



*The Superintendent's
Ninth Annual Report
on School
Performance and
Improvement in
Hawaii*

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Office of Accountability and School Instructional Support /Planning and Evaluation Group
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The Superintendent's Annual Report on School Performance and Improvement in Hawai'i

FOREWORD

The Superintendent's Annual Report on School Performance and Improvement in Hawai'i is one of two major reports in the state's system of school accountability. This report contains collective data on our schools for school year 1997-98, showing trends over time and, where appropriate, comparisons with data from other states. The other major report, the *School Status and Improvement Report*, is prepared annually for each school. These reports contain school data and summaries of the schools' improvement priorities and activities. They are available at public libraries and online at <http://arch.k12.hi.us> on the world wide web.

These two reports are the most visible parts of the Department of Education's assessment and accountability system, the purpose of which is to hold everyone in the department, including me, responsible for student learning. These reports grew out of the department's initiative, early in this decade, to develop a comprehensive accountability system for the public schools of Hawai'i. The department's efforts thus far have laid a foundation for the system, but they are only a start.

During the last year—the first of my tenure as superintendent—we have conducted a thorough assessment of the public school system's needs, and have initiated a refocusing of the department's efforts on full implementation of the revised Hawai'i Content and Performance Standards. These standards represent our common expectations for students and will be the central focus both of our efforts and those of our students.

Out of our assessment of the public school system's needs, we have developed a strategic plan for standards-based reform. At the core of the strategic plan are plans for the implementation of a truly statewide assessment and accountability system. This system will include provisions for school and system accountability, as well as sound, standards-based student assessment. The latter is needed to guide instruction and to shape the department's support for classrooms and schools and policymaking. It is our hope and belief that a sound system of accountability will stimulate improved performance by delineating clear roles and responsibilities linked to necessary authority and resources, by using fair and adequate assessment against agreed-upon goals, and by invoking consequences accurately and fairly related to performance. Future editions of both this *Superintendent's Report on School Performance and Improvement* and the *School Status and Improvement Reports* should reflect our progress toward both a sound system of accountability and the achievement of the standards we have set for our children's education in public schools.

Paul G. LeMahieu, Ph.D.
Superintendent of Education



ACKNOWLEDGMENTS

Preparation of *The Superintendent's Annual Report on School Performance and Improvement in Hawai'i* requires the cooperative effort of a number of people. The report is prepared by Dr. Thomas Gans of the Evaluation Section of the Department of Education's Office of Accountability and School Instructional Support under the supervision of Michael W. Heim, Director of the Planning and Evaluation Group, and Dr. Glenn T. Hirata, Administrator of the Evaluation Section. In the course of its preparation the report is critically reviewed by a number of individuals including Mr. Heim, Dr. Hirata, and Jerald D. Plett of the Evaluation Section.

The Superintendent's Annual Report on School Performance and Improvement in Hawai'i requires accurate and consistent data, and a number of people in the Department of Education have contributed to the report by providing the needed data. The assistance provided by Richard Asato and the staff of the Information Systems Services Branch and by Karl Yoshida and the staff of the Information Resource Management Branch is gratefully acknowledged.



Report Highlights

- **SCOPE.** The report for school year 1997-98 covers public education in kindergarten through 12th grade, including data from all 248 public schools in the seven administrative districts in Hawai'i.
- **ENROLLMENT.** Enrollment growth, which had exceeded 1.5% for the five years from 1991-92 through 1995-96, declined sharply over the last two years to 0.4% in 1997-98. (Pages 3-5)
- **SPECIAL NEEDS.** The numbers of students in need of special services are increasing much more rapidly than is the population of students at large. These students are those from poor economic circumstances, those with limited English proficiency, and those who need special education services. The growth in the numbers and proportions of students with these special needs means that the task facing the public schools is steadily becoming more difficult and potentially more costly. (Pages 5-7)
- **STAFFING.** In 1987-88, Hawai'i ranked 48th among the states in pupil-to-teacher ratio. Through concerted effort, by 1992-93 the state had lowered its pupil-to-teacher ratio enough to tie for 35th. Fiscal constraints that began in 1994-95 have halted the state's progress on this indicator. On a positive note, Hawai'i is well *below* the national average in the proportion of its professional staff whose functions are administrative. (Pages 9-11)
- **FINANCE.** After improving during the early 1990s, the state's financial commitment to public education has taken a marked downturn. Although Hawai'i ranks 3rd among the states in tax collections per capita, it ranks **last** in the percentage of state and local revenue allocated to public schools. (Pages 11-13)
- **FACILITIES.** School facility problems in Hawai'i are chronic. Over half of the state's schools need additional classrooms. Ninety-four of the state's schools were operating with enrollment at or above their rated capacity. Schools' support facilities, such as libraries and cafeterias, are chronically underdeveloped. Over half of the schools in Hawai'i have substandard library facilities. The state's secondary and elementary schools averaged **second largest** and **fourth largest** in the nation respectively. (Pages 13-17)
- **NAEP.** On the National Assessments of Educational Progress, the state's 4th grade and 8th grade scores ranked low on the reading assessment (1998), but higher on the mathematics assessment (1996), especially for the 8th graders. (Pages 20-21)
- **DROPOUTS AND SCHOOL COMPLETION.** Dropout rates for students in grades 9-12 average about 4.7% per year. The estimated cumulative dropout rate is just over 17%, a decline of 1.5% from 1996-97. Almost 80% of public school seniors intend to continue their formal education. (Pages 21-24)
- **STUDENT DISCIPLINE.** The incidence rates of disciplinary suspension decreased in 1997-98, both overall and in each category of threat to safety. Suspensions for the most serious (Type A) offenses increased slightly, but suspensions in the other three categories declined markedly. (Pages 25-27)



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The *Superintendent's Report on School Performance and Improvement in Hawai'i* is part of the Department of Education's accountability system for the public schools of Hawai'i.¹ This system is designed to inform the people about the performance of individual schools and the schools collectively. This particular report has two purposes:

Purpose

- (1) to report what we know about trends, progress, and problems of the state's school system; and
- (2) to compare the state's public schools with those of the nation and those of states that have important characteristics similar to those of Hawai'i .

This report's purpose is to inform. While considerable attention is addressed to outcomes, the report also addresses important aspects of schooling context and identifies process indicators that warrant the attention of policymakers. Decisions on what action is required by the results reported here can be made only by those who make and affect policy for the state's public schools: the Board of Education, the Legislature, and the Governor.

The information in this report comes primarily from Department of Education records and from the National Center for Education Statistics. Sources other than department records are footnoted. Wherever possible, data are presented graphically to promote understanding of their import. The data used in graphs are tabled in the appendix.

Data Sources

Data regarding individual schools are reported in *School Status and Improvement Reports* (SSIRs), which were created by the Board of Education as reports from the individual schools to their communities. *School Status and Improvement Reports* for all state schools are presented to the Board, the Governor, and the State Legislature annually. Complete sets of the SSIRs are available at all public libraries, and individual reports can be found at <http://arch.k12.hi.us> on the world wide web.

Data in this report are presented as *context*, *process*, and *outcome* indicators.

Focus

- *Context* indicators reflect demographic characteristics of the students or community that are typically beyond the control of schools or the department.
- *Process* indicators connote conditions and inputs that are under the control of the schools or the state; these include school resources, facilities, and priorities.
- *Outcome* indicators denote the results of school endeavors; these include such measures as performance on achievement tests, dropout rates, and disciplinary incident rates.



Some indicators that represent *context* conditions for schools are *process* when the focus of accountability is the department or the state. For example, the number of teachers assigned to a school is fixed by formula established by law. This makes the staffing level a matter of *context* for both the individual school and the department, since they are bound by the legal formula. However, when comparing Hawai'i to other states or the nation, staffing levels are matters of *process*, since they are well within the state government's power to change. Such shifts in perspective will be noted where they are relevant in this report.

**Comparisons with
Other States**

Where comparisons of circumstances in Hawai'i with those of other states are warranted, data from the state are compared to the national average and used to rank Hawai'i among the 50 states and the District of Columbia. In addition, specific comparisons will be made with three states that are comparable to Hawai'i in K-12 school enrollment, population, and *per capita* wealth. These states are Nevada, New Hampshire, and Rhode Island.



This report covers public education in kindergarten through 12th grade. Its data came from 248 public schools in seven school districts and cover School Year 1997-98. Although the state's public schools can be loosely classified as elementary, intermediate, or high schools, the ranges of grades in schools vary considerably. The school patterns of grade level organization during the 1997-98 school year are shown in **Figure 1**.

School Organization

Figure 1. Grade Level Organization of Public Schools in Hawai'i, 1997-98

GRADE LEVELS INCLUDED													
K	1	2	3	4	5	6	7	8	9	10	11	12	
38 schools, median size: 576 pupils						17 schools, median size: 813 pupils			28 schools, median size: 1,764 pupils				
Linapuni School, 262 pupils								13 schools, median size: 1,008 pupils					
						Kohala High & Intermediate School, 612 pupils							
126 schools, median size: 586 pupils							8 schools, median size: 1,015 pupils						
8 schools, median size: 596 pupils													
Pa'auilo Elementary & Intermediate School, 246 pupils													
7 schools, median size: 305 pupils													

The “standard” school organization of elementary, middle, and high schools primarily exists in urban areas. Multi-level schools (K-8, 7-12, and K-12) serve rural areas or specialized populations.

Generally, schools that have wider grade ranges (K-8, K-12, or 7-12) serve rural areas. The exception is Kula Kaiapuni 'O Anuenue, the Hawaiian Immersion School in Honolulu. The prevailing pattern of school organization in urban areas has three levels: elementary schools with grades K-5 or K-6, intermediate or middle schools with grades 6-8 or 7-8, and high schools with grades 9-12. In addition to the “regular” schools, there are three special program centers that are not organized by grades. Student information for the special centers is included in the data reported below; but some data, such as test scores, are not appropriate for these units and are not included in this report.²

Public school enrollment in Hawai'i—shown in **Figure 2** (next page)—which had been growing at rates in excess of 1.5% for the five years between 1991-92 and 1995-96, declined sharply in the last two years to less than 0.5% growth in 1997-98. Elementary school enrollment, which had been increasing throughout the 1990s, slowed its rate of increase in 1996-97 and virtually stopped increasing in 1997-98. Secondary school enrollment, which had apparently “bottomed out” in 1990 and had been increasing since, also slowed its rate of increase markedly in 1997-98.

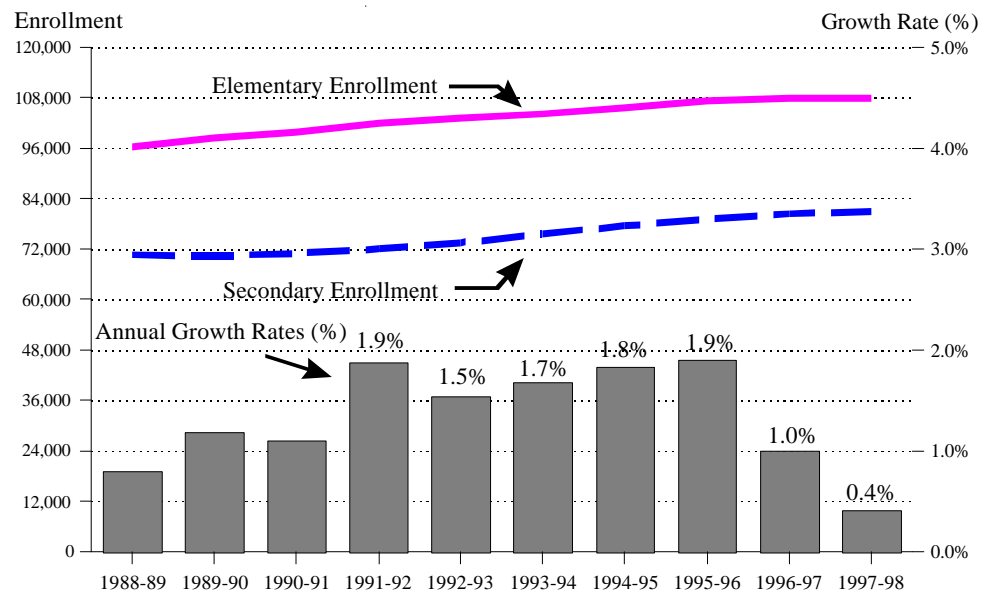
Students Enrollment

Grade-by-grade enrollment data indicate that the current peak enrollment was in second grade in 1997-98. The number of births in Hawai'i (**Appendix B, Table 8**) increased steadily until 1991 and then began to decline. This decline in births has already been reflected in early grade enrollment, and should be reflected in overall enrollment soon.



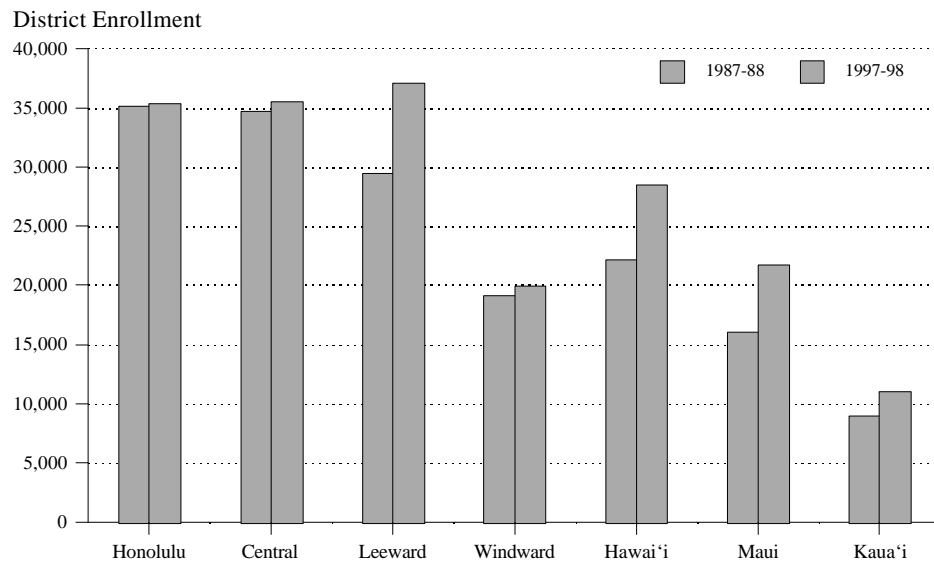
Figure 2. Public School Enrollment in Hawai'i, 1988-89 to 1997-98

Growth in overall enrollment has all but ceased as elementary enrollment leveled off and secondary enrollment growth slowed.



Aside from past growth in overall enrollment, there has been a marked shifting in the geographical distribution of the state's student population. Enrollment changes in the seven districts over the last decade are shown in Figure 3.

Figure 3. Enrollment in 1987-88 and 1997-98, by District



While Honolulu District has grown by less than 250 students since 1987-88, Leeward District's enrollment has increased by over 7,900 students, Hawai'i District's by over 6,700, and Maui District's by almost 6,300. This means that the need for facilities has

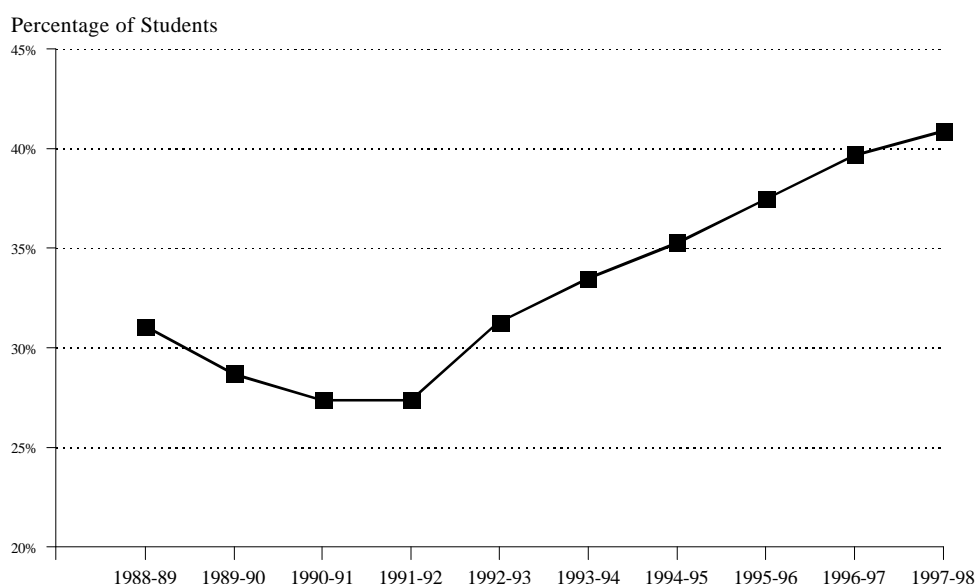


been greater than indicated by overall enrollment alone. We cannot accommodate students enrolling for school in Leeward Oahu with the excess classrooms available in East Honolulu. We have experienced local overcrowding of facilities as a result of population shifts, and these strain our efforts to provide at least adequate facilities for all students.

There are three student subpopulations that are of special concern. These are students from disadvantaged economic circumstances (those who receive school lunch subsidies), students with limited English proficiency, and students who need special education services. Growth in the percentage of students in Hawai'i receiving lunch subsidies over the last eight years is presented in **Figure 4**.

Special Needs

Figure 4. Students Receiving Lunch Subsidies, 1988-89 to 1997-98



The percentage of students receiving lunch subsidies is nearly 1½ times what it was in 1991-92.

The numbers of students needing special education services and the numbers of students with limited English proficiency are shown in **Figure 5** (next page).

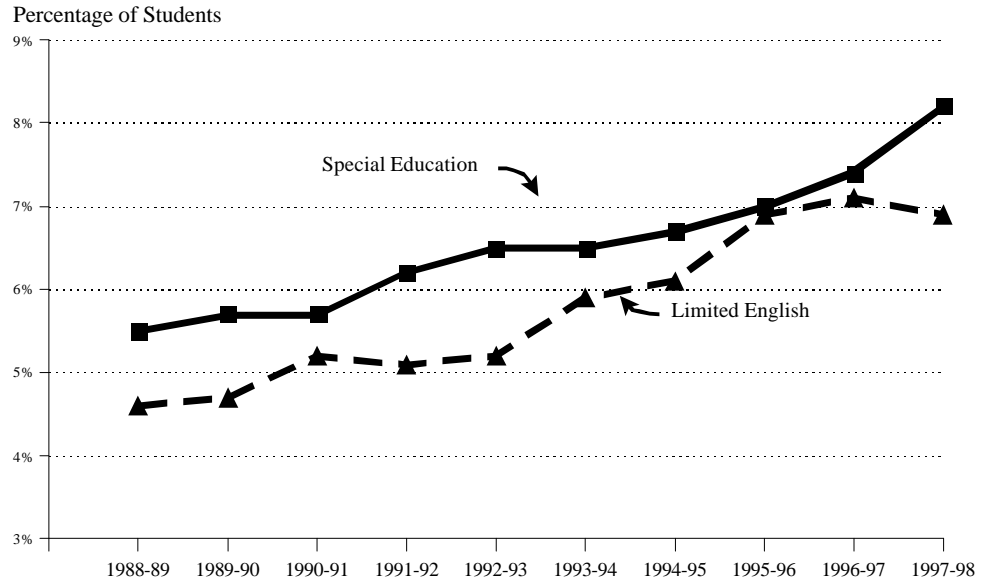
It is readily apparent from **Figures 4 and 5** that all three groups of children with special needs are rapidly growing. The extent of that growth has major implications for public education. Since the 1988-89 school year, overall enrollment increased by 13.2 percent while:

- The number of students who receive lunch subsidies has increased by over 48 percent;
- The number of students needing special education services has increased by almost 70 percent; and
- The number of students who have limited English proficiency has increased by over 70 percent.



Figure 5. Special Education and Limited English Students

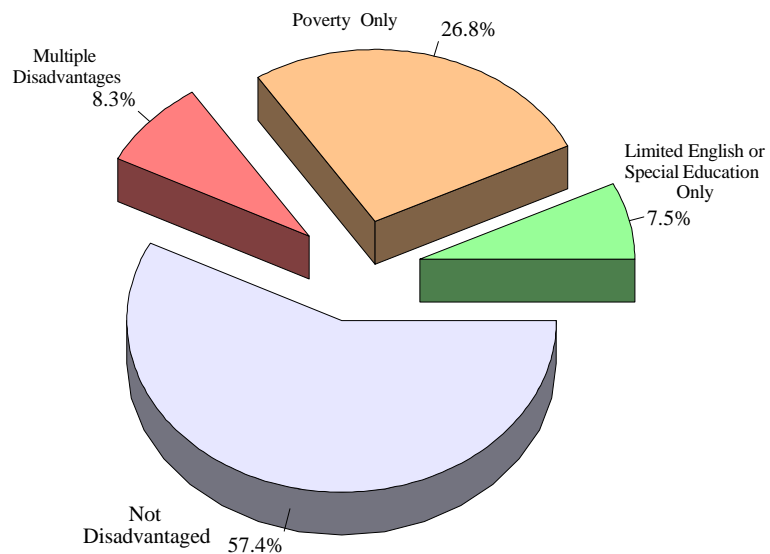
The percentage of special education students has been rapidly increasing throughout the last decade. That of students with limited English has just recently reached a plateau.



Put simply, the numbers of students most in need of special services are increasing much more rapidly than is the population of students at large. This means that the task facing the public schools is steadily becoming more difficult and more costly. Students in each of these categories of special need represent an educational task and responsibility that is more demanding than that of educating a typical English-speaking, middle-class child of average intellect and ambition. Children from impoverished families tend to start school already behind their peers in academic development. The seriousness of the increasing prevalence of disadvantage among the state's public school students is clear from Figure 6.

Figure 6. Disadvantages Affecting Public School Students in Hawai'i

Children with some element of disadvantage now constitute over 40% of all students. This makes the task of providing all students a "free, appropriate education" more difficult and more costly.

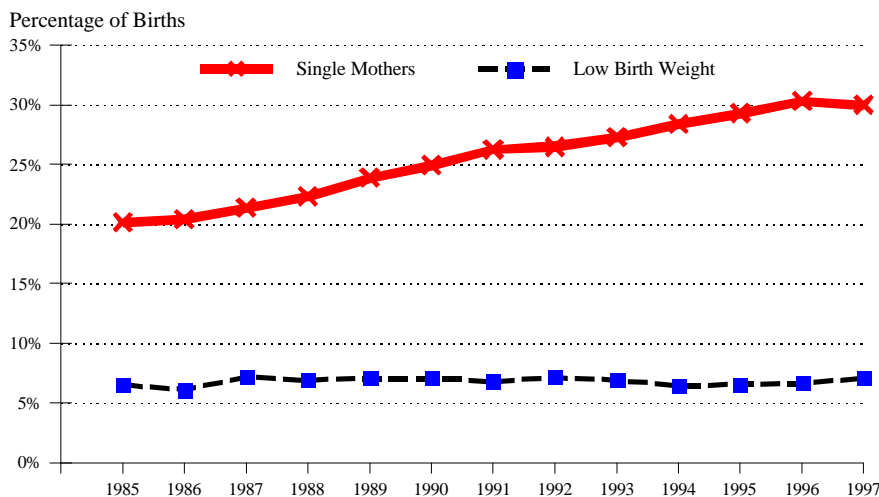




Less than 60% of public school students in Hawai'i do not bring with them at least one of these types of educational disadvantage. The growth in the numbers of disadvantaged students in the state's school population presents a particular challenge to the state's schools in view of the rising expectations that the public has for what schools can achieve and the state's continuing fiscal problems. Disadvantaged students require services that are more costly than the norm, and in many cases these students are "entitled" to whatever services are required to meet their specific needs. It will be challenging indeed to meet the needs of the state's students, both advantaged and disadvantaged, with the increasingly restricted funding that Hawai'i has and is willing to devote to public education.

Two vital statistics that are likely predictors of special needs among school-aged children are the incidence of low birth weight—under 2,500 grams (5.5 lb.)—and births to single mothers. The incidence of low birth weight is associated with a number of health and developmental problems in young children, while births to single mothers reflect weak family structure and a likelihood that the children will grow up poor. Data on these two indicators are presented in **Figure 7**. Over the period for which data are available, the proportion of children with low birth weight has been steady and small, about 7%. By contrast, over the same period there have been steadily growing numbers and proportions of children born to single mothers. The 1996 rate of births to single mothers in Hawai'i (30.3%) was over three times what it was in 1970 (9.6%).³ There is a slight drop in this statistic for 1997, but it remains to be seen whether this will signal a genuine downturn in this data or merely a pause in the otherwise upward trend (as in 1992).

Figure 7. Incidence of Low Birth Weight and Births to Single Mothers



Births to single mothers have increased over the last three decades to amount to at least 30% of all births in Hawai'i.

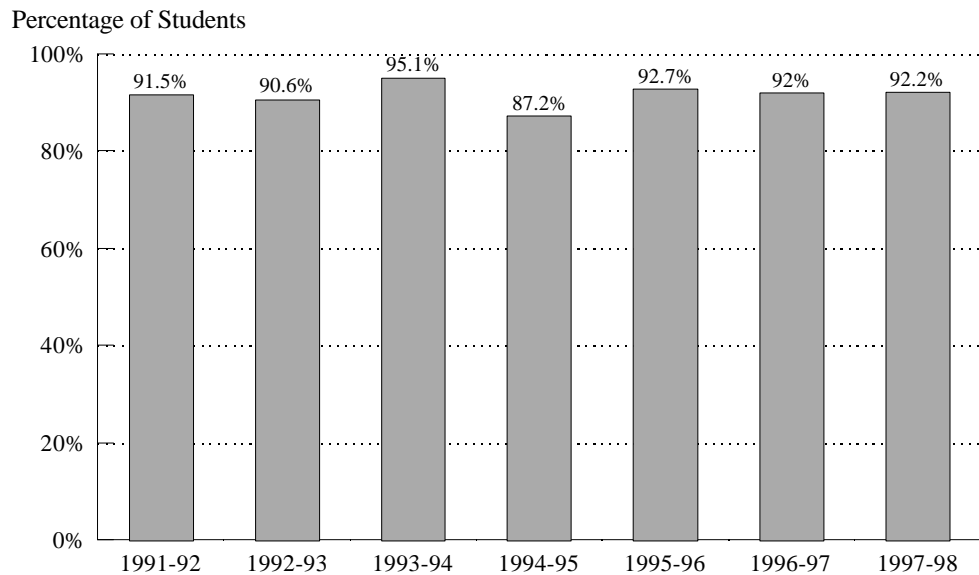
Public school students in Hawai'i are not exceptionally mobile, so far as we can tell. Although we do not have comparison data from other states, we do have estimates of the proportion of the state's students who were enrolled in the same school for the entire year.⁴ This measure captures short term transiency, that which occurs within the school year. It does not capture transiency over a longer term, that is where

Student Transiency



students change schools between school years without completing the entire curriculum at one school. The proportions staying in the same school all year for the last seven school years are shown in **Figure 8**. In 1997-98, the percentages of students enrolled for the entire year in regular schools ranged from 69% to over 99%. There was little variation among types of schools in the proportions of year-round students; statewide averages for elementary, intermediate, multi-grade and high schools were all between 91% and 94%. The most significant factor influencing students' transiency is the demanding lifestyle of military parents; 9 of the 12 schools with less than 80% of their students enrolled year-round were schools serving military housing areas.⁵ The exceptions were Olomana School, at which students are expected to be transient, and Ni'ihau and Ke'anae Schools, which between them only enrolled 20 students. Altogether, 92% of the state's students were enrolled in the same school all year.

Figure 8. Students Enrolled in the Same School All Year



Most schools have over 90% of their students enrolled for the entire school year. Almost all the schools with less than 80% of their students enrolled for the entire year serve military housing areas.



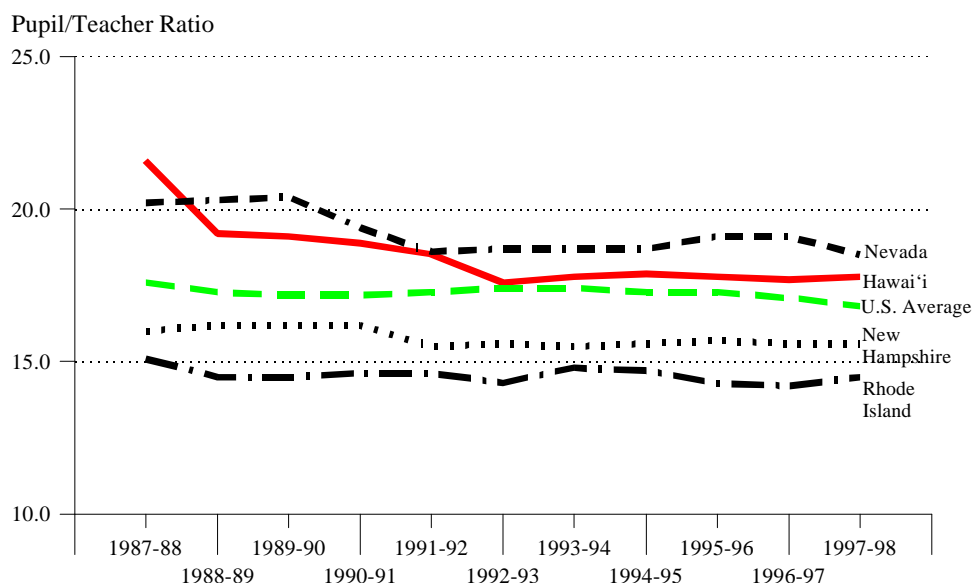
In 1997-98, there were about 11,400 teachers in the public schools of Hawai'i. Of these teachers:

**Staff
Teachers**

- The average length of service was almost 13 years;
- almost 64% had been teaching in their current schools for at least five years;
- 69% were teaching subjects in the regular instructional program;
- 16% taught in the supplementary program (remedial instruction, etc.);
- just over 14% were teaching in special education; and
- just over 1% were assigned to school complexes or district offices to serve students in more than one school.

A widely used indicator of school or school system *process* is the ratio of pupils to teachers.⁶ The ratio for the system as a whole, as reported to the U.S. Department of Education, is shown and compared with those of comparable states and the United States' average in **Figure 9**. In the late 1980s and early 1990s, Hawai'i considerably improved its pupil to teacher ratio and its rank on this indicator; but during the last five or six years the state's ratio and rank have been virtually stagnant.

Figure 9. Pupil to Teacher Ratios in Hawai'i and Comparable States, 1987-88 to 1997-98



The pupil to teacher ratio in Hawai'i improved over the last decade, but it has since leveled off and is still well above the United States' average.

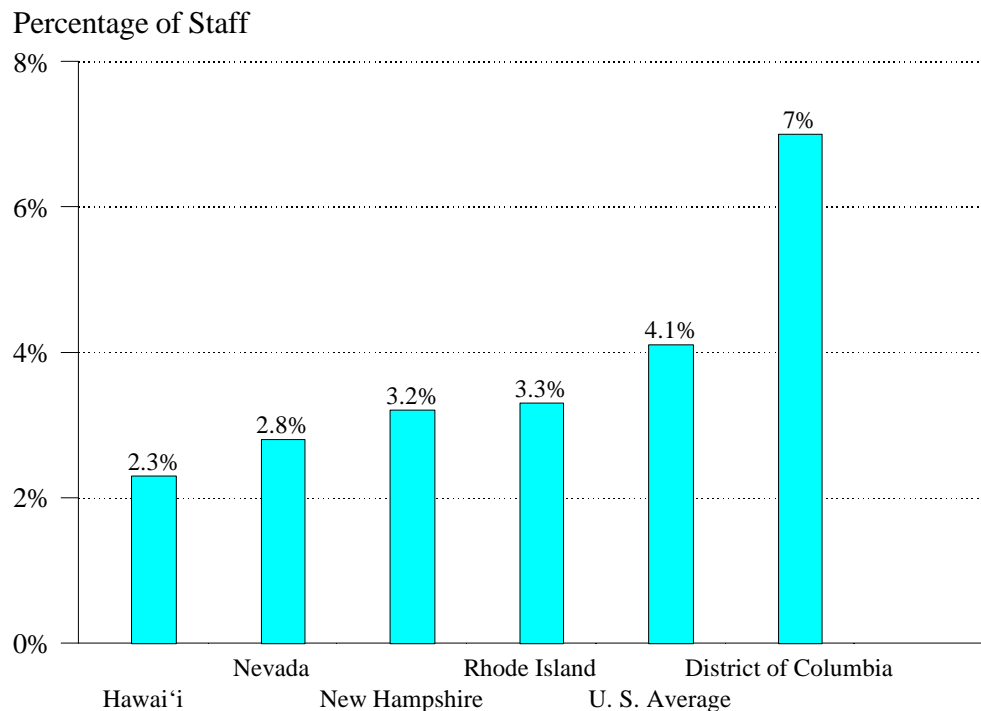
In 1987-88, Hawai'i ranked 48th among the 50 states in pupil to teacher ratio. By 1992-93, it had improved its rank to 35th, having lowered its pupil to teacher ratio from 21.6 to 17.6. That improvement was the result of both deliberate policy and major effort, but the relative gain was also partly the result of increasing enrollments and financial difficulties in other states. While mainland states have recovered from the recession of the early 1990s, Hawai'i has not. Mostly as a consequence of financial strains, the state's pupil to teacher ratio has begun to rise; in 1997-98 it was 17.9, and the state's rank among the 50 states had dropped back to 40th.



Administrators In 1997-98, there were 667 full-time equivalent school level administrative positions in the state's public schools, of which 492 were for principals or vice-principals. The remainder were for athletic directors, registrars, or student activity coordinators. If administrative responsibilities were evenly divided, this would mean that on average each principal or vice-principal in Hawai'i was responsible for overseeing the education of 384 pupils and supervising 22.7 teachers—about 16 pupils less than in 1996-97.

There is a common belief that public education in Hawai'i is saddled with a huge bureaucracy, but the facts do not bear this out. The number of administrators as a percentage of the professional staff in the state's school system is actually smaller than in most school systems of similar size. **Figure 10** shows the 1996-97 percentages of professional staff performing district administrative functions in Hawai'i and comparable jurisdictions. The state's percentage (2.3%) is the lowest of the group. This is despite the fact that in Hawai'i, alone among the states, the percentage includes *both* district and state administrators. The only other jurisdiction in which all levels of administration are included in the data, the District of Columbia, has 7% of its professional staff performing district administrative functions.⁷

Figure 10. Proportions of Professional Staff Performing District Administrative Functions, Hawai'i and Comparable States



The administrative staff percentage in Hawai'i is the lowest of the comparable states; only Hawai'i, of all the states, includes state administrators in its percentage.

This information is corroborated by a report that Hawai'i spends less per student for administration than most other states. The report noted that in 1994-95, Hawai'i spent about \$45 per pupil on administration (0.8% of total per pupil expenditures). The national average was \$126 per pupil (about 2.3% of total per pupil expenditures).⁸



The stability of school level administration is an important indicator of school continuity and curricular direction, and there has been substantial improvement on this measure. In the past six years, the percentage of schools with three or more principals in five years has declined. In 1989-90 it was 38%; in 1997-98 it was only 10.5%. This represents notable progress toward providing schools with stable leadership.

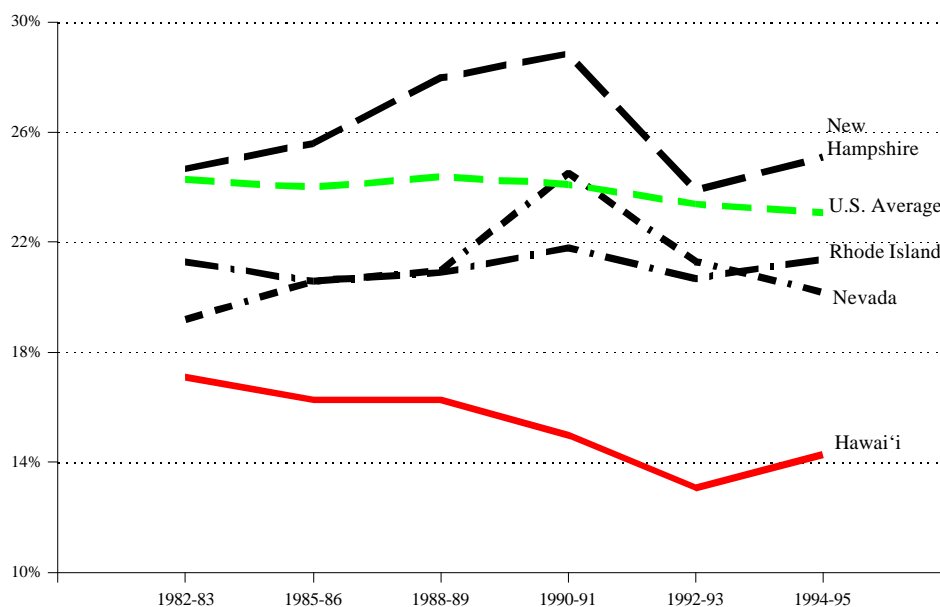
Despite the stagnation that has troubled the state's tourism-dependent economy for most of this decade, Hawai'i remains a comparatively wealthy state. In 1997 Hawai'i ranked 16th among the states in personal income *per capita*, a decline from its peak of 6th in 1993 and 1994, but still among the top tier of states. The state also ranked **third** in state general revenue *per capita*, surpassed only by Alaska and Delaware, and **second** only to Alaska in tax collections *per capita*.⁹ By contrast to this relative abundance of resources, the economic effort that Hawai'i has historically exerted on behalf of the children in its public schools has been less than mediocre.

A telling indicator of support for public education is the proportion of total state and local revenues that is allocated to the operation of public elementary and secondary schools. State policy makers can get a sense of the actual priority given to public education by comparing school expenditures to total expenditures rather than viewing school expenditures in isolation.

The proportions of state and local revenues allocated to public education by Hawai'i and comparable states from 1982-83 to 1994-95 are presented in **Figure 11**. On this measure of support for public education, Hawai'i has consistently ranked *last* among the states.

General Revenues and Expenditures for Public Education

Figure 11. Percentage of State and Local Revenue Allocated to Public K-12 Education, Hawai'i and Comparable States



Hawai'i devotes the lowest percentage of its total state and local revenues to public K-12 education of any state in the U.S. Hawai'i has consistently ranked last among the states on this measure.



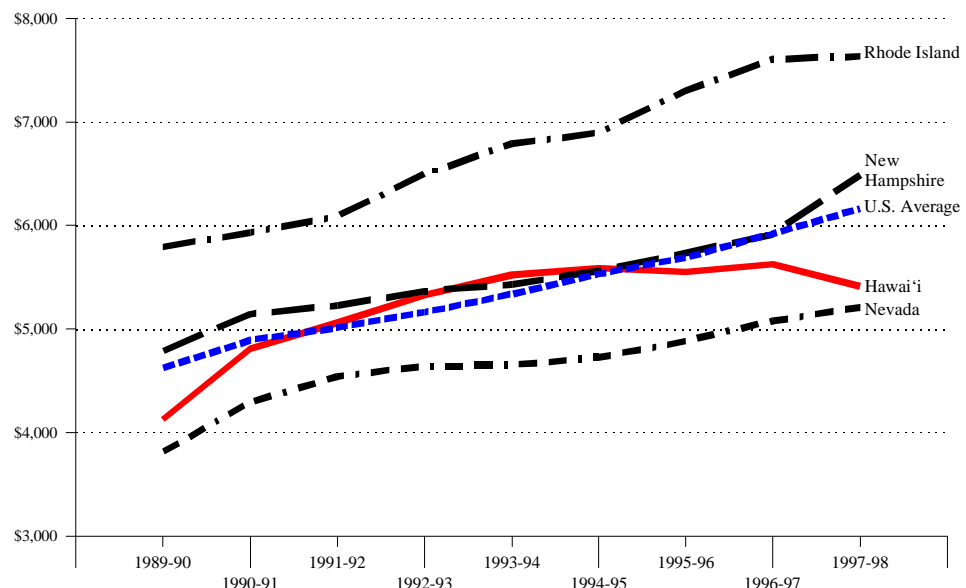
The sole positive indication in these data is that after declining substantially over a decade, the proportion of its resources that Hawai'i devoted to its public schools rose modestly in the last year for which data are available. This rise is very likely the result of decisions to protect public schools against funding cuts while allocations for other state programs were being reduced.

Current Expenditures per Pupil

The standard index of funding for public education (without regard to the state's ability to pay) is the operating expenditures per pupil, reported in either dollars per average daily member (ADM) or dollars per average daily attendance (ADA).¹⁰ Between 1980-81 and 1994-95, operating expenditures per pupil in Hawai'i grew in parallel with the state's economy and somewhat faster than tax revenues. During that period, the state's economic base (measured as Gross State Product/ADM) expanded by 125%, state tax revenues increased by 97%, and operating expenditures per pupil increased by 134%. Expenditures per ADM reached a peak in 1994-95 and have since leveled off, currently (1997-98) at \$5,432, 127% over what they were in 1980-81. The Gross State Product/ADM has continued to rise as enrollment growth receded and in 1997-98 was \$184,460/ADM, an increase of 133% from its 1980-81 value. Current data on state tax revenues are not yet available.¹¹

Despite its wealth, Hawai'i has never spent discernibly more per pupil than the national average on public education. The state's per pupil spending has increased over the last four decades, as has educational spending throughout the nation. However, the state's spending relative to the national average declined markedly between 1979-80 and 1989-90 and only gained relative to the national average between 1990 and 1993. Data documenting the state's per pupil expenditures over the three decades from 1959-60 to 1989-90 are given in **Appendix B (Table 12)**. The trend since 1989-90—shown in **Figure 12**—was positive until 1994-95 and has levelled off or declined since.

Figure 12. Expenditures per Pupil, Hawai'i and Comparable States



After rising to slightly above the national average in 1993-94, per pupil expenditures in Hawai'i on K-12 education have receded under the two-pronged onslaught of rising enrollment and a weak state economy.



From 1989-90 through 1993-94, the state's per pupil expenditures gained against the national average, rising from 31st among the states to 19th. Since then, per pupil expenditures in Hawai'i have declined by about \$500 per pupil, dropping Hawai'i to 33rd among the states, 10.2% below the national average, in 1996-97. The rise of Hawai'i to the median level among the states in its funding of public education was not long-lived. The difference between its ranking on tax revenues per capita (2nd) and its ranking on expenditures per pupil (33rd) is striking.

The low state of the fiscal priority Hawai'i gives to public education presented above is corroborated by the work of policy analysts elsewhere. A review of the education systems in all 50 states commissioned by the Pew Charitable Trusts gave the state's school funding a grade of D- for adequacy, noting, as we have here, that the state ranks consistently last in the percentage of state and local funding allocated to public schools. They went on to note that fiscal policy makers in Hawai'i lack incentive to do better by public school children because the children of the affluent and powerful are well served by the state's highly regarded private schools.¹² The follow-up to that report mentioned very favorably the equity of the state's school funding, but reiterated the low rating of the state's financial support of its public schools. The new report went on to address specifically the problems of urban schools in Hawai'i stemming from years of inadequate funding for repair and maintenance of school facilities.¹³

Over one-third (85) of the 248 regular schools operating in 1997-98 had fewer classrooms than they needed.¹⁴ The number of classrooms needed by a school is calculated from the number and types of teachers assigned to the school, and the formula allows for sharing rooms. The net excess or shortage of classrooms, by level, for the seven school districts is shown in **Figure 13** (next page). Almost 1,300 "portable" classrooms are included in the inventory of available classrooms. Even with the portables, there is a substantial net shortage of classrooms. The most serious shortages appear, not surprisingly, where the population of school-aged children is growing. The slowing of growth in overall enrollment has helped, but the shifting of population outward from Honolulu has made keeping up with the demand for classrooms and facilities difficult.

A second measure of the adequacy of school classrooms is the ratio of the school's enrollment to its rated capacity. Capacity is calculated by multiplying the number of classrooms by the state's standard for class size.¹⁵ This calculation, which allows for smaller classes for lower grades and special education, estimates an upper limit for a school's desirable enrollment. It is noteworthy that in 1997-98, 94 schools were operating at or above their rated capacity, 48 of which were operating at more than 10% over capacity. This represents a modest improvement over 1996-97, but the shortage of classrooms in Hawai'i is real and it continues.

Our schools' ancillary facilities remain underdeveloped. However, media attention to this problem and the efforts of schools, the department, and the leadership of state government have begun to produce results. The proportions of schools with inadequate space for cafeterias, libraries, or administrative facilities declined. However,

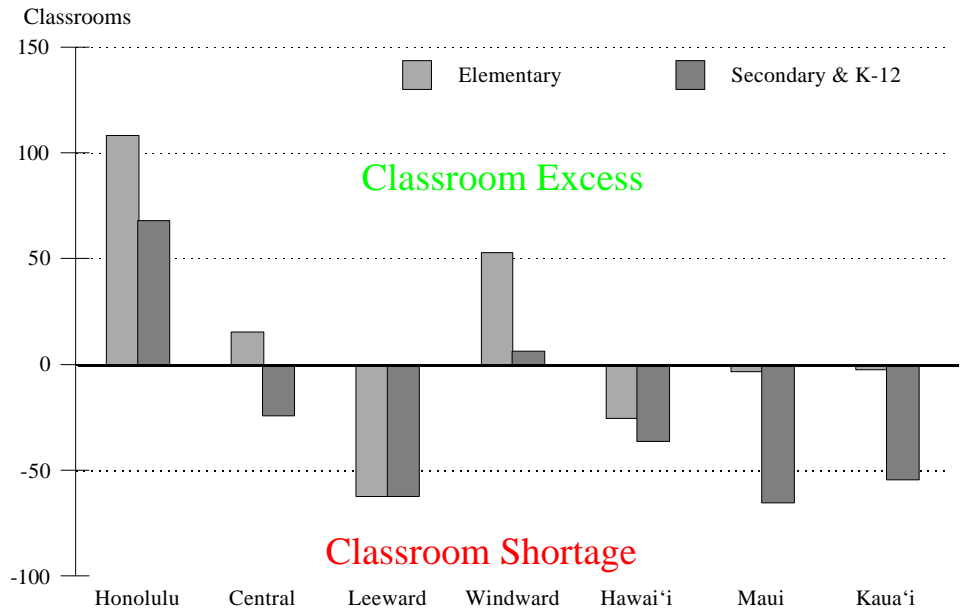
Facilities

Classrooms

Other Facilities



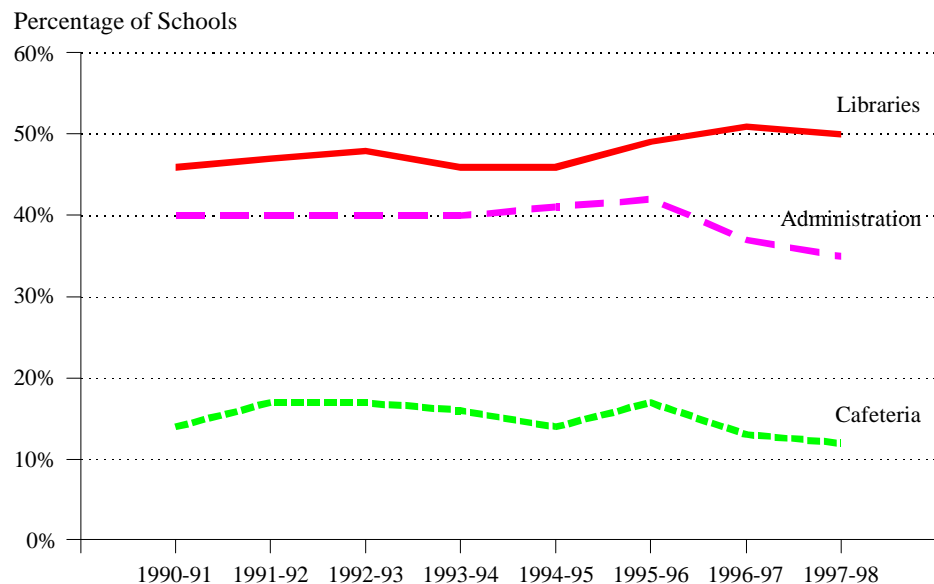
Figure 13. Net Classroom Shortage or Excess, by District



Classroom shortages in Hawai'i are unevenly distributed. There are excess classrooms in Honolulu, but there are shortages in each of the districts with growing populations.

over 50% of all schools still lack adequate libraries. The proportions of schools with library, cafeteria, or administrative facilities that are less than 70% of the state standard for schools of their size are displayed in Figure 14.

Figure 14. Percentages of Substandard Facilities, 1990-91 to 1996-97



The proportions of schools with less than adequate administrative and cafeteria facilities declined in the last two years. However, over half our schools still lack adequate space for libraries.

This problem is long standing and is shared with other states. A recent U.S. General Accounting Office document reported that similar problems affect all states.¹⁶ In Hawai'i as elsewhere, the problem resulted from years of under investment in school facilities. It will take a long time and much effort to correct. In 1992, the Office of

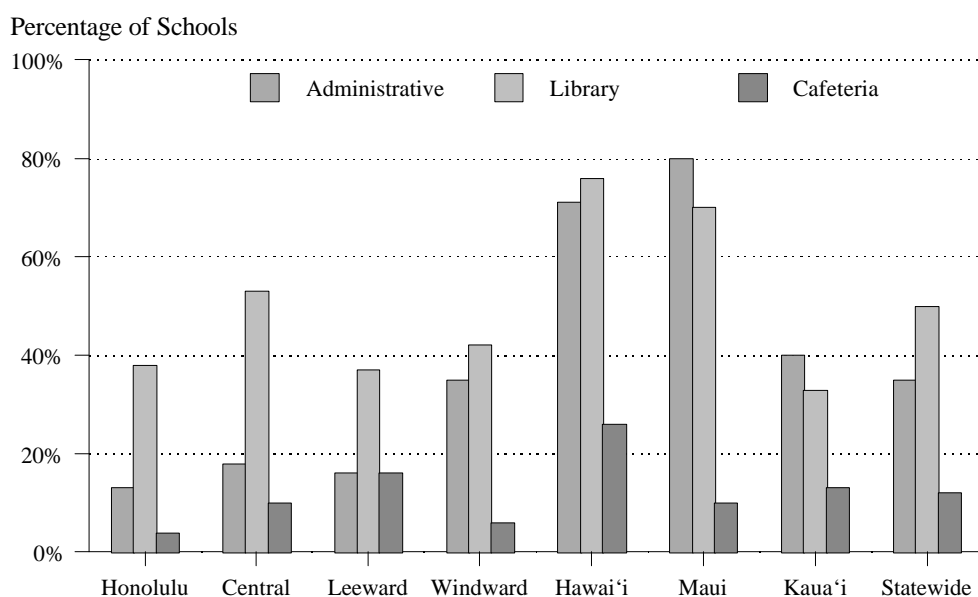


Business Services estimated that it would take more than two billion dollars spent over ten years to bring all of the state's public schools up to the state's standards. The investment thus far proposed and appropriated has been far short of that.

The problem Hawai'i has with school facilities affects all levels of schools. Roughly half of all schools, 86 of 165 elementary schools, 15 of 26 multi-grade schools, and 24 of 57 secondary schools have less than 70% of the library space required by state standards. However, the distribution of facility shortfalls is not evenly distributed geographically; the shortfalls affect some districts much more than others.

The distribution of facility shortfalls by district is shown in **Figure 15**. In Honolulu District, with a nominal excess of classrooms and stable enrollments, 38% of schools have inadequate library space. In Hawai'i District, the ratio is 71%. As with libraries, Hawai'i and Maui Districts show the most severe shortages of administrative space (offices, workrooms, storage, etc.).

Figure 15. Percentages of Schools with Substandard Facilities, by District



The shortages of ancillary facilities are also unevenly distributed. The shortage of library and administrative space is most acute for the schools in Hawai'i and Maui

The percentage of schools with inadequate cafeteria space (less than 70% of state standard) is lower than with libraries and administrative space—only 29 schools remain without adequate eating facilities. Substantial progress has been made in recent years to reduce the shortfall in this area.

There is a perennial belief among some fiscal policy makers that schools ought to be like factories in organization, management, and size. At the core of this belief is the notion that education is subject to “economies of scale,” i.e., that larger schools can achieve the same educational results as smaller ones at lower cost per pupil. Research on cost economies is inconclusive, but studies of school size have shown clearly that smaller schools have better student attendance, satisfaction, and extra-curricular participation than larger schools. Definitive research has shown also that



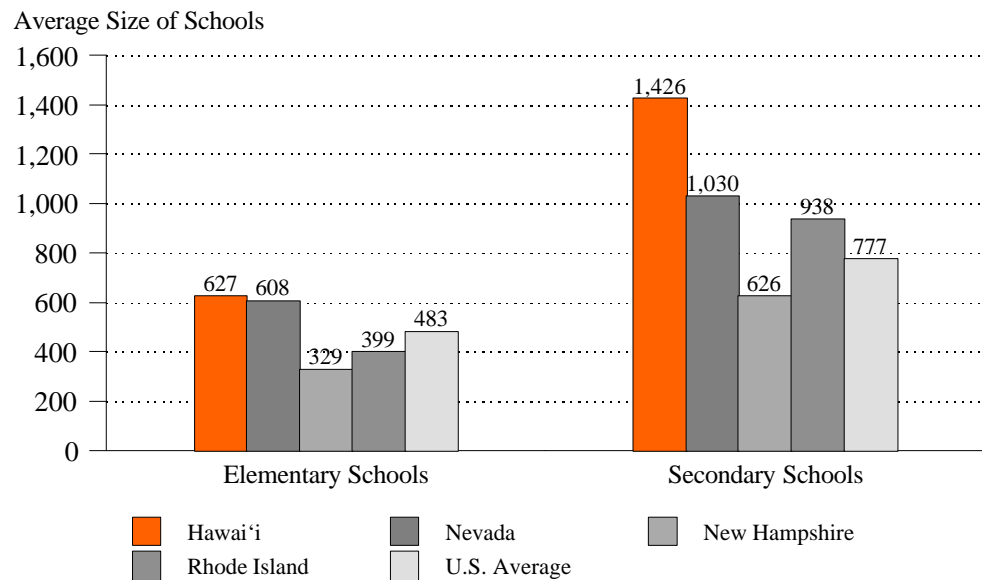
small classes (13 to 17) have substantial and lasting benefits for children in early grades, and that they have greater benefits for disadvantaged children—about double—than for those from advantaged backgrounds.¹⁷

School Size

In previous reports, we have noted that Hawai'i has uncommonly large schools. Regular secondary schools in Hawai'i have the second largest average size in the nation—smaller on average only than those in Florida, but still 85% larger than the national average. The state's regular elementary schools, averaging 627 pupils, ranked fourth largest in the nation behind those of Florida, California, and Georgia, and are 30% larger than the national average.¹⁸ These ranks take into account a distinction between **regular** schools and **all** schools. The category of regular schools excludes vocational, special education, and alternative schools, all of which tend to be smaller than regular schools. When all schools are considered, Hawai'i has the largest secondary schools in the nation. The average sizes of elementary and secondary schools in Hawai'i and comparable states are shown in **Figure 16**.

Figure 16. Average Size of Schools, Hawai'i and Comparable States

Regular secondary schools in Hawai'i are the second largest, on average, in the nation—85% larger than the U.S. average. Its elementary schools are 30% larger than the U.S. average.



Recognizing this, the Board of Education in 1997 adopted a policy setting standards for school size. This policy set desired enrollment limits for new schools at 550 students for elementary schools, 600 students for middle or intermediate schools, and 1,000 students for high schools.¹⁹ The Board's recognition of the desirability of smaller schools is only a small first step toward improving this aspect of the state's public school system. In 1997-98, 71 of 165 elementary schools (43%), 11 of 40 intermediate or elementary/intermediate schools (28%), and 8 of 37 high or intermediate/high schools (22%) met those standards. To bring the average size of existing schools into compliance with the new policy would require a prodigious building program. Even if the task were undertaken through organizing "schools within schools," the staffing demands and organizational effort required would be formidable. The problem of excessively large schools was created over decades by territorial and state policy. It will take sustained attention over many years to correct it.



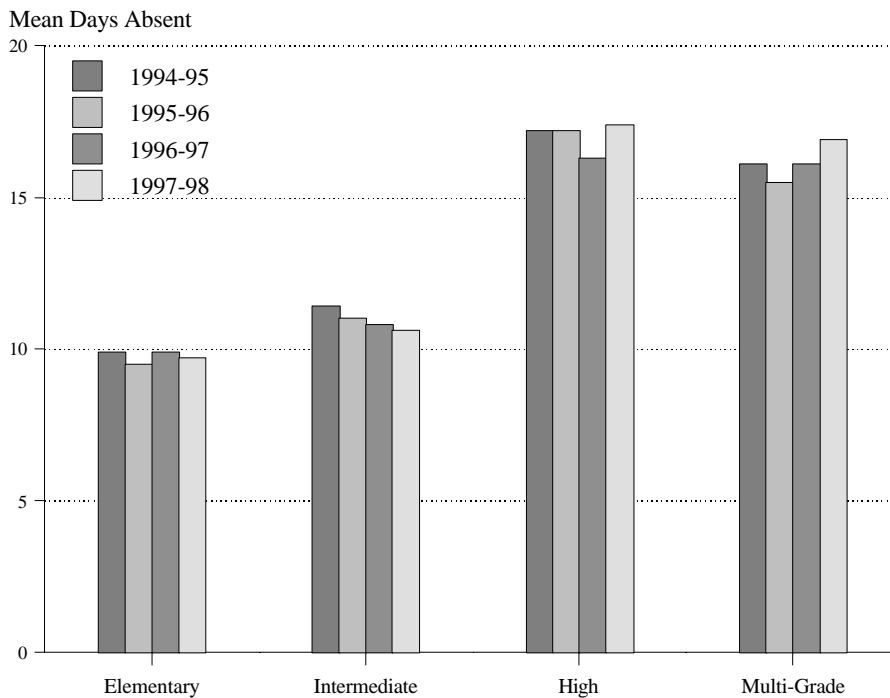
Attendance

Schooling requires time: time for exposure to ideas, time for thought and work, and time devoted to acquiring the skills and attitudes required for life in modern society. In 1990-91 Hawai'i lagged behind other states in the length of its school year. In 1997-98, Hawai'i had 177 instructional days. That was lengthened to 184 instructional days for 1998-99.

While the state sets the length of the school year, it is up to students (and their parents) to make use of the time they have. That means attending school. While attendance rates for all schools average over 90%, this still means that the state's average student misses *over 12 days* of school per year. As might be expected, the rates of absence vary with the school level.

The average number of days absent from school by school type for the last four years is shown in **Figure 17**. It is disturbing that students in high schools and multi-grade schools (K-8, K-12, or 7-12) miss, on average, over three weeks (16 days) of school per year. In 1997-98 there were 15 schools whose average rates of absence exceeded 20 days per year.

Figure 17. Mean Number of Days Absent by School Type



Students in the state's high schools and multi-grade schools miss, on average, over three weeks of school each year.

There have been marked increases in reported absence rates for some high schools and multi-grade schools since 1994-95 that have accompanied changes in attendance accounting. Prior to 1994-95, attendance procedures had been quite varied, with many smaller schools reporting only the results of once daily manual counts. The system-wide adoption of school management software has made possible standardization of attendance counting. Standard procedures for attendance, based on computer counting, will be fully implemented in the 1998-99 school year. These changes in procedure will result in declines in reported attendance rates that we should not

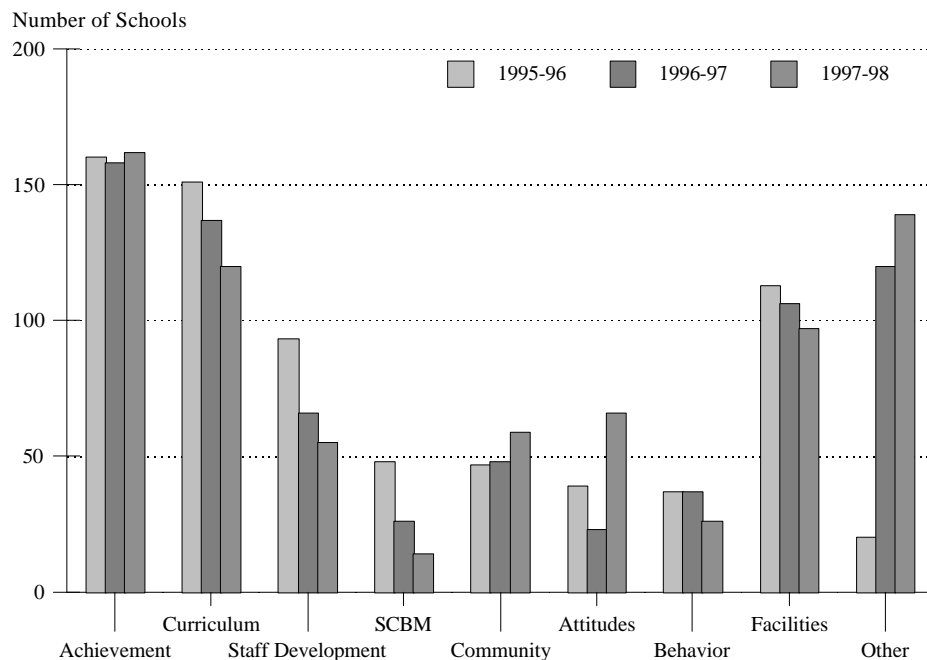


misinterpret as signs of deteriorating student behavior. That said, we need to improve students' attendance substantially; and to do so, we shall need to find out why our students miss so much school.

**School Improvement
Priorities**

Among the more important elements of school process are the priorities that school staff and leaders use to guide their efforts over the year. In the *School Status and Improvement Reports* (the individual, annual school reports), school leaders identify and describe their school improvement priorities and efforts. The categories of concerns expressed in these short-term improvement priorities for 1995-96 through 1997-98 are presented in **Figure 18**. Since 1991-92, student achievement and curriculum have dominated the list. The recent growth of concern about facilities in school improvement priorities reflects mainly the pressing need to bring schools up-to-date technologically, specifically with electrical service, computers, and telecommunication networks. This need is clearly related to both curriculum and student achievement in its focus on students' access to 21st century information technology, but it is also limited in duration. Once school facilities are brought up to date, concern with facilities is likely to fade and be supplanted by the continuing concerns of curriculum content made available by the new facilities and the achievement resulting from students' exposure to the new resources.

Figure 18. Improvement Priorities of Public Schools in Hawai'i



Student achievement and curriculum are the top priorities for school improvement. Facilities have come into focus recently with the national and state emphasis on getting schools "on line."

All of the components identified here are elements of schooling that leaders at the school level believe need their attention and are within their power to change. The specific descriptions given in the *School Status and Improvement Reports* of school improvement priorities and activities are highly individual and particular to school situations and needs.

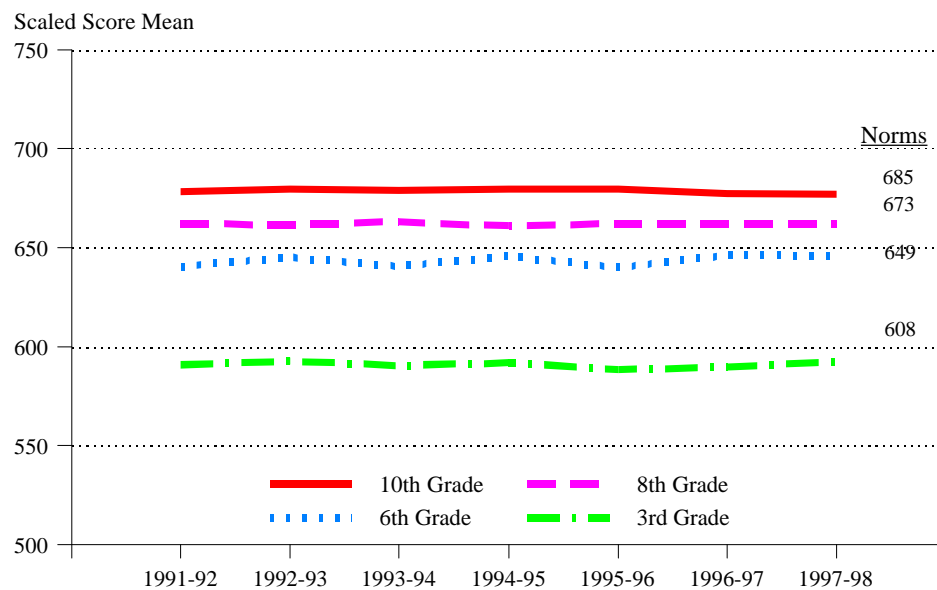


Stanford Achievement Test

The Stanford Achievement Test (SAT) is a commercially prepared test that is used to compare the performance of public school students in Hawai'i on reading and mathematics with that of students nationally.²⁰ (This test should not be confused with the College Board SAT, formerly titled the *Scholastic Assessment Test*, that is taken voluntarily by high school juniors and seniors to support their applications for admission to college.) The eighth edition of the SAT has been administered annually to students in grades 3, 6, 8, and 10 since the 1991-92 school year. School year 1997-98 was the last year that this test was used; it will be replaced in 1998-99 by the SAT Ninth Edition and later by assessments specifically designed to measure students' attainment of the Hawai'i Content and Performance Standards (Revised).

The performance of the state's students in grades 3, 6, 8, and 10 on the SAT reading and mathematics tests is shown in **Figures 19** and **20**, respectively. These graphs show the statewide *average* SAT scores over the period from 1991-92, when the state began using the SAT Eighth Edition, through 1997-98, the last year of its administration. From this presentation, it is readily apparent that there has been little change in average student scores at any grade level over that entire period.

Figure 19. Statewide Averages, SAT Reading



The mean scores of students in Hawai'i on the SAT reading test show little evidence of change. The up and down variation of 6th grade mean scores are possibly the result of differences between test forms.

In 3rd, 8th, and 10th grades, the performance of the state's students on the SAT reading test is lower than that of the test's norming group. Sixth grade students in Hawai'i have consistently performed near the norm. The "deficit" is more pronounced for 3rd grade students than for older ones. Apparently, the children in the state's public schools start with a deficit in reading and make progress against the national norms between 3rd grade and 6th grade.

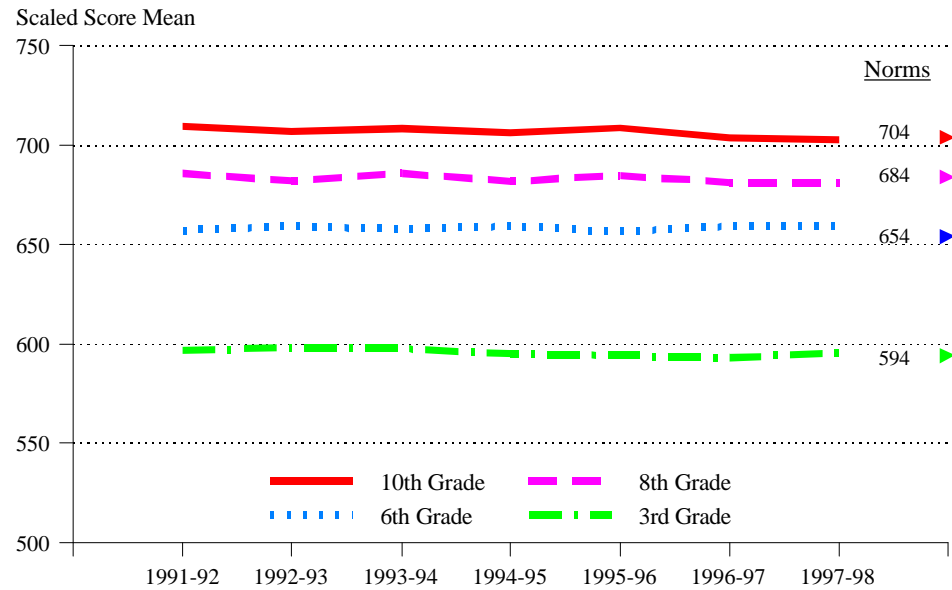
There is a puzzling regression of our 8th grade students on the reading test. While 6th graders are on a par with the national norms, 8th graders' performance—like that of



3rd graders—is well below national norms. Students' performance in 10th grade, however, is closer to the national norms. We do not understand the seeming fall off in our 8th graders' reading test performance.

Figure 20. Statewide Averages, SAT Mathematics

The mean scores of the state's students on the SAT mathematics test show little evidence of change over the 6 years that the current version (8th ed.) has been in use.



By contrast with the reading test, 3rd grade, 8th grade, and 10th grade students in Hawai'i perform just about at the national norms for the Stanford mathematics test; and 6th graders' performance is a little above the norm.

National Assessment of Educational Progress (NAEP)

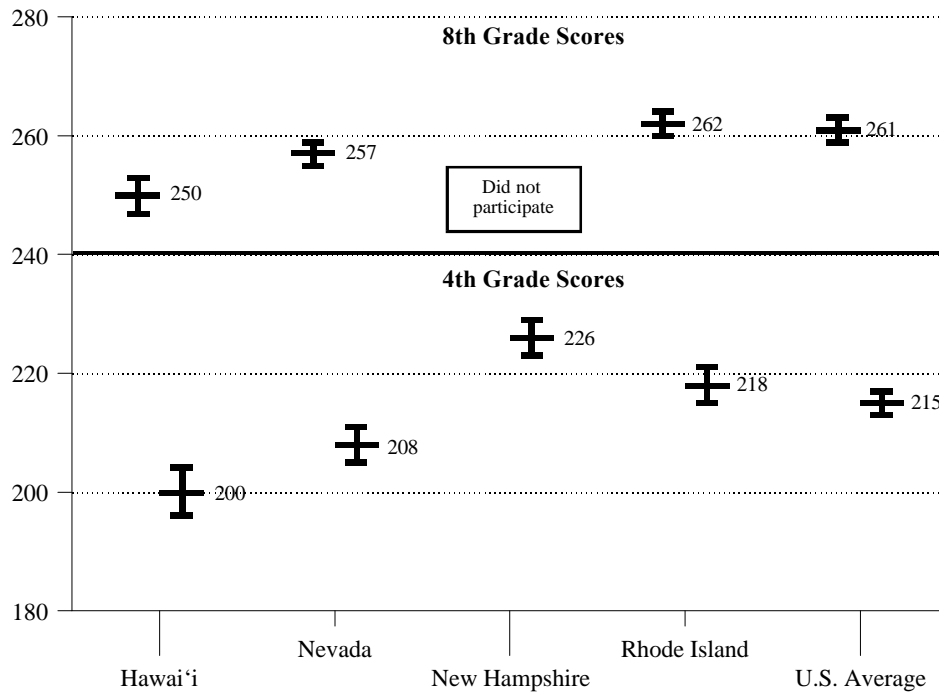
Since they were begun in 1990, Hawai'i has participated in each of the state by state assessments of student achievement conducted by the federal government as part of the the National Assessment of Educational Progress (NAEP). These assessments employ sophisticated testing and sampling methods specifically to compare 4th, 8th, and 12th grade students' achievement among the states and territories of the nation.²¹ The two most recent state-by-state NAEP comparisons sampled 4th grade and 8th grade students' mathematical skills (1996) and reading skills (1998). All test scores are reported on a single scale that ranges from 0 to 500.

Reading

Figure 21 shows the state's 4th and 8th grade students' NAEP reading performance compared to those of students from Nevada, New Hampshire, Rhode Island, and the nation at large. Fourth grade students in Hawai'i scored well below the national average and students from the other states in this comparison.²² Their performance was similar to that of students from a group of states that includes California, Mississippi, and Louisiana. The Hawai'i score exceeded that of the District of Columbia, with which it shares the distinction of being a large school district rather than a state system of many independent school districts. The state's 4th graders have scored at about the same level in the two previous NAEP reading assessments (1992 and 1994). Eighth grade students scored below those of Nevada, Rhode Island, and the national average. Their score was the lowest of those from participating states and was comparable to those of California, Florida, Louisiana, and Mississippi.



Figure 21. Estimated State Means, 1998 NAEP Reading



As on the SAT, scores of Hawai'i on the NAEP reading test are below those of other states and the national average.

Figure 22 (next page) is a comparison of Hawai'i 4th and 8th grade students' mathematics performance with those of students in Nevada, Rhode Island, and the nation at large.²³ The state's 4th grade students did much better on mathematics than on reading, but still scored below the national average. Their score was, however, on par with those of students from Arkansas, Delaware, Florida, Georgia, and New Mexico and better than those of students from several states, including Alabama, California, Mississippi, and Louisiana. Fourth graders from Hawai'i scored at about the same level in the one previous NAEP mathematics assessment (1992).

Mathematics

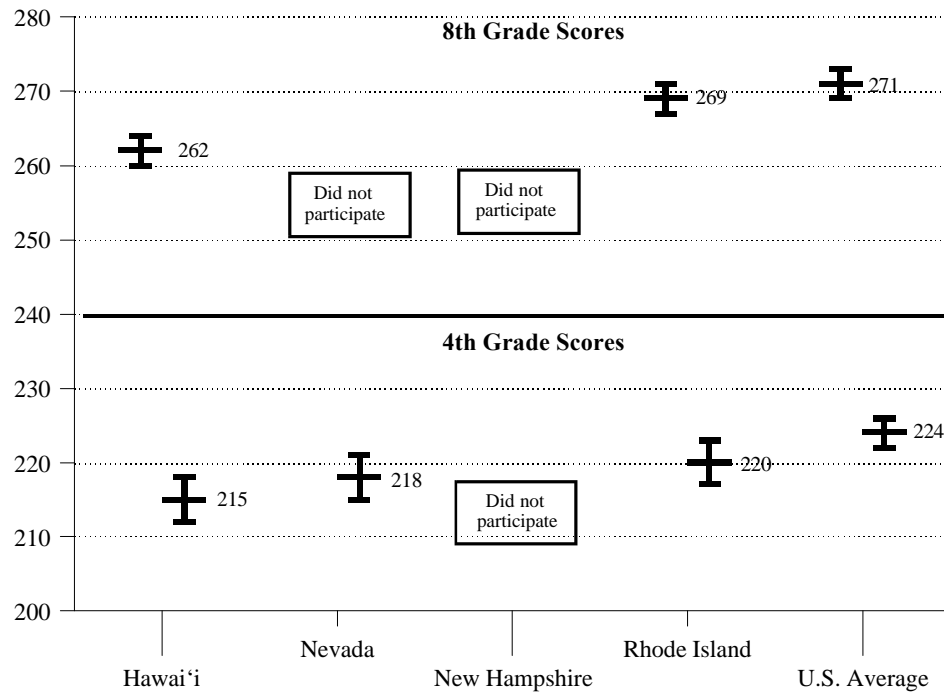
The state's 8th grade students scored below those of Rhode Island and the national average. However, as with the 4th graders, 8th graders in Hawai'i scored better than students in several states and comparably to students from Arkansas, Georgia, New Mexico, South Carolina, and Tennessee. Moreover, the state's 8th grade students' scores have improved significantly (11 points) since the first NAEP mathematics assessment in 1990.

Students dropping out of school had not been considered a problem until relatively recently. Until well after World War II, leaving school without a high school diploma was a normal occurrence. That began to change in the 1960s, and by 1989 increasing the rate of high school completion to 90% had become one of eight National Education Goals. In 1988 the National Center for Education Statistics (NCES) led a national effort to develop standard definitions of dropouts and to standardize the reporting of dropout statistics. Hawai'i has reported these data to NCES since 1994. Table 1 shows these "event dropout" rates by grade for Hawai'i for the years since report-

High School Completion Dropouts



Figure 22. Estimated State Means, 1996 NAEP Mathematics



The Hawai'i scores on the NAEP mathematics test are better than on reading, both in absolute score and in relative standing among states tested.

ing was initiated.²⁴ One should note that these statistics count as “dropouts” a substantial number of students whose status is simply unknown. These include students transferring to other states or countries whose enrollment in destination schools has not been confirmed. The students of unknown or unconfirmed outcome are about half of the total counted as dropouts.

From the annual event dropout rates shown in **Table 1**, one can estimate the cumulative dropout rate for the classes of 1997 and 1998 by compounding the annual event rates for the cohort’s four years of high school, shown in the shaded cells.²⁵ This computation results in estimated cumulative dropout rates of 18.7% for the 1997 graduating class and 17.2% for the class of 1998. It is necessary here to add the caution that this rate represents the *upper limit* for the “true” dropout rate because, as noted above, many students’ true status is unknown and all whose status is unknown are counted as dropouts. A minimum value for the dropout rate can also be estimated using the rates of confirmed dropouts; that minimum value is 10.5% for the class of 1997 and 8.5% for the class 1998. The declines in both the estimated event rate and the minimum dropout rate between 1996-97 and 1997-98 are good signs, but we need to see this one-time change become a consistent trend. We have much yet to do to meet the National and Hawai'i Educational Goal of ensuring that at least 90% of our students graduate from high school.



Table 1. Event Dropout Rates (%) by Grade Level, Grades 9 through 12

Year	Grade				Estimated Cohort Dropout Rate
	9	10	11	12	
1993-94 to 1994-95	5.57%	5.72%	7.40%	3.66%	
1994-95 to 1995-96	3.71%	4.02%	5.84%	6.73%	
1995-96 to 1996-97	3.91%	4.32%	5.29%	5.59%	
1996-97 to 1997-98	4.36%	4.54%	5.33%	5.23%	Class of ‘97 — 18.7%
1997-98 to 1998-99	4.31%	4.75%	5.86%	5.02%	Class of ‘98 — 17.2%

To graduate with a diploma from a public high school in Hawai‘i, students must accumulate 22 high school credits,²⁶ including the following specific subject requirements:

- English 4 credits
- mathematics 3 credits
- science 3 credits
- social studies 4 credits

Students must also pass all of their required courses and demonstrate mastery of 16 “essential competencies” by passing a written test, the Hawai‘i State Test of Essential Competencies (HSTEC).²⁷

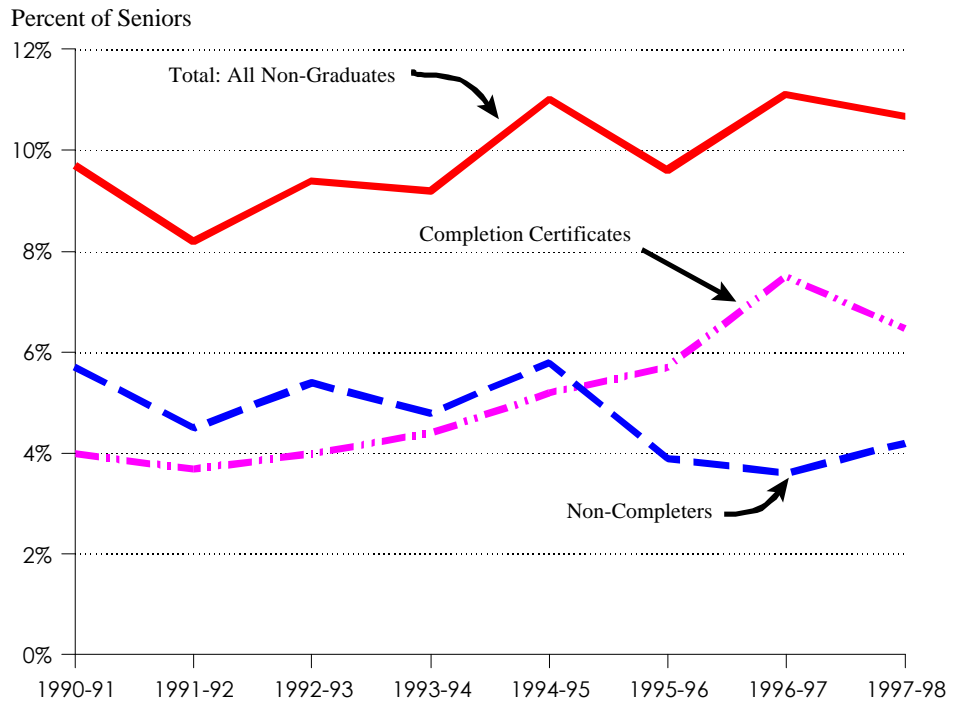
There are two non-diploma completion alternatives for students who have not met all of the requirements for a diploma. A certificate of course completion may be awarded to a student in the regular program who has completed all but the HSTEC requirement, and an individually planned program certificate may be awarded to a special education student who has completed all the elements of his or her individually prescribed program (IPP). Receipt of one of these certificates is not considered graduation, but they are distinguished from failing to complete school altogether.

Senior Completion

The rates of **non-graduation** outcomes are shown in **Figure 23** (next page). These data are for students who either were seniors at the beginning of the academic year or became seniors during that year. The graph indicates that in the last 7 years the overall rate of non-completion has declined from about 6% to just over 4% . However, the rate of completing school without receiving a diploma has increased over the same period. Additionally, there was a sharper increase in the percentage of seniors receiving certificates of completion (not diplomas) in 1997, when changes in graduation requirements, adding 2 credits, 1 each in science and mathematics, to those required and adding a 16th essential competency to HSTEC. The “bulge” in certificates of completion was an expected consequence of the increased requirements; but as expected, the rate of awarding certificates of completion instead of diplomas dropped off in 1997-98.



Figure 23. High School Senior Non-Graduation Outcomes, 1991-98



While the number of students failing to complete school has been dropping, the number of students completing high school with less than a diploma is increasing.

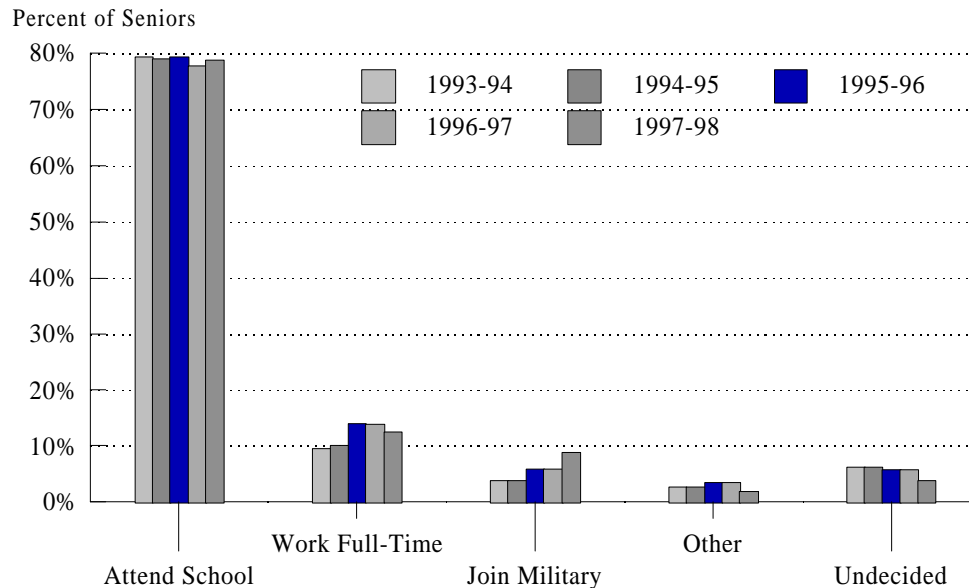
As the department implements standards-based education, there will be significant effects on the school completion statistics just presented that will become evident in future editions of this report. First, the HSTEC, which was based on the Foundation Program Objectives of the 1970s, has been suspended as a graduation requirement, effective with the 1999-2000 school year. It will be replaced by an assessment or assessments directly linked to the revised Hawai'i Content and Performance Standards recently adopted by the Board of Education. This will change, and perhaps eliminate, the practice of awarding certificates of completion in lieu of diplomas. Finally, as standards become the foci of curriculum, there will be effects on the rates of completion of course requirements. At this point there is no way to predict what those effects will be, but it is the department's intent that the clear goals and focus presented by the new standards will increase the rates at which students successfully complete high school.

Seniors' Plans

Each spring, the department surveys high school seniors throughout the State about their immediate plans regarding employment and further education. Over the last three years, 80% to 85% of seniors have responded to the survey. The results are shown in **Figure 24**. Higher education is by far the most frequent intended destination of high school seniors in Hawai'i. Those who did not respond probably do not have quite the same plans, but the high response rates minimize this problem. We do have a good idea of what our graduates intend to do; most of them intend to continue their formal education.



Figure 24. High School Seniors' Plans, 1993-94 to 1997-98



The vast majority of high school seniors who respond to the survey intend to continue their schooling. Only about 20% intend to work full-time without continuing their education.

Under the provisions of Chapter 19 of the Department of Education, Hawaii Administrative Rules, students may be suspended from school for four classes of misconduct:

- Class A offenses felonies such as assault or burglary;
- Class B offenses misdemeanors like gambling, harassment, or trespassing;
- Class C offenses violation of Department rules; and
- Class D offenses violation of local school rules.

Student Suspensions

When a student is suspended for Class A or B misconduct, filing a police report is required by law; police reports are not required for Class C or D offenses.

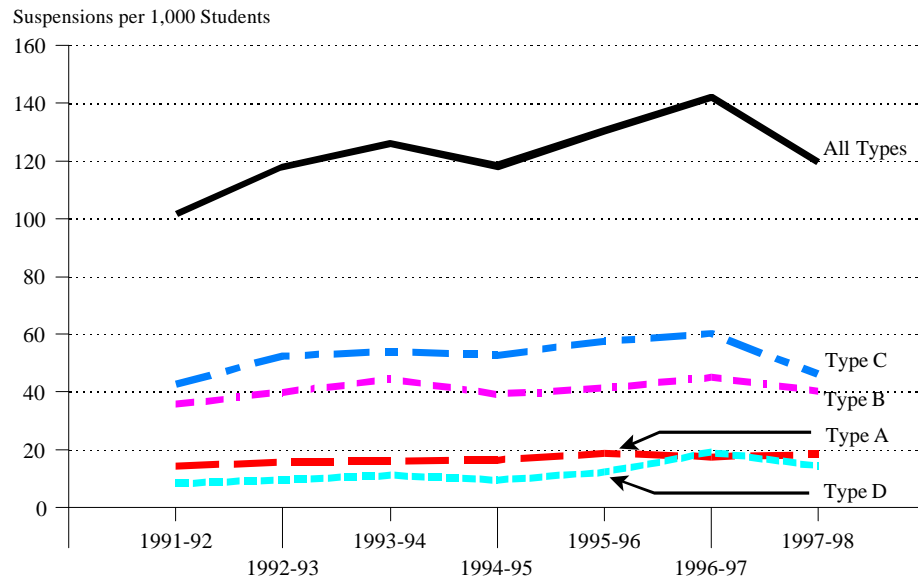
The statewide rates of the four classes of suspensions for the 1991-92 through 1997-98 school years are presented in **Figure 25** (next page). The rates are given in terms of incidents per 1,000 students to permit comparisons across years. A student may have committed more than one offense before being suspended, and a number of students have been suspended more than once in each year. A small number of students—about 200—are suspended from more than one school in the same year.

The total number of suspensions rose between 1994-95 and 1996-97, reflecting increases in the incidence of Types B, C, and D offenses, but fell off sharply in 1997-98 in those same categories of charges. Moreover, the dynamics of Chapter 19 enforcement are clearly changing. Between 1994-95 and 1997-98, the number of suspensions increased by just under 1,000, but the total number of charges filed declined by over 4,300 and the number of students suspended declined by over 700. Fewer students are committing offenses warranting suspension, but those who do are being suspended more readily.



Figure 25. Suspension Rates by Type of Offense, 1991-92 to 1997-98

The incidence rate for suspensions declined sharply in 1997-98.



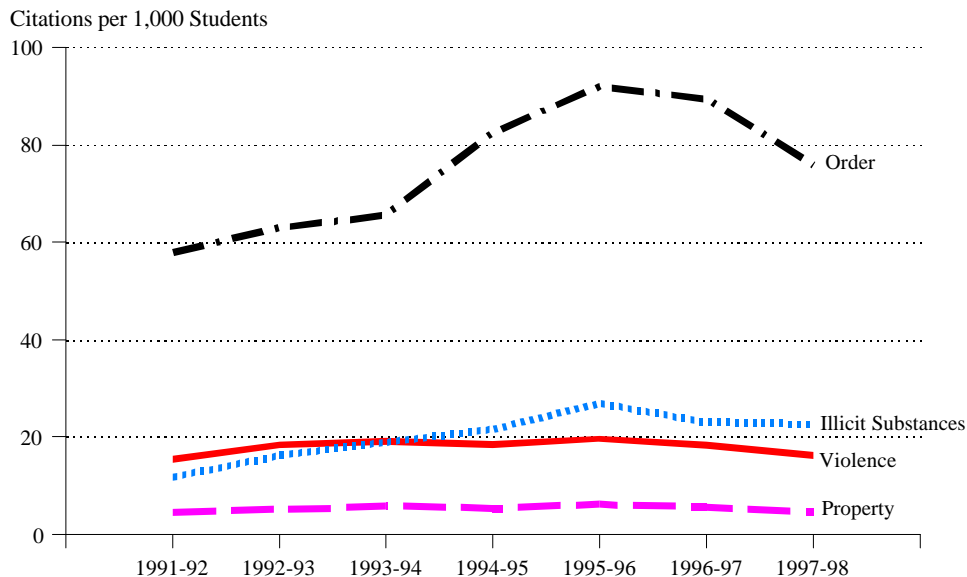
Although the Chapter 19 suspension classifications are related to the general seriousness of the behavior involved, they do not reflect the degree to which students' behavior actually threatened the safety or property of others. Therefore, the data were also categorized by specific charges to reflect the degree of threat to safety or property involved. In this analysis, charges were classified by the categories listed in Table 2. The designations in parentheses are the classification codes used by DOE under Chapter 19. The incidence rates of these classifications are shown in Figure 26.

Table 2. Classification of Ch. 19 Charges by Type of Incident

Category	Charges Included
Violence	Assault (A01), Dangerous Weapons (A15), Extortion (A07), Firearms (A16), Murder (A18), Robbery (A11), Sexual Offenses (A12), Terroristic Threatening (A13), Harassment (B04)
Property	Burglary (A14), Property Damage (A10), Theft (B09), Trespassing (B10)
Illicit Substances	Alcohol use or possession (A24), Drug Paraphernalia (A23), Marijuana use or possession (A21), Other illicit substance use or possession (A27), Sale of illicit substances (A22), Smoking or Tobacco (C04), Contraband (D01)
Order	Disorderly Conduct (B02), False Alarm (B17), Gambling (B03), Insubordination (C02), Other Prohibited Conduct (D02)



Figure 26. Charges Categorized by Type of Incident, 1991-92 to 1997-98



Charges involving illicit substances are not increasing appreciably. Those involving violence, threats to property, and order are declining.

The charges listed on students' suspension reports reinforce the view that violence is neither rampant nor increasing. The most prevalent problems reflected in the charges are breaches of order. These increased markedly in incidence during the middle of the decade, but have declined in the last two years. The incidence rates of charges involving violence or threats to property have been stable throughout the decade, and those involving illicit substances have apparently reached a plateau after peaking moderately in 1995-96.

Of the over 22,600 charges associated with student suspensions in 1997-98, the three most frequently cited charges, accounting for 63.2% of the total, were for insubordination, disorderly conduct, and "other prohibited conduct." The fourth most frequently cited charge was for smoking or other use of tobacco (9.7%). Citations for possession or use of illicit substances represent 4.3% of the total. The codes used by the department for records of Chapter 19 offenses have only recently been changed to distinguish between alcohol violations and those involving illegal drugs; heretofore, the two were lumped together. Data in the future will distinguish between offenses involving alcohol and those involving illegal drugs.



This ninth Superintendent's accountability report has described the status of public schools in Hawai'i. The major goal of these reports is to gain insight into what we can do to improve by analyzing relationships among the *contexts*, *processes*, and *outcomes* of our schools. What we have seen in this report is that:

- We are behind the rest of the nation in our support for public education in Hawai'i. Public school enrollment has been increasing throughout the current period of restricted State revenues. Truly making our children's education the top priority in Hawai'i will require nothing less than a major reordering of the State's fiscal priorities. With the cost of schooling for those subject to legal mandates increasing, proposed cuts in overall educational spending will fall differentially on those most dependent on public schools, the children of middle class and working poor families.
- Our school facilities are stretched and overcrowded. We need more than just investment in new schools to reduce the size of schools and increase the affiliation and involvement of students.
- We have moved to provide more time for instruction, but we need to use that time more effectively than we have. We will be lengthening the school year, and we have many schools adopting modes of year-round operation. We also need to find ways to encourage students—and parents—to take better advantage of the time that is available. We cannot teach students who do not come to school.
- We are still troubled by the mixed performance of our students on standardized tests. Our students start school behind those in other states, especially in language skills; although their performance is considerably better in mathematics. Also heartening is the improvement of 8th grade of students' performance in mathematics on the NAEP between 1990 and 1996. We need to redouble and refocus our efforts to ensure that our students do not "lose out," either from their lack of effort or ours.
- The data we now have on our goal of having at least 90% of the students who enter 9th grade graduate from high school gives us cause for both concern and hope. We have a dropout rate that well exceeds 10%, but it initially appears to be declining. We have too many students who finish high school but leave without earning a diploma. Increasing the number of students who meet our standards for graduation will provide a clear measure of the success of our new efforts at standards based educational reform.



Endnotes

1. This report is required by **§302A-1004**, Hawaii Revised Statutes. The development of an educational accountability system, already underway by the Department, was requested by Act 371, Session Laws Hawaii 1989. The present system of reports was institutionalized by Act 364, Session Laws Hawaii 1993, as amended by Act 272, Session Laws Hawaii 1994, and Act 074, Session Laws Hawaii 1999.
2. The three special program centers are: Jefferson Orthopedic Unit, located at Jefferson Elementary School; Pohukaina School, a special education unit adjacent to Kaimuki Middle School; and The Hawai'i Center for the Deaf and the Blind, located in Kapahulu.
3. Hawaii Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1996*, Online, <http://www.hawaii.gov/dbedt/db97/index.html>, Table 2.01, Table 2.05, Accessed 7 July 1999.
4. These estimates are calculated from counts of students who were enrolled in the same school in both September and June.
5. These schools were: Barbers Point, Hale Kula, Helemano, Iroquois Point, Lehua, Pearl Harbor Kai, Shafter, Solomon, and Wheeler Elementary Schools.
6. Pupil/teacher ratios are *not* measures of class size. Class sizes can be considerably larger than the overall pupil/teacher ratio for two reasons. In Hawaii's secondary schools, teachers usually teach six periods of a seven period day (leaving one period for preparation). Also, for a given overall pupil/teacher ratio, mandated small classes in some areas, e.g., special education, necessitate larger classes in others.
7. U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1998*, NCES 1999-036, Washington, DC: 1999, Online, <http://nces.ed.gov/pubsearch>, Table 83, Accessed 9 July 1999.
8. Karen Peterson, "Isle schools spend less for top posts," *Honolulu Advertiser*, August 14, 1998, pp. A1, A12.
9. U. S. Bureau of the Census, *Statistical Abstract of the United States: 1998* (118th edition), Washington, D.C., 1998, Online, <http://www.census.gov/prod/3/98pubs/98statab/cc98stab.htm>, Table 727 (income), Table 515 (revenue), Table 517 (tax collections) Accessed 29 April 1999. Revenue differs from tax collections because some states have substantial non-tax revenues from publicly owned utilities, state liquor sales, or insurance trusts. Alaska's tax wealth comes from its "severance" tax on exported oil, which comprised over 65% of its tax revenues in 1997.

Introduction

Context

Process



10. Dollars per ADM results in a slightly lower value for per pupil expenditures than does dollars per ADA because average daily membership (enrollment) is always larger than average daily attendance.
 11. Hawaii Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1997*, Online, <http://www.hawaii.gov/dbedt/db97/index.html>, Table 13.02 (GSP), Table 9.01 (revenues), and Table 3.15 (school expenditures), Accessed 7 July 1999. *Digest of Education Statistics, 1998*, Table 167. National Center for Education Statistics, *Public Elementary and Secondary Education Statistics*, annual: NCES 1999-347 (1999), Online, <http://nces.ed.gov/pubsearch>, Tables 6&7, Accessed 17 March 1999.
 12. Education Week, *Quality Counts: A Report on the Condition of Education in the 50 States*, Washington, D.C., Editorial Projects in Education, 1997, pp. 94, 96.
 13. Education Week, *Quality Counts '98: The Urban Challenge*, Washington, D.C., Editorial Projects in Education, 1998, pp. 137-140.
 14. Since 1996-97, five more schools have been added to the State's public school system. Kapa`a Middle School and Kealakehe High School opened in 1997-98, and Kea`au Elementary School, Mililani Middle School and Waikele Elementary School will open in 1998-99.
 15. The current policy is target class sizes of 21 in grades K through 2 and 26 in higher grades. The target class size for special education is 12.
 16. United States General Accounting Office, *School Facilities: America's Schools Report Differing Conditions*, GAO/HEHS 96-103, Washington, D.C., 1996.
 17. W. J. Fowler and H. J. Walberg, "School Size, Characteristics, and Outcomes," *Educational Evaluation and Policy Analysis*, **13**, 2, (Summer, 1991): 189-202. F. Mosteller, "The Tennessee Study of Class Size in the Early School Grades," *The Future of Children*, **5**, 2, (Summer/Fall, 1995): 113-127.
 18. *Digest of Education Statistics, 1998*, Tables 99 and 100.
 19. Hawai'i Board of Education, *School Size Standards*, Policy No. 6701, approved March 20, 1997.
- Outcomes**
20. The norms of the SAT Eighth Edition under-represent large, urban school districts that have substantial numbers of minority students or students with non-English speaking background. This adversely represents the achievement of Hawai'i's public school students relative to a "national average."



21. The design of the NAEP is complicated; it is basically a very large standardized test administered to groups of students selected by involved sampling procedures to represent all of the public school students at their grade level in their state. No student takes more than a small portion of the entire test; it is too big. Instead, involved statistical procedures are used to infer a “mean” score and a standard deviation of scores for each state from the partial scores compiled from all of the participating students from that state.
22. U.S. Department of Education, National Center for Education Statistics, *NAEP 1998, 1994, and 1992 National and State summary Tables for Grade 4 Student Data*, Online, <http://nces.ed.gov/nationsreportcard/TABLES/SDTTOOL.HTM>, Accessed 17 February 1999. U.S. Department of Education, National Center for Education Statistics, *NAEP 1998, 1994, and 1992 National and State summary Tables for Grade 8 Student Data*, Online, <http://nces.ed.gov/nationsreportcard/TABLES/SDTTOOL.HTM>, Accessed 17 February 1999
23. *Digest of Education Statistics, 1998*, Tables 122 and 123.
24. The event rate is computed by counting the number of students who leave school for various reasons within each grade cohort each year as a percentage of the original cohort size. The other two defined rates are status dropout (aged 16 to 24, not in school and without a high school diploma or the equivalent as a percentage of the age group population) and cohort dropout (percentage of entering high school freshmen who have not completed high school four years later).
25. The compounding formula is as follows: $r_c = [1 - (1-r_9)(1-r_{10})(1-r_{11})(1-r_{12})]$ where r_c is the estimated cohort rate and the other “r” values are the event rates for 9th through 12th grades. The compounding is necessary to account for the diminishing size of the original cohort.
26. The number of credits required for graduation was increased from 20 to 22, raising the credits required in mathematics and science from 2 to 3, beginning with the 1996-97 senior class.
27. Students first attempt the HSTEC in 10th grade. If they do not pass on their first attempt, they may retake the portion(s) not passed up to 4 more times, twice each in 11th and 12th grades. The 16th essential competency, knowledge of the diversity and interdependence of the world’s peoples and societies, became a requirement for the 1997 graduating class. As noted in the text, the HSTEC requirement has been rescinded for the 1999-2000 class, to be replaced by an assessment linked to the revised Hawai'i Content and Performance Standards.



Data Tables

Table 3. Enrollment in Hawai'i Public Schools, 1988-89 to 1997-98
(Figure 2)

	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Elementary	96,382	98,567	100,071	102,142	103,356	104,227	105,598	107,254	107,979	108,197
Secondary	70,845	70,626	70,985	72,107	73,567	75,649	77,566	79,327	80,506	81,084
Total	167,227	169,193	171,056	174,249	176,923	179,876	183,164	186,581	188,485	189,281
Growth	1,317	1,966	1,863	3,193	2,674	2,953	3,288	3,417	1,904	796
Growth Rate	0.8%	1.2%	1.1%	1.9%	1.5%	1.7%	1.8%	1.9%	1.0%	0.4%

Table 4. Enrollment by District, 1987-88 to 1997-98
(Figure 3)

Year	Honolulu	Central	Leeward	Windward	Hawai'i	Maui	Kaua'i
1987-88	35,093	34,673	29,510	19,099	22,180	16,116	9,009
1988-89	34,530	34,985	29,653	19,143	22,875	16,643	9,210
1989-90	34,052	35,239	30,019	19,244	23,745	17,312	9,427
1990-91	34,128	35,177	30,320	19,324	24,564	17,788	9,561
1991-92	33,978	35,593	31,066	19,494	25,472	18,379	10,109
1992-93	34,195	35,763	31,449	19,784	26,318	18,835	10,503
1993-94	34,597	35,985	32,126	19,785	29,946	19,527	10,826
1994-95	34,715	36,575	33,235	19,745	27,703	20,189	10,937
1995-96	35,098	36,436	34,721	19,994	28,083	20,992	11,176
1996-97	35,365	35,985	35,982	20,297	28,257	21,463	11,065
1997-98	35,354	35,538	37,071	19,980	28,508	21,712	11,039

Table 5. Students with Special Needs in Hawai'i Public Schools
(Figures 4, 5, & 6)

Year	Special Education	Limited English	Lunch Subsidy
1988-89	9,214 5.5%	7,674 4.6%	51,997 31.1%
1989-90	9,572 5.7%	8,035 4.7%	48,522 28.7%
1990-91	9,778 5.7%	8,861 5.2%	46,849 27.4%
1991-92	10,800 6.2%	8,834 5.1%	47,719 27.4%
1992-93	11,515 6.5%	9,124 5.2%	55,295 31.3%
1993-94	11,692 6.5%	10,603 5.9%	60,339 33.5%
1994-95	12,182 6.7%	11,088 6.1%	64,748 35.3%
1995-96	13,108 7.0%	12,902 6.9%	70,033 37.5%
1996-97	13,931 7.4%	13,366 7.1%	74,793 39.7%
1997-98	15,561 8.2%	13,146 6.9%	77,367 40.9%



Table 6. Incidence of Low Birth Weight and Single Mothers, 1985-1997
(Figure 7)

Year	Total Births	Births to Single Mothers	Babies with Low Birth Weight
1985	18,267	20.1%	6.6%
1986	18,253	20.4%	6.1%
1987	18,555	21.4%	7.2%
1988	18,937	22.3%	6.9%
1989	19,335	23.9%	7.1%
1990	20,438	24.9%	7.1%
1991	19,880	26.3%	6.8%
1992	19,837	26.5%	7.2%
1993	19,567	27.3%	6.9%
1994	19,438	28.4%	6.5%
1995	18,552	29.3%	6.6%
1996	18,378	30.3%	6.7%
1997	17,326	30.0%	7.1%

Source: See Note 3.

Table 7. Students Attending the Same School All Year
(Figure 8)

Year	Type of School			
	Elementary	Intermediate	High	Multi-Grade
1991-92	90.2%	93.5%	92.4%	93.2%
1992-93	89.7%	92.3%	91.5%	91.3%
1993-94	95.2%	96.0%	94.2%	95.2%
1994-95	89.5%	88.8%	88.8%	89.7%
1995-96	92.1%	93.8%	93.1%	93.6%
1996-97	91.0%	93.4%	92.9%	92.9%
1997-98	91.0%	93.2%	94.3%	92.5%



Table 8. Pupil to Teacher Ratios in Hawai'i and Comparable States, 1987-88 to 1997-98
(Figure 9)

Year	Hawai'i	Nevada	New Hampshire	Rhode Island	U. S. Average	Hawai'i Rank
1987-88	21.6	20.2	16.0	15.1	17.6	48
1988-89	19.2	20.3	16.2	14.5	17.3	44
1989-90	19.1	20.4	16.2	14.5	17.2	43.5
1990-91	18.9	19.4	16.2	14.6	17.2	41
1991-92	18.5	18.6	15.5	14.6	17.3	40.5
1992-93	17.6	18.7	15.6	14.3	17.4	35.5
1993-94	17.8	18.7	15.5	14.8	17.4	38.5
1994-95	17.9	18.7	15.6	14.7	17.3	39
1995-96	17.8	19.1	15.7	14.3	17.3	40
1996-97	17.7	19.1	15.6	14.2	17.1	41
1997-98	17.8	18.5	15.6	14.5	16.8	41

Sources: *Digest of Education Statistics, 1998, Table 67.*

U.S. Department of Education, Office of Educational Research and Improvement, *Early Estimates: Public Elementary and Secondary Education Statistics: School Year 1997-98*, NCES 98-202, Table 6,7, pp.8, 9.

Table 9. Percentage of State and Local Revenue Allocated to Public K-12 Education,
Hawai'i and Comparable States (Figure 11)

	Hawai'i	Nevada	New Hampshire	Rhode Island	U. S. Average
1982-83	17.1%	19.2%	24.7%	21.3%	24.3%
1983-84	16.5%	18.4%	24.9%	20.7%	24.0%
1984-85	16.3%	18.3%	25.9%	20.4%	23.9%
1985-86	16.3%	20.6%	25.6%	20.6%	24.0%
1987-88	17.3%	21.0%	27.6%	21.4%	24.2%
1988-89	16.3%	21.0%	28.0%	20.9%	24.4%
1989-90	15.5%	22.4%	28.4%	22.0%	24.3%
1990-91	15.0%	24.5%	28.9%	21.8%	24.1%
1991-92	13.5%	22.4%	24.2%	19.8%	23.5%
1992-93	13.1%	21.3%	23.9%	20.7%	23.4%
1994-95	14.3%	20.2%	25.1%	21.4%	23.1%

Note: No data have been reported by NCES for school years 1986-87 or 1993-94.

Sources: *Digest of Education Statistics, 1998, Table 36; Digest 1985-86, Table 15; Digest 1987, Table 25; Digest 1988, Table 27; Digest 1989, Table 32; Digest 1990, Table 32; Digest 1991, Table 34; Digest 1992, Table 36; Digest 1994, Table 36; Digest 1996, Table 35; Digest, 1997, Table 36.*



Table 10. Expenditures per Pupil (ADA) for Hawai'i and Comparable States, Long Term Trend

	1959-60	1969-70	1979-80	1989-90
Hawai'i	\$1,403	\$2,825	\$3,378	\$5,589
Nevada	\$1,860	\$2,586	\$2,913	\$5,173
New Hampshire	\$1,501	\$2,430	\$2,893	\$6,664
Rhode Island	\$1,786	\$2,996	\$3,933	\$7,852
U. S. Average	\$1,621	\$2,743	\$3,345	\$6,232

Sources: *Digest of Education Statistics, 1997*, Tables 168, 169. Expenditures are in 1996-97 dollars per average daily attendee (ADA).

Table 11. Expenditures per Pupil (ADM) for Hawai'i and Comparable States (Figure 12)

	Hawai'i	Nevada	New Hampshire	Rhode Island	U. S. Average	HI Difference from U.S. Average	
1987-88	\$3,661	\$3,298	\$4,080	\$4,951	\$3,927	(\$266)	-6.8%
1988-89	\$3,841	\$3,562	\$4,328	\$5,598	\$4,304	(\$463)	-10.8%
1989-90	\$4,130	\$3,816	\$4,786	\$5,798	\$4,628	(\$498)	-10.8%
1990-91	\$4,820	\$4,294	\$5,152	\$5,934	\$4,902	(\$82)	-1.7%
1991-92	\$5,062	\$4,546	\$5,237	\$6,092	\$5,023	\$39	0.8%
1992-93	\$5,332	\$4,645	\$5,368	\$6,501	\$5,170	\$162	3.1%
1993-94	\$5,533	\$4,661	\$5,433	\$6,797	\$5,344	\$188	3.5%
1994-95	\$5,597	\$4,730	\$5,567	\$6,899	\$5,536	\$62	1.1%
1995-96	\$5,560	\$4,892	\$5,740	\$7,304	\$5,697	(\$137)	-2.4%
1996-97	\$5,633	\$5,084	\$5,920	\$7,612	\$5,924	(\$291)	-4.9%
1997-98	\$5,415	\$5,219	\$6,493	\$7,642	\$6,168	(\$753)	-12.2%

Sources: *Digest, 1998*, Table 168. *Early Estimates, 1997-98*, Tables 6,7, pp.8, 9. Expenditures are in current (unadjusted) dollars per average daily member (ADM).

Table 12. Net Classroom Shortage or Excess by District (Figure 13)

	Honolulu	Central	Leeward	Windward	Hawai'i	Maui	Kaua'i
Elementary	108	15	-62	53	-25	-3	-2
Secondary or K-12	68	-24	-62	6	-36	-65	-54
Total	176	-9	-124	59	-61	-68	-56

Table 13. Percentages of Schools with Substandard Facilities (Figure 14)

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Administration	40%	40%	40%	40%	41%	42%	37%	35%
Libraries	46%	47%	48%	46%	46%	49%	51%	50%
Cafeteria	14%	17%	17%	16%	14%	17%	13%	12%



Table 14. Percentages of Schools with Substandard Facilities by District, 1997-98
(Figure 15)

	Honolulu	Central	Leeward	Windward	Hawai'i	Maui	Kaua'i	Statewide
Administrative	13%	18%	16%	35%	71%	80%	40%	35%
Library	38%	53%	37%	42%	76%	70%	33%	50%
Cafeteria	4%	10%	16%	6%	26%	10%	13%	12%
Number of Schools	56	40	38	31	38	30	15	248

Table 15. Mean Number of Days Absent by School Type and Year
(Figure 17)

	Elementary	Intermediate	High	Multi-Grade
1991-92	9.8	10.7	13.4	12.7
1992-93	10.0	9.8	12.7	12.8
1993-94	9.8	11.2	14.1	14.5
1994-95	9.9	11.4	17.2	16.1
1995-96	9.5	11.0	17.2	15.5
1996-97	9.9	10.8	16.3	16.1
1997-98	9.7	10.6	17.4	16.9

Table 16. Number of School Reporting Specific Improvement Priorities , 1991-92 to 1997-98
(Figure 18)

Priority	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Achievement	151	170	163	167	161	158	162
Curriculum	132	144	167	152	157	137	120
Staff Development	126	124	122	115	95	66	55
SCBM	73	85	78	57	48	26	14
Community	60	60	48	55	48	48	59
Attitudes or Behavior	98	83	88	81	80	60	66
Accreditation	n/a	n/a	2	1	5	20	26
Facilities	17	18	27	66	114	106	97
Other	23	28	12	12	20	111	139

Table 17. Stanford Achievement Test Means, 1992-93 to 1997-98
(Figure 19 and 20)

	National Norm	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Reading							
10th Grade	685	679.9	679.3	679.5	679.9	677.6	677.1
8th Grade	673	661.7	663.5	661.5	662.4	662.2	662.2
6th Grade	649	645.6	641.0	645.8	640.4	646.4	646.1
3rd Grade	608	593.4	590.7	591.9	588.7	590.2	592.6
Mathematics							
10th Grade	704	707.1	708.7	706.5	708.3	703.8	702.8
8th Grade	684	682.2	685.8	681.9	685.1	681.1	681.4
6th Grade	654	659.3	658.0	659.5	656.5	659.3	659.1
3rd Grade	594	598.2	597.8	595.4	594.4	593.0	595.6



Table 18. High School Senior Completion and Non-Completion, 1986-87 to 1997-98
(Figure 23)

Year	Seniors	Certificate of Completion							
		Graduated	Course Completion		IPP		Did Not Complete		
1986-87	10,161	9,595	94.4%	---	---	---	---	566	5.6%
1987-88	11,173	10,517	94.1%	---	---	---	---	656	5.9%
1988-89	11,190	10,534	94.1%	---	---	---	---	656	5.9%
1989-90	10,204	9,393	92.1%	---	---	139	1.4%	672	6.6%
1990-91	10,041	9,066	90.3%	225	2.2%	180	1.8%	570	5.7%
1991-92	10,062	9,235	91.8%	207	2.1%	168	1.7%	452	4.5%
1992-93	9,852	8,924	90.6%	211	2.1%	185	1.9%	532	5.4%
1993-94	10,367	9,411	90.8%	301	2.9%	158	1.5%	497	4.8%
1994-95	10,552	9,435	89.4%	344	3.3%	205	1.9%	568	5.4%
1995-96	10,395	9,405	90.5%	365	3.5%	223	2.1%	402	3.9%
1996-97	10,189	8,977	88.1%	535	5.3%	227	2.2%	450	4.4%
1997-98	10,836	9,677	89.3%	499	4.6%	202	1.9%	458	4.2%

Table 19. High School Seniors Plans, 1991-92 to 1997-98
(Figure 24)

	Attend School	Work Full-Time	Join Military	Other	Undecided
1991-92	77.4%	10.9%	4.6%	2.1%	6.5%
1992-93	83.7%	16.6%	4.6%	1.3%	4.5%
1993-94	79.3%	9.6%	3.8%	2.6%	6.3%
1994-95	79.0%	10.1%	3.9%	2.7%	6.2%
1995-96	79.3%	14.0%	6.0%	3.5%	5.7%
1996-97	77.7%	13.9%	6.0%	3.5%	5.7%
1997-98	78.7%	12.4%	8.8%	2.0%	3.9%

Table 20. Student Suspensions by Chapter 19 Classification, 1991-92 to 1997-98
(Figure 25)

		Type					Students Involved	
		Type A	Type B	Type C	Type D	All Types		
1991-92	Number	2,520	6,268	7,434	1,501	17,723	10,686	
	Rate	14.5	36.0	42.7	8.6	101.7	61.3	per 1,000
1992-93	Number	2,789	7,112	9,283	1,685	20,869	12,088	
	Rate	15.8	40.2	52.5	9.5	118.0	68.3	per 1,000
1993-94	Number	2,923	8,002	9,734	2,018	22,677	13,104	
	Rate	16.3	44.5	54.1	11.2	126.1	72.9	per 1,000
1994-95	Number	3,033	7,207	9,663	1,769	21,672	12,839	
	Rate	16.6	39.3	52.8	9.7	118.3	70.1	per 1,000
1995-96	Number	3,533	7,774	10,767	2,335	24,409	14,232	
	Rate	18.9	41.6	57.6	12.5	130.7	76.2	per 1,000
1996-97	Number	3,287	8,541	11,356	3,615	26,799	13,233	
	Rate	17.4	45.3	60.3	19.2	142.2	70.2	per 1,000
1997-98	Number	3,545	7,632	8,743	2,733	22,653	12,124	
	Rate	18.7	40.3	46.2	14.4	119.7	64.1	per 1,000



Table 21. Chapter 19 Charges Categorized by Type of Incident, 1991-92 to 1997-98
(Figure 26)

	<u>Violence</u>	<u>Property</u>	<u>Illicit Substances</u>	<u>Attendance</u>	<u>Order</u>
1991-92	15.6	4.7	11.8	10.2	58.0
1992-93	18.3	5.2	16.3	15.0	63.1
1993-94	19.2	5.8	19.0	16.4	65.5
1994-95	18.5	5.4	21.6	17.7	82.5
1995-96	19.6	6.3	27.0	16.3	92.1
1996-97	18.4	5.7	23.1	5.4	89.6
1997-98	16.3	4.7	22.6	0.1	75.9

Figures are incidence rates, given as citations per 1000 students.