

2004



Minnesota Education Yearbook

EXECUTIVE SUMMARY

The status of preK-12 education in Minnesota
prepared by the Office of Educational Accountability

UNIVERSITY OF MINNESOTA

2004 Minnesota Education Yearbook

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Each year the Office of Educational Accountability (OEA) publishes data on students, schools, and districts, along with information about pertinent educational issues affecting Minnesota. The 2004 report describes the continued implementation of Minnesota and federal accountability mandates in standards, assessments and reporting. New educational standards have been approved for science and social studies and new statewide assessments continue to come on line in an attempt to bring Minnesota into full compliance with federal requirements.

To effectively monitor and report on educational improvements, one must track information statewide. Therefore, our focus is on Minnesota as a whole, or on portions of the state that cut across districts. Detailed information about schools and districts can be found on the Minnesota Department of Education Web site (<http://education.state.mn.us>) or through the OEA Web link to the Department (<http://education.umn.edu/oea>). School and district information can also be accessed through individual district web sites and printed materials. While the *Yearbook* provides substantial data on education in Minnesota, it is one of several parts of the state's educational accountability and reporting system.

Accountability, Adequate Yearly Progress, and the Five Star Rating System

After a brief introduction to the report in Chapter 1, Chapter 2 summarizes the state accountability system, the federal Adequate Yearly Progress school evaluations, and the Minnesota Department of Education's Five Star Rating System for schools.

The Minnesota accountability system outlines five performance goals:

1. By 2013–14, all students will reach high standards, at a minimum attaining proficiency or better in reading/language arts and mathematics.
2. All limited English proficient (LEP) students will become proficient in English and reach high academic standards, at a minimum attaining proficiency or better in reading/language arts and mathematics.
3. By 2005–06, all students will be taught by highly qualified teachers.
4. All students will be educated in learning environments that are safe, drug-free and conducive to learning.
5. All students will graduate from high school.

Under the current system of assessing Adequate Yearly Progress (AYP), schools must meet targets in test participation, reading and mathematics proficiency, and attendance or graduation. Schools are having more difficulty reaching their reading and mathematics proficiency targets than in meeting their test participation and attendance or graduation rate targets. In the area of reading and mathematics proficiency, among schools that meet the minimum cell size, the percentage of schools failing to meet the requirement is highest for the Hispanic, Black, and LEP subgroups.

Next year the achievement targets for schools will begin to rise until they reach 100 in 2013–14. This rise will make it more difficult for schools to meet their targets.

Minnesota's Five Star Rating System for evaluating schools identifies underperforming schools, but also recognizes high performing schools. The rating system incorporates AYP results, and schools most commonly achieve the middle rating, three stars. This means that they made their AYP target but did not reach any of the four criteria used to award additional stars. The highest rating, five



stars, proved difficult to attain. While in some subcategories of schools (e.g., low poverty schools in 5th grade reading, or low mobility schools in 5th grade reading) approximately one-fifth of the schools earned five stars, typically 10% or less of schools earned this highest rating. A five-star rating is truly a mark of distinction and four-star ratings should be a source of pride.

However, high star ratings were more commonly attained in schools with large percentages of students from advantaged backgrounds; that is, in schools with fewer low income students, fewer students with limited English proficiency, fewer special education students, fewer mobile students who entered the school mid-year, and fewer students from the inner cities of Minneapolis and St. Paul. This can lead to the perception that the rating system is not equally fair to all schools. It can also lead to the perception that high ratings are more easily obtained in some schools than others for reasons that have to do with the backgrounds of the children entering the school over which staff have no control, rather than for reasons having to do with the quality of the school.

Adjusting for prior achievement and/or student background factors can level the playing field. But these methods typically level the playing field by implicitly or explicitly setting lower achievement expectations for students who enter with low prior achievement or from disadvantaged backgrounds. Setting lower expectations for such students runs contrary to the goals of closing achievement gaps, setting high expectations for all students, and promoting high levels of academic achievement among all students irrespective of background. By evaluating schools on student growth in achievement from year to year (value added), Minnesota could more nearly level the playing field for schools with large numbers of disadvantaged students.

Enrollment, finance, and teacher characteristics

Enrollment, finance, and teacher characteristics, the indicators analyzed in Chapter 3, can be categorized as representing the major inputs to Minnesota's educational system: students, teachers, and money.

Enrollment. Here we begin by tracking decade-long trends in enrollment that have implications for the funding and staffing of schools. Major enrollment trends of prior years have continued into the 2003–04 academic year. Overall, enrollments fell slightly, but by less than 1%. For the first time since 1994–95 there was a decrease in the number of secondary students in addition to the decrease in elementary grades which has been occurring since 1997–98.

Amidst the overall enrollment decline, however, some segments of the student population continue to grow in numbers: minority students, students in need of special education services, low income students, and students classified as having limited English proficiency. For several of these student populations, the schools provide additional services, such as compensatory services for low income students, special education services for students with disabilities, and English as second language services for students with limited English proficiency. If the number of students needing additional services continues to rise, the per-pupil cost of education can also be expected to rise. If current trends continue, the need for special education and English as second language teachers can be expected to continue to grow in a time of declining enrollment.

However, the elementary enrollment decline is slowing and may soon come to an end. The number of students entering first grade now seems to be growing from year to year. If this trend continues to the point where elementary enrollments begin to increase, educational resources may need to be shifted from secondary education to elementary education.

Finance. In the last year for which final figures are available, 2002–03, per-pupil funding rose by about 2% over that in 2001–02. As compared to other states, Minnesota's per-pupil funding, adjusted for cost of living differences, placed Minnesota 23rd among the 50 states (*Quality Counts: No Small Change*, 2005). According to *Quality Counts 2005*, Minnesota now spends less per pupil on education than such neighboring states as Wisconsin and Iowa.





District per-pupil revenues come from state, local and federal sources. The majority (73%) of school funding currently comes from state revenues. Local revenues provide 20% and federal sources account for 5%. However, it is important to note that individual districts vary significantly in the degree to which they depend on local, state and federal revenues.

Teacher characteristics. In 2003, Minnesota employed just over 51,500 full-time teachers. As would be expected in an era of declining enrollments, only 4% were in their first year of teaching. Reflecting enrollment trends, more new teachers were hired in the suburbs than in the metro or outstate regions. The average teacher salary was \$45,335. In comparing teacher salaries to those in other states during the most recent year for which data from other states are available, the American Federation of Teachers reported that the average teacher salary in Minnesota was below the national average. In average teacher salary, Minnesota ranked 19th among the 50 states.

If current trends continue, Minnesota can anticipate increasing needs for additional services such as English as second language instruction, special education, and Title I instruction. Over the next few years, some schools may need to shift resources as secondary enrollment declines and elementary enrollment levels off or even begins to grow. The state is also becoming less competitive in spending for schooling and paying for teaching. Policymakers should watch the competitiveness of Minnesota teacher salaries, particularly as compared to those in the larger neighboring states.

High school coursework, student attendance, and graduation rates

High school coursework, student attendance, and high school graduation rates help to give a picture of students' academic effort, as well as the progress they have made toward meeting the state's academic standards and requirements.

High school coursework. In its first section, Chapter 4 covers students' high school coursework data from two sources: ACT, Inc., and the mathematics coursework survey administered by the Minnesota Department of Education that accompanied the statewide 11th grade test in mathematics. According to ACT, 69% of Minnesota *ACT* test-takers reported completing the ACT recommended core academic preparation in 2003–04. Over the past seven years, the percentage of test-takers completing the recommended core has dropped by 4%. The percentage of test-takers completing the core varies by ethnicity. The percentages are much lower for Hispanic (61%), American Indian (53%) and Black (51%) students than for Minnesota students overall.

Along with the 11th grade mathematics test, the Minnesota Department of Education asked students about the high school mathematics coursework that they had taken in Algebra I, Geometry, Algebra II, Pre-calculus, and Calculus. The mean scale score in mathematics for students taking the 11th grade *MCA* tests is below the state average of 1539 for students who did not complete coursework at or above the level of Algebra II.

The differences between males and females mirror the pattern shown in national data: boys predominate in the lowest and highest categories; girls predominate in the middle categories. Recently there has been concern that girls took fewer advanced high school math courses than boys. Whether this is still a problem depends on how one defines advanced math. Although boys predominate somewhat in the highest categories, few students complete any coursework in these categories. On the other hand, if advanced math is defined as the college preparatory coursework, then girls are generally further along than boys.

There are major differences between ethnic groups' completion of math coursework. At the low end, nearly one-third of Black, Hispanic, and American Indian students report having completed no math coursework. Forty-four percent of Asian students and 41% of White students have completed coursework at the level of Algebra II or above, compared with 13% of Blacks and 19% of Hispanics and American Indians.





Attendance. One obstacle to the completion of challenging high school coursework can be poor attendance. In elementary schools, the attendance rates were generally around 95%. By 10th grade, however, attendance rates had fallen below 90% for American Indian, Black, Hispanic, urban, LEP, special education, charter, and ALC students.

Graduation rates. Graduation rates are reported using the new method of computation adopted for the purpose of meeting NCLB requirements. Besides adopting the new method of computing graduation rates, the state has also adopted an expectation that schools will show an 80% annual graduation rate as part of Minnesota's statewide plan for compliance with the requirements of the No Child Left Behind Act for AYP.

Minnesota's overall graduation rate in public schools was 87%. Girls completed high school at a higher rate than boys (90% vs. 85%). Whites and Asians completed high school at a higher rate than American Indians, Blacks, and Hispanics. Urban schools have a far lower graduation rate than schools in the rest of the state. Across ethnic groups, regions of the state, and types of schools, graduation rates show many of the same patterns as do attendance and coursework data. All three indicators covered in this chapter require a consistent, diligent effort on the part of students. High performance in one of these areas tends to be accompanied by high performance in the others, although this is not invariably the case. Improving attendance can be a first step in improving graduation rates and achieving success in challenging high school coursework.

Student Achievement

Chapter 5 contains data on student achievement. In 1997–98, Minnesota began statewide testing in grades 3, 5, and 8 for all students. In 1998–99, a writing test was added in 10th grade. In 2002, a reading assessment was added in 10th grade and a mathematics assessment was added in 11th grade; and in 2004, reading and mathematics tests were added in 7th grade. Data from these tests are examined with respect to three major questions: Has achievement been improving over time? How do Minnesota students compare to those from other states around the country? And are we moving toward greater equity of achievement levels across gender, ethnicity, and socio-economic status?

The answers to these questions are somewhat mixed: achievement on statewide tests over the past three to five years shows little improvement, although Minnesota students' composite scores on the *ACT* are higher in 2003–04 than they were ten years ago. Minnesota students overall compare favorably with students in other states—but students in minority ethnic subgroups do not outperform their peers nationwide. With regard to equity, girls' and boys' mathematics performance are very close, but girls still outperform boys in reading and writing. Similarly, in most assessments (other than writing), achievement gaps between minority students and White students are not closing.

Improvement over time. With regard to improvement over time, the data show that, over the past three to five years, scores on the major statewide tests have improved only slightly if at all. Using the high school graduation tests as the example, writing pass rates increased by 3% in 2001 but they have remained steady since then. Reading pass rates have risen by only 1% since 2000. Mathematics pass rates have declined by 1% over that same period. Starting next year, achievement targets will begin to increase for Minnesota schools under its implementation of the federal No Child Left Behind Act. Unless statewide test scores begin to rise, increasing numbers of schools will fail to meet their achievement targets.

Trend lines extending farther back than five years tend to show achievement increases, if sometimes only modest ones. The average *ACT* composite score was at its highest point at any time in the past ten years. Minnesota's average *ACT* composite, along with Wisconsin's, was the highest of any state for which the *ACT* is the major college entrance examination. The *National Assessment of Educational Progress* mathematics data show clear evidence of improvement over time. In both the





4th and 8th grade mathematics assessment, the percentage of students scoring at or above the Proficient Level has been increasing. In the 4th grade reading data, the percentage of students scoring at the highest levels has increased, although the percentage of students scoring in the lowest level (Below Basic) has remained about the same. Thus, there would appear to have been increases in achievement over the past ten or so years, but the increases may now be leveling off.

Minnesota's performance relative to other states. As compared to other states, the achievement of Minnesota students overall and by gender remains high. As stated above, Minnesota's average *ACT* composite score, along with Wisconsin's, was the highest of any state for which the *ACT* is the dominant college entrance examination. In the *NAEP* mathematics data, only one state had a mean score above Minnesota's on the 4th grade assessment and no state had a higher mean score on the 8th grade assessment. Minnesota is clearly at the top nationally in mathematics achievement. While the performance of Minnesota students in reading was not as impressive as in mathematics, Minnesota's average reading score was above the national average in reading, and Minnesota is among the top states in reading achievement.

However, much of Minnesota's high standing compared to other states can be attributed to the demographic composition of the state. While Minnesota's White students may have scores at or above those of their White peers nationally, Minnesota's ethnic minority students have scores that differ little from those of their ethnic peers around the country. The exception is Minnesota's Asian students, who do tend to score well below their Asian peers around the country, probably because Minnesota's Asian students have higher rates of limited English proficiency. While Minnesota has high levels of achievement overall, we do not have markedly higher achievement levels among minority students compared to other states. In some cases, the achievement levels of Minnesota's White students are little different from those of White students around the country.

Equity. Boys did not consistently outscore girls in mathematics, either in Minnesota's own statewide testing or in the *NAEP* assessments. The largest and most consistent differences across grades and testing programs were in reading, where girls outscored boys both in the statewide testing program and in the *NAEP* assessments at every grade. In the statewide testing program, girls also outscored boys in writing at both grades 5 and 10.

Large ethnic differences persist. On the high school graduation tests, achievement gaps do not appear to be closing, with the possible exception of writing. Pass rates for the various minority ethnic groups have not been rising faster than those for Whites, and minority students' pass rates *would* have to rise faster than Whites' pass rates in order to close achievement gaps. The exception is the writing test, where pass rates for every minority group have been rising faster than those for Whites. In writing, White students' pass rates have little room for improvement at 95%. If minority pass rates continue to improve faster than White students', then the minority/majority gap in pass rates for writing assessments will continue to close.

Across the state, Minnesota schools face budget challenges created by declining enrollments and rising costs associated with rising numbers of students needing additional services. All of this is occurring in a climate of increased accountability and, starting next year, rising achievement targets. As measured by per-pupil expenditures or average teacher salary, Minnesota's expenditures on education are typical of those across the country. Overall achievement levels are among the highest in the nation, but wide differences among ethnic groups persist, not only in achievement, but also in attendance, graduation rates, and participation in challenging high school coursework.

In the next few years, Minnesota schools must cope with rising accountability expectations, and students with increasing needs for special services. The state needs to incorporate indicators of student growth into the school accountability system in order to level the playing field for schools with large numbers of disadvantaged students. It must also maintain teacher salaries competitive with neighboring states, and ensure funding levels that more than cover inflation to accommodate





the rising costs of additional service for increasing numbers of students with special needs, and if elementary school enrollments begin to rise, resources may need to be shifted from the secondary to the elementary level.

Minnesota's achievement levels appear to have been rising over the past decade, but may now be leveling off. Overall achievement levels in reading and mathematics are high compared to other states, but much of the difference can be attributed to the demographic composition of Minnesota students. Minority students in Minnesota score about the same as their ethnic peers around the country, although Asian students tend to score lower (probably because Minnesota's Asian students have high rates of limited English proficiency). Gender differences are most marked in reading and writing, not mathematics, and the most marked differences favor girls. Large majority/minority ethnic differences in achievement persist, and may continue to do so for some time to come if current trends continue.





References

ACT, Inc. (2002). *ACT high school profile report H. S. graduating class 2002: State composite for Minnesota*. Iowa City, IA: Author. Code: 240-000.

ACT, Inc. (2002). *ACT high school profile report H. S. graduating class 2002: National report*. Iowa City, IA: Author. Code: 990-000.

ACT, Inc. (2003). *ACT high school profile report H. S. graduating class 2003: State composite for Minnesota*. Iowa City, IA: Author. Code: 240-000.

ACT, Inc. (2003). *ACT high school profile report H. S. graduating class 2003: National report*. Iowa City, IA: Author. Code: 990-000.

ACT, Inc. (2004). *ACT high school profile report H. S. graduating class 2004: State composite for Minnesota*. Iowa City, IA: Author. Code: 240-000.

ACT, Inc. (2004). *ACT high school profile report H. S. graduating class 2004: National report*. Iowa City, IA: Author. Code: 990-000.

ACT, Inc. (2004). *Introducing the ACT writing test*. Available online at: <http://www.act.org/aap/writing/>. (Retrieved 2/8/05.)

American Federation of Teachers. (2004). *Table 1. Average Teacher Salary in 2002–03, State Rankings*. Available online at: <http://www.aft.org/salary/2003/download/2003Table1.pdf>. (Retrieved 2/8/05.)

American Federation of Teachers. (2004). *Table 2. Actual Average Beginning Teacher Salaries 2002–03, Estimated 2004*. Available online at: <http://www.aft.org/salary/2003/download/2003Table2.pdf>. (Retrieved 2/8/05.)

College Board (2004). *Official information for 2005 on the new SAT I*. Available online at: <http://www.collegeboard.com/newsat/index.html>. (Retrieved 12/6/04.)

Davenport, E. C. Jr., Davison, M. L., Kuang, H., Ding, S., Kim, S., & Kwak, N. (1998, Fall). High school mathematics course-taking by gender and ethnicity. *American Educational Research Journal*, *35*, 497–514.

Davenport, E.C., Davison, M.L., Kwak, N., Irish, M.L., & Chan, C-K. (2002). *Minnesota high stakes high school graduation test and completion status for the class of 2000*. Minneapolis, MN: Office of Educational Accountability, College of Education and Human Development, University of Minnesota. Available online at: <http://education.umn.edu/oea/II/Reports/OEARports.htm>. (Retrieved 2/8/05.)

Davison, M., Davenport, E.C., Kwak, N., Peterson, K.A., Irish, M.L., Chan, C.K., Choi, J., Haring, J., Kang, Y.J., Seo, Y.S., & Wu, Y-C. (2002). *2001 Minnesota Education Yearbook*. Minneapolis, MN: Office of Educational Accountability, College of Education and Human Development, University of Minnesota. Available online at: <http://education.umn.edu/oea/II/Reports/OEARports.htm>. (Retrieved 2/8/05.)

Davison, M., Davenport, E.C., Kwak, N., Peterson, K.A., Irish, M.L., Chan, C.K., Choi, J., Haring, J., Kang, Y.J., Seo, Y.S., & Wu, Y-C. (2003). *2002 Minnesota Education Yearbook*. Minneapolis,



MN: Office of Educational Accountability, College of Education and Human Development, University of Minnesota. Online at: <http://education.umn.edu/oea/II/Reports/OEAReports.htm>. (Retrieved 2/8/05.)

Davison, M., Davenport, E.C., Seo, Y.S., Peterson, K.A., Ferdinand, M.L.I., Chan, C.K., Choi, J., Kang, Y.J., & Wu, Y-C. (2004). *2003 Minnesota Education Yearbook*. Minneapolis, MN: Office of Educational Accountability, College of Education and Human Development, University of Minnesota. Available online at: <http://education.umn.edu/oea/II/Reports/OEAReports.htm>. (Retrieved 2/8/05.)

Education Week. (2004). *Education counts 2004*. [Data collection.] Available online at: <http://www.edweek.org/rc/edcounts>. (Retrieved 2/8/05; free registration required for access).

Loomis, S.C., and Bourque, M.L. (Eds.) (2001). *National Assessment of Educational Progress Achievement Levels, 1992–1998 for Mathematics*. Washington, DC: National Assessment Governing Board. Available online at: <http://www.nagb.org/pubs/mathbook.pdf>. (Retrieved 2/7/05.)

Loomis, S.C., and Bourque, M.L. (Eds.). (2001). *National Assessment of Educational Progress Achievement Levels, 1992–1998 for Reading*. Washington, DC: National Assessment Governing Board. Available online at: <http://www.nagb.org/pubs/readingbook.pdf>. (Retrieved 2/7/05.)

Minnesota Department of Education. (2004). *Minnesota Comprehensive Assessments: Achievement level descriptions*. Available online at: <http://education.state.mn.us/content/072526.pdf>. (Retrieved 2/8/05.)

Minnesota Department of Education (July 2003). *Minnesota mathematics: MCA Grade 11, 2003*. Roseville, MN: Author (especially pp. 7–10).

Minnesota Department of Education. (2004). Summary of Chapter 294, *2004 Omnibus K–12 Education Policy Act*. Available online at: <http://education.state.mn.us/content/072662.pdf>. (Retrieved 2/8/05.)

Minnesota Department of Education. (2003). *School district financial profiles: 2003 District Revenue Percentage*. Available online at: http://education.state.mn.us/html/intro_finance_fy2003.htm; choose item #8). (Retrieved 2/8/05.)

Minnesota State Colleges and Universities. (2004). *Admissions Information*. Available online at: <http://www.mnscu.edu/students/admissions.html>. (Retrieved 2/8/05.)

National Center for Education Statistics. (2002). *Education finance data 2001–02 and earlier*. [Data collection.] Available online at: <http://nces.ed.gov/ccd/f33agency.asp> (Local Education Agency (School District) Finance Survey (F-33) Data); and http://nces.ed.gov/ccd/pub_rev_exp.asp (Revenues and Expenditures for Public Elementary and Secondary Education). (Retrieved 2/8/05.)

Singham, M. (2003). The achievement gap: Myths and reality, *Phi Delta Kappan*, April 2003, pp. 586–591.

Teitelbaum, P. (2003). The influence of high school graduation requirement policies in mathematics and science on student course-taking patterns and achievement. *Educational Evaluation and Policy Analysis*, 25, 31–57.

University of Minnesota (2004). Freshman admissions requirements. Available online at: http://admissions.tc.umn.edu/AdmissionInfo/fresh_requirements.html. (Retrieved 2/8/05.)



