, Tom Decker, an employee of the DPI who was the chief architect of the 62-district proposal and the state's main proponent of school consolidation, has with his colleagues decided to try a new strategy. New DPI regulations, based on the state constitution's mandate for educational equality, will require all public schools to provide their students with certain programs and classes. Schools that cannot afford to do so will be effectively forced to close. The intent, according to Decker, is to push "small schools which will eventually close to do so sooner," the rationale being that many ND small schools are doomed, and that before their demise will only provide their students with a

subpar education. Decker, who attended a very small North Dakota high school, believes that students like his son, who attended high schools in Bismarck and Fargo, are unfairly receiving a better education than students in small high schools, by virtue of the greater amount of resources that large schools are able to provide. By using state policy to encourage the closure of small schools, Decker and his colleagues at the DPI believe they are working to provide a better education to many rural North Dakota students.[77]

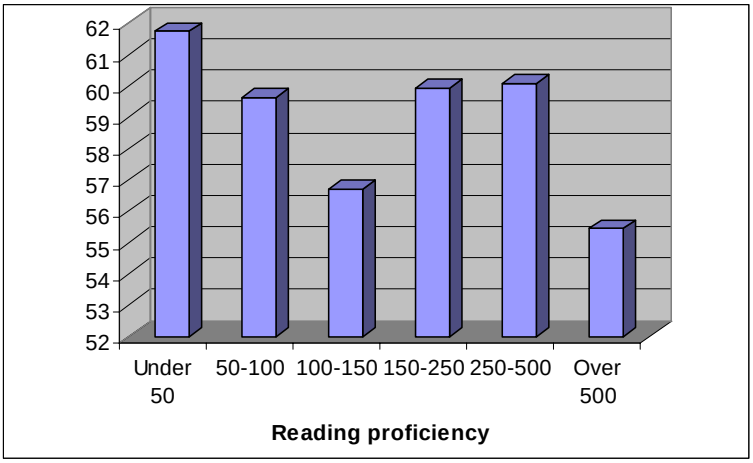
To test Decker's thesis, I decided to analyze the relationship of school size to academic achievement in North Dakota schools. Using state data readily available on the DPI website, I compared reading and mathematics proficiency scores from every high school in the state, broken down into the following categories: those with enrollments below 50; from 50-100; from 100-150; from 150-250; from 250-500; and above 500. For each subset of schools, I compiled data from the academic years 2001-2002, 2002-2003, and 2003-2004. The DPI issues "adequate yearly progress" reports for all state high schools, which measure progress towards federal NCLB requirements in terms of the percentage of each school's students which meet state proficiency levels in reading and math, as measured by a single, state-administered test which all students at specified grade levels are required to take. Beulah High School, to take an example, in the academic year 2003-2004 saw 50.54% of its tested students reach proficiency in reading, and 32.26% reach proficiency in math. This school, with a total 9-12 enrollment of 372 students, fits into the 250-500 enrollment category. To find out the average academic performance of schools in this group, I simply averaged together each high school's reading scores from the three academic years examined, doing the same for the math scores. For each category of high schools, then, I came up with two scores: cumulative

[77] Personal interview with Tom Decker, 12 January 2005.

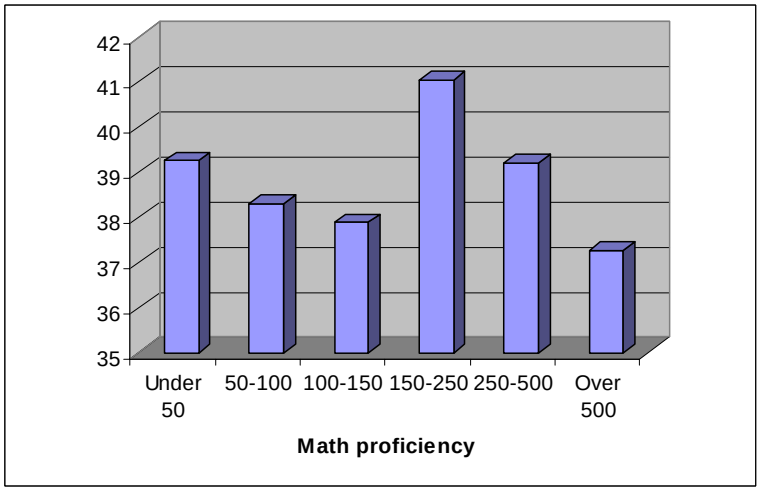
reading proficiency, and cumulative math proficiency. For Beulah's category, the data showed that for the three academic years between 2001 and 2004, 60.04% of students tested in high schools with enrollments of 250-500 reached state proficiency levels in reading, and 39.2% of the same students reached state proficiency levels in math. This method, while reliable, is not perfect, as some high schools' scores reflect an average of both 8th and 11th grade scores, while others give only 11th grade scores. This is due to the fact that some schools (usually small) consider "high school" to begin with 7th grade, while others consider 9th grade to be the beginning point. As students are tested in 4th, 8th, and 11th grades, this means that it is impossible to compare only 11th graders or only 8th graders statewide given annual yearly progress report data. This complication, however, should not be regarded as excessively problematic, unless it is to be assumed that ND state proficiency standards are less difficult to reach in 8th grade than 11th grade, which would then artificially inflate the scores of those schools able to include 8th grade scores in their progress reports. Since the DPI does not find this to be a significant complicating factor in its yearly progress assessment of schools, I have assumed that this difference does not affect the data in any important way.

My findings might surprise Mr. Decker. Instead of showing that small schools underperform large schools, as Decker assumed would be true given their lack of resources, the data instead showed large schools to be the worst performing group of all. And defying concerns shared by many educators that, while most small schools are good, some small schools are simply *too* small, the data shows that even tiny high schools with enrollments of under 50 students keep pace with larger schools, in fact outperforming all categories in reading proficiency. The scores ran as follows:

Under 50	50-100	100-150	150-250	250-500	Over 500
61.74%	59.64%	56.71%	59.94%	60.07%	55.44%



Under 50	50-100	100-150	150-250	250-500	Over 500
39.25%	38.3%	37.88%	41.04%	39.2%	37.25%



Thinking that the relative wealth or poverty of students may have a significant relation to academic achievement, I also tallied the percentage of students in each school eligible for lunch at free or reduced rates. One might expect that schools in very small towns, which

usually have high percentages of poor students, to perform worse academically than their wealthier counterparts in cities like Fargo or Bismarck, but such was not the case. Schools with enrollments of under 50 students were markedly poorer than schools with plus-500 enrollments—41.93% of students in under-50 schools were eligible for free or reduced-rate lunches, compared with only 25.12% in large schools—but *still* managed to outperform plus-500 schools by wide margins in both reading and math. Relative wealth simply does not seem to have a noticeable impact on student performance; at least not when compared with the impact of school size. One also cannot excuse the poor performance of large schools in North Dakota on the basis of a higher percentage of underprivileged minority students, or for being located in tough, crime-ridden neighborhoods like some troubled urban high schools. None of North Dakota's large schools have significant percentages of minority students; a characteristic which holds true in all state public schools save those found in or near Indian reservations. And neither do any of North Dakota's communities, large or small alike, have problems with violent crime—Fargo and Bismarck in particular are often named in national surveys as among the safest small cities in the nation. Indeed, there may be a case to be made, with the recent growth of methamphetamine abuse in rural areas, that some ND small towns actually have more crime than ND's larger cities. In general, North Dakota communities provide a good test for the impact of school size on academic performance, as nearly all ND towns and cities are similar in terms of ethnic makeup and crime rates.

All of this data, of course, is quite problematic for the DPI's assertion that North Dakota students in small schools are being underserved academically. Quite the contrary, the data should lead one to argue precisely the opposite: it is North Dakota's large

schools that are poorly serving their students, and ND small schools that are providing a better education. Resources do not seem to matter: schools in small, poor communities do better than large schools in wealthier cities like Fargo and Bismarck. In fact, the very poorest and very smallest schools outperform all other schools in the state in terms of reading proficiency.

These results, especially when coupled with the overwhelming evidence which has been collected nationwide on behalf of the effectiveness of small schools, can only lead us to a single conclusion. The North Dakota Department of Public Instruction's policies are wrongheaded, and should be changed immediately. Instead of making it their stated purpose to force the closure of struggling small schools across the state, the DPI should direct its efforts towards helping those schools stay open as long as they are reasonably able to do so. Instead of proactively working to stretch the resources of small schools to the breaking point, the DPI should endeavor to provide small schools with as much help and economic assistance as possible. Given demographic trends, it will unfortunately not be possible for many ND small schools to stay open—there is simply no point in maintaining a school building when a town no longer has any students. But if a small town decides that it does not want to give up on itself and its children, and instead wants to fight vigorously to renew its economic vitality and provide its young people with an education, the full resources of the state government should be ready and willing to assist them in their efforts. The data shows definitively that there is simply no possible academic rationale for forcing the closure of small schools; if anything, it is the large schools that should face pressure to close. State policymakers have their work cut out for them if they are to stem the tide of rural outmigration: as it currently stands, the state

Department of Public Instruction is working overtime to make saving rural North Dakota even more difficult than it already is.

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[78] Many of the works listed here can be found in Toch's bibliography, p. 133-138.

APPENDIX: ND HIGH SCHOOL ENROLLMENT & PROFICIENCY DATA

Schools With Under 50 Enrolled, 9-12[79]

Schools	Enrollment	%R.P.: 01-02	02-03	03-04	%M.P.: 01-02	02-03	03-04	%Free Lunch[80]
Alexander 7-12	54	55.56	47.06	66.67	33.33	23.53	46.67	27.5
Anamoose 7-12	58	73.68	57.14	65.00	52.63	40.00	50.00	33.7
Bisbee-Egeland 7-12	60	36.36	47.37	76.92	18.18	10.53	46.15	41.9
Bowbells 7-12	49	47.37	61.11	66.67	36.84	38.89	75.00	15.7
Burke Central 7-12	58	68.42	64.29	45.00	15.79	35.71	20.00	42.6
Edmore 9-12	69	34.78	68.75	50.00	21.74	50.00	61.11	41.6
Fairmount 7-12	67	62.50	65.22	64.29	37.50	56.52	42.86	28.6
Finley-Sharon 7-12	56	75.00	66.67	74.07	50.00	44.44	44.44	36.0
Golden Valley 7-12	55	77.27	53.33	43.75	50.00	46.67	31.25	32.7
Grenora 7-12	38	53.33	80.00	81.82	6.67	60.00	45.45	33.8
Halliday 7-12	44	85.71	76.92	72.73	30.77	46.15	50.00	63.3
Kensal 7-12	50	80.00	50.00	50.00	85.00	75.00	70.00	43.9
Minnewaukan 7-12	57	27.78	40.91	72.73	10.53	18.18	18.18	72.6 (1/2 Ind)[81]
Montpelier 7-12	63	68.42	64.71	81.82	57.89	41.18	54.55	38.8
Munich 7-12	69	63.16	63.16	64.29	63.16	52.63	71.43	27.0
N. Central 7-12	39	73.33	69.57	57.14	60.00	56.52	47.62	55.1

[79] The enrollment numbers here listed, for all size categories, may refer to grades 7-12, 9-12, or other less common school configurations. As proficiency scores are given for listed enrollment numbers, I have often not given exact numbers for 9-12 enrollment. These figures, however, are readily available on the DPI website, and it is by those 9-12 enrollment figures that I have grouped all North Dakota schools (Under 50, 50-100, etc.).

[80] The heading "free lunch" is not entirely accurate; rather it is convenient. The listing refers to the percentage of students in each school who are eligible either for free or *reduced-rate* school lunches.

[81] As schools with significant Indian populations face problems unique to themselves, I have listed them, but have not included them in my comprehensive reading and math proficiency averages. No other ND schools have significant minority populations, and the obvious difference in proficiency levels that these schools have necessitates examining them separately.

Neche 7-12	50	63.64	81.25	76.92	54.55	31.25	46.15	18.6
Newburg United 7-12	41	53.85	64.71	80.00	53.85	11.76	40.00	44.3
Powers Lake 7-12	58	63.16	47.83	63.16	42.11	21.74	31.58	35.6
Rhame 7-12	43	55.56	64.29	80.00	33.33	42.86	26.67	33.8
Roosevelt 7-12	64	34.62	71.43	41.18	11.54	17.86	11.76	71.0
Sherwood 7-12	49	56.00	70.59	68.75	48.00	35.29	56.25	42.5
Sheyenne 7-12	61	53.57	58.33	50.00	28.57	25.00	11.76	56.5 (1/2 Ind.)
Stanton 7-12	45	52.94	43.75	80.00	35.29	31.25	60.00	33.3
Starkweather 7-12	57	86.67	53.85	62.50	73.33	46.15	31.25	31.9
Tappen 7-12	57	42.11	38.89	42.86	21.05	33.33	35.71	59.1
Tuttle-Pettibone 7-12	58	37.50	47.62	22.22	37.50	28.57	11.11	56.9
Verona 7-12	30	61.54	60.00	63.16	53.85	50.00	52.63	44.0
Wildrose-Alamo 7-12	28	60.00	58.33	60.00	33.33	33.33	40.00	55.1
Willow City 7-12	30	50.00	40.91	N/A	23.08	14.29	N/A	28.8
Wing 7-12	40	46.67	90.00	68.42	13.33	70.00	63.18	49.4
Wolford 7-12	36	58.33	68.42	86.96	58.33	63.16	52.17	56.7
Zeeland 7-12	24	76.92	76.47	75.00	53.85	52.94	43.75	76.7
AVG. SCORES:		**59.82**	**61.73**	**63.68**	**40.83**	**34.34**	**42.59**	**41.93**
CUMULATIVE READING: 61.74		**CUMULATIVE MATH: 39.25**						

<u>Schools with 50-100 Enrolled, 9-12</u>

Ashley 7-12	100	64.86	65.71	67.86	21.62	42.86	32.14	30.3
Drayton 7-12	124	64.10	68.89	67.65	56.41	53.33	33.33	22.0
Edgeley 7-12	136	86.05	74.42	85.71	74.42	58.14	66.67	49.2
Edinburg 7-12	77	74.19	71.43	50.00	51.61	57.14	46.43	20.3
Eight Mile 8-12	94	39.29	48.57	59.09	21.43	31.43	20.45	0.0 (1/2 Indn)
Elg.-New Lpzg. 9-12	99	58.33	57.14	41.94	45.83	46.43	38.71	48.4
Flasher 7-12	117	48.48	69.77	57.14	48.48	48.84	30.23	50.2
Fordville 7-12	73	34.38	40.74	35.29	18.75	11.11	23.53	32.6

Gackle-Streeter 7-12	90	35.71	75.68	64.00	5.00	37.84	40.00	37.9
Glen Ullin 7-12	113	55.26	62.50	64.86	18.42	28.13	45.95	40.5
Hatton 7-12	124	67.44	68.42	64.29	65.12	57.89	47.62	30.4
Hzltn-Mft-Brdk 7-12	70	73.68	47.62	73.08	42.11	9.52	46.15	35.2
Hebron 7-12	86	57.69	65.63	56.00	26.92	40.63	28.00	48.0
Kulm 7-12	71	58.06	68.00	56.52	35.48	44.00	52.17	54.2
Lakota 7-12	140	65.00	65.91	79.17	50.00	40.91	57.45	22.7
Leeds 7-12	113	66.67	57.89	77.50	48.15	39.47	57.50	34.6
Lidgerwood 7-12	126	50.00	56.41	42.86	14.29	30.77	25.00	36.9
Maddock 7-12	121	67.57	59.09	69.70	37.84	40.91	57.58	41.2
Maple Valley 7-12	131	62.22	61.76	51.35	28.89	26.47	18.92	24.6
Max 7-12	91	75.86	64.00	74.19	34.48	40.00	58.06	43.0
McClusky 7-12	70	58.82	72.00	50.00	41.18	40.00	33.33	40.7
Medina 7-12	73	47.37	57.69	39.13	15.79	42.31	34.78	50.3
Midkota 7-12	100	60.00	33.33	60.00	25.00	26.19	40.00	42.3
Minto 7-12	120	60.00	65.12	63.33	36.67	39.53	33.33	16.0
Mohall 7-12	145	58.82	61.70	60.87	52.94	53.19	50.00	35.5
Montefiore 7-12	108	46.94	57.89	84.00	22.45	28.95	52.00	29.8
N. Sargent 7-12	84	78.26	48.28	66.67	43.48	34.48	39.29	13.1
Napoleon 7-12	125	53.66	62.22	70.00	34.15	40.00	42.50	38.8
Nesson (Ray) 7-12	98	48.65	74.29	67.74	29.73	48.57	67.74	29.1
New England 7-12	126	54.17	67.50	62.16	27.08	47.50	37.84	52.3
Parshall 7-12	143	51.61	62.16	63.64	29.03	37.84	43.18	57.0
Pembina 8-12	89	68.42	70.83	76.00	31.58	54.17	36.00	11.4
Pingree-Buchanan 7-12	75	65.38	64.00	82.35	38.46	52.00	70.59	34.6
Rolette 7-12	101	51.16	69.57	56.25	48.84	34.78	34.38	47.4
South Heart 7-12	129	64.15	62.22	66.67	50.94	46.67	61.90	39.3
Sawyer 7-12	74	53.33	55.56	47.62	13.33	37.04	14.29	27.0
Scranton 7-12	103	53.13	56.41	62.50	40.63	41.03	50.00	35.2
Southern (Cando) 7-12	144	70.69	51.22	70.21	41.38	39.02	57.45	30.9
St. John 7-12	142	48.78	40.45	47.73	7.32	10.42	25.00	0.0 (Indian)

St. Thomas 7-12	74	42.11	30.43	52.17	38.89	21.74	52.17	42.6
Steele-Dawson 7-12	134	57.69	94.74	63.64	36.54	57.89	48.48	31.4
Strasburg 7-12	113	35.71	50.00	65.63	19.05	30.56	37.50	57.0
Turtle Lake-Mercer 7-12	103	54.84	66.67	67.50	35.48	36.67	52.50	34.5
Underwood 7-12	121	62.79	60.00	46.75	48.84	40.00	18.75	36.5
Valley (Hoople) 9-12	56	61.54	25.00	41.67	53.85	16.67	33.33	31.0
Westhope 7-12	82	67.65	59.26	56.00	47.06	25.93	40.00	29.8
Wmbldn-Court. 7-12	79	46.67	56.00	36.00	33.33	32.00	8.00	27.0
Wishek 7-12	130	51.92	63.16	56.82	28.85	57.89	38.64	35.7
AVG. SCORES:		**57.90**	**60.15**	**60.86**	**36.38**	**38.83**	**39.68**	**36.05**
CUMULATIVE READING: 59.64		**CUMULATIVE MATH: 38.30**						

Schools with 100-150 Enrolled, 9-12

Belfield 7-12	160	65.38	49.02	57.14	38.46	25.49	44.90	38.0
Center 7-12	158	60.00	38.30	46.88	22.00	17.02	18.75	19.0
Central Valley 7-12	142	68.09	60.42	58.14	40.43	29.17	32.56	17.7
Dakota Prairie 7-12	180	48.78	45.28	43.08	21.95	32.08	29.23	39.5
Divide County 7-12	171	60.34	68.09	59.65	58.62	55.56	53.57	38.7
Ellendale 7-12	176	77.05	54.00	57.14	50.82	40.00	30.61	44.7
Enderlin 9-12	133	41.18	29.41	71.21	26.47	17.65	46.97	28.6
Fessndn.-Bwdn. 9-12	103	48.00	46.15	63.83	48.00	38.46	46.81	30.8
Glenburn 7-12	187	73.47	52.63	66.67	34.69	19.30	33.33	30.8
Griggs County 7-12	162	63.33	70.59	80.00	45.00	60.78	68.89	46.0
Hankinson 7-12	172	57.14	50.98	50.00	42.86	41.18	42.86	26.2
Hettinger 9-12	139	37.93	63.89	73.85	24.14	25.35	43.08	31.3
Hope 7-12	145	51.11	59.57	57.69	35.56	34.04	41.51	19.3
Kenmare 7-12	167	52.46	49.18	58.82	49.18	34.43	42.86	34.3
LaMoure 7-12	188	74.60	58.62	65.08	42.86	37.93	41.27	38.6
Linton 9-12	117	36.36	72.73	55.88	54.55	54.55	67.65	39.0

Midway 9-12	102	43.48	52.00	90.00	34.78	8.00	60.00	44.6
Milnor 7-12	150	68.57	57.14	68.63	51.43	28.57	40.00	25.9
Mott-Regent 9-12	112	61.54	62.50	60.00	50.00	29.17	28.00	39.1
Mt. Pleasant 7-12	182	61.22	51.92	N/A	40.82	23.08	N/A	47.7
New Rockford 7-12	185	55.74	56.00	47.62	39.34	38.00	25.40	29.0
Northern Cass 9-12	133	50.00	32.26	44.00	50.00	29.03	16.00	33.7
Northwood 7-12	173	55.56	70.31	65.12	37.04	45.31	48.84	28.9
Richardton-Taylor 7-12	168	60.94	61.40	61.90	35.94	42.11	50.79	38.2
Richland 7-12	152	70.37	80.00	85.00	42.59	27.50	65.00	20.1
Sargent Central 7-12	162	60.38	73.47	71.70	41.51	59.18	35.85	22.4
TGU (Towner) 9-12	129	20.83	50.00	45.16	12.50	19.23	41.94	46.1
Tioga 7-12	153	59.42	48.21	64.58	44.93	25.00	39.58	21.1
Walhalla 7-12	150	32.61	57.14	44.90	20.00	23.81	18.37	30.3
Wyndmere 7-12	161	66.07	67.35	64.41	37.50	30.61	47.46	20.7
AVG. SCORES:		**52.56**	**56.28**	**61.30**	**39.13**	**33.05**	**41.45**	**32.34**
CUMULATIVE READING: 56.71		**CUMULATIVE MATH: 37.88**						

Schools with 150-250 Enrolled, 9-12

Beach 7-12	216	62.26	60.47	46.34	39.62	51.16	43.90	48.4
Bowman 9-12	156	54.29	55.32	64.52	34.29	34.04	38.71	24.2
Garrison 7-12	193	61.67	67.92	43.33	43.33	39.62	23.33	34.1
Harvey 9-12	200	64.00	43.75	48.84	43.75	22.92	25.58	25.1
Hillsboro 7-12	224	61.11	75.61	53.73	28.77	40.24	28.79	23.2
Killdeer 7-12	200	75.36	61.29	67.27	44.93	32.26	40.00	25.8
Langdon 9-12	229	63.27	52.46	38.98	34.69	29.51	41.67	29.0
Lisbon 9-12	224	64.58	47.17	52.73	40.43	39.62	27.27	16.0
May-Port CG 9-12	220	39.58	59.09	62.50	35.42	48.48	55.36	28.8
New Salem 7-12	191	55.07	63.93	61.29	34.33	59.02	43.55	31.9
Oakes 7-12	229	68.49	69.12	72.46	38.36	52.94	43.48	23.5

Park River 7-12	216	47.76	73.02	71.62	23.88	52.38	47.30	32.4
Stanley 7-12	216	71.43	70.00	62.32	45.71	45.00	42.03	20.7
Surrey 7-12	206	44.78	53.03	59.02	40.30	42.42	50.82	25.1
Thompson 7-12	278	56.79	73.33	61.36	35.80	63.33	39.77	8.5
United(DesLcs-Bur) 9-12	187	53.06	45.45	50.94	38.78	42.42	32.08	23.6
Velva 7-12	233	61.64	68.35	72.13	34.25	45.57	59.02	29.3
Washburn 7-12	214	56.00	72.29	74.58	45.33	57.83	52.54	11.5
AVG. SCORES:		**58.95**	**61.76**	**59.11**	**37.89**	**44.38**	**40.84**	**25.61**
CUMULATIVE READING: 59.94		**CUMULATIVE MATH: 41.04**						

Schools with 250-500 Enrolled, 9-12

Beulah 9-12	372	48.89	46.99	50.54	35.56	34.94	32.26	15.4
McKenzie Co. 7-12	320	58.82	58.49	70.10	28.43	34.91	45.36	27.9
Bottineau 7-12	428	67.63	67.91	(N/A)	43.88	37.31	(N/A)	28.0
Carrington 8-12	282	48.18	74.75	52.34	33.64	57.58	41.51	22.7
Central Cass 7-12	392	68.42	66.40	73.81	44.33	46.40	50.40	11.2
Grafton 9-12	302	36.49	50.67	31.43	24.32	25.33	22.86	39.4
Hazen 9-12	300	34.78	56.16	46.27	19.12	35.62	29.85	11.8
Kindred 7-12	335	52.48	65.18	70.41	37.62	45.54	44.90	8.6
Larimore 7-12	325	73.81	70.59	59.18	55.95	40.20	37.76	19.9
Rugby 7-12	349	55.46	56.91	74.56	51.69	39.84	53.10	31.9
Valley City 9-12	445	58.02	63.21	57.14	24.69	21.70	23.47	26.3
AVG. SCORES:		**54.82**	**61.57**	**63.81**	**36.29**	**38.12**	**43.20**	**22.1**
CUMULATIVE READING: 60.07		**CUMULATIVE MATH: 39.2**						

Schools with 500+ Enrolled, 9-12

Bismarck High 10-12	1517	47.33	45.03	58.10	35.62	27.78	38.75	18.1

Bmk. Century 10-12	1103	60.97	53.03	65.87	43.55	33.84	47.23	18.1
Devils Lake 9-12	684	54.55	43.94	46.10	39.01	31.82	29.79	35.0
Dickinson 9-12	888	47.64	52.02	56.40	24.88	27.35	30.49	31.8
Fargo South 10-12	1537	59.15	53.74	61.86	47.32	39.92	50.89	18.3
Fargo North 10-12	854	63.03	57.89	61.03	48.12	43.11	47.23	18.3
GF Central 9-12	1136	59.17	55.91	58.40	41.25	40.55	36.55	27.3
GF Red River 9-12	1480	50.21	64.76	68.28	43.04	53.65	47.90	27.3
Jamestown 9-12	940	54.72	60.87	56.35	34.43	30.87	39.09	28.2
Mandan 9-12	1123	47.41	57.46	55.65	32.19	34.70	39.33	26.9
Minot High 11-12	1153	63.85	58.19	59.84	46.95	38.93	37.55	28.7
Wahpeton 9-12	527	50.89	45.45	48.31	32.14	34.17	27.12	26.1
West Fargo 9-12	1550	58.93	51.62	42.86	36.48	33.63	30.03	19.3
Williston 9-12	907	54.02	60.66	56.80	22.32	28.71	36.10	28.3
AVG. SCORES:		**55.13**	**54.33**	**56.85**	**37.66**	**35.65**	**38.43**	**25.12**
CUMULATIVE READING: 55.44		**CUMULATIVE MATH: 37.25**						

Schools with Significant Indian Populations

Belcourt 9-12	628	13.92	18.31	22.99	5.00	5.00	9.20	1.8 (Indian)
Dunseith 7-12	253	5.00	17.65	17.09	5.00	5.00	6.25	0.0 (Indian)
Eight Mile 8-12	94	39.29	48.57	59.09	21.43	31.43	20.45	0.0 (1/2 Indn)
Four Winds 9-12	185	10.00	6.00	21.88	5.00	5.00	9.38	0.0 (Indian)
Fort Yates 7-12	69	5.00	6.25	18.97	5.00	5.00	5.00	0.0 (Indian)
Mandaree 9-12	69	5.00	7.14	13.64	5.00	5.00	5.00	0.0 (Indian)
Minnewaukan 7-12	57	27.78	40.91	72.73	10.53	18.18	18.18	72.6 (1/2 Ind.)
New Town 9-12	208	66.67	40.63	27.59	41.67	15.63	20.69	61.1 (Indian)
Selfridge 7-12	29	31.25	39.13	42.86	18.75	21.74	14.29	100.0 (Indian)
Sheyenne 7-12	61	53.57	58.33	50.00	28.57	25.00	11.76	56.5 (1/2 Ind.)
Solen 7-12	56	18.75	7.69	15.79	5.00	5.00	10.53	0.0 (Indian)
St. John 7-12	142	48.78	40.45	47.73	7.32	10.42	25.00	0.0 (Indian)
AVG. SCORES:		**27.08**	**27.59**	**34.19**	**16.67**	**12.70**	**12.98**	**N/A**
CUMULATIVE READING: 29.62		**CUMULATIVE MATH: 14.12**						