

Improving Public Schools:

Class Size & School Size

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**Class Size and School
Size**

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Author: Raywid, Mary Anne

ERIC Clearinghouse on Urban Education, New York, N.Y.

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Over the last 30 years research and experience have suggested that students benefit in many different ways from attending small schools, as opposed to large ones. Many existing schools, however, and even most under construction, can accommodate 2,000-4,000 students. While educators may disagree about the right school size, they recommend that the schools serve between 100 and 1,000 students.

This digest briefly reviews the current movement to downsize urban schools to help educators decide whether and why to pursue such a move, and to indicate which models appear most promising.

RATIONALE FOR DOWNSIZING

The school downsizing movement is only a decade old, and still small, but the evidence is strong that small schools benefit the entire school community: teachers, students, and parents.

STUDENT BENEFITS. Small schools are particularly beneficial for disadvantaged students. Specific benefits already documented for these and other youngsters include: better attendance and retention; better behavior, attitude, and engagement; enhanced academic performance; and increased involvement in extracurricular activities. The extra attention that students get from the staff affords them greater educational, psychoemotional, and social services, and also makes them feel part of a community. This sense of belonging, as well as academic performance, are further enhanced when students can choose their school, and make their selection based on the school's focus.

TEACHER BENEFITS. Teachers, especially those who are able to choose their school, frequently experience the same growth in commitment to it as students do. The result is that they willingly participate in planning and analyzing practice, and they are likely to expend extra efforts to ensure that the students achieve and the school succeeds.

INSTITUTIONAL BENEFITS. Downsizing frequently improves school organization: more effective and appropriate governance, stronger student supports, improved staff effectiveness and satisfaction, better advisement, and enhanced curricula. The benefits to the school increase along with its autonomy and separation from other district schools, since there are fewer time- and energy-draining bureaucratic hurdles to overcome, and the ability to develop its own distinctiveness is empowering. Further, small schools are easier to "restructure" than large ones and reform strategies are easier to implement there, so models for successful change within them are emerging.

Finally, creating several small schools from a large, failing school is a solution to the problem of what to do with such a school, as well as an effective way to improve education without incurring construction costs, since the new schools are housed together in the old building.

CHARACTERISTICS OF SMALL SCHOOLS

Some small schools are quite different from large ones in all areas of operation, while others differ mainly in the fact that they serve fewer students. In addition, some schools are limited in their ability to fully implement the small school concept, because of their relationship to the school district and other schools within it, or decisions and regulations imposed by the administrators of the building where they are located.

PHYSICAL LOCATION

Some small schools operate in a structure totally their own, but most exist within a building that houses other schools. In the latter circumstances, the small school either may be one of several small schools that combine to fill the building, all with equal decision-making authority over building-wide issues; or it may be the only such school in a building otherwise housing a single larger, "host" school that makes all building-wide decisions and may exercise some controls over the small school as well.

Some schools identified as small schools are really just special programs within a "parent" school, usually developed for a special student population such as limited English speakers. Most aspects of their operation are controlled by the host school administration, and the teachers may have duties in both the parent and small schools. These schools are often less successful than the small schools that achieve the separateness and autonomy necessary to distinctiveness.

Small schools with a building of their own obviously have greater control over their operations and are not limited by having to share resources. Such facilities are, however, often harder to locate. Especially in urban areas, it may appear nearly impossible to find unused space unattached to an existing school.

CLASSIFICATION

Different cities and school districts design their small schools very differently, and to different purposes. Although labels differ, four broad types of small schools are distinguishable:

HOUSE PLANS. In a house plan students and teachers may remain together for some or all coursework. A house can be organized on a one-year or multi-year basis. It is usually overlaid upon the department structure of the traditional middle or high school that hosts it, which restricts the amount of change the arrangement can create.

MINI-SCHOOLS. This arrangement has some of the properties of a house plan and is also dependent on its larger host school for its existence. But mini-schools almost always serve students over a several-year period, and they usually have their own instructional program, giving them more distinctiveness from one another than houses usually achieve.

SCHOOLS-WITHIN-SCHOOLS. These are separate and autonomous units with their own personnel, budget, and program, authorized by the board of education or superintendent. They operate within a larger school, sharing resources and reporting to the school principal on matters of safety and building operation. Both students and teachers choose to affiliate with such a school.

SMALL SCHOOLS OR SCHOOLS-WITHIN-A-BUILDING. These have the properties of a school-within-a-school, but differ in that each is an entirely new, separate, and independent school--as opposed to one carved from an existing larger school. They have their own organization, instructional program, budget, and staff.

FOUNDING PRINCIPLES

COHESION. Aside from their size, many small schools differ from larger ones in that their creation was based on a particular philosophy or a distinctive set of organizing principles.

AUTONOMY. To the extent possible, usually through permission or authorization from host schools or school districts, subschools and small schools develop their own organizational structure and climate. The four types represent a continuum with respect to autonomy and control over their own instructional programs, budget, and personnel.

FOCUS. Many small schools have an agreed-upon focus or theme. Some are created specifically to provide students with a specialized curriculum, such as a career magnet, or to provide a certain student population with a program tailored to its unique needs. A school's focus may also be its instructional approach. It can be either broadly defined, such as use of inquiry learning techniques; or based on specific strategies, such as cooperative learning. The usual function of the focus is to attract and sustain learner engagement across a full curriculum.

CONSTITUENCY. A self-selected staff and constituency results in a school community that is cohesive and committed to common goals. Ideally, therefore, small school teachers must volunteer to work in the school. Similarly, students benefit most when they elect to enroll, and when the student body is assembled on the basis of shared interests instead of on the basis of ability or achievement levels. Also, because they choose the school, presumably because of a special affinity for its program, parents tend to be more involved in its operation and in their children's performance there.

FUTURE PROSPECTS FOR SMALL SCHOOLS

Several major cities--New York, Philadelphia, and Chicago, among them--have a significant investment in school downsizing, through strong professional and reformer support, and through financial support from private foundations and partnerships with non-profit organizations which are convinced that small schools are essential to urban education improvement. Downsizing experience to date has been mixed, although optimistic about its potential. It appears that, besides limited resources, the greatest inhibitors to a small school's ability to realize its potential is lack of autonomy--constraints imposed by stringent regulations, bureaucratic regularities, and longstanding labor agreements; and the need to mesh with policies and practices of the board of education, the school district, and the host school--and the hesitation of some education personnel at all levels to make fundamental changes in the way they function.

Despite the difficulties, small schools are opening and many more are being planned. They combine a number of the features currently recommended by both researchers and reformers in the interests of transforming schools into engaging and responsive places to teach and learn.

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This digest is based on a monograph, *Taking Stock: The Movement to Create Mini-Schools, Schools-Within-Schools, and Other Small Schools*, by Mary Anne Raywid, available from ERIC/CUE, Box 40, Teachers College, Columbia University, New York, NY 10027, for \$10. Mary Anne Raywid's related monograph, *Focus Schools: A Genre to Consider*, is also available from ERIC/CUE FOR \$10. Both monographs can be purchased for \$16.

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What Matters Most

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New York small schools face threat

In New York City, small schools have been riding a roller coaster for more than 25 years. At the moment, they're bracing for a fall.

The movement began in 1974, when then-teacher Deborah Meier and a group of progressive educators founded Central Park East Elementary School in East Harlem. Size was the cornerstone behind Meier's idea to bring the rigors of private school education to students in impoverished communities.

Small, autonomous schools, according to Meier, are familiar and safe for students, accountable to parents and teacher, flexible to change and free to experiment. "In schools, big doesn't work no matter how one slices the data," she writes in her book, *The Power of Their Ideas: Lessons for America from a Small School in Harlem*.

It worked. Students at Central Park East flourished in the more intimate setting, and the school was widely praised as the new model for urban education. Since then, the Central Park East success story has inspired a number of teachers and community leaders in New York and elsewhere to start small schools of their own. Five years ago, the New York school officials formally endorsed small schools as a focal point of reform. Since then, reform groups have opened 125 small schools, bringing the total to 150; together, they serve 5 percent of New York's 1.1 million students.

Despite many success stories and increasing popularity, New York's small schools face an uncertain future. Last fall, new school officials drafted a report recommending that more central controls be imposed on small schools to hold them more accountable.

Specifically, their report recommended that licensed principals, not teachers, run small schools, and that new small schools get approval from central office as well as their community school board. Most threatening to small

schools were suggestions that elementary schools enroll at least 400 students, middle schools at least 600, and high schools at least 800.

Chancellor Rudy Crew backed off the minimum enrollments, voicing his support for small schools. However, in February, half of the system's small high schools were ordered to add students immediately. "He wants big small schools," quips one New York City small-school advocate.

The directive was aimed at accommodating late enrollees, not permanently enlarging the schools, says board spokesman J.D. LaRock. "We have a large system. We have to accommodate all students."

Much like their counterparts in Chicago, small schools in New York are under increasing pressure to raise test scores. Yet as progressive educators, many small-school leaders shun tests as a measure of student progress. "For many years, we said tests aren't important," says Bruce Kanze, director of Central Park East II. "Our goal is to look at as broad a picture of the child as we can. Tests only gauge a narrow range of abilities." Student involvement and ability to solve problems is more important to Kanze.

But Kanze is also realistic. In March, the New York Times reported that the reading scores at Central Park East II are among the lowest of the city's small schools. In 1997, fewer than 35 percent of CPE II students were reading at or above national norms. Kanze knows such news could scare off parents. In a note to his staff, he proposes sending parents a written response. "We need to talk about what we're going to do to get every child as ready as we can for the upcoming tests," he says.

Not surprisingly, Crew's mixed signals have raised hackles among small-school advocates. A small-schools conference in March attracted hundreds of supporters from New York and elsewhere to Bank Street College of Education. In a session on elementary small schools, teachers and administrators discussed the fallout of the School Board's shift. "You're not part of a learning community when you're in a top-down system," argued Lucy Matos, who is director of Ella Baker Elementary. "You're not a stakeholder."

Matos knows what it means to be a stakeholder. As a new teacher, she was recruited by Meier to join the Central Park

East staff when the school opened in the mid-1970s; eventually she became its lead teacher. In the fall of 1996, Matos took charge of opening Ella Baker, one of six small schools housed in what was once Julia Richmond High School in Midtown Manhattan. Now in its second year, Ella Baker enrolls 146 pre-K to 2nd-grade students; it plans to grow to 300 students in pre-K through 8th grade.

Matos meets three times a week with the school's eight teachers. On Mondays, the staff covers curriculum issues or staff development. On Wednesdays, they handle business matters. Breakfast meetings on Fridays are a chance for teachers to exchange ideas.

"People say schools have to be good for kids," Matos observes. "I say schools have to be good for all of us. This is my learning environment, too."

Crossroads, a middle school in West Harlem, is another example of the continuing challenge small schools face even in their birthplace.

Director Ann Wiener rode her bike through the neighborhoods to find space for the school. A school custodian tipped her to a vacant fifth floor the school now occupies. When Crossroads opened, students and staff had to navigate large plastic buckets arranged to catch water dripping from the roof. A nearby church adopted the school, joining students and teachers in lobbying the board for repair money and then bird-dogging the work.

Wiener says they persevered by focusing on their goal. "This age is a crossroads in kids' lives," says Wiener. "It's a time when either they connect with education or they disconnect."

—Veronica Anderson

Catalyst

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Finding Safety in Small Numbers

When a Baltimore high school created small schools--or academies--within its big building, it found that a more personalized atmosphere is the antidote for many of the ills afflicting inner-city schools.

James McPartland, Will Jordan, Nettie Legters, and Robert Balfanz

A recent report on high school reform, *Breaking Ranks*, cites anonymity and apathy as the leading causes of problems in the typical large high school. Students feel anonymous when they have no adult to turn to who knows them well and cares about their welfare. Students become apathetic when they must take required courses that have nothing to do with their goals and interests.¹

Patterson High School, a non-selective school of 2,000 students in Baltimore, Maryland, has shown how personalizing relationships and focusing the curriculum can turn a school around--even one that is unsafe and chaotic--and create a serious climate that is conducive to learning. Patterson has done this without resorting to two common solutions: expelling offending students and investing heavily in security measures.

The reforms Patterson has adopted, called the Talent Development Model, involve reorganizing the school into smaller, self-contained units. One large building now houses a Ninth Grade Success Academy, where teachers and students work in small teams, and five upper-level Career Academies that blend a college-prep curriculum with career interests.

In addition, instead of suspending or transferring students with bad attendance or discipline problems, Patterson established the Twilight School, an after-hours alternative setting in the building. Here, teachers give students short-term assignments (up to five weeks) to help them work on their problems in small classes and with counselors and other support personnel.

Toughing It Out

Before Patterson High School adopted the Talent Development Model two years ago, its halls and stairways were regularly filled with scores of students who should have been in class. Periodic efforts to control the situation merely chased the problems from one part of the building to another. Student vandalism went well beyond graffiti: Smashed windows and fires set in trophy cases left the impression of a war zone. Cafeteria periods were regularly punctuated by fights and flying food debris--some from students who were illegally attending more than one lunch period each day.

Faculty efforts to enforce discipline rules--dress codes forbidding hats and coats in class, behavioral codes outlawing radio earphones and dice or card games, and so on--were regularly met with profanity and general verbal abuse. Some students were so bold as to physically bump and otherwise hassle adults in the crowded corridors and stairways.

Patterson's teachers tried to make the best of an unruly situation. They papered over the windows on their classroom doors and concentrated on the students who wanted to learn. Each week, teachers would send dozens of class troublemakers to the vice principal's office, where discipline ranged from chastisement to short- or long-term suspensions. A bizarre game of musical chairs was set in motion as hundreds of expelled students transferred

among the district's various high schools.

Not surprisingly, student and faculty attendance plummeted as conditions grew worse. A daily attendance rate of 50 or 60 percent of the enrolled students was not unusual, nor was having 10 percent of the faculty out for a "mental health" sick day. Poor student attendance inevitably led to course failures, grade retentions, and high dropout rates. After the 9th grade, enrollment dropped dramatically. Almost 1,200 9th graders but fewer than 250 12th graders attended school during 1994-95.

Only handfuls of 11th and 12th graders were enrolled in advanced mathematics and science courses even though district policy mandated these courses for all students. Teachers who had trained to be effective urban educators were frustrated in their attempts to attract large numbers of students to higher-level courses.

Because of the negative trends in attendance, dropout rates, and test scores, the Maryland State Department of Education cited Patterson as one of the first two high schools eligible for outside reconstitution. The state action caused the Patterson faculty to face up to school problems. During a planning year, the staff proposed creating smaller academies.

Changes from the Inside Out

Today, even the outward appearance of Patterson High School has changed. Unlike most schools, it has six separate entrances, each with a marquee announcing the academy the door leads to. The academies are separated from one another by internal walls and doors. The student body of each academy selects its own color to be used on student IDs and on signs, lockers, and decorations.

The management structure also personalizes the school. The faculty members of each academy have the authority to deal directly with student problems. Each academy has its own principal (formerly those who held vice principal positions in the larger school), its own academy leader (often a former department head), and its own guidance counselor. The principal and academy leader share responsibilities for discipline and instructional planning. One or both of them will usually be at the entrance in the morning to greet students and offer words of advice or encouragement.

Patterson continues to be led by a schoolwide principal who meets regularly with the leaders of each academy to set general policies and discuss general concerns. For most instructional and behavioral issues, however, authority is decentralized.

The management team and faculty of each academy are authorized to deal directly with attendance, discipline, and learning problems, referring students to schoolwide officials or specialists only in extreme cases. Teachers in the Ninth Grade Success Academy serve as their own attendance monitors. They may telephone the student (not the parents) at home with caring messages and problem-solving ideas.

A Successful Start and Transition

In the Ninth Grade Success Academy, the faculty is divided into five teams with four or five teachers to a team. Each team shares the same 150-200 students, and the entire team helps individual students with their problems. Classes follow a block schedule, enabling each team of teachers to have the same daily planning period. Teachers and students also get to know each other in regular team meetings. Teachers who have worked in middle school teams with young adolescents often select this academy.

As students begin their high school experience, a transition program is designed to prepare them to choose the career academy they will attend over the next three school years. They

take the Self-Directed Search Career Interest Inventory and participate in several other self-awareness activities. They get information about the five academies from brochures, faculty descriptions, and student presentations. They then rank their academy preferences. (Students almost always get their first choice and never less than their second choice.) Students also get information about college alternatives and application procedures.

School Choice in Career Academies

The upper-level Career Academies share the same core college-prep curriculum but enable students in grades 10-12 (as well as teachers) to choose among five areas of interest: Arts and Humanities, Business and Finance, Environmental Sciences and Aquatic Studies, Sports Studies and Health/Wellness, or Transportation and Engineering Technology.

Each academy enrolls between 250 and 350 students and has its own faculty of 14 to 18 teachers. Students and teachers quickly come to recognize one another and to know everyone's name.

Students stay with the same homeroom teacher for three years--a relationship that further personalizes the school. In the homeroom sessions, the first 15 minutes of the day are set aside for advice and mentoring, as well as for the usual record keeping and routine administrative matters.

The faculty introduced the common core curriculum of college-prep courses to set high expectations and encourage a climate of serious purpose. To permit more depth of instruction (and to minimize traffic changes between classes), the school instituted a four-period day. In addition to the core academic courses, students take practical applications courses that relate to their academy's career theme. For example, the Arts and Humanities Academy offers a four-course sequence in computer graphics and illustration for which students can earn community college credit. This academy also offers law-related courses and an out-of-school internship with the Baltimore City Police district office. The Transportation and Engineering Technology Academy has a five-course sequence in automotive technology that can lead to a state technology certificate, entrance to a community college program, or a college engineering major. The Sports Studies and Health/Wellness Academy offers five courses in fitness and bio-nutrition with internship opportunities at a rehabilitation institute.

Teachers' selections of specific career academies are honored as scheduling allows. They then go to work to develop the career themes and special offerings for their classes.

Looking Up

The creation of small, caring learning communities has transformed the climate at Patterson High School. The halls and stairways are now safe places, students are in class when they should be, teachers teach with their doors open, and decorations or posters in the building remain up and graffiti-free. Surveys show that before the reforms, 85 percent of the faculty agreed that "The environment at this school is not conducive to learning." Now, 10 percent agree. Before the reforms, only 13 percent agreed that "This school seems like a big family, everyone is so close and cordial." Now, 67 percent agree.

Most encouraging is the upsurge in student attendance. It has risen from an average of 70 percent to 80 percent daily, while no other high school in the district has improved more than a point or two. As attendance has gone up, so too have student promotion rates from the 9th grade. Most recently, 80 percent of students earned enough credits at the end of the year to reach 10th grade, compared to 35 percent before the reforms were instituted.

Teacher attendance is almost perfect as well, and very few Patterson teachers have requested

a transfer. In fact, a long waiting list of teachers now would like to join the Patterson faculty.

Patterson's staff is now introducing reforms to take advantage of the favorable climate for learning. They have planned more flexible time limits for academic courses to address the diversity of students' prior preparation. They are introducing new learning activities to engage students in higher-order learning tasks. They also are planning new ways of evaluating student work to allow students to show what they have learned in different ways and to recognize improvement as well as achievement.

The staff is also developing technical assistance materials--including timetables and implementation standards--to help other troubled high schools implement Talent Development and Career Academy reforms.

Not Succumbing to Temptation

In a troubled high school, it is tempting to invest heavily in security devices or to expel students who cause severe discipline problems. To be sure, some schools need a great deal of specialized security. And some students are so hostile to authority that they need an alternative setting for their education. But at some point, a nonselective school must stop rejecting difficult cases and start finding ways to adapt school to the diverse needs of its students. A school must help socialize young learners to work hard and adhere to academic and behavioral goals.

Patterson's experience shows that students will exhibit better behavior and more respect for their teachers and school building when they become members of a smaller learning community--a community that is focused on a course of study that the students themselves select because it matches their interests and career goals. Similarly, teachers are more willing to spend the extra time and assume the extra duties to take control of their school when they have more personal contacts--and common career-focused interests--with their students.

In these small academies, teachers and students know one another. And through common interests, students develop respect for a serious and civil academic climate. They see the connection between what they are learning in school and what they would like to do in life.

*

¹ National Association of Secondary School Principals, (1996), *Breaking Ranks: Changing an American Institution* (Reston, Va.: Author). See also D. Oxley, (March 1994), "Organizing Schools into Small Units: Alternative to Homogeneous Grouping," *Phi Delta Kappan* 75, 7: 521-526.

Author's note: For more information on technical assistance materials, contact Talent Development High School Project, Center for Research on the Education of Students Placed At Risk, Johns Hopkins University, 3505 N. Charles St., Baltimore, MD 21218.

James McPartland is Principal Research Scientist, and **Will Jordan**, **Nettie Legters**, and **Robert Balfanz** are Associate Research Scientists at the Johns Hopkins University Center for Research on the Education of Students Placed At Risk (CRESPAR). CRESPAR assisted the Patterson High School staff in developing the Talent Development Model with Career Academies. The authors may be contacted in care of James McPartland, Johns Hopkins University, 3505 N. Charles St., Baltimore, MD 21218-2498 (e-mail: jmcpartlan@csos.jhu.edu).

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CLINTON/GORE ACCOMPLISHMENTS IN EDUCATION CLASS SIZE INITIATIVES

PAST ACCOMPLISHMENTS/Budget Wins as updated 5/99

***More Teachers/Smaller Classes-** the Administration won a \$1.2billion down payment on its initiative to reduce class size in grades 1-3 to the national average of 18 by helping local school districts hire 100,000 additional, well prepared teachers. Research shows that low-income students in particular, benefit academically from smaller class size. Smaller classes will afford all children individualized attention, a solid foundation in the basics and greater discipline in the classroom.

CURRENT INITIATIVES

FY2000 Budget Initiatives

***Smaller Class Sizes-** the Administration has requested \$1.4billion as the second installment of the President's plan to help schools recruit, hire and train 100,000 new teachers by 2005 to reduce class size in grades 1-3.

***New Classrooms-** the Administration has proposed providing Federal tax credits to pay interest on nearly \$25 billion in bonds to build, repair and/or renovate up to 6,000 schools making them able to accommodate smaller classes and new technology.

ESEA

***Title VI/Class Size Reduction Initiative:** continues the Class Size Reduction initiative by:

- promoting smaller classes to increase the focus on reading instruction in the primary grades;
- maximizing the benefits of class size reduction through professional development that provides strategies to help teachers take full advantage of the benefits of smaller classes;
- provides flexibility with small class size reduction awards; and
- builds capacity in school districts by establishing a local matching requirement.

Expected Results of President's Class Size Proposal- Children will:

- *Receive more personal attention;
- *Acquire a solid foundation for further learning; and
- *Learn to read independently and well by the end of the third year.

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The Class Size Reduction Program is a new initiative to help schools improve student learning by hiring additional, highly qualified teachers so that children — especially those in the early elementary grades — can attend smaller classes.

School districts will soon receive funds — **a total of \$1.2 billion** — that will enable them to recruit, hire, and train new teachers for the **1999-2000 school year**. This is just the first installment of an initiative that is anticipated to provide **\$12.4 billion over 7 years to help schools hire 100,000 new teachers and reduce class size in the early grades to a nationwide average of 18.**

Schools will:

- Recruit, hire, and train new teachers, especially for the early elementary grades.
- Promote high-quality teaching and provide professional development opportunities for their teachers.
- Issue public "report cards" to inform parents and communities about progress in reducing class size and improving student achievement.

Children will:

- Receive more personal attention in smaller classes;
- Acquire a solid foundation for further learning; and
- Learn to read independently and well by the end of the third grade.

How are grants awarded?

Starting on July 1, 1999, the Department of Education will send Class-Size Reduction funds to all States, the District of Columbia, Puerto Rico, the Outlying Areas, and the Bureau of Indian Affairs. The amount of funds will be based on the formula contained in either Title I or Title II of the Elementary and Secondary Education Act, whichever would result in the larger amount for the State or entity.

School districts will apply directly to their States. Grants will be targeted to high poverty communities.

For more information, please send e-mail to class_size@ed.gov

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This page last updated May 5, 1999 ([lee](#))

Guidance for Class-Size Reduction Program: March 1999

Class-Size Reduction

Guidance for State and Local Educational Agencies

Section A. Introduction

Education Reform

Since 1993, President Clinton has been leading the Nation in a campaign to raise student achievement. He has supported States in their reform efforts to: set high academic standards that all students in the State will be expected to achieve; measure student progress; ensure that there is a well-qualified teacher in every classroom; and hold schools and school districts accountable for results.

At the Federal level, the need to raise academic standards has been the driving force behind every elementary and secondary education initiative proposed by the Administration. This emphasis is the unifying theme of the *Goals 2000: Educate America Act*, the *Elementary and Secondary Education Act*, the *School-to-Work Opportunities Act*, the *Individuals With Disabilities Education Act*, and the *Carl D. Perkins Vocational and Technical Education Act of 1998*. The programs supported by these Federal statutes are now firmly centered on the premise that all students will become effective learners when we:

- Set high standards of learning that all children are expected to achieve.
- Assess students and schools against those standards.
- Provide schools with the tools they need to help students meet the standards, including investments in high quality professional development for teachers and technology for the classroom.
- Provide schools with the flexibility to determine how best to meet the needs of their students and educate them to high standards.
- Hold schools and school districts accountable for making progress in meeting State standards.

Class-Size Reduction

Continuing the campaign to improve student achievement and ensure that all young children receive more of the individual attention they need, the Administration has now launched a long-term effort to reduce class sizes by helping school districts recruit, hire, and pay salaries and benefits for 100,000 additional teachers over the next seven years. The addition of these new teachers should result in the reduction of class size in grades one through three to a national average of 18 children per class.

Research shows the value of lowering class size. Students attending small classes in the early grades make more rapid educational progress than students in larger classes. These achievement gains persist through at least the elementary grades. The research also shows that the benefits of smaller classes are greatest for lower achieving, minority, poor, and inner-city children. Teachers in small classes can provide students with more individualized attention, spend more time on instruction, and cover more material effectively.

While smaller classes are important, research also shows that teacher quality has a powerful impact on student learning. Further, because smaller classes present different teaching options, teachers who move from large to smaller classes may benefit from assistance in changing their teaching approach. That is why the Class-Size Reduction program also includes a strong emphasis on hiring highly qualified teachers and providing professional development. This multi-dimensional emphasis on recruiting,

training, and professional development, in concert with hiring new teachers, presents school districts with a rich opportunity to develop creative approaches to improving learning for children.

For fiscal year 1999, the first year of the initiative, Congress has provided a down payment of \$1.2 billion that will be available to States on July 1, 1999 -- in time for schools to hire new classroom teachers for the 1999-2000 school year. In appropriating funds for this program, Congress recognized the "impressive research studies" and pointed out that "[c]lass-size reduction can be particularly beneficial in [the] early grades because students in those grades are learning to read and to master the basics in math and other subjects."

The goal of the Class-Size Reduction initiative is to help schools improve student achievement by adding additional, highly qualified teachers to the workforce to ensure that class size -- particularly in the early grades -- is reduced to no more than 18 children per class. States will allocate 100 percent of the funds they receive to school districts to pay for salaries and provide other benefits for additional teachers to reduce class size in the early grades. Of these funds, school districts will use at least 82 percent for recruiting, hiring, and training new teachers. In addition, they may use no more than 3 percent for local administration and no more than 15 percent to pay the costs of such activities as professional development and testing of teachers for academic content knowledge and to meet State certification requirements.

Integration With Other Programs

In order to be most effective, the Class-Size Reduction program should work hand-in-hand with other Federal, State, and local programs that have related purposes. Several States, for example, have recently instituted their own class-size reduction initiatives; LEAs must use the Class-Size Reduction program funds to supplement (and not replace) funds they receive from those State initiatives, so that they can implement greater class-size reductions than they would have been able to accomplish under their State initiative alone.

School districts should also coordinate their Class-Size Reduction activities with those of several related Federal programs, including:

- **Title I of the ESEA**, which focuses on improving instruction in the early grades in order to improve student achievement, especially in reading.
- **The Eisenhower Professional Development Program**, which provides assistance for training teachers in effective practices of reading, mathematics, and science instruction.
- **The Reading Excellence Act (REA)**, which supports activities that will: provide children with the readiness skills and support they need in early childhood to learn to read once they enter school; teach every child to read by the end of the third grade; and use research-based methods to improve the instructional practices of teachers and other staff.
- **The Individuals with Disabilities Education Act (IDEA)**, which provides many opportunities to coordinate efforts to serve children who have special needs. The Class-Size Reduction program can reduce class size for special needs children and provide training for regular classroom teachers who teach children with disabilities and special needs.
- **Title II of the recently reauthorized Higher Education Act (HEA)**, which provides funds, on a competitive basis, to help States and partnerships between local school districts and institutions of higher education recruit and better prepare talented people to go into teaching.

School districts and schools that participate in these programs are encouraged to pursue a coordinated strategy to strengthen instruction in reading and other subjects in the early grades and help all students reach challenging standards -- by creating smaller classes, staffing them with well-prepared teachers, and providing extra help for those who need it.

Flexibility

These guidelines emphasize that Class-Size Reduction program funds are intended to support the basic purpose of reducing class size in grades one through three with highly qualified teachers. However, the Department of Education recognizes that school districts and schools must have flexibility to resolve complicated issues of teacher availability, limited classroom and building space, certification requirements, ongoing State initiatives, collective bargaining agreements, and other issues that vary from locality to locality. Therefore, the guidelines also point out opportunities for school districts to be as inventive as possible in pursuing options and alternative approaches in such areas as recruitment, class-size reduction, and professional development. In addition, while the statute contains certain requirements, States and LEAs may apply for waivers of some of these requirements, as explained in *Section I -- Flexibility to Meet Local Needs*.

Future Support

Although the Administration's original proposal for class-size reduction was for a continuing program that would reach \$12.4 billion over seven years and then continue to provide funds, Congress has enacted legislation and appropriated funds for only the first year.

The Administration recognizes that funding for this program beyond one year will require additional Congressional action. The Administration's Fiscal Year 2000 budget requests \$1.4 billion from Congress to continue and expand this program -- enough funds to enable local communities to continue to pay for teachers hired in the first year and hire additional teachers to further reduce class size. In addition, the Administration will again send Congress legislation seeking full, long-term authorization for this program, and will work closely with Members of Congress to secure its enactment.

The current funds, from the fiscal year 1999 appropriation, will be available July 1, 1999, and will cover expenses for at least the 1999-2000 school year. Schools should know soon after the beginning of the next fiscal year the level of funding they can expect for the 2000-2001 school year. The Administration is committed to its original proposal and intends to work diligently with Congress to ensure that this initiative is enacted as a long-term commitment and resource for States and local school districts in the drive to reduce class size for young children.

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[Purpose of These Guidelines]



[Section B. Research on Class Size]

Guidance for Class-Size Reduction Program: March 1999

Class-Size Reduction

Guidance for State and Local Educational Agencies

Section B. Research on Class Size

This initiative is grounded in current research demonstrating that, at least for the early grades, class size does indeed make a difference -- something parents, teachers, and students have known intuitively for years.

- **Smaller class size increases student achievement.** A May 1998 Education Department analysis of several research studies found that reducing class size from substantially above 20 students per class to below 20 students leads to gains in student achievement, with the performance of the average student moving from the 50th percentile to somewhere above the 60th percentile. According to the research, students from smaller classes in North Carolina, Wisconsin, Indiana, and Tennessee outperformed their peers in larger classes. In a follow-up study in Tennessee, students from smaller classes continued to outperform their peers in all academic subjects even after returning to larger classes in the fourth grade. An analysis of data on 10,000 fourth-graders in 203 school districts and 10,000 eighth-graders in 182 school districts across the United States showed that students in smaller classes performed better in fourth and eighth grade than comparable students in larger classes.
- **Smaller classes can help lay a strong foundation in basic skills for young children.** Smaller classes are especially important in the early grades, where they can help all children learn to read well -- increasing their ability to succeed in advanced subjects and later grades. The study of Tennessee's Project STAR found that students in smaller classes in grades K-3 earned significantly higher scores in basic skills tests in all four years and in all types of schools. Follow-up studies have shown that these achievement gains continued after the students returned to larger classes after third grade. At least through eighth grade, a decreasing, but still significant, higher academic achievement level persists for the students from the smaller classes.

Research on class-size reduction efforts in Indiana, Wisconsin, and North Carolina also found clear academic gains for students in smaller classes through the third grade.
- **Smaller classes have the greatest impact on disadvantaged and minority students.** The national study of fourth- and eighth-graders found the greatest impact of smaller classes on inner-city youth. Achievement data from class-size reduction studies in Tennessee, Texas, and Wisconsin all indicate that reducing class size is especially valuable for minority and disadvantaged students.
- **Smaller classes reduce discipline problems and increase instruction time for teachers.** When Burke County, North Carolina, reduced class size, the percentage of classroom time devoted to instruction increased from 80 percent to 86 percent, while the time devoted to non-instructional activities, such as discipline, decreased from 20 percent to 14 percent. Students from Tennessee's STAR program worked harder and caused fewer discipline problems than students from larger classes -- even after the STAR students returned to larger classrooms.

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Guidance for Class-Size Reduction Program: March 1999

Class-Size Reduction Guidance for State and Local Educational Agencies

Section D. Relationship to Title VI of the ESEA

For fiscal year 1999, Congress included the \$1.2 billion for Class-Size Reduction in the appropriation for Title VI of the ESEA and stated that the Class-Size Reduction program funds are available "to carry out Title VI. . .in accordance with [the Class-Size Reduction statute]. . ."

D-1 How does the Title VI statute apply to the Class-Size Reduction program?

Although the Class-Size Reduction program has a separate implementation statute, Congress intended the Class-Size Reduction program, at least as currently enacted for fiscal year 1999, to be part of Title VI of the ESEA. Therefore, *except where it is inconsistent with specific provisions of the Class-Size Reduction statute*, the Title VI statute applies to the Class-Size Reduction program with the following implications:

- **Allocations to LEAs** -- States must allocate 100 percent of the Class-Size Reduction funds that they receive to LEAs in accordance with the formula provided in the Class-Size Reduction statute. They may not use their Title VI formula or the Title VI formula criteria to make LEA allocations. (See **Section E – Distribution of Funds.**)
- **State Administration** -- An SEA may use funds reserved for State administration under section 6201 of Title VI to administer the Class-Size Reduction program. (See **Section E – Distribution of Funds.**)
- **LEA Applications** -- As provided in section 307(g) of the Class-Size Reduction statute, LEAs apply to States for funding through their Title VI applications, providing a description of their plan to reduce class size by hiring additional highly qualified teachers. (See **Section F – Applying for Funds.**)
- **Maintenance of Effort** -- The maintenance of effort requirement in section 6401(a) of Title VI applies to the Class-Size Reduction program. (See **Section G – LEA Uses of Funds.**)
- **Supplement, Not Supplant** -- There is a non-supplanting provision in section 307(c)(3) of the Class-Size Reduction statute. It is narrower than the non-supplanting provision in section 6401(b) of Title VI, in that it applies only to LEAs and prohibits the use of Class-Size Reduction funds to replace State or local funds that would otherwise be spent for activities allowable under the Class-Size Reduction program. SEAs remain subject to the Title VI non-supplanting provision, as do LEAs, with respect to other Title VI funds. (See **Section G – LEA Uses of Funds.**)
- **Equitable Participation of Private Schools** -- As provided in section 307(e) of the Class-Size Reduction statute, the equitable participation requirement in section 6402 of Title VI applies only to professional development activities undertaken with Class-Size Reduction program funds. (See **Section G – LEA Uses of Funds.**)
- **Biennial Report** -- Under section 307(d)(1) of the Class-Size Reduction statute, States will report on activities under the program as part of the Title VI biennial report described in section 6202(a)(2)(A) of Title VI. (See **Section J – Accountability.**)

- **Title XIV** -- Because the Class-Size Reduction program is part of Title VI, Title XIV of the ESEA applies to the program. This includes, among other things, the Title XIV waiver authority. (See *Section I -- Flexibility to Meet Local Needs.*)
- **Ed-Flex** -- Because Title VI is subject to the Ed-Flex waiver authority, the Class-Size Reduction program also is subject to this authority. (See *Section I -- Flexibility to Meet Local Needs.*)

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[Section C. Definitions]



[Section E. Distribution of Funds]

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Class Size Reduction Program PL 105-277

SEC. 307. (a) From the amount appropriated for title VI of the Elementary and Secondary Education Act of 1965 in accordance with this section, the Secretary of Education -

1. shall make available a total of \$6,000,000 to the Secretary of the Interior (on behalf of the Bureau of Indian Affairs) and the outlying areas for activities under this section; and
2. shall allocate the remainder by providing each State the greater of the amount the State would receive if a total of \$1,124,620 were allocated under section 1122 of the Elementary and Secondary Education Act of 1965 or under section 2202(b) of the Act for fiscal year 1998, except that such allocations shall be ratably increased or decreased as may be necessary.

(b)(1) Each State that receives funds under this section shall distribute 100 percent of such funds to local educational agencies, of which -

- A. 80 percent of such amount shall be allocated to such local educational agencies in proportion to the number of children, aged 5 to 17, who reside in the school district served by such local educational agency from families with incomes below the poverty line (as defined by the Office of Management and Budget and revised annually in accordance with section 673 (2) of the Community Services Block Grant Act (42 U.S.C. 9902(2))) applicable to a family of the size involved for the most recent fiscal year for which satisfactory data is available compared to the number of such individuals who reside in the school districts served by all the local educational agencies in the State for that fiscal year; and
- B. 20 percent of such amount shall be allocated to such local educational agencies in accordance with the relative enrollments of children, aged 5 to 17, in public and private nonprofit elementary and secondary schools within the boundaries of such agencies;

(2) Notwithstanding paragraph (1), if the award to a local educational agency under this section is less than the starting salary for a new teacher in that agency, the State shall not make the award unless the local educational agency agrees to form a consortium with not less than 1 other local educational agency for the purpose of reducing class size.

(c)(1) Each local educational agency that receives funds under this section shall use such funds to carry out effective approaches to reducing class size with highly qualified teachers to improve educational achievement for both regular and special-needs children, with particular consideration given to reducing class size in the early elementary grades for which some research has shown class size reduction most effective.

(2)(A) Each such local educational agency may pursue the goal of reducing class size through-

- i. recruiting, hiring, and training certified regular and special education teachers and teachers of special-needs children, including teachers certified through State and local alternative routes;
 - ii. testing new teachers for academic content knowledge, and to meet State certification requirements that are consistent with title II of the Higher Education Act of 1965; and
 - iii. providing professional development to teachers, including special education teachers and teachers of special-needs children, consistent with title II of the Higher Education Act of 1965.
 - B. A local educational agency may use not more than a total of 15 percent of the award received under this section for activities described in clauses (ii) and (iii) of subparagraph (A).
 - C. A local educational agency that has already reduced class size in the early grades to 18 or less children may use funds received under this section -
 - i. to make further class-size reductions in grades 1 through 3;
 - ii. to reduce class size in kindergarten or other grades; or
 - iii. to carry out activities to improve teacher quality, including professional development.
 3. Each such agency shall use funds under this section only to supplement, and not to supplant, State and local funds that, in the absence of such funds, would otherwise be spent for activities under this section.
 4. No funds made available under this section may be used to increase the salaries or provide benefits, other than participation in professional development and enrichment programs, to teachers who are, or have been, employed by the local educational agency.
- (d)(1) Each State receiving funds under this section shall report on activities in the State under this section, consistent with section 6202(a)(2) of the Elementary and Secondary Education Act of 1965.
- (2) Each school benefiting from this section, or the local educational agency serving that school, shall produce an annual report to parents, the general public, and the State educational agency, in easily understandable language, on student achievement that is a result of hiring additional highly qualified teachers and reducing class size.
- (e) If a local educational agency uses funds made available under this section for professional development activities, the agency shall ensure for the equitable participation of private nonprofit elementary and secondary schools in such activities. Section 6402 of the Elementary and Secondary Education Act of 1965 shall not apply to other activities under this section.
- (f) ADMINISTRATIVE EXPENSES. - A local educational agency that receives funds under this section may use not more than 3 percent of such funds for local administrative costs.
- (g) REQUEST FOR FUNDS.- Each local educational agency that desires to receive funds under this section shall include in the application required under section 6303 of the Elementary and Secondary Education Act of 1965 a description of the agency's programs to reduce class size by hiring additional highly qualified teachers.

This title may be cited as the "Department of Education Appropriations Act, 1999".

MARCH 17, 1999

EDUCATION WEEK on the WEB

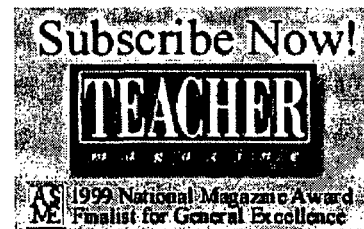

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Department Unveils Guidance On Class-Size Initiative

By Erik W. Robelen

Washington

New guidance from the Department of Education on the federal government's \$1.2 billion class-size-reduction initiative appears to offer schools flexibility in implementing the program, but still leaves some questions unanswered, several state and local officials say.



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Read the accompanying charts, "Class-Size Reduction Guidance," below, and "Top 10 Recipients of Class-Size Funds," in This Week's News.

The department also unveiled new estimates this month of how much class-size funding districts can expect to receive for the 1999-2000 school year. The numbers vary widely, depending on poverty levels and enrollment.

The nation's biggest school district, the 1.1 million-student New York City schools, is slated to get the most money--\$61 million. But some small, rural districts --such as the 235-student Laneville district in Texas, set to get \$12,000--would not receive enough to hire even one full-time teacher and would have to form consortia to qualify. The funding will be made available July 1.

An estimated 30,000 new teachers could be hired in the first year of the program, which aims eventually to add a total of 100,000 teachers in the early grades.

For More Information
"Guidance for Class-Size Reduction Programs" is available on the Department of Education's Web site, www.ed.gov/units/FY99/March3version.pdf or by calling 202-260-8228. (Requires Adobe's Acrobat Reader.)

Read related stories, "Department Issues IDEA Regulations," and "Both Chambers Approve 'Ed-Flex' Legislation," in This Week's News.

However, the program saw an unexpected turn last Thursday, when Senate Republicans succeeded in amending a so-called Ed-Flex bill to allow current funding for class-size reduction to be used for expenses under the Individuals with Disabilities Education Act. The Clinton administration and Senate Democrats failed, despite intensive efforts, to attach a six-year authorization of the class-size plan to the legislation, which grants states and districts freedom from certain federal regulations.

Many state and district officials had anxiously awaited the guidance and funding estimates reLEAsed March 5, which were designed to answer key questions about exactly how the more than \$1 billion in federal funding for the current fiscal year will be allocated and how districts can spend the money. The department is sending the guidance and estimates to all states and school districts.

"I must have had 40 calls from superintendents" asking for details about the program, said Joyce Benjamin, the associate superintendent of federal relations in the Oregon Department of Education. Oregon will get \$11.6 million under the plan for the coming school year.

Some administrators were pLEAsed with what they heard. "I like the flexibility. I think that makes sense," said David S. Wolk, the superintendent of the 2,862-student Rutland, Vt., public schools.

According to the guidance document, states are required to allocate 100 percent of the federal funding they receive directly to eligible local education agencies, based 80 percent on poverty and 20 percent on school enrollment. Eighty-two percent of the money must be used for recruiting, hiring, and training certified teachers, while up to 15 percent can be used for professional development and teacher testing, and 3 percent can be used for local administration.

Class-Size Reduction Guidance: The Department of Education issued guidance this month on the \$1.2 billion federal class-size-reduction initiative. The department says that, if schools in a local education agency (LEA) have a class size in grade 1 through 3 (or in other grades or subjects for LEAs that do not serve grade 1 through 3) that is higher than 18 children: • The LEA must use a minimum of 82 percent of the funds it receives to recruit, hire (including payment of salaries and benefits), and train certified classroom teachers in order to reduce the class size for those grades. The LEA may use a maximum of 15 percent of the funds for: • The costs of testing new teachers for academic-content knowledge and to meet state certification requirements that are consistent with Title II of the Higher Education Act of 1965; and • Providing professional development to teachers, consistent with Title II of the Higher Education Act of 1965.
--

The plan offers some flexibility to meet state and local needs. Although the money is earmarked for reducing class sizes to 18 or fewer pupils in grades 1-3, schools that already meet this requirement may use the aid to reduce sizes in other grades or to improve teacher quality, the department says.

The guidance also says that states and districts may apply for waivers from certain portions of the program. In fact, California, which is in the third year of its own effort to cut K-3 class sizes, has already requested a waiver so that schools with 20 students per class can have greater flexibility.

Delaine Eastin, California's superintendent of public instruction, told federal officials that 28,000 new teachers have already been

hired under the state's class-size-reduction effort, which began in 1996. "I believe further reduction in class size [in grades 1-3] would only exacerbate our teacher and facilities crisis," Ms. Eastin wrote in a Feb. 19 letter to Secretary of Education Richard W. Riley. Though nothing is official yet, the secretary has indicated that he "wants to try and support" the request, said Julie Green, Mr. Riley's press secretary. California districts are expected to receive an estimated \$129 million this year from the federal program.

Funding Concerns

Paula Butterfield, the superintendent of the 5,100-student Bozeman public schools in Montana, said her biggest concern was whether the federal commitment would extend beyond one year.

"When you have one-time-only money, and you're hiring people--that can

create real problems," she said. "I know that that's the thought of many superintendents." Ms. Butterfield's district, which is slated to receive \$107,000 in fiscal 1999, has six elementary schools; she estimated that the class-size dollars could pay for four new teachers.

John T. MacDonald, the director of the state LEAdership center at the Council of Chief State School Officers in Washington, said a central issue for states was how the class-size program fits with their existing initiatives. In addition to California, other states with class-size-reduction programs are Florida, Michigan, Nevada, Texas, and Wisconsin, among others.

Another question involves what happens with small districts that do not qualify for enough funding to hire one full-time teacher.

"Half the districts in Texas won't be eligible because the allocations would be so small," said B.J. Gibson, the senior director of student-support programs for the Texas Education Agency.

According to the federal guidance, such districts could form consortia to share the resources for class-size reduction. But many educators foresee questions about making such an approach work.

Michael Cohen, a senior adviser to Secretary Riley, has acknowledged some problems with the requirement. He said in an interview that the administration is seeking a minor legislative change that would "create some options for small, particularly rural, districts so that they can [better] benefit from [the program]."

The guidance also suggests creative but permissible strategies to lower class sizes in districts facing space constraints. Districts could, for example, pair up teachers in one room to provide team teaching or small-group instruction in mathematics and reading.

Recognizing that some communities may face challenges in implementing the initiative, Mr. Cohen said the department has attempted to be flexible. "We're trying to encourage people to be innovative," he said. "The goal here is to get small classes with qualified teachers."

On the Web

Read a fact sheet from the Dept. of Education, "[Class Size Reduction: Smaller Classes With Better Teachers.](#)"

From the Educational Issues Series, read "[Class Sizes,](#)" a look at the often confusing and contradictory evidence on the effects of class size. From the [Wisconsin Education Association Council](#).

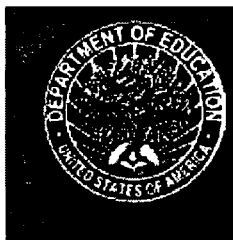
PHOTO: Secretary of Commerce William M. Daley, Census Bureau Director Kenneth Prewitt, and Rep. Dan Miller, R-Fla., talk with students at the Marie H. Reed Community LEArning Center in Washington about the new "Census in the Schools" program. The initiative will provide every K-12 school in the nation with information on the upcoming 2000 Census in an effort to educate students about the national head count and, in turn, increase participation in the process.

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ESEA



Educational Excellence for All Children Act of 1999

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The President announced that he would shortly send to the Congress the "Educational Excellence for All Children Act of 1999," his proposal to reauthorize the Elementary and Secondary Education Act of 1965 (ESEA). This legislation reaffirms the critical role of the Federal Government in working with schools, school districts, and States to promote educational excellence for all children. Every child, parent, grandparent, and taxpayer deserves high quality public schools in their communities.

More specifically, the proposal would build on the 1994 ESEA reauthorization, which established the core principle that disadvantaged children should achieve to the same challenging academic standards as their more fortunate peers, by helping States, districts, schools, and teachers use these standards to guide classroom instruction and assessment for all students.

Background

In 1994, the Clinton Administration and the Congress began the transformation of the Federal role in education by passing the Improving America's Schools Act, which reauthorized the ESEA, and the Goals 2000: Educate America Act, which supported State and local school reform efforts based on challenging academic standards and assessments linked to those standards. Prior to 1994, our education system had for too long condoned low expectations and low standards for disadvantaged children, and Federal programs often reflected those expectations. The 1994 laws established the clear expectation that all children can and should reach high standards.

The two laws were built on the principle that students and schools rise to the expectations and standards we set for them. Therefore, Federal resources were focused on helping States to develop and implement challenging State standards for all children and to use those standards to improve learning through a coherent and aligned system of curricula and assessments.

The 1994 laws complemented and accelerated reforms already underway in many States and school districts, while providing a catalyst for change in States that had not yet begun setting high academic standards. In fact, in a recent study by the General Accounting Office, many States reported that Goals 2000 has been a significant factor in promoting their education reform efforts. Similarly, according to the National Assessment of Title I, about half of poor school districts across the Nation report that Title I is "driving standards-based reform in the district as a whole." With 48 States, Puerto Rico, and the District of Columbia having completed the development of State content standards for all children, it is clear that higher standards are taking hold nationwide.

More importantly, there is strong evidence that where States have implemented standards-based reform over a period of time-together

with accountability mechanisms linked to those standards-students have benefited. For example, North Carolina and Texas made greater gains in math and reading on the National Assessment of Educational Progress (NAEP) than any other State between 1992 and 1996. Texas also showed significant progress in closing the achievement gap between minority and white students. A recent study by RAND researchers concluded that the most plausible explanation for these gains included the effort by both States to align their systems of standards, curriculum, and assessments, and to hold schools accountable for the improvement of all students.

In developing its 1999 ESEA reauthorization proposal, the Administration drew on the experience of implementing the 1994 Act, efforts to measure program performance under the Government Performance and Results Act, and a review of Congressionally mandated evaluations of Title I and other programs. These efforts also were informed and enriched by conversations with hundreds of teachers, principals, parents, community activists, and State and local officials nationwide. Four themes emerged again and again during this process, and these same themes are found throughout the Educational Excellence for All Children Act of 1999: (1) firmly committing to high standards in every classroom, (2) improving teacher and principal quality to ensure quality instruction for all children, (3) strengthening accountability for results coupled with flexibility, and (4) ensuring safe, healthy, disciplined, and drug-free school environments where all children feel connected, motivated, and challenged to learn and where parents are welcomed and involved. To ensure that States adopt policies and practices that promote high quality education for all children, ESEA requires States receiving grants under the Act to adopt policies and programs incorporating these important themes.

High Standards in Every Classroom

The next step in education improvement is to take the high standards set at the Statehouse and move them to schools and classrooms. The Educational Excellence for All Children Act of 1999 renews the Federal commitment to high standards for all children and promotes this next stage of standards-based reform by helping States, districts, schools, and teachers use challenging State standards to guide classroom instruction and student assessment. The bill also supports high standards by helping children to read well and by providing extra resources to help all students succeed. The proposal would:

- Raise student performance by increasing academic standards. The proposal would support implementation of challenging standards and aligned assessments in every State. Title I of the ESEA would continue to focus on high expectations for all children, retaining the current statutory requirement that States establish content standards, student performance standards, and assessments aligned with the standards by the 2000-01 school year. Title II includes a specific authorization to help States and school districts align instruction, curriculum, assessments, and professional development to challenging academic standards.

- Implement continuous improvement and accountability based on challenging standards. States will hold all school districts accountable, and school districts will hold schools accountable, for continuous and substantial gains in overall student performance and in the performance of the lowest-performing students.
- Provide teachers with up-to-date training and support through a new Teaching to High Standards initiative. States have made great strides in developing standards, but only 36 percent of teachers report that they feel very well prepared to teach to high standards. The Title II Teaching to High Standards initiative would help schools and school districts give teachers the tools and training they need to help students reach high standards.
- Put useful technology into schools and classrooms to help teachers teach to high standards. The Technology for Education initiative would help teachers, particularly in high-poverty districts, use technology to teach students to challenging State standards, for instance by using distance learning to get challenging subject matter into all classrooms.
- Strengthen the teaching of reading and reduce class size. The bill would continue the Class-Size Reduction initiative, which seeks to reduce class size in the first through third grades to a nationwide average of 18 students, to ensure that all students receive the individual attention they need to read well and independently by the end of the third grade. It would continue the Reading Excellence Act, which focuses on professional development, extended learning time, and family literacy. Improvements in the Even Start family literacy program would increase the intensity and quality of family literacy services, while a new initiative in Title II would provide professional development for early childhood educators.
- Emphasize math and science education by earmarking the first \$300 million of the Teaching to High Standards grants under Title II for professional development in those subjects. In particular, these funds would help States and school districts take full advantage of new research and curricular materials aimed at improving the teaching and learning of mathematics. The bill also would reauthorize the Eisenhower National Clearinghouse for Mathematics and Science Education and the Eisenhower Regional Mathematics and Science Education Consortia.
- Improve foreign language instruction by setting a national goal that 25 percent of all public elementary schools offer high-quality, standards-based foreign language programs by the year 2005, rising to 50 percent by 2010. The bill would help States and districts meet this goal by supporting the development of foreign language standards and assessments, expanding the pool of elementary school foreign language teachers through improved recruitment and professional development efforts, and encouraging the use of educational technology in foreign language instruction.

- Focus on promoting equity, excellence, and public school choice options for all students. Recognizing that no one school or program can meet the unique needs of every student, public school choice provides students with the flexibility to choose among public schools and programs that differ with respect to educational settings, pedagogy, and academic emphasis. Title V will support programs that can enhance options for students and parents, including the Magnet Schools Program, the Public Charter Schools Program, and a new authority that will fund innovative options for public school choice.
- Continue to target education resources on areas of need. The bill also would continue to target Federal elementary and secondary education resources on those students furthest from meeting State and local standards, with a particular emphasis on narrowing the gap in achievement between disadvantaged students and their more fortunate peers. In this regard, the bill would also phase in equal treatment of Puerto Rico in ESEA funding formulas, so that poor children in Puerto Rico are treated the same as those in the rest of the country for the purpose of formula allocations.

Strengthen Teacher and Principal Quality

Qualified teachers are critical to improving student achievement, yet too many teachers are not provided with on-going, high-quality professional development to help them improve and build on their teaching skills. In addition, many teachers leave the profession in their first three years, and far too many teachers are teaching in a field in which they were not trained. In Title I schools, an increasing number of unqualified teacher aides are providing direct instruction without supervision by a certified teacher. To address these problems and help ensure that every child in America has a talented and dedicated teacher who is prepared to help all children reach high standards, the President's bill would:

- Help teachers teach to high standards. The Title II Teaching to High Standards initiative would support State and local efforts to: (1) help teachers and principals align curricula and assessments with challenging State and local content standards; (2) provide teachers with sustained and intensive high-quality professional development in core academic content areas; (3) support new teachers during their first three years in the classroom; and, (4) help ensure that all teachers are proficient in content knowledge and teaching skills. This new initiative takes the place of, and incorporates the most successful elements of, three current State grant programs: Goals 2000, Eisenhower Professional Development, and ESEA Title VI Innovative Education Program Strategies.
- Support a national effort to recruit talented individuals to become principals and support their professional development to become effective instructional leaders. The Teaching to High Standards initiative would authorize support for new and continuing principal development and leadership.
- Expand recruitment and retention efforts to help meet the need

for 2.2 million new teachers over the next decade. The Teaching to High Standards initiative would support State and local efforts to recruit and retain high-quality teachers in high-need areas. These efforts would include, for example, the creation of a national job bank and encouraging portability of licensure and other teaching credentials. The Teaching to High Standards initiative also would include a priority for school districts that support teachers in their first three years of teaching, a period when many good teachers leave the classroom. The Transition to Teaching initiative would expand the existing Troops to Teachers program to help non-military (as well as military) mid-career professionals become teachers, particularly in high-poverty school districts and high-need subject areas.

- Require certification for new teachers in Title I schools. Our proposal would require all new teachers in programs supported with Title I funds to be fully certified in the subject they teach. By July 1, 2002, paraprofessionals with less than two years of college would be limited to non-instructional duties, while those with two or more years of college could provide instructional support and tutoring only under the supervision of a certified teacher. A new set-aside for professional development in Title I would help create a career-long professional learning environment for teachers in Title I schools.
- Strengthen the State teacher certification process. States would be required to ensure that, within four years, at least 95 percent of their teachers are either (1) fully certified, (2) working toward full certification through an alternative route, or (3) fully certified in another State and working toward meeting any State-specific requirements. States will also be required to ensure that at least 95 percent of secondary school teachers have academic training or demonstrated competence in the subject area in which they teach.
- Help future teachers use advanced technology to improve classroom instruction. The Technology Literacy Challenge Fund would support sustained and intensive high quality professional development in school districts to increase teacher capacity to create improved learning environments through the integration of technology into instruction. The Preparing Tomorrow's Teachers to Use Technology initiative would support consortia of public and private entities to train new teachers to use technology to prepare students to achieve to challenging State and local standards.
- Train early childhood educators to prepare disadvantaged students for school. This Title II proposal would provide grants to partnerships of professional development providers, community-based early childhood programs, and school districts to provide high-quality professional development to early childhood providers. The emphasis would be on research-based approaches to professional development in language acquisition, literacy, and reading development.
- Train classroom teachers to teach students with limited English proficiency (LEP). Because LEP students are found in more

and more classrooms, the proposed amended Title VII Bilingual Education program would support teacher education programs that develop the ability of regular classroom teachers to teach LEP students.

Strengthen Accountability for Student Performance

The 1994 laws provided States and districts with increased flexibility to coordinate, modify, and combine program funding and activities in exchange for greater accountability for improved educational achievement. States, districts, and schools have begun to take advantage of this increased flexibility, but too often without the necessary implementation of effective accountability mechanisms. Early research suggests, however, that it is precisely those States with the most comprehensive and effective accountability systems that are making the most progress in increasing expectations and standards for students and schools and improving student achievement.

The President's reauthorization proposal would retain the ESEA flexibility provisions included in the 1994 law, including the expansion of schoolwide programs, consolidation of administrative funds, and waiver procedures for regulatory and statutory provisions that stand in the way of innovative reform efforts. The bill also would retain and update the provisions of the Education Flexibility Partnership Act of 1999, which expanded eligibility for ED-Flex authority to all States.

To help ensure that this enhanced flexibility leads to improved student achievement, the President is proposing several new accountability measures:

- Strengthen accountability for districts and schools. Our proposal would encourage States to develop one rigorous accountability system that holds all schools, including Title I schools, accountable for making continuous and substantial gains in student performance. States will have the flexibility to use either the model outlined in the statute or an alternative that is at least as rigorous and effective. States without a single State-wide accountability system would be required to develop one for their Title I schools.
- Increase accountability to parents and the public through school report cards. States and school districts receiving ESEA funds would be required to produce and distribute annual report cards for each school, the school district, and the State. The report cards would include information on student achievement, teacher qualifications, class size, school safety, attendance, and graduation rates. Where appropriate, student achievement data would be broken out by demographic groups to identify any gaps between disadvantaged students and their peers.
- End unsound educational practices of social promotion and retention. States would be required to put into place educational practices within four years, targeting students who need additional help in meeting challenging State academic

standards at three key transition points (e.g., fourth grade and eighth grade and high school graduation). Such practices include early identification and intervention strategies, smaller classes with well-prepared teachers, high-quality professional development, greater family involvement, and extended learning time. State policies would use multiple measures, including an assessment valid for these purposes, to determine if a student has met the standards.

- Turn around low-performing schools. School districts would be required to identify publicly the lowest-performing schools that have not improved over two years and to implement interventions and provide technical assistance in these schools. Initial interventions could include implementing extended learning opportunities, proven school reform models, and extensive teacher training. If there is no satisfactory improvement in student performance within three years of the initial identification, districts would be required to take corrective actions, such as reconstituting the school by making wholesale staff changes or closing the school entirely and reopening it with new staff or as a charter school. States would be required to reserve 2.5 percent of their Title I LEA Grant funds (increasing to 3.5 percent in fiscal year 2003) to support interventions in failing schools, and would provide 70 percent of these funds to school districts to help them turn around low-performing schools.

Support Safe, Healthy, Disciplined, and Drug-Free Learning Environments

A critical prerequisite for achieving quality and excellence in education is a safe, healthy, disciplined, and drug-free learning environment that provides ample opportunities for each student to make connections with caring adults that support learning and personal development. Notwithstanding the recent tragedy at Columbine High School in Littleton, Colorado, survey data show that schools continue to be safe places in America's communities. Similar survey data, however, show that drug and alcohol use remain disturbingly high in middle and high schools, discipline appears to be a growing problem, and more and more children are leading lifestyles involving little or no physical exercise.

Parents play a critical role in creating and maintaining a healthy learning environment, and the Educational Excellence for all Children Act of 1999 would retain and strengthen the emphasis on parental involvement first established by the 1994 Act.

The following provisions would support State and local efforts to create safe, healthy, disciplined, and drug-free learning environments in all of our schools:

- Help support and expand the connections between adults and students that are necessary for effective learning and healthy personal development through a High School Reform initiative. This new initiative would provide resources to help transform 5,000 high schools into places where students receive individual attention, are motivated to learn, are provided with

challenging courses, and are encouraged to develop and pursue long-term higher education and career goals. Participating schools would serve as models to guide reform in all secondary schools.

- Require every school district and school to have a sound discipline policy. Our proposal will require States to hold school districts and schools accountable for having discipline policies that focus on prevention, are consistent and fair, and are developed with the participation of the school community.
- Emphasize parent involvement policies at the school and district levels and continue implementation of Title I parent-school compacts.
- Improve the Parent Information and Resource Centers by focusing on high-poverty communities, encouraging the use of research-based models for increasing parent involvement, and emphasizing early literacy development.
- Expand access to information through technology by supporting community technology centers that make online education and training resources available to parents and other community members in high-poverty areas.
- Strengthen the Safe and Drug-Free Schools and Communities Act by concentrating funds on districts that have a significant need for drug- and violence-prevention and that are developing and implementing research-based prevention programs of proven effectiveness.
- Create a new School Emergency Response to Violence program (Project SERV) that would provide rapid assistance to school districts that have experienced violence or other trauma that disrupts the learning environment.
- Modify the Gun-Free Schools Act to require an assessment of any student who brings a firearm to school to determine if the student poses an imminent threat of harm and, in the case of students who are suspended or expelled from school, provide for appropriate supervision, counseling, and educational services.
- Promote physical fitness and lifelong healthy habits through demonstration projects. Exemplary physical education programs can promote life-long healthy habits, provide opportunities for students to connect to school, and become an important component of after-school programs.

Educational Excellence for All Children

The 1994 ESEA reauthorization marked a fundamental change in the Federal role in education by establishing the clear expectation that all children can and should reach high standards. Early results suggest that standards-based reform is a powerful tool for raising student achievement and for closing the achievement gap between economically disadvantaged students in high poverty schools and

their more fortunate peers. The Educational Excellence for All Children Act of 1999 would build on this early success by reinforcing State and local efforts in key areas like bringing high standards into every classroom, strengthening teacher and principal quality, increasing accountability for student performance, and supporting safe, healthy, disciplined, and drug-free learning environments. The bill provides the Congress a tremendous opportunity to support the changes needed to help all of our children reach high academic standards and to keep America strong and prosperous in the 21st century.

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Page last updated on May 25, 1999 by [pjk]

The Educational Excellence for All Children Act of 1999

Educational Excellence for All Children Act of 1999

Established in 1965 as part of President Lyndon B. Johnson's War on Poverty, the Elementary and Secondary Education Act (ESEA) opened a new era of federal support for education, particularly for students who would gain the most from it: children in our high-poverty communities and at risk of educational failure.

Today, the ESEA authorizes the federal government's single largest investment in elementary and secondary education. Through the Education Excellence for All Children Act of 1999, the President and Congress will reaffirm and strengthen the federal government's role in promoting academic excellence and equal educational opportunity for every American child.

This reauthorization of ESEA comes at a critical time for the United States. At the turn of the century and the dawn of the Information Age, our country is the most productive in the world, yet we do not provide all of our children with an education equal to the best in the world. Students are making progress overall in improving achievement in both reading and math. However, on international comparisons of student achievement in mathematics and science, American students in the early grades score well relative to their peers in other nations, but by the end of high school they rank near the bottom. As technology continues to advance and global competition continues to increase in the years ahead, such disparities in educational performance will be an increasingly serious threat to the economic well-being of individual American citizens and of the nation as a whole.

The children in our poorest communities are at greatest risk of being left behind in an economy driven by expanded information, increased knowledge, and higher skills. Gaps in student achievement — between high-poverty and low-poverty students and between minority students and their peers — have persisted and in some cases widened in recent years. Overcrowded classes, crumbling school buildings, and unqualified teachers are all too common in high-poverty schools, where, paradoxically, students have the most pressing educational needs.

Through the 1994 reauthorization of ESEA — titled the Improving America's Schools Act (IASA) — and the Goals 2000: Educate America Act, Congress and the Clinton Administration took a number of historic steps toward addressing these concerns and preparing all of America's students to meet high academic standards. With federal leadership and support, 48 states, Puerto Rico, and the District of Columbia have now completed the development of state content standards for all children, and the other two states have promoted challenging standards at the local level. In supporting the development of the same challenging standards for all children in all public schools, the reforms advanced by the IASA and Goals 2000 fundamentally transformed the Federal role in education, which had for too long accepted lower expectations for low-income students in high-poverty schools.

While many states and districts are still in the early stages of implementing high standards, there is a growing body of evidence that sustained standards-based reform is a powerful vehicle for improving student achievement. Recent research has shown, for example, that classroom instruction linked to high standards can produce significant gains in student performance in both reading and mathematics.^{1,2}

The goal of the Educational Excellence for All Children Act of 1999 is to continue and build upon this progress by supporting the efforts of states, school districts, and individual schools to make high standards a reality in American classrooms. Toward that end, the Act will support flexibility for states and schools to allow them to implement programs in ways that meet their particular needs and promote local innovation. It will also hold states, districts, and schools accountable for the quality of the education they provide and for student performance. Specifically, the Educational Excellence Act will:

performance standards, with particular attention to improving the performance of traditionally low-achieving students.

- Support technology as a tool to help raise achievement levels in every classroom. The Technology for Education initiative in Title III would (1) help prepare new teachers to actively engage students in learning challenging content; (2) support high-poverty school districts' efforts to help teachers use technology — including simulations, "hands-on modeling," and exploration in virtual environments — to better teach students to challenging state standards; (3) use such tools as distance learning and web-based instruction to bring challenging subject matter into all classrooms; and (4) provide national leadership by encouraging innovative technology applications and disseminating information about them.
- Help educators receive high-quality technical assistance focused on implementing challenging standards. States and districts need tools and resources to help all schools ensure that their students are meeting challenging state standards. Throughout the bill, our ESEA proposal would provide support for technical assistance, with a concentrated effort in Title II to support a comprehensive, market-driven system of technical assistance and information dissemination. Such a system would be responsive to the demands of customers, encourage local leveraging of resources, and identify high-quality support. It also establishes an interactive, technology-based network of federal, state, and local information and resources to promote promising instructional strategies and improve teaching and learning.
- Provide high-quality services to students with limited English proficiency (LEP) to help them master challenging standards and learn English. Under both Titles I and VII, teachers would be given professional development opportunities to better serve LEP students. School districts and schools would also be held accountable for ensuring that all LEP students make progress toward mastering challenging standards and developing English proficiency.
- Promote equity, excellence, and public school choice options for all students. No one school or program can meet the unique needs of every student. Public school choice provides students with the flexibility to choose among public schools and programs that differ with respect to educational settings, pedagogy, and academic emphasis. Title V would support programs that can enhance options for students and parents, including the Magnet Schools Program, the Public Charter Schools Program, and a new authority that would fund innovative options for public school choice.
- Provide students with opportunities for extended learning time. Extended learning time programs can improve student achievement when they are coordinated with challenging curricula and thoughtful instruction.¹⁷ Our proposal would continue the Administration's strong commitment to the 21st Century Community Learning Centers program, which provides grants to public schools to offer extended learning time opportunities for students and community members. Title I would also encourage the use of extended time.

Improved Teacher and Principal Quality

Qualified teachers are the most critical in-school factor in improving student achievement.¹⁸ We know that recruiting high-quality teachers, providing teachers with support in their first three years, and ensuring that teachers receive ongoing high-quality professional development leads to improvements in the quality of teachers and their ability to engage students, manage classrooms, and teach challenging content. We also know that when teachers receive support from strong principals, the school learning environment is more likely to lead to increased student achievement.¹⁹

Yet too many teachers still do not receive on going high-quality professional development to help them improve and build on their teaching skills, many teachers leave the profession in their first three years, and far too many teachers are teaching in a field in which they have not been trained. Students in high-poverty schools are more likely than others to be taught some part of the day by teacher aides with

limited education and training²⁰ and they are more likely to be taught by a teacher teaching out of field.²¹ We must redouble our efforts to ensure that all children in America have a talented, dedicated, and well-prepared teacher to help them reach high standards.

The Educational Excellence for All Children Act of 1999 will take several important steps to ensure that all children are taught by highly qualified teachers. It would:

- Help teachers teach to high standards. The new Teaching to High Standards initiative, Title II – Part A, would help educators apply high standards to improve learning in American classrooms, in part by supporting new teachers during their first three years in the classroom and ensuring that all teachers are proficient in academic knowledge and teaching skills. Because of the particular importance of teacher training opportunities in mathematics and science, Teaching to High Standards grants would focus first on improving professional development in those disciplines.
- Support a national effort to recruit talented individuals to become principals and support their professional development to become effective instructional leaders. The Teaching to High Standards initiative would authorize support for new and continuing principal development and leadership.
- Recruit and retain high-quality teachers. In recognition of national need to recruit 2.2 million teachers over the next decade, the Teaching to High Standards initiative and the new Transition to Teaching proposal under Title II would fund projects to recruit and retain high-quality teachers and principals in high-need areas.

Our Transition to Teaching proposal would continue and expand upon the successful Troops to Teachers initiative by recruiting and supporting mid-career professionals as teachers, particularly in high-poverty school districts and high-need subject areas.

- Renew our commitment to ensure high-quality teachers in our highest-poverty schools. Our proposal would require that all new teachers, paid through Title I funds or in Title I schools operating a schoolwide program, be fully certified and that all newly hired secondary school teachers be certified in the subject in which they teach. By July 1, 2002, our proposal would also limit teacher aides without at least two years of college to non-instructional duties and aides with two or more years of college to instructional support and tutoring under the supervision of a certified teacher. Finally, our proposal would help create a stimulating, career-long learning environment for teachers by requiring school districts to set aside 5 percent of Title I funds for teacher professional development in the first two years and 10 percent thereafter.
- End the practice of hiring emergency certified teachers and asking teachers to teach classes out of their subject expertise. Our proposal would help ensure that classroom teachers are qualified by requiring new teachers to demonstrate both subject-matter knowledge and teaching expertise as part of the state certification process. It would also require states to ensure that, within four years, at least 95 percent of their teachers are: (1) fully certified; (2) working toward full certification through an alternative route that will lead them to full certification within three years; or (3) are fully certified in another state and working toward meeting state-specific requirements. Finally, it would require states to ensure that at least 95 percent of secondary school teachers have academic training or demonstrated competence in the subject area in which they teach.
- Provide support for teachers to effectively use advanced technology in their classrooms. While access to hardware, software, and connectivity has increased dramatically over the last few years, considerable work needs to be done to ensure that technology is used effectively to teach to high standards. Preparing Tomorrow's Teachers to Use Technology supports consortia of public and private entities to train new teachers to use technology to create engaging learning environments that prepare all students to achieve to challenging state and local standards. The proposal will also strengthen the Technology Literacy Challenge Fund's role in supporting high-quality professional development.

- Help ensure that all teachers are well trained to teach students with limited English proficiency (LEP) through teacher education programs for new and prospective teachers and through professional development for current teachers.

Strengthened Accountability for School and Student Performance

Title XI of our ESEA proposal is the Education Accountability Act: A package of accountability measures to hold schools, districts, teachers, and students to high standards and ensure that school districts and states provide students with a high-quality education. These accountability measures would apply to all states and districts that receive ESEA funding.

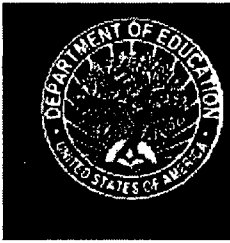
The 1994 laws and the recently passed Education Flexibility Partnership Act of 1999 gave states and districts increased flexibility to coordinate, modify, and combine program activities in exchange for greater accountability for their schools' and students' performance. States, districts, and schools have begun to take advantage of the increased flexibility in the legislation in their efforts to create learning environments that help all students reach challenging academic standards. Eighty-four percent of districts said that even if they were given still greater flexibility to administer the federal programs, they would not change the services they provide.²² However, effective accountability mechanisms are still incomplete — or do not even exist — in many programs.

The Education Accountability Act will strengthen and expand existing accountability provisions. It will:

- Support states in developing one rigorous accountability system for all districts and all schools. Our proposal would encourage states to develop one rigorous accountability system that holds all schools, including Title I schools, accountable for making continuous and substantial gains in student performance. States will have the flexibility to use either a model outlined in the statute or an alternative that is at least as rigorous and effective. States without a single statewide accountability system would be required to develop one for their Title I schools.
- Provide states and districts with additional resources to turn around low-performing schools. Our proposal would require states to continue to publicly identify and provide assistance to the lowest-performing districts, and require districts to continue to identify and provide assistance to the lowest-performing schools that have not improved over the previous three years.

If there is no satisfactory improvement in student performance within two years, districts would be required to implement strong corrective actions that dramatically alter the structure of schools and the instructional strategies to help students in the school or school district.

- Update the recently enacted Education Flexibility Partnership Act of 1999, which permits states to waive selected requirements of ESEA programs. To ensure that expanded flexibility is accompanied by strong accountability, states would be required to meet the requirements of the Education Accountability Act in ESEA and the Title I requirements regarding content and performance standards, assessments, and accountability.
- Increase accountability to parents and the public through school report cards. As a condition of receiving ESEA funds, our proposal would require states and school districts to produce and distribute annual report cards for each school, school district, and state. The report cards will include information on student achievement, teacher qualifications, class size, school safety, attendance, graduation rates, and academic performance by demographic group.
- Assist all students in meeting challenging state standards. Our proposal would hold states and school districts accountable for helping all students progress through high school and graduate having mastered the challenging material needed for them to meet high standards. States will be required to put policies in place that require school districts to (1) implement research-based prevention and early intervention strategies to identify and support students who might need additional help meeting challenging standards; (2) provide all students with qualified teachers who use proven instructional practices tied to challenging state standards; and, (3) provide continuing,



TITLE VI CLASS SIZE REDUCTION

"Reducing class size makes common sense. As research shows, it will not only make sure every child gets more personal attention, but also will improve discipline in classrooms, raise student achievement and help give our young people a solid foundation in the critical early grades. The President's proposal to reduce class size is a thoughtful approach which ensures that students will be taught by qualified, well prepared teachers."

U.S. Secretary of Education Richard W. Riley
May 8, 1998

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Last year, President Clinton proposed the Class-Size Reduction initiative to put 100,000 new teachers into public schools and reduce class size to a national average of 18 in grades one through three. Congress has already appropriated \$1.2 billion to hire 30,000 new teachers as the first installment of this program.

The Administration's proposal to reduce class-size builds on the substantial body of research demonstrating that smaller class sizes help improve student achievement, especially in the lower grades and for minority students. In a study of Tennessee's Project STAR (Student Teacher Achievement Ratio), researchers found that students in smaller classes in kindergarten through third grade earned significantly higher scores in basic skills tests in all four grades and in all types of schools. Research has demonstrated that teachers of smaller classes spend less time on discipline and give more personal attention to each student, helping them gain a better foundation in reading and in other basic skills.

The Clinton Administration's proposal to reauthorize the ESEA would:

- **Promote smaller classes to increase the focus on reading instruction** in the early grades. The recent National Research Council report on the prevention of reading difficulties recommends reducing class size as a strategy for improving student achievement in reading. Our proposal to reduce class size would support the creation of smaller classes in the years when reading development is most important, and help ensure that all children have the opportunity to develop strong literacy skills.
- **Maximize the benefits of class-size reduction through professional development** that provides strategies to help teachers take full advantage of the benefits of smaller classes. Research has shown that teachers will not automatically change their classroom methods when given smaller classes, but effective professional development can increase the positive effects of class-size reduction beyond gains from reduced class size alone. In our proposal, districts could reserve a portion of their funds for professional development in order to maximize the benefits of smaller classes.

- **Provide flexibility for districts** with small class-size reduction awards. Districts whose class-size reduction funds are less than one teacher's salary would have the flexibility to combine Federal funds with their own funds, combine class-size reduction funds with other districts', or use their class-size funding for professional development related to teaching smaller classes.
- **Build capacity** in school districts by establishing a local matching requirement directing schools to fund 35 percent of the cost of activities under this program. Experience has shown that requiring recipients to contribute their own resources helps ensure that local programs continue after Federal funding expires. The matching requirement would not apply to school districts with poverty rates of 50 percent or greater.

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[Title V]    [Title VII]

This page last modified on June 11, 1999 (jls)

Title VI

Class-Size Reduction

What's New

The Educational Excellence for All Children Act of 1999:

- Continues the President's commitment to hiring 100,000 teachers to reduce class sizes in the early grades by maintaining the Class-Size Reduction initiative created in the fall of 1998;
- Helps communities sustain their class-size reduction efforts by establishing a local matching requirement, but exempts high-poverty school districts from this requirement; and
- Creates new flexibility for school districts who receive grants that are less than a starting teacher's salary.

In recognition of the compelling research showing that smaller class sizes help improve student achievement, last year Congress established the Class-Size Reduction initiative and appropriated \$1.2 billion to hire approximately 30,000 teachers. The program legislation emphasizes the importance of highly qualified teachers: A portion of each school district's allocation may be spent for professional development activities for new and current teaching staff.

What We've Learned

Research and common sense suggest that children benefit from the additional attention they receive in small classes. Smaller classes are especially important in the early grades, where they can help all children learn to read well — increasing their ability to succeed in advanced subjects and later grades — and for disadvantaged and minority students, who show the greatest achievement gains from small classes.

Smaller class sizes increase student achievement. A recent analysis of the findings from the most carefully designed studies on class size found that reducing class size led to substantial gains in student achievement.¹ The study of Tennessee's Project STAR found that students in smaller classes in grades K-3 earned significantly higher scores in basic skills tests in all four years and in all types of schools.² A follow-up study found that students from smaller classes continued to outperform their peers in all academic subjects even after returning to larger classes in the fourth grade, with significantly higher achievement levels persisting through high school.³

A recent report on the Wisconsin SAGE program found that reducing class sizes to 15 students in grades K-3 resulted in significantly higher achievement levels for first-graders and continuing gains for second-graders in math, reading, and language arts. Across the United States, an analysis of data on 10,000 fourth-graders and 10,000 eighth-graders found that students in smaller classes performed better than comparable students in larger classes.⁴

Smaller classes have the greatest effect on disadvantaged and minority students. A review of more than 100 separate studies found that "the research rather consistently finds that students who are economically disadvantaged or from some ethnic minorities perform better academically in small classes."⁵ Similarly, the Wisconsin study found the largest gains for black students, and the national study of fourth- and

eighth-graders found the greatest effect of smaller classes for inner-city youth.

Smaller classes reduce discipline problems and increase instructional time. When Burke County, North Carolina, reduced class sizes, the percentage of classroom time devoted to instruction increased from 80 percent to 86 percent. Students from Tennessee's STAR program worked harder and caused fewer discipline problems than students from larger classes — even after the STAR students returned to large classrooms.

Smaller classes with well-prepared teachers make a difference. Smaller classes will boost student achievement the most when teachers are prepared to teach well in these classes. Positive effects of smaller classes are more likely if teachers change their instructional methods and classroom procedures in the smaller classes. Class-size reduction efforts resulting in student achievement gains in Wisconsin and North Carolina included a strong focus on professional development for teachers.

What We Propose

Our proposal for reauthorization would continue the President's commitment to reducing class size in the early grades by extending the Class-Size Reduction initiative. The initiative allocates funds to states for distribution to all school districts according to the statutory formula. School districts can use the funds to recruit, hire, and train additional teachers; assess teacher skills; and engage teachers in professional development activities.

To improve the Class-Size Reduction initiative, the Educational Excellence for All Children Act of 1999 would:

- Clearly state the purpose of the initiative: Reducing class size in grades 1-3 to an average of 18 students per regular classroom and improving teaching so that all students learn to read independently and well by the end of third grade.
- Require a substantive state application that describes the state's goals for reducing class sizes in grades 1-3, the state's plan for allocating program funds, and how the state will use other funds to reduce class size and improve teacher quality and reading achievement.
- Permit states to set-aside up to 1 percent of state allocation for administering the program.
- Create specific statutory flexibility for small school districts whose allocations of Class-Size Reduction funds are less than a starting teacher's salary. These districts will be able to:
 - Form a consortium with one or more other school districts;
 - Supplement their allocation from this program with other funds in order to hire a full- or part-time teacher; or
 - Use grants of less than \$10,000 entirely for professional development related to teaching smaller classes.
- Require a local match to help communities sustain their class-size reduction efforts. Districts would be required to fund up to 35 percent of activities under this program with non-federal funds. This matching requirement would not apply to school districts with child-poverty levels of greater than 50 percent. Experience shows that requiring recipients to commit their own resources through a matching requirement can help ensure that programs continue after federal funding expires.

Notes

¹ Pritchard, I. (1999). *Reducing class size: What do we know?* Washington, DC: U.S. Department of

Education.

² Word, E., Johnston, J., Bain, H., Fulton, D., Boyd-Zaharias, J., Achilles, C., Lintz, M., Folger, J., & Breda, C. (1990). *The state of Tennessee's Student/Teacher Achievement Ratio (STAR) Project: Technical report: 1985-1990*.

³ Pate-Bain, H., Fulton, B. D., & Boyd-Zaharias, J. (1999) *Effects of Class-Size Reduction in the Early Grades (K-3) on High School Performance*.

⁴ Wenglinsky, H. (1997). *When money matters: How educational expenditures improve student performance and how they don't*. Princeton, NJ: Educational Testing Service.

⁵ Robinson, G. & Wittebols, J. (1986). *Class size research: A related cluster analysis for decision-making*. Arlington, VA: Education Research Service.

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[Title V: Promoting Equity, Excellence, And Public School Choice]
Bilingual Education Act



[Title VII: The

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We Need a Little
Class by Bob
Chase

Small Classes,
Big Possibilities
by Charles M.
Achilles

NEA Resolution
on Class Size

Class Size

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Common sense. Common sense tells us that when classes are small, students can learn more. Proposals to reduce class size have become increasingly popular with educators, parents, and politicians; but research proves that the idea is more than just popular. Studies such as the large scale, longitudinal Student Teacher Achievement Ratio, or Project STAR (1990), the STAR Follow-Up Studies (pdf file) (1996-97), and Milwaukee's Student Achievement Guarantee in Education (SAGE), support what teachers have always known: small classes mean better education, at least at the K-3 level, and now a new wave of findings reveals that students in Project STAR's smaller classes continue to outperform their peers in larger classes. Transferring the research to practice without cutting corners has been tricky, however. The decision to reduce class size doesn't guarantee that qualified teachers and appropriate classrooms will be available, and policymakers face serious challenges presented by America's deteriorating school buildings and the growing shortage of quality teachers -- challenges that can undermine the potential benefits of smaller classes.

An expensive luxury? Even if smaller classes do make a difference in student achievement, are they worth the added expense? Opponents to class size reduction programs point to the cost of smaller classes. They claim that "throwing money" at schools isn't fiscally sound and predict that the main feature of policies to reduce class size will be an increase in schooling costs with no increase in student achievement. But statewide efforts in California and Nevada have had extremely positive response from parents and teachers, despite the added expense.

Class size matters. NEA supports an optimum class size of fifteen students in regular programs and a proportionately lower number in programs for students with exceptional needs. Teachers with small classes can spend time and energy on creative teaching, not on discipline and classroom management. They can quickly identify and work with students who experience learning difficulties, and they can

provide more individualized instruction. When smaller classes in modernized schools are taught by qualified teachers, kids learn more. It's common sense, and what's more, the research backs it up.

NEA Resources

Follow-up data on students in Tennessee's 1985-89 Project STAR shows that students who were in smaller classes are still out-scoring their counterparts academically. *NEA Today's Inside Scoop* "Small Classes Hold Long-Term Benefits" (March 1998) has more.

What are NEA affiliates doing to make schools work better for kids? Stepping Forward - Improving the Conditions of Schools: Class Size describes new unionism efforts in three states that have resulted in smaller classes in elementary schools.

Class Size Reduction, an NEA Legislative Brief, recommends the actions Congress should take to help reduce class size, especially in the lower grades.

"Smaller classes mean fewer discipline problems and, therefore, safer schools," argues NEA President Bob Chase in his column We Need a Little Class (April 13, 1997).

NEA 1998-99 Resolution

B-6. Class Size

NEA Contact

Stephen Wollmer

swollmer@nea.org

State Affiliates

The issue may no longer be whether class size makes a difference. "The question now is are the benefits worth the price?" asks the Delaware State Education Association's Class Size.

Small classes mean improved student achievement, which is why the Georgia Association of Educators supports the funding of class size reduction efforts.

Kansas National Education Association says: "Of course class size is important. You have to find the child before you can teach the child," in Is class size important?

Education Minnesota's Issue Paper on Class Size gives recommended student teacher ratios and cites the research relating small classes to student achievement.

The Montana Education Association/Montana Federation of Teachers' Class size and student/teacher ratios looks at the

research and finds that smaller class sizes promote higher student performance, especially in the early grades.

Pennsylvania State Education Association's Summary of Class Size Research discusses several recent research studies about the effects of class size on teaching and learning.

Research Backs Smaller Classes to Boost Learning in Lower Grades, according to the Virginia Education Association.

Wisconsin's Student Achievement Guarantee in Education (SAGE) program is the topic of Wisconsin Education Association Council's comprehensive Resources on SAGE and class size reduction. Other WEAC information about class size includes:

- K-5 Class Sizes in Milwaukee Public Schools
- Educational Issues Series: Class Sizes

American Federation of Teachers

Which approaches work best in improving the academic achievement of poor children? AFT's extensive analysis of the research, Vouchers Vs. Small Class Size Comparing Effects, Costs, and Public Support (April 1998) explains that given limited resources, citizens and policymakers must make wise choices. Does small class size trump vouchers? The research says: "Yes." (April 1998) ✓

What Works: Recent Research Demonstrates Major Benefits of Small Class Size looks at recent research about class size and concludes that when smaller class size is combined with standards-based reforms, the combined strategies have a greater impact than either would alone.

Education Week

The extensive background material in *Education Week's In Context: Class Size* looks at the issue within the context of year-round schooling and block scheduling as solutions to overcrowding. Links to previous Education Week stories, a reading list, and a list of related organizations are also included.

Selected *Education Week* stories:

Federal Class-Size Reports Do an About-Face (June 10, 1998) points out the U.S. Department of Education's varying views on class size through the years. ✓

Small Classes: Popular, But Still Unproven, (Feb. 18, 1998) compares interpretations of the research and discusses the expense of class size reduction initiatives.

A 1997 study by Harold Wenglinsky at Educational Testing Service, "Why Money Matters," is described in ETS Study Supports Value of Smaller Classes. (Aug. 6, 1997)

Why Money Matters Sometimes (Sept. 11, 1997) tells how two schools in East Austin, Texas, reduced class size as a part of much broader programs to engage students, teachers, and parents in increasing student achievement.

U. S. Department of Education

President Clinton's proposed Class Size Reduction Program (1998) is a way to help schools reduce class size in grades 1-3 to a nationwide average of 18 students in each class.

Reducing Class Size: What Do We Know? (May 1998) looks at the research and concludes that, depending on how the policy is implemented, reducing class size to below 20 students leads to higher student achievement. ✓

Class Size and Students At Risk What is Known? What is Next? (April 1998) reviews the research on class size, especially the STAR Project, discusses the costs and benefits to class size reduction, and explores the implications of smaller class sizes for teaching students who are at risk.

Class Size Reduction from WestEd, a Regional Laboratory funded by the U.S. Department of Education, provides:

- Class-size Reduction: Lessons Learned from Experience (1998)
- California's Class Size Reduction: Implications for Equity, Practice & Implementation (1998)

Research on Class Size

Effects of Class-Size Reduction in the Early Grades (K-3) on High School Performance (1999) follows Project STAR students through high school and shows that small classes in the early grades still produce significant long-term benefits.

Student Teacher Achievement Ratio, or Project STAR (June 1990), is Tennessee's landmark four-year study of the effects of class-size on student achievement. This longitudinal research analyzed K-3 student achievement in small classes (13-17 students per teacher), regular classes (22-25 students per teacher), and regular classes with a full-time teacher aide, and found that students in the smaller classes consistently scored higher on achievement and basic skills tests.

Frederick Mosteller's The Tennessee Study of Class Size in the Early School Grades from *The Future of Children* (Summer/Fall 1995) summarizes the findings of the Project STAR.

Health and Education Research Operative Services, Inc. (HEROS) conducted the STAR Follow-Up Studies (pdf file) (1996-97) and found that students who had been in smaller classes were less likely to be retained or suspended, were making better grades in high school, and were taking more advanced courses.

Milwaukee's successful Student Achievement Guarantee in Education (SAGE) is a K-3 pilot program that targets selected schools with large percentages of children living in poverty. Smaller classes are a part of broader school efforts to raise students' achievement levels, and The 1997-98 Results of the SAGE Program Evaluation (pdf file) show significant gains.

The Effect of Class Size on Achievement: What the Research Says describes the findings of a national study by the Education Testing Service, "When Money Matters: How Educational Expenditures Improve Student Performance, and How They Don't" by Harold Wenglinsky, available at the ETS Policy Information Center (609-734-5694).

Other Resources

The American Association of School Administrators covers the topic in Small Classes, Big Possibilities by Charles M. Achilles in *School Administrator* (October 1997), and with an issues page, Class Size/School Size.

The National Conference of State Legislatures' Class Size Reduction (April 1, 1998) provides an overview, looks at the research, and discusses the cost of some existing class size reduction programs.

Education Commission of the States' Class Size Reduction Measures (March 1998) from the ECS Information Clearinghouse, provides a table showing states with class size reduction programs and an accompanying discussion of the implications of these programs for policymakers.

Hiring qualified teachers to reduce class size isn't always easy. Lots of Students, Not Enough Teachers from the *Christian Science Monitor* (September 15, 1998) tells how some districts are recruiting teachers from Europe and creating alternative certification programs to deal with the crunch.

Educators in California can find all the information necessary to implement that state's class size reduction plan at the California Department of Education's Class Size Reduction page.

FYI

For Your Information

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Legislative TOPIC Action Center

January 1999

Class Size Reduction

Overview

Research has documented what parents and teachers have always known intuitively about the relationship between class size and teaching and learning: Smaller classes enhance student achievement. The National Education Association (NEA) supports programs to reduce class size because of the positive effects on teaching and learning:

- Children receive more individualized attention and instruction;
- Students with learning disabilities are identified earlier, and their needs can be addressed without placing them in costly special education;
- Teachers are better able to handle discipline in the classroom; and
- Parents and teachers work more closely together to support children's education.

NEA believes that current proposals to reduce class size, coupled with initiatives to modernize school buildings and recruit quality teachers, are essential elements of a legislative agenda to promote quality public education.

Background

Documented Impact on Student Achievement. For more than two decades, studies have repeatedly proven the point that smaller class size does have a positive impact on student achievement:

- A 1998 paper by Professor Cecelia Rouse compared the achievement of students in the Milwaukee voucher schools to those attending Milwaukee's regular public schools, magnet schools, and "P-5" schools that enroll mostly minority and very disadvantaged children with smaller class size than regular public schools. Rouse found that P-5 students made

“substantially faster gains in reading” than the other public, magnet and voucher school students.

- Another study of the SAGE program found that students in the smaller class size “enjoyed significantly greater improvements in test scores in reading, language arts, and math” than students not participating in SAGE. The largest gains were among African-American boys.
- Conducted between 1990-1997, the Tennessee STAR study examined that state’s class size reduction program serving grades kindergarten through 3. Students in the program performed significantly better than students in larger classes in reading and math at all grade levels, in urban, suburban and rural areas, each year. Follow up studies show that the gains lasted through at least eighth grade, with notable achievement benefits for minority students.
- According to a study of 200 school districts by Harold Wenglinsky of the Educational Testing Service, smaller class sizes raised the average math achievement of fourth graders, with the largest impact for low-income students in urban areas.

A National Consensus for Action. At the local, state and federal levels, there is a growing consensus in support of initiatives to reduce class size. Nationally, voters are so committed to this concept that a 1998 Peter D. Hart & Associates poll found that 58 percent of Americans would be less likely to vote for a candidate who favors vouchers over smaller class size. In 1998, Congress enacted a down payment on a proposal to hire 100,000 new teachers. The 1.2 billion provided in FY 99 will pay for some 30,000 new teachers in the 1999-2000 school year. In many states, class size reduction programs are being implemented by both Republican and Democratic elected officials. Some recent examples are:

- **California.** In the 1996-97 school year, the state instituted its pioneering class size reduction program to reduce the student/teacher ratio to 20 to 1 in kindergarten through third grade. Although the state is now struggling to address the resulting demands for more classrooms and more teachers, the public response has been extremely positive. Following the program’s first year, local surveys of parents and teachers in California found that the benefits were worth the \$1 billion investment.
- **Nevada.** In 1990-91, the state began its class size reduction effort by instituting a 15 to 1 teacher/student ratio for kindergarten and first grade, and then applying the same ratio for second and third grade. The effort is being expanded into higher grades, with a slightly higher ratio. A 1995 survey found that more than 90 percent of parents believed that the benefits of smaller class size were worth the increased cost.

Recommendations

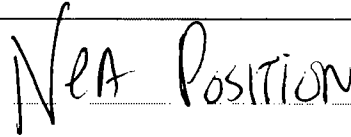
Congress can and should take action to provide assistance to states and localities in reducing class sizes, particularly in the lower grades. Specifically, the 106th Congress should:

- Expand and guarantee funding for the national Class Size Initiative enacted by the 105th Congress. Congress should provide local school districts with a commitment that multi-year funding will be provided to pay for 100,000 new teachers, by converting this initiative into a mandatory spending program that provides at least \$12 billion over seven years.*
- Enact federal legislation to provide substantial tax relief to states and localities to build, repair, or modernize school buildings.*
- Enact programs, as part of the reauthorization of the Elementary and Secondary Education Act (ESEA), to recruit certified teachers, provide the necessary support to retain qualified new teachers, and offer ongoing professional development opportunities to strengthen the teaching profession.*

Class Size | Congressional Testimony
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A handwritten note in a rectangular box at the top of the page reads "NEA Position".

Inside Scoop Small Classes Hold Long-Term Benefits

Researchers have shown that small class sizes in the primary grades can boost student learning in those grades. A new study shows that small classes in elementary school produce long-term benefits, too—students are more accomplished even when they hit high school.

Background, please.

The Student/Teacher Ratio (STAR) Project studied more than 3,000 K-3 students in selected rural, suburban, urban, and inner-city Tennessee schools from 1985-89. In this \$12 million study, led by Dr. Helen Pate-Bain, NEA president from 1970-71, students were randomly assigned to classes labeled small (13-17), regular (22-25), or regular with a full-time aide.

The STAR Project revealed that students in small classes consistently scored higher on achievement and basic skills tests. And inner-city, predominately minority children in small classes outscored their counterparts in both kinds of regular classes.

So what's the latest news on the research front?

The newest data show that STAR Project students who were in small classes during the early grades continue to reap benefits even today, as they move into larger classes in high school.

Funded by grants from NEA and American Federation of Teachers, Pate-Bain and her colleagues combed through records of 10th graders today who had participated in the original STAR project.

Among the findings:

- The percentage of small-class students who'd been held back before grade 10 was half that of their counterparts in the regular groups—17 percent versus 30 to 44 percent. That's a strong predictor that small-class students are less likely to drop out of high school.
- Those from small primary grade classes outscored the others in high school English, math, and science by more than 10 points.
- Students in the small-class group had taken significantly more advanced courses, such as algebra II, calculus, advanced placement English, and foreign languages—indicating they are more apt to be college-bound.
- The small-class group had consistently fewer suspension days as high schoolers.
- This same group consistently had fewer absences than the others as they moved through high school.

Are teachers from the STAR Project surprised at these outcomes?

"No-I'd expect that these children would be more academically grounded," says Karen Sellars, a 27-year teaching veteran at Nashville's Cole Elementary whose third grade class participated in the study in 1988.

"We were able to get to know the children so much better," Sellars re-calls. "I could check student progress almost immediately and give immediate feedback. The children had a wide variety of abilities, but we were able to cover much more material.

"We were encouraged to make home visits," Sellars adds. "That created a real community feeling among the parents, teachers, and students."

Sellars's classroom is now filled with 26 third graders, and she's nearing retirement. But she's determined to stay until the 1999-2000 school year, when state reform efforts will set a cap of 20 in her grade level.

"That might add five to 10 years to my teaching career," she laughs.

How close are we to getting smaller classes for everyone?

The powers that hold the purse strings may be getting the message. At least 27 states have begun the big push-from California's much-publicized \$1 billion move to cap elementary classes at 20 to efforts in Alabama and Tennessee to phase in class sizes of 18 to 20.

The federal government is also getting in the act, with President Clinton proposing funding for 100,000 new teachers and new school construction in his recent budget.

Any downside to smaller classes?

Not to smaller classes themselves. But making them a reality "calls for lots of planning," says Pate-Bain. "You don't just walk in and suddenly reduce all K-3 classes to 15 students. Do it one year at a time."

Space is an issue-smaller classes mean that districts will need more classrooms. Charles Achilles, professor of educational leadership at Eastern Michigan University, urges school systems to look for space in their communities that could be linked to school buildings by technology.

Smaller classes also call for more teachers and support staff-trained, caring staff, if we're to get the most from small classes, notes Pate-Bain.

"We need a push on all fronts to bring more young people into education," she says. "Many teachers were inspired to enter the profession by their own teachers. Teachers now have to accept the responsibility for doing the same."

The irony, notes Pate-Bain, is that many teachers today are too "burned out" by unmanageable, large class sizes to be very inspiring.

Is 'class size' the same as 'pupil-teacher ratio'?

No, says Achilles. Many pull-out programs with small groups drive down the overall pupil-teacher ratio at a school. But this, in turn, may lead to an increase in the size of the classes where the majority of

children spend most of their day.

What's NEA's stand?

The Association supports an optimum class size of 15 students in regular programs and a proportionately lower number in programs for students with exceptional needs.

NEA also believes that class size maximums must be established, based on criteria that include type of students, subject area content, and physical facilities.

What's ahead?

Pate-Bain hopes to do another follow-up study that would examine whether small class size in early grades contributes to making better citizens.

She'd like to see if the original STAR students, one year after graduation, are registered to vote, do volunteer work, and otherwise contribute to their communities.

"No one can say class size doesn't make a difference," says Pate-Bain. "But money always runs the show. If we can show that small class size will keep people out of prison and off welfare, legislatures will listen.

"You either pay up front or you pay down the road."

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April 13, 1997

We Need a Little Class

Teachers and Students Can Achieve More with Less

Bob Chase
President, NEA



A little class can go a long way. Last September, California passed a law to help public schools reduce class size to 20 pupils in kindergarten through third grade. Until then, California had the nation's most overcrowded classrooms -- some weighed in at 40 students per teacher. When the state's budget came up for review, the California Teachers Association successfully campaigned to have a \$971 million budget surplus earmarked for class size reduction.

The result? Students from private elementary schools in Orange County are transferring into public schools in record numbers. "It's the biggest increase in the district's history," says principal Roni Burns-Ellis.

Opponents of public education dismiss teachers' call for smaller class sizes as "self serving" because reducing class size means hiring more teachers. But is it self-serving for a fire department to say it needs more firefighters to maintain public safety? And what more vital need do we have than providing a quality education for all our nation's children?

Teachers choose to teach in order to make a difference in children's lives. To see students' faces light up when they conduct a science experiment successfully or read a beautiful poem. But when we have 37 students instead of 20, this becomes an uphill battle. Why should students have to fight for our attention? Why should we have to struggle to teach them well?

In 1985, the Tennessee Star Project tracked some 6,500 students from kindergarten through third grade in 79 different schools. The study found that students placed in small classes (13-17 pupils) did significantly better on standard achievement tests in all subjects than students in regular sized classes (22-25 pupils)--regardless of their economic, racial, or ethnic background. In fact, gains by minority students were almost *double* those for white students. Detention and special education rates were also noticeably lower for students in smaller classes.

At a time when our nation is working to reform public education, reducing class sizes has enormous potential. Smaller classes mean fewer discipline problems and, therefore, safer schools. Faculty turnover declines. Morale increases. Student learning improves substantially.

Benefits extend beyond the classroom as well. As in Orange County, smaller classes make public schools more attractive to middle class families -- wooing them back from private schools and rekindling broader community support for public education. At the same time, smaller classes can also provide poor and minority children with a far better education, helping to erase the quality and funding inequities that currently exist in many public school systems. In short, smaller classes raise standards and



level the playing field.

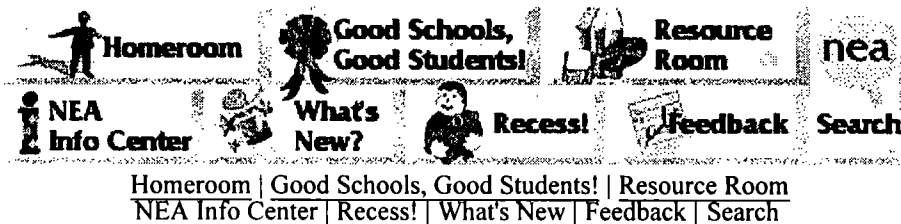
Granted, there are no "silver bullets" in education reform that can magically improve all schools for all students. And reducing class sizes is undeniably expensive, which makes it politically daunting as well. Yet the plain truth is that if we want top quality education in this country, we will have to be courageous and pay for it -- as we do for other services we value, such as defense and public safety. At the moment, the economy is strong and other states have budget surpluses; the time is ripe for following California's lead.

Furthermore, if we do not invest in smaller classes now, I believe, we will end up paying an even greater price. According to the *Digest of Education Statistics*, school enrollments are expected to rise from today's record 51.7 million to 54.6 million by 2006. If we don't fortify our schools today, they will face even bigger challenges tomorrow.

LouAnne Johnson, the inner-city teacher whose classroom successes inspired the movie "Dangerous Minds," once said, "When classes are small enough to allow individual student-teacher interaction, a minor miracle occurs: Teachers teach and students learn." We must work together to ensure that such minor miracles occur every day, in every school.

Bob Chase

President, National Education Association
1201 16th Street, N.W.
Washington, D.C. 20036
(202) 822-7200





EDUCATIONAL ISSUES POLICY BRIEF

NUMBER 3 / JUNE 1998

Recent Research Shows Major Benefits of Small Class Size

Introduction

In his State of the Union address on January 27, 1998, President Clinton proposed "the first ever nationwide effort...to reduce class size in the first, second, and third grades to an average of 18 students a class all across America." Parents, the public, and teachers consistently have ranked lower class size high on their list of desired education reforms. The question is, does lower class size make a positive difference in achievement, especially for poor children?

For years, research on class size was inconclusive. Then, in 1985, the state of Tennessee implemented a major class-size reduction initiative in grades K-3 in a way that allowed for one of the best-designed studies in the history of education. The result: Lowering class size substantially improved student achievement and was especially effective for poor children.

Now joining the "gold standard" Tennessee research are the results of a number of new, first-rate studies on class size, including some that compare the academic benefits of lower class size with vouchers. The inescapable conclusion is, again, that lower class size makes a big difference for children, particularly poor children, and that lower class size trumps vouchers.

Cecilia Rouse, "Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program," Princeton University and NBER, December 1997

The Milwaukee Parental Choice Program is one of two publicly funded voucher programs in the country. In her study, Rouse compares the achievement of Milwaukee voucher students and students in three types of Milwaukee Public Schools (MPS): regular schools, magnet schools, and schools participating in the Preschool to Grade 5 Grant Program (P-5 schools). P-5 schools, which enroll about 25 percent of all MPS elementary students, serve "predominantly minority and extremely disadvantaged" children and receive supplemental state funds that have enabled them to cut their pupil-teacher ratio, on average, to 17 to 1.*

Rouse reports the following:

- Students in the P-5 (small class size) public schools made "substantially faster gains in reading" than those in the regular public schools, the public magnet schools, and the voucher schools.

*Pupil-teacher ratio and class size technically are not the same thing. Pupil-teacher ratio refers to the number of students divided by the number of staff classified as teachers. Class size refers to the actual number of students in a classroom with a teacher. Pupil-teacher ratio is typically lower than average class size but often used as an approximate measure.

- Students in the P-5 (small class size) public schools made faster math gains than students in the regular public schools and the public magnet schools, and the same math gains as the voucher schools.
- Although average class size in the P-5 (small class size) public schools was larger than the voucher schools —17:1 vs. 15.3:1—P-5 schools outperformed voucher schools in reading and were even in math.
- “These [P-5] gains are relatively large for education productions, and are comparable to the effects from the Tennessee class size experiment.” (See below for more on the Tennessee study.)

Rouse ends her paper by urging researchers to explore the other factors, in addition to class size, that contribute to academic achievement. And she issues a stern warning: “If we really want to ‘fix’ our educational system, we need a better understanding of what makes a school successful, and not simply assume market forces explain sectoral differences and are therefore the magic solution for public education.”

Peter Maier, Alex Molnar, Stephen Percy, Phillip Smith, John Zahorik, "First Year Results of the Student Achievement Guarantee in Education (SAGE) Program," Center for Urban Initiatives and Research, University of Wisconsin-Milwaukee, December 1997

Maier and associates report on the first-year effects of another Wisconsin (statewide) initiative, the Student Achievement Guarantee in Education (SAGE) project. Begun in 1996-97, SAGE seeks to increase the academic achievement of children living in poverty by reducing the student-teacher ratio in grades K-3 to 15:1. Evaluation of the program was legislatively mandated, and this is the first of five annual reports. After comparing about 1,300 SAGE first-graders throughout the state to their non-SAGE peers, Maier and associates conclude:

“SAGE students enjoyed significantly greater improvements in test scores in reading, language arts, and math.” These first-year results “are consistent with the Tennessee experience” (discussed below).

“African-American males, in particular, appear to benefit from participation in the SAGE program. The total scores of African-American males on all three tests rose 56 points in SAGE classrooms compared to 39.4 for the matched schools” — a 40 percent SAGE advantage.

Alex Molnar, "Smaller Classes, Not Vouchers, Increase Student Achievement," Keystone Research Center, Harrisburg, Pa., January 1998

In his comprehensive review of class size and voucher research, Molnar draws the following conclusion: “There is no longer any argument about whether or not reducing class size in the primary grades increases student achievement. The research evidence is quite clear: It does.”

Molnar reviews several class-size studies in this paper and focuses on the oft-cited Tennessee STAR study and its various follow-ups and validations. Given its unparalleled scope and rigorous design, STAR is hailed by many as the “gold standard” of class-size studies—or what Harvard University Professor Frederick Mosteller, one of the nation’s most distinguished statisticians, called “one of the great experiments in education in United States history.”

Elizabeth Word, et al., "Student/Teacher Achievement Ratio (STAR) Final Report 1985-1990," Tennessee Department of Education, 1990

Begun in 1985, the original Tennessee STAR study followed a group of students from kindergarten through third grade, randomly assigning these students to one of three types of classes: small (13-17 students), regular (22-25 students), and regular with an aide. With four years of data, researchers found that:

- Students in small classes significantly outperformed the other students in both math and reading, every year, at all grade levels, across all geographic areas.
- Effect sizes (a statistical measure of the impact of any program) were quite large—.23 in math and .26 in reading, on average, per year, with results even higher for inner-city, minority children.

Put another way, “students in small classes had an advantage of a bit more than 8 percentile ranks over students in regular classes in reading and a bit less than 8 percentile ranks in math,” on average, per year.

Barbara Nye, et al., "The Lasting Benefits Study," Tennessee State University, 1995

This study followed-up the original STAR study to see if students in small classes in the K-3 grades maintained an academic advantage.

Tennessee students in small classes during K-3 continued to outperform their regular class peers at least

through eighth grade, with achievement advantages especially large for minority students.

Dan Krueger, "Experimental Estimates of Education Production Functions," Princeton University, May 1997

Using even more sophisticated analytical methods, Krueger reexamined the STAR data to see if the results held up.

The original findings of STAR were validated: overall effect sizes that range from .19 to .28 in the four years.

Harold Wenglinsky, "When Money Matters," Educational Testing Service, April 1997

In addition to local (e.g., Milwaukee) and state (e.g., Wisconsin, Tennessee) evidence, there is also national evidence that small class size is a major factor in improved student achievement. After analyzing spending patterns against fourth-grade math achievement in 203 districts and eighth-grade math achievement in 182 districts across the nation, Wenglinsky argues that money does indeed make a difference when it is spent correctly:

Increased teacher-student ratios (smaller class size) raise average achievement in fourth- and eighth-grade math. (In eighth grade, the achievement effect comes about through the better discipline and learning environment smaller class size produces.)

How large are the gains? "Fourth-graders in smaller-than-average classes are about a half a year ahead of fourth-graders in larger-than-average classes," with the "largest effects" (three-fourths of a year ahead) for low-income students in "high-cost" (i.e., urban) regions. Even more substantial effects are observed for low-income eighth-graders in "high-cost" regions.

Conclusion

Taken together, these studies strongly support President Clinton's class size initiative. They provide compelling evidence that reducing class size, particularly for younger children, will have a positive effect on student achievement overall and an especially significant impact on the education of poor children. Moreover, lower class size trumps even the most generous results from the highly contested research on vouchers.

Of course, small class size is not a panacea. Reducing class size is a significant means of improving student achievement, but it is not the only piece. High academic standards and a challenging curriculum, safe and orderly classrooms, and qualified teachers are no less significant in the arsenal of solid research-proven reforms. And, in fact, when smaller class size is pursued in conjunction with these standards-based reforms, the combined impact on student achievement is far greater than either strategy alone.

—DAN MURPHY & BELLA ROSENBERG

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Class Size Revisited

by AFT President Albert Shanker
July 02, 1995

Could we improve student achievement by lowering class size? Parents and teachers have always thought this idea made a lot of sense, but most researchers have found little evidence to support it. And because reducing class size is expensive, policymakers have cheerfully embraced what researchers said. Now, it looks as though the parents and teachers were right all along.

In an upcoming article, Frederick Mosteller, a professor of statistics at Harvard and one of the country's most distinguished statisticians, reports on a little-known study that proves the value of smaller classes. Mosteller's article, "The Tennessee Study of Class Size," which will appear in the journal *The Future of Children*, says the study leaves no doubt that children in early elementary school achieve at a significantly higher level in classes of 15 than they do in classes of 25. For poor, minority children, the gains are even greater.

Student Teacher Achievement Ratio (STAR), as the experiment was called, was commissioned by the state of Tennessee in 1985. It included some 7,000 children from 79 elementary schools, representing a geographical cross-section of the state. Children were randomly selected from those entering kindergarten in September 1985. Then they were randomly placed in one of three types of class: a small class (13 to 17 students with an average of 15 students); a standard-size class (22 to 25 students with an average of 25), in which there was an aide to assist the teacher; and a standard-size class with a teacher only. The third type served as a control group. The experiment continued for four years, as the children moved from kindergarten through grade three.

Did smaller class size make a real difference in student achievement? To find out, STAR researchers compared scores of children in the two experimental classrooms and the control group on both standardized exams and curriculum-based tests. The results were striking. Students in classes of 25 with aides did slightly better than students in the classes with teachers only. But the real differences showed up in the smaller classes. On standardized tests of reading and math, these children gained .25 of a standard deviation over children in classes of 25 with a teacher only. This means, as Mosteller explains, that a pupil achieving at the 50th percentile--better than half the kids at his grade level--would now be achieving at the 60th percentile--better than 60 percent at his grade level. During the first two years of the experiment, the results were even more striking for poor, minority students: Their gains in the smaller classes were twice that of white children. In grades two and three, they were about the same.

STAR researchers continue to monitor the achievement of the students who participated in the experiment. So far, they have found that the gap narrows, but children who spent the K-3 years in the smaller classes enjoy a significant advantage over children from the larger classes. For example, in grade five, children from the smaller classes scored at the 51st percentile in reading compared with the 41st percentile for children who had been in the regular-size classes. In grade six, children from the smaller classes achieved in the 54th percentile in reading, and children from regular-size classes at the 45th percentile.

The state of Tennessee took these findings seriously. In 1989, it directed

that class size be reduced to 15 for K-3 students in 17 mostly minority districts, where poverty was high and student achievement low. The results look very promising. As Mosteller says, "Before the small classes were introduced, these districts had been performing well below the average in the state for mathematics, and after the intervention, they moved above the average."

This is an extraordinary story in a number of respects. STAR is a rarity in education research--a real experiment, well-designed and carefully enough carried out that we can have confidence in its results: Mosteller calls it "one of the great experiments in education in United States history." And it offers solid findings about our biggest problem in education--how to raise student achievement and particularly that of poor, minority students.

It is also extraordinary that the media, which have given currency to studies that discount the importance of class size, have consistently ignored the Tennessee experiment. Now that Mosteller has flagged its importance, will we see it widely cited as a breakthrough in our knowledge? And will we see policymakers and educators acting on its findings?

School boards and cities and states say they are desperate to find ways of improving student achievement. The ideas they grab for--charter schools or for-profit management schemes or voucher proposals--are all untried and unproven. But they don't have to guess any longer. The Tennessee experiment offers proof that smaller class size works.

For a copy of "The Tennessee Study of Class Size," write to Initiatives for Children, American Academy of Arts and Sciences, 136 Irving St., Cambridge, MA 02138.

American Federation of Teachers, AFL-CIO - 555 New Jersey Ave, NW - Washington, DC 20001

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Vouchers Vs. Small Class Size

Comparing Effects, Costs, and Public Support

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Small Class Size Trumps Vouchers In Terms of Results, Costs, and Public Support

Rouse could not be more right: "If we really want to 'fix' our educational system, we need a better understanding of what makes a school successful, and not simply assume that market forces explain sectoral differences and are therefore the magic solution for public education."

It is striking that good schools--be they public or private--have a lot in common. We've probably all been inside a successful school at some point, and we know what makes these schools work: high academic standards and a challenging curriculum for all children; a safe and orderly environment; qualified teachers; and parent involvement.

Now, we can add another ingredient to that list. ~~A state of recent research backs up what parents, teachers and the public have known all along: small class size makes a big difference!~~

Student Achievement

Rouse urges us to avoid the empty "public-private" debate and uncover the school-level factors that really explain student achievement. In a recent paper (1998), she explores the effects of class size. (see Selected text and figures from Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program for more detail).

Rouse compares the achievement of Milwaukee voucher students and students in *three* types of Milwaukee public schools: regular schools, magnet schools, and schools participating in the Preschool to Grade 5 Grant Program ("P-5" schools). P-5 schools, which enroll about 25 percent of all MPS elementary students, serve "predominantly minority and extremely disadvantaged" children and receive supplemental state funds that have enabled them to cut their pupil-teacher ratio, on average, to 17 to 1.¹³

Rouse reports that:

- ~~Students in the P-5 (small class size) public schools made "substantially faster gains in reading" than those in the regular public schools, the public magnet schools, and the voucher schools.~~
- ~~Students in the P-5 (small class size) public schools made faster math gains than students in the regular public schools and the public magnet schools and the same math gains as the voucher schools.~~
- ~~Although average class size in the P-5 (small class size) public schools was larger than the voucher schools -- 17:1 vs. 15.3:1 -- P-5 schools outperformed voucher schools in reading and were even in math.~~

Rouse's findings suggest that small class size plays a big role in raising student achievement. And she's not alone. Her study is just one of several demonstrating the major benefits of lower class size, especially for low-income minority children. (For a full run-down of these studies, please contact the American Federation of Teachers and request the publication, "What Works:

Recent Research Demonstrates the Major Benefits of Small Class Size.""). They include:

- **The Tennessee STAR study and follow-ups (1990-1997).** In what many consider to be the "gold standard" of class-size studies because of its large scope and rigorous design, researchers (Word et al., 1990) found that Tennessee K-3 students in small classes significantly outperformed students in larger classes in both math and reading every year, at all grade levels, across all geographic areas. A follow-up study (Nye et al., 1995) showed that these benefits lasted through at least eighth grade, with achievement advantages especially large for minority students. A study conducted last year by Princeton University economist Alan Krueger validated the original STAR findings.
- **The Wisconsin SAGE evaluation (1998).** In this first-year study of the Wisconsin Student Achievement Guarantee in Education (SAGE) initiative, a statewide effort to reduce K-3 class size to 15 in high-poverty schools, researchers (Maier et al.) found that SAGE (small class) students "enjoyed significantly greater improvements in test scores in reading, language arts, and math" than their non-SAGE peers, with the largest gains for African-American boys. So far, results "are consistent with the Tennessee experience."
- **National Evidence (1997).** In his study of more than 200 school districts, Harold Wenglinsky at the Educational Testing Service concludes that increased teacher-student ratios (smaller class size) raise average math achievement: "Fourth graders in smaller-than-average classes are about a half a year ahead of fourth graders in larger-than-average classes," with the "largest effects" (three-fourths of a year ahead) for low-income students in urban areas.

As researcher Alex Molnar (1998) wrote in a recent summary of voucher and class size research: "No strong evidence exists that participation in a voucher program increases student achievement." On the other hand, "There is no longer any argument about whether or not reducing class size in the primary grades increases student achievement. The research evidence is quite clear: It does." **Small class size trumps vouchers.** It's that simple.

(For a list of other research-backed programs that also improve student achievement, contact the American Federation of Teachers. Ask for: "What Works: Four Promising Schoolwide Academic Programs" and "What Works: Seven Promising Reading and English Language Arts Programs," as well as additional information.)

Costs

- **Milwaukee's P-5 (small class) program reaches 13 times more students than the voucher program--with superior results at the same cost.** In 1996-97, Wisconsin allocated \$4.3 million to 21 P-5 schools serving 12,593 students (at a cost of \$341 per student). Most schools used their funds to reduce class size. In contrast, in 1996-97, Wisconsin spent more than \$7 million on vouchers for only 1,650 children (at a cost of \$4,400 per student)
- **Research-backed academic programs also offer a bigger academic bang than vouchers for the same buck.** For the \$10 million spent on Cleveland vouchers this year, a proven reading program called

Success for All could have been implemented in all 80 of Cleveland's public elementary schools--with \$6 million to spare.

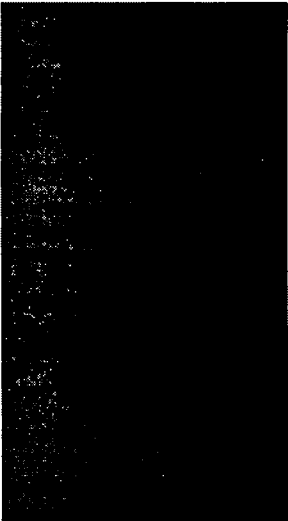
In 1997-98, Ohio taxpayers spent \$10 million (including an emergency \$3 million bail-out from public school funds) on vouchers for 3,000 students (at a cost of \$3,300 per student).¹⁴ How could this money have otherwise been spent? Success for All, designed at Johns Hopkins University, is an intensive reading program now used in more than 750 schools throughout the nation. Extensive long-term research shows that Success for All fifth graders read a full grade level higher than their non-Success for All counterparts, with results even more dramatic for low-income, minority children. Program designer Robert Slavin (1997) estimates that it costs about \$50,000 annually to cover the total costs of materials and training for a Success for All school of 500 students. What this means is that the \$10 million spent on Cleveland vouchers could have been used to put Success for All in all 80 of Cleveland's public elementary schools serving 40,000 predominantly low-income children--with about \$6 million to spare.

In turn, the extra \$6 million could have been used to reduce class size in those same schools. Such a "one-two punch" would most likely generate student achievement results considerably larger than either strategy alone. And either strategy is far more successful than vouchers.

Public Support

~~Polls overwhelmingly show that Americans want to fix their public schools, not abandon them.~~ Additionally, both the public and teachers believe that classroom overcrowding is a serious problem--and that reducing class size is not only desirable, but a far more cost-effective strategy than vouchers. Americans expect their elected representatives to share their priorities. ~~Consider the following poll results:~~

- ~~Don't give up on our public schools.~~ According a Phi Delta Kappa/Gallup poll on education (1997), ~~when asked which of two approaches was preferable, 71% said reforming the existing public school system was preferable, while only 23% favored finding an alternative to the existing public school system.~~
- ~~Classroom overcrowding is a problem.~~ According two Public Agenda surveys (1994 and 1995), ~~50% of Americans, including 63% of African-American parents, report that overcrowded classes are a "serious" or "somewhat serious" problem in their local public schools. Teachers agree: 65% report that overcrowding is a serious or somewhat serious problem.~~
- ~~Spend money on lower class size and other proven reforms, not vouchers.~~ According to a poll by Peter Hart Associates (1998), ~~when respondents were asked how their state should spend additional education dollars, 39% said the money should be used to reduce class size, while only 6% said it should be used to give out vouchers. The remaining respondents favored spending the money on successful reading programs (29%) or computers (19%). Similarly--when asked to prioritize seven different education reforms--lower class size, intensive reading programs, and computers topped the list, while vouchers came in dead last, far below the other six options.~~

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- **Listen. We mean it!** According to the same poll by Peter Hart poll, 58% of Americans said they would be less likely to vote for a candidate who "favors an education voucher system that transfers taxpayer funds from public schools to private and religious schools," compared to only 19% who would be more likely to vote for such a candidate. According to a *U.S. News and World Report* poll, 60 percent of parents say they would be more likely to vote for a political candidate who wants to raise taxes if the money went to pay for smaller classes in kindergarten through third grade.¹⁵

Can the public, parents, teachers and the research-all be wrong? Vouchers don't work. Smaller class size and proven academic programs do, and they are doable tomorrow. Given a choice between serving ideology and maybe helping a relative handful of children-at the expense of the rest-or responding to the legitimate demands of the vast majority of Americans and serving the needs of all children, the choice is clear. Let's do what's right and what works.



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FOR RELEASE
Contact: David Thomas
(202) 401-1576

May 8, 1998

NEW STUDY SHOWS SMALLER CLASSES ENHANCE ACADEMIC ACHIEVEMENT

Smaller is better, according to a new report summarizing existing research on reducing class size, and smaller classes in the early grades lead to higher student achievement.

President Clinton cited the study today during his appearance before the Delaware State Legislature. Clinton said the study provides further support for his initiative to reduce class size in grades 1-3 to a nationwide average of 18. The president has proposed a \$12 billion investment that would be available to local communities over seven years to help their schools provide small classes with well prepared teachers in the early grades.

"Reducing class size makes common sense," said U.S. Secretary of Education Richard W. Riley. "As this research shows, it will not only make sure every child gets more personal attention but also will improve discipline in classrooms, raise student achievement and help give our young people a solid foundation in the critical early grades. The President's proposal to reduce class size is a thoughtful approach which ensures that students will be taught by qualified, well prepared teachers."

Reducing Class Size: What Do We Know?, released today by the U.S. Department of Education, provides three overall conclusions:

- o Research shows that smaller classes promote student achievement in the early grades. The significant effects of class size reduction on student achievement appear when class size is reduced to a point between 15 and 20 students.
- o If class size is reduced from substantially more than 20 students per class to below 20 students, the related increase in student achievement moves the average student from the 50th percentile up to above the 60th percentile. For disadvantaged and minority students the effects are larger.
- o Students, teachers, and parents report positive effects from the impact of class size reductions on the quality of classroom activity.

The study shows that 25 states already have started or are considering some sort of class size reduction initiative.

Reducing Class Size: What Do We Know? can be obtained from the National Library of Education at 1-800-424-1616, or by downloading it from the website at <http://www.ed.gov/pubs/ReducingClass/>.

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Reducing Class Size, What Do We Know? – March 1999

Introduction

Research and common sense suggest that smaller classes offer teachers the chance to devote more time to each student so as to improve their learning. A number of states have already implemented class size reduction programs, and others are in the process of development. Skeptics worry that reducing class size will increase costs without producing substantial benefits, however, and class size reduction programs certainly present challenging problems as well as opportunities. Does reducing class size really improve students' education? Should teachers hired to teach in smaller classes be prepared differently? Will hiring more teachers in order to reduce class size exhaust the supply of qualified teachers? The available research evidence contains some useful guidance for educators and policymakers who face these questions as they try to craft the most beneficial class size reduction strategies.

Research on Class Size

Researchers have used various techniques to study how class size affects the quality of education. They have looked at the relationship between class size and student achievement, and have conducted various kinds of studies related to class size and its possible influences on educational practice. In the last 20 years, enough research has been done for researchers to have taken the results of many experiments and data collections and synthesized the accumulated findings into general conclusions. In some analyses, the researchers have used data about student/teacher ratios as a means to examine the class size effects, because the original research lacked a direct measure of class size. Some of the statistical analyses in the last 10 years have been quite large in scale.

Several recent experimental studies have contributed substantially to the research knowledge about class size. Not all the questions about the impact of class size reductions have been answered, nor have all the debates been settled. Overall, however, the pattern of research findings points more and more clearly toward the beneficial effects of reducing class size.

Research Syntheses

Several major analyses have used various analytical methods to draw conclusions through reviews of already existing research studies. The methods used and the studies included vary somewhat, but most of them have concluded that reducing class size is related to increased student learning:

- In 1978, Smith and Glass published a *meta-analysis* combining the results of 77 empirical studies pertaining to the relationship between class size and achievement, and soon followed it with a second meta-analysis analyzing the relationship between class size and other outcomes. Overall, they found that small classes were associated with higher achievement at all grade levels, especially if students were in the small classes for more than 100 hours, and if student assignment was carefully controlled. They found that the major benefits of reducing class size occurred where the number of students in the class was fewer than 20. In their second study, they concluded that small classes were superior in terms of students' reactions, teacher morale, and the quality of the instructional environment.¹
- In 1989, Slavin employed a *best evidence synthesis* strategy to analyze empirical studies that met 3 specified criteria: a study was included only if class size had been reduced for at least a year, classes of less than 20 students were compared to substantially larger classes, and students in the larger and smaller classes were comparable. Slavin found that reduced class size had a small positive effect on students that did not persist after their reduced class experience.²
- In 1986, Robinson and Wittebols published a review of more than 100 relevant research studies using a *related cluster analysis* approach. Similar kinds of research studies were "clustered" or grouped together, such as studies of the same grade level, subject area, or student characteristics.

They concluded that the clearest evidence of positive effects is in the primary grades, particularly kindergarten through third grade, and that reducing class size is especially promising for disadvantaged and minority students. At the same time, they cautioned that positive effects were less likely if teachers did not change their instructional methods and classroom procedures in the smaller classes.³

Other research analyses have concluded that class size reduction does not have an appreciable effect. Tomlinson examined trend data from the 1950s to 1986 in the United States and did not find any consistent relationship between class size and standardized test scores; he concluded that the existing research did not justify a policy to reduce class size, in view of the costs involved and the potential negative impact on the quality of the teaching force.⁴ Critics pointed out that this analysis combined students from all grade levels together, that the reliance on student/teacher ratios was an inadequate measure of class size, and that Tomlinson ignored a host of intervening factors and social changes which may have masked the relationship.⁵ Odden reviewed the existing research and argued that a system-wide class reduction policy would produce only modest gains in student achievement and incur an unjustifiably high cost. He opted instead for certain targeted class reduction strategies in conjunction with a series of other interventions, and claimed that his proposals could produce greater benefits with lower costs.⁶ An analysis of the relationship between class size and student achievement for Florida students using 1993-94 school level data found no relationship between smaller classes and student achievement; however, the study's authors expressed caution about drawing conclusions from the analysis, based on the limitations of the available data.⁷

More positive conclusions have been drawn from an analysis of a substantial database about the Texas education system. Using data from more than 800 districts containing more than 2.4 million students, Ferguson found significant relationships among teacher quality, class size, and student achievement. For first through seventh grades, using student/teacher ratio as a measure of class size, Ferguson found that district student achievement fell as the student/teacher ratio increased for every student above an 18 to 1 ratio. Measures of teacher quality (that is, teacher literacy skills and professional experience) were even more strongly related to higher student scores.⁸

Hanushek has repeatedly reviewed the available studies that permit a comparison of various school resource inputs—including class size reductions—and student outcomes and has concluded that reducing class size should not be expected to produce better student performance. His analyses have found that the relationships between various school expenditures—including class size reductions—and student achievement are remarkably weak, leading him to call for a drastic re-thinking of public education policy. Others⁹ have used somewhat different analytical techniques to examine the same data and have disputed Hanushek's conclusions, arguing that the data do show important effects for student achievement, including the influence of smaller classes.¹⁰ Still others have raised questions about the limitations of the basic analytical approach used here because it relies on student/teacher ratios as a measure for class size, it usually groups the data for all grade levels together, and the data represent student achievement at the level of school or school district average scores instead of representing individual students placed in larger or smaller classes.¹¹

A National Scale Analysis of Data Related to Class Size

In 1997, Wenglinsky published research findings concerning the relationship between class size and student achievement based on his analysis of data drawn from three national level databases. The study was designed to investigate the relationship between spending in education and student performance, and combined data from three different databases generated by the National Center for Education Statistics. Based on an analysis of data on fourth-graders in 203 districts and eighth-graders in 182 school districts from across the United States, Wenglinsky found that class size served as an important link between school education spending and student mathematics achievement at both the fourth- and the eighth-grade levels, although in different ways:

- At the fourth-grade level, lower student/teacher ratios are positively related to higher mathematics achievement.

- At the eighth-grade level, lower student/teacher ratios improve the school social environment, which in turn leads to higher achievement.

For purposes of the analysis, Wenglinsky divided the school districts included in the study according to whether they served above-average or below-average socioeconomic status students, and whether they had above-average or below-average teacher costs. With respect to these four subgroups of districts, the largest effects for mathematics achievement gains occurred in districts where there were below-average socioeconomic status students, accompanied by above-average teacher costs.¹²

Recent Experimental Studies of Class Size

Data from several more recent initiatives have added considerably to the research evidence concerning class size reduction in the United States in the early primary grades. Efforts in Indiana, Tennessee, North Carolina, and Wisconsin have reported important data, with the Tennessee projects currently providing the most complete and well-designed study of class size reduction effects.

Indiana

Beginning in 1984, Indiana's *Prime Time* project allocated money to support the reduction of class size to 18 in first-, second-, and then kindergarten and third-grade classrooms. Implementation of *Prime Time* was not rigorously controlled, and the results were mixed. An evaluation of the *Prime Time* project analyzed achievement scores for first- and second-grade students, comparing mean class scores in reading and mathematics from 10 school districts for tests that were administered the year immediately preceding the project with tests administered in the first year of the project. In these districts, the average first-grade class size was reduced from 22 to 19 students, and in second grade from 21 to 20 students. Tests of student achievement found that for students in the smaller classes, the reading scores for first-graders showed the greatest improvement, with smaller gains in mathematics.¹³

Tennessee

Tennessee's *Project STAR* (Student-Teacher Achievement Ratio) and two associated data collections have made important contributions to the quality of research evidence concerning the reduction of class size. *STAR* was a 4-year longitudinal study of kindergarten, first-, second-, and third-grade classrooms in Tennessee which began in 1985. *STAR* compared classes of 13-17 students with classes of 22-26 students both with and without an additional instructional aide in the larger classes. Participating teachers did not receive any professional training focusing on teaching in reduced size classes. *STAR* was unusual because it possessed essential features of a controlled research experiment designed to produce reliable evidence about the effects of reducing class size:

- *Study size.* *Project STAR* included 79 schools, more than 300 classrooms and 7,000 students, with students being followed through 4 years of experience in the given class size.
- *Random assignment.* Teachers and students were randomly assigned to the three different kinds of classes in order to ensure that the study was not biased by who was in which type of class.
- *In-school design.* All participating schools implemented at least one of each of the three types of classes in order to cancel out the possible influences coming from variations in the quality of the participating schools that might affect the quality of the classroom activity.

The evidence from student testing in *STAR* showed that the students in the smaller classes outperformed the students in the larger classes, whether or not the larger class teachers had an aide helping them.

Project STAR found that:

- Smaller class students substantially outperformed larger class students on both standardized (Stanford Achievement Tests) and curriculum-based tests (Basic Skills First). This was true for both white and minority students in smaller classes, and for smaller class students from inner city,

urban, suburban, and rural schools.

- The positive achievement effect of smaller classes on minority students was double that for majority students initially, and then was about the same.
- A smaller proportion of students in the smaller classes was retained in-grade, and there was more early identification of students' special educational needs.
- There were no significant differences in academic achievement for students in the larger classes with or without an additional instructional aide.¹⁴

Subsequent research efforts provided important additional evidence on the positive effects of class size reduction. In 1989, the *Lasting Benefits Study* began a follow-up study to examine whether the effects of the smaller class size experience persisted when students were returned to normal size classes. The study is still ongoing. To date, the research findings include:

- In fourth grade, students from the smaller classes still outperformed the students from the larger classes in all academic subjects.
- In fourth grade, students from the smaller classes were better behaved than students from the larger classes (i.e., student classroom effort, initiative, and disruptiveness).
- At least through eighth grade, a decreasing but still significant higher academic achievement level for the students from the smaller classes persists.¹⁵

In *Project Challenge*, Tennessee sought to put the *Project STAR* findings to use by implementing smaller class sizes in 16 of the state's poorest school districts. Beginning in 1990, the state phased in smaller classes at the kindergarten through third-grade levels in districts with the lowest per capita income and highest proportion of students in the subsidized school lunch program. The results of this effort were evaluated by examining the effect on the ranking of the school districts according to student performance on a statewide achievement test. The *Project Challenge* districts moved from near the bottom of school district performance in Tennessee to near the middle in both reading and mathematics for second grade.

<i>Project Challenge</i> districts' average rankings before and after class size reduction, according to second-grade student achievement in reading and mathematics		
Total number of districts in Tennessee: 138	Average ranking of <i>Project Challenge</i> districts before class size reduction (1990)	Average ranking of <i>Project Challenge</i> districts after class size reduction (1993)
Second-Grade Reading Achievement	99 th	78 th
Second-Grade Mathematics Achievement	85 th	57 th

In addition, in-grade retention of students was reduced in the *Project Challenge* districts when smaller classes were implemented.¹⁶

Taken together, the Tennessee studies have been viewed as landmark research. Finn concluded that "this research leaves no doubt that small classes have an advantage over larger classes in school performance in the early primary grades." ¹⁷Mosteller, Light, and Sachs called it "... one of the great experiments in education in U.S. History." ¹⁸Krueger, in an external re-analysis of the *Project STAR* data, re-confirmed the original finding that "students in small classes scored higher on standardized tests than students in

regular classes" even when the data analysis took into account adjustments for school effects, attrition, re-randomization after kindergarten, nonrandom transitions, and variability in actual class size.¹⁹ *Project STAR* and the associated Tennessee studies provide the strongest evidence available to date regarding the positive effects of class size reduction.

Burke County, North Carolina

A recent initiative to reduce class size in Burke County, North Carolina, has also produced noteworthy data. Beginning in 1990, Burke County pilot-tested and then phased in a class size reduction project in the county school district. In 1995-96, 1,193 first-graders and 1,125 second-graders participated in the initiative. The program's goal has been to reduce class size to 15 students in all first-, second-, and third-grade classes. The Burke County project also included professional development activities covering instruction and assessment, and so the effects are not necessarily simply a function of reducing class size. Evaluation of the initiative has produced the following findings:

- Compared to a matched group of students in classes that had not been phased into the smaller class initiative, students in the smaller classes outperformed the comparison group in first, second, and third grades on both reading and mathematics achievement tests.
- Based on independent observations of classroom activity, the percentage of classroom time devoted to instruction in the smaller classes increased from 80 percent to 86 percent compared to the larger classes, while the percentage of time devoted to non-instructional activities such as discipline decreased from 20 percent to 14 percent.²⁰

Wisconsin

Beginning in 1996-97, Wisconsin began a class size reduction program called the *Student Achievement Guarantee in Education (SAGE) Program*. The *SAGE* Program's objective is to phase in class size reduction in kindergarten through third grade in school districts serving students from low-income families. The *SAGE* Program reduced class sizes in kindergarten and first grade in 1996-97, added class size reductions in second grade in 1997-98, and added third grade class size reductions in 1998-1999. Its aim is to reduce class size in the appropriate grade levels to a student/teacher ratio of 15 to 1 or less. *SAGE* program classroom arrangements in the first two years of implementation were several, including regular classrooms with 1 teacher and 15 students, 2 teacher teams with 30 students, and 4 other types of arrangements reflecting the constraints of existing classroom settings and teacher assignments. In the 1997-98 school year there were 30 schools from 21 school districts participating in the *SAGE* program, and 14 schools in 7 districts providing comparison student background and achievement data for an evaluation study of the program that is ongoing.

SAGE and comparison school students' academic learning was measured at the beginning and end of the first-grade year, and again at the end of the second-grade year. The students' scores were compared to those of students in matching comparison schools serving similar populations of students, with the following results:

- *SAGE* first-grade students performed consistently better than comparison students in mathematics, reading, language arts, and total scores for the Comprehensive Test of Basic Skills.
- The achievement gap lessened between white and African-American students in the *SAGE* smaller classes in the first grade, in contrast to a widening of the gap between white and African-American students in the larger classes of the comparison schools.
- Second-grade *SAGE* students' academic achievement remained higher than that of the comparison school second-graders, but the difference did not increase substantially.

These findings are consistent with the findings in *Project STAR*, but there are two important qualifications to make regarding the *SAGE* project data. First, these are second year evaluation data from an ongoing study, and so the findings of this research may change substantially as the program is phased

in and additional data analyses are performed. Second, the *SAGE* project class size reductions were accompanied by other program initiatives: participating schools were also required to implement a rigorous academic curriculum, provide before and after school activities for students and community members, and implement professional development and accountability programs. Data analysis in the second year evaluation suggests that these other components of the *SAGE* program have not had an impact on student achievement, but it is still possible that the other components may exert some influence.²¹

Summary Research Conclusions

Overall, the pattern of findings drawn from the existing research leads to the following three conclusions:

1. A consensus of research indicates that class size reduction in the early grades leads to higher student achievement. Researchers are more cautious about the question of the positive effects of class size reduction in 4th through 12th grades. The significant effects of class size reduction on student achievement appear when class size is reduced to a point somewhere between 15 and 20 students, and continue to increase as class size approaches the situation of a 1-to-1 tutorial.
2. The research data from the relevant studies indicate that if class size is reduced from substantially more than 20 students per class to below 20 students, the related increase in student achievement moves the average student from the 50th percentile up to somewhere above the 60th percentile. For disadvantaged and minority students the effects are somewhat larger.
3. Students, teachers, and parents all report positive effects from the impact of class size reductions on the quality of classroom activity.

State Initiatives

Large-scale efforts to reduce class size have not been limited to Indiana and Tennessee. Some states initiated targeted class size reduction policies some time ago, while others are only in the early stages of development and implementation. In 1984, Texas passed legislation requiring class size to be limited to 22 students in kindergarten through 4th grade, with the provision going into effect for kindergarten through 2nd grade in 1985-86 and for 3rd and 4th grade in 1988-89.²² Nevada began a class size reduction program in 1990-91, beginning with a target of a 15 to 1 student/teacher ratio for kindergarten and 1st grade, then applying that ratio in 2nd grade and 3rd grade, to be followed by efforts to reduce the ratio to 22 to 1 for 4th through 6th grade, and then 25 to 1 for 7th through 12th-grade.²³ In 1995, Virginia began an effort to reduce class size in kindergarten through 3rd-grade classes for at-risk students, using a strategy in which local systems that devote funds to the voluntary program may receive matching funds from the state.²⁴ Other states reported to be involved in or considering some sort of class size reduction initiative include Arizona, Connecticut, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, North Carolina, Oklahoma, and Utah.²⁵

In the 1996-97 school year, California began its *Class Size Reduction Program*, through which it is giving money to school districts for the purpose of reducing the student/teacher ratio to 20 to 1 in kindergarten through third grade.²⁶ The California *Class Size Reduction Program* represents an important initiative whose implementation may provide instructive lessons. In the 1997-98 school year, 1.9 million children were assigned to smaller classes in California schools. California school districts hired 18,000 new teachers in 1996, and almost one-quarter of them had no teaching credentials. Districts also have had to use various means to create sufficient classroom space.²⁷ Class size reduction clearly increases the demand for more classrooms and qualified teachers. Implementation of class size reduction policies on a large scale require careful planning and attention.

The impact of class size reduction reforms, their cost, and their relationship to professional development are major questions facing current education reform in the United States. Only with information about these questions will policymakers be able to make knowledgeable decisions about the cost-effectiveness and feasibility of various reform options.

Discussion

Why Do Smaller Classes Make a Difference?

The higher student achievement brought about by class size reduction may result from some of the ways in which reducing class size naturally alters the classroom environment. On being assigned to smaller classes, teachers report that the classroom atmosphere is better, that students can receive more individualized attention, and that the teachers have more flexibility to use different instructional approaches and assignments.²⁸ One unanticipated result of the Burke County reduced class size initiative was that the teachers found themselves with more classroom space to work with, because they were using the same classrooms with smaller numbers of students.²⁹ Class size reduction also changes the educational opportunities beyond the classroom, insofar as teachers have a larger portion of time to devote to working with each of their students and parents.

Class size reduction changes numerous features of the classroom situation. There are fewer students to distract each other. Each student in a reduced size class gets more attention on average from the teacher, and more time to speak while the others listen. Reduced class size also reduces the level of noise in a class. One theory offered to explain the positive effects of class size reduction on student achievement simply argues that in smaller classes each student receives a larger portion of the educational resources represented by the teacher's instructional time, and consequently, learns more.³⁰

Other researchers have drawn attention to the *quality* of teaching in smaller classes, rather than the *quantity*. The *SAGE* evaluation study used teacher interviews, classroom observation, and other data-gathering techniques to study what happens in smaller classes, and these researchers suggest that students are benefiting from more *individualized* attention. The teachers know each of their students better, and can keep track of how each student is doing on the learning task of the moment. This knowledge enables the teacher to intervene more effectively to help the individual student make progress.³¹

Researchers also have suggested that smaller classes are more likely to be "friendlier" places, where students develop better relationships with their classmates and with the teacher, encouraging students to become more engaged in classroom learning activities. The smaller the class, the harder it is to escape the positive influence of the classroom educational experience. The explanation for why reduced class size is especially beneficial in the early grades may derive from the fact that in the early grades children are learning how to be students in classrooms where the number of people is larger than the number of people in their families and students are learning a new routine.³² This socialization theory is also consistent with the research finding in both *Project STAR* and *SAGE* that the largest increase in student achievement occurs in the first year of a student's experience in a smaller class.³³

These various explanations for why class size reduction increases student achievement are not incompatible with each other, and they do not preclude other potential influences. It may be that class size reduction improves student achievement because there is more time for learning *and* more individualized attention *and* a better introduction to classroom routine. And if teachers were trained to adapt their teaching in other ways that are suited to smaller classes, such as initiating different kinds of student activities that are possible in smaller classes, this might produce an additional benefit.

The focus on class size reduction in the early grades also suggests that smaller classes represent a preventive, rather than a remedial, approach. If smaller classes help students start off on the right foot in learning how to adjust to the classroom situation and get engaged in learning activities, then students avoid the more difficult educational path of falling behind, finding help, and catching up to their

schoolmates.

When is a Reduction Not a Reduction?

The question of class size is not simply a matter of less is more. The pattern of research evidence only favors class size reduction if it is substantial and brings the class size below a certain threshold. Reducing class size from 30 to 25, for example, may well have no effect whatsoever. The research evidence from *Project STAR* showed that students in smaller classes with fewer than 18 students did better when compared with students in larger classes. Given the variations among individual students and teachers and the way they interact, it is unlikely that there is a single "magic number" below which class size suddenly produces a beneficial effect. But it is fairly clear that class size must get somewhere below 20 in order to make a real difference.

Reducing the ratio of students to teachers does not necessarily mean a reduction in class size. This issue was a complicating factor in most of the research studies described earlier, where questions were raised about the adequacy of using the student/teacher ratio as a measure of class size. Policy initiatives may aim to change the ratio of students to teachers, and if reduced class size is key, such initiatives may miss the mark. Some initiatives permit officials to include other education staff besides the classroom teachers in the calculation of the ratio, such as resource teachers in special education, music, and physical education. Consequently, school systems could increase the number of teachers without necessarily reducing class size; and particularly since the number of available classrooms is both a practical and a budget issue, officials may be tempted to solve the ratio problem by adding another teacher to a larger class. The research findings from *Project STAR* and *SAGE* are relevant here: In *Project STAR*, the larger classes with instructional aides did *not* produce the same benefits as the smaller classes; in the *SAGE* program, however, the increase in student achievement occurred in both the 15:1 and the 30:2 student/teacher classrooms.

Reducing class size does not necessarily reduce the teacher's workload, or even the number of students they teach each day.³⁴ If a teacher is assigned to teach more classes because the number of students in each class is reduced, the teacher spends more time teaching and has no fewer students. Such problems might be resolved by strategies such as year-round schooling, but this still implies either that teachers teach all year or that more teachers get hired. The common assumption is that smaller classes allow teachers to increase the time devoted to each student, either individually or in smaller groups, and thereby improve the quality of the students' education. If this assumption is true, successful class size reduction programs will have to attend to the impact on teachers' workloads.

School arrangements that reduce class size only for particular students or subjects may achieve greater results with lower costs, depending on how they are organized and what exactly makes the smaller class experience better. It may be more important to reduce class size for reading than for physical education, and the research suggests that minority and economically disadvantaged students benefit most from smaller classes. Educators and policymakers should not blindly assume that an across-the-board, across-the-school-day approach to class size reduction is best.³⁵

School officials and policymakers also have to face the problem of the effect of class size reduction on the supply of teachers. If the supply of teachers remains the same and class size reduction increases the demand, then it would seem that class size reduction policies will result in the hiring of less qualified teachers. Right now many states are having trouble finding qualified teachers to hire. With the current concerns about teacher quality in general, and the call for professional development focusing on teaching in smaller classes, policymakers want to strengthen teacher quality, not weaken it. It may be, however that class size reduction policies will not have such a detrimental effect on teacher quality. Currently, many teachers leave the classroom after only a few years to pursue some other profession. Class size reduction might lessen this problem of teacher attrition, because of its popularity. If teachers find teaching in a smaller class more personally rewarding, they may stay in the profession longer, decreasing the frequency of the need to hire and train new teachers. Only the future will tell if this potential benefit of class size reduction will come to pass.

What Do Teachers Do or Not Do, and How Might They Do Better?

Effective professional training may augment the positive effects of reduced class size beyond whatever gains are generated by reduced class size alone. Reduced classes offer teachers the opportunity to teach differently from the way they teach in larger classes. They don't have to spend as much time lecturing, for example, or having all the students doing worksheets at their own desks. Having more time for students means that teachers can organize classroom learning activities differently and have students demonstrate their achievement through exercises that don't have to be read or corrected in the shortest time possible. In the Burke County project, for example, the reduced class size initiative was coupled with professional development activities designed to enable teachers to use different instructional strategies and different assessment methods. Wisconsin's *SAGE* Program also includes professional development efforts. If schools are going to devote substantial energy and resources to reducing class size, the extent of the benefits derived from such efforts may depend in part on how teachers take advantage of the smaller class size to improve the quality of students' educational experiences.

Teachers do not necessarily change their behavior when they move to smaller classes. In one observational research study, even though the teachers assigned to smaller classes thought they were teaching differently, the independent observers saw no discernable difference in teacher behavior.³⁶ Research studies suggest that teachers do not just automatically change their behavior to optimize the potential benefits of smaller class size,³⁷ and there is a considerable body of research that shows that creating substantial changes in teachers' classroom behavior is no easy feat. Both teachers who are used to teaching in larger classes and teachers newly hired due to the hiring needs associated with class size reduction initiatives will need to have professional training and support to enable them to utilize more fully the advantages of smaller classes. It is clear that many schools will face this challenge in the coming years. The best ³⁸ ways to meet that challenge remain to be found.

Conclusion

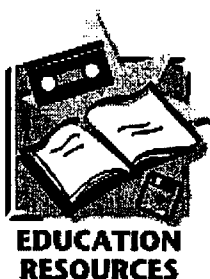
Reducing class size to below 20 students leads to higher student achievement. However, class size reduction represents a considerable commitment of funds, and its implementation can have a sizable impact on the availability of qualified teachers. Strengthening teacher quality also leads to higher student achievement. There is more than one way to implement class size reduction, and more than one way to teach in a smaller class. Depending on how it is done, the benefits of class size reduction will be larger or smaller.

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Educational Issues Series

Class Sizes

Introduction

Helen Pate-Bain (1992), in her report on the Tennessee STAR class size study, concluded, "We view education not as a mass- production effort, but as a personal and individual experience. The model is not the factory. The focus is on serving clients. Class-size research is not an attempt to reduce class size; at its best it is an effort to find appropriate casework loads, because much of sound educational practice consists of individual instruction, coaching, mentoring, and tutoring (p. 256)."

We've learned much recently about instructional practices and how students learn. Yet, the controversial issue of class size and its effect on educational practices and student outcomes continues to be confusing and often contradictory.

Effective schools research has extended its research agenda by focusing on an expanded number of variables that are presumed to be related to student achievement. Schools are now perceived as a cultural entity where the complex interplay of multiple variables affect the lives of all who learn and teach in those institutions. As the metaphor for American schools has shifted from an assembly line to that of a caring, learning community, the class size research agenda has also shifted to include such variables as instructional method, teacher morale and stress, teacher work load, student behavior and attitudes, content areas, student characteristics, and grade level. Bennett (1987), in a review of more recent research, found broad agreement among researchers on the following general conclusions:

- Smaller classes result in increased student-teacher contact.
- Reductions in class size to less than 20 students without changes in instructional methods cannot guarantee improved academic achievement.
- No single class size is optimal for all grade levels and subjects.
- Smaller classes appear to result in greater achievement gains for students with lower academic ability and for those who are economically or socially disadvantaged.
- Classroom management improves in smaller classes (fewer discipline problems).
- Smaller classes result in higher teacher morale and reduced stress.
- Individualization is more likely to occur in smaller classes.
- Class size reductions alone do not necessarily lead to adoption of dramatically different instructional methods.
- Class size appears to have more influence on student attitudes, attention, interest, and motivation than on academic achievement.
- Smaller classes are beneficial for children at the primary level, particularly in math and reading.
- Very small classes of five or fewer students produce considerably higher achievement (Bennett, p. 3).

As class size comes to be understood as only one variable in the complex culture of school life and as research methodologies appropriate to study this level of complexity are perfected, it will be possible to move beyond the search for the "correct" number of

students to be assigned to any particular classroom.

Defining Class Size

Defining class size is tricky business. For example, a district may calculate the student-teacher ratio by including all licensed professional personnel and emerge with a ratio of 15.6 students per teacher. If all administrative and support personnel are omitted, the ratio may become 20 or more students per teacher. Neither ratio may reveal with much accuracy the conditions under which the average student is taught and learns in that district. The differences that occur among grade levels and subject areas are obscured in most class size statistics.

Allen (1992), in a Wisconsin class size study, found that the median number of students evaluated by elementary teachers was 25 while the mean number of students evaluated was 88. The larger mean number reflects the significant number of teachers of art, music and physical education who meet with hundreds of different students each school year.

In the same study, Allen found that the median number of students evaluated each year by middle, junior, or senior high teachers was 136 while the mean was 164. Over one quarter of the upper level teachers reported evaluating 200 or more students and 2.7% of those teachers evaluated 400 or more students each year! These data indicate that both mean and median numbers can be misleading if there are significant numbers of teachers who meet with very large or very small numbers of students each day.

As generic class size research has diminished in popularity, other related issues have received more attention. Teacher load, defined as the total number of students taught each day, has emerged as an indicator of school adequacy (Bennett, 1987). Teacher load has become a key variable in schools where the quality and duration of student-teacher interaction is valued.

Although numbers of students instructed each day or evaluated each year are illuminating, such numbers do not reflect the total range of responsibilities confronting the classroom teacher. Research on teacher stress and morale has begun to examine teacher workload as a meaningful indicator of quality (Bennett, 1987). The number of classes, the number of preparations, subjects taught outside of one's specialty, student diversity, non-teaching responsibilities (such as supervision of extracurricular activities) and school facilities, inservice obligations, and other professional responsibilities are included in workload research. The workload issue becomes more complex when specific teaching responsibilities are considered, as in the case of a secondary English teacher responsible for 150 composition students.

The understanding that schools are complex cultural entities and that school quality is dependent on the quality of student-teacher interaction has produced a new generation of class size research which explores relationships among a wide range of variables. That research is reviewed below.

The Research Base

The emergence of increasingly sophisticated research methodologies has resulted in the reexamination of existing studies and has produced a number of new research reports on the impact of class size on a wide range of variables. In 1986, the NEA published a review of major class size research reports. Several of these reports were of original class size research projects while others presented the results of the application of new analytical techniques to existing data (CLASS SIZE, 1986). For example, Glass and Smith (1978), reread, coded, and analyzed 77 empirical research studies that incorporated achievement test data on over 900,000 students. That meta-analysis yielded what Glass and Smith called "general trends" in the effect of class size on achievement.

The NEA report (CLASS SIZE, 1986, p.11), concludes: "The central theme which runs through the current research literature is that academic achievement does not necessarily improve with the reduction of student-teacher ratios unless appropriate learning styles and effective teaching styles are utilized. It is also evident that no single class size is best for all grade levels and all subject areas."

The central themes which emerged from the NEA study were:

- Smaller class size seems to result in higher achievement among students who are economically disadvantaged.
- Students with lower academic ability seem to do better in smaller classes than in larger ones.
- It may be that class size affects student attitudes more significantly than it affects achievement.
- A direct effect of large class size is to lower the morale and increase the stress of teachers.
- There is typically little to be gained from reductions in class size that do not bring class size below 30.

The most recent comprehensive review of existing research was completed by Robinson (1990), and used a cluster analysis approach. Studies were "clustered" into categories considered important for class size decisions such as grade levels, subject areas, student characteristics, student achievement, student behavior, and teaching practices. The results of part of Robinson's analysis appear below.

Student Achievement

The most promising effects of small classes on pupil learning occurred in grades K-3 in reading and mathematics, particularly in classes of 22 or fewer students (Robinson, p.82). Two recent studies found that these gains could not be sustained in subsequent years without reinforcement.

In grades 4-8 the cluster of 21 studies indicated that smaller classes had a slight positive effect on student achievement, but not as great as in grades K-3. The gains were evident in reading and mathematics but not in other subject areas. The data for grades 9-12 did not indicate that smaller classes had a positive effect on student achievement; however, the number of studies done at the secondary level were few and even "small" classes ranged from as few as five to as many as 40 students. Economically disadvantaged and minority students performed better academically in smaller classes at all grade levels (Robinson, pp. 84-86).

Student Behavior and Attitudes

Studies in the K-3 cluster showed the most favorable relationship was between smaller classes and positive student attitudes and behavior. A minority of studies at other grade levels found positive results as well.

Teaching Practices

Although a minority of the studies reviewed reported more favorable teaching practices in smaller classes, there is no evidence that the opportunities presented by smaller class size are routinely exploited by teachers.

For example, in a two-year Toronto study, a substantial majority of teachers reported that they had given more individual attention to students and had made changes in classroom management, pupil evaluation, and classroom layout when working with smaller classes.

However, these self-reported changes were not found in classroom observations by the researchers. In a 1987 New York City study that reduced class size from 26 to 16 pupils, researchers concluded, "Although it was expected that the reduced-class size would permit teachers to provide more small group and individualized instruction in all curriculum areas, no meaningful differences were observed . . . (Robinson, p. 87)."

Conclusions

Robinson offers the following observations as a result of his cluster analysis:

- The most positive effects of small classes on pupil learning occur in grades K-3 in reading and mathematics.
- Studies examining student attitudes and behavior found the most favorable effects of smaller classes in the primary grades.
- Smaller classes can positively affect the academic achievement of economically disadvantaged and ethnic minority students.
- Within the midrange of 23 to 30 pupils, class size has little impact on the academic achievement of most pupils in most subjects above the primary grades.
- The positive effects of class size on student achievement decrease as grade levels increase; however, the available studies in specific subject areas in the upper grades are limited in both number and quality.
- Little, if any, increase in pupil achievement can be expected from reducing class size if teachers continue to use the same instructional methods and procedures in the smaller classes that they have used in larger classes (Robinson, p. 82).

Recent Research Data

Several recent studies of outstanding quality have emerged to strengthen the data base on class size and effective instruction. They include the Prime Time project in Indiana, Project STAR in Tennessee, and the WEAC Class Size and Teaching Assignment study in Wisconsin. These studies are described in some detail below.

Prime Time

In 1984, the state of Indiana allocated money to reduce first grade classes to 18 students; in 1985, money was budgeted to reduce second grade classes to 22 students; and in 1986, money was budgeted for a reduction in either third grade classes or kindergarten classes. Districts were reimbursed for their efforts to reduce class size on the basis of average enrollments. Funds were prorated for districts with classes averaging more than the targeted numbers; thus, classes were smaller than targeted in some districts and much larger in others (Mueller, Chase, and Walden, 1988). As an alternative to reducing class size, districts were permitted to hire teacher aides; each aid counted as .33 FTE (full time equivalent) in the student-teacher ratio.

The achievement effects of this class size project were mixed. Project analysis, done by Indiana University faculty, found that student achievement, as measured by traditional standardized tests (Iowa Test of Basic Skills and Stanford Achievement), showed strong gains in first grade reading levels with smaller gains in mathematics. Second grade gains were much more limited. Robinson's (1990) analysis of the Prime Time project concluded that while there were small but positive gains during the first year of the project, extending the effort to third grade classes did not have any significant effect on either reading or mathematics test scores.

Prime Time teachers who were interviewed believed that the project had a variety of positive benefits. They indicated that students received more individual attention, that students received more immediate feedback, that both below-average and above-average students achieved more, that a greater variety of instructional materials were used, that the

instructional atmosphere was less hectic, that teachers assigned more homework, and that teachers were happier and more enthusiastic about their teaching (Mueller, Chase and Walden, p.50).

Project STAR

Tennessee's four-year study of class size effect has, to date, produced the most compelling data on class size, effective teaching strategies, and the sustainability of early student achievement gains that is currently available. Project STAR, a longitudinal study, followed students from kindergarten in 1985-86 through the third grade in 1988-89. A selected number of fourth grade students (4,230 students in 216 classes) were part of a Lasting Benefits Study done in 1989-90.

Project STAR analyzed student achievement and development in three types of classes: small classes (13-17 students per teacher), regular classes (22-25 students per teacher), and regular classes (22-25 students) with a teacher and a full-time teacher aide (Word, et al., 1990). The project included 17 inner-city, 16 suburban, 8 urban, and 39 rural schools in order to assess the effects of class size in different school locations. A major strength of the study was the "within-school" design which required each school to have at least 57 students at the appropriate grade level so that each school would contain at least one of each class type (small, regular, and regular/aide). Students (6,000) and teachers were randomly assigned to class types.

Achievement Results

Student achievement was measured with three instruments: the Stanford Achievement Test, STAR's Basic Skills First Criterion Tests, and Tennessee's Basic Skills Criterion Tests. Kindergarten results showed a definite advantage for small classes but no significant advantage for the regular/aide classes. By the end of the first grade, Project STAR students in small classes were outperforming students in regular and in regular/aide classes by substantial margins (statistically and educationally significant).

The presence of a teacher aide in a regular class benefited students but not as much as the small class condition. Students in second grade small classes continued to outperform students in regular and regular/aide classes on all tests. Differences between students in regular and regular/aide classes were not significant. By grade three, the pattern of results established in kindergarten had become firmly fixed. A strong class-size effect was evident in all school locations (urban, rural, inner-city, and suburban) and for all students. The absence of a statistically significant teacher aide effect was consistent (Word, et al., pp. 10-13).

Several other findings were relevant:

- The only consistent positive effect in regular classes with a full-time aide occurred in first grade.
- Teachers reported that they preferred small classes in order to identify student needs and to provide more individual attention, as well as to cover more materials.
- The importance of the economic background of students was underscored by the finding that, in every situation, those students who were not economically eligible for the free lunch program always outperformed those students who were in the free lunch program (Pate-Bain, et al., p.254).

The achievement benefits of small class size were cumulative. The top achieving STAR classes in the study were categorized by class type each year. That is, in the first year 55% of the "top classes" were small classes (13-17 students). By the time these students reached third grade, 78% of the "top classes" consisted of small classes. In other words, over time, the benefits of small class size on student achievement became increasingly

apparent.

A Lasting Benefits Study was conducted with a sample of fourth grade students in 1989-90. The LBS study yielded clear and consistent results:

"Students who had previously been in small STAR classes demonstrated significant advantages on every achievement measure over students who had attended regular classes. Further, these results favoring small classes were found to be consistent across all school locations" (Pate-Bain, et al., pp. 254-255).

Other Results

Teacher aides were less effective than small classes in enhancing student performance at each grade level. Although aides performed a variety of clerical, custodial, and instructional tasks, the pattern of aide activities was not related to student achievement. While teachers liked teacher aides, the teacher aide did not have much effect on student learning in Project STAR.

If educators are to make the best use of opportunities provided by small class size, they must be aware of what constitutes effective teaching in such settings. STAR researchers studied the classroom strategies used by the 49 first grade teachers whose small classes had made the greatest gains in achievement. These effective teachers displayed similar affective behaviors and characteristics:

Their enthusiasm was obvious as they engaged in "acting," demonstrating, and role-playing activities. The teachers frequently expressed positive attitudes toward children, emphasized positive behavior, praised success, and used humor to promote learning and to motivate students. A love of children seemed to permeate their professional repertoires. The most effective teachers engaged their students through the use of creative writing, hands-on experiences, learning centers, and math manipulatives" (Pate-Bain, et al., p. 255).

Project STAR recognized at the outset that small class size does not make a difference if teachers do not change the way they teach. A subgroup of randomly selected STAR teachers were selected for three days of inservice training before the project began. The training was designed to help them teach more effectively in whatever class type they were assigned to teach. Subsequent data revealed that there were no significant differences in student achievement in reading or mathematics between classes where the teachers were trained and all other classes where the teachers had not been trained. Several findings emerged:

- Teachers with small classes must not only be trained to be effective in such settings, but they must also be committed to try new skills and procedures.
- Effective inservice training must include time to visit other teachers who have had success in working with small classes.
- Inservice work must include training in effective communication with the home, in involving the family with the education of their children, and in making home visits as part of regular instructional responsibilities.

Project STAR has set high standards for future class size research and has provided clear guidelines for schools committed to improving student achievement in grades K-3.

Class Assignment and Teaching Assignments Study (WEAC)

This WEAC study (Allen, 1992) extended the parameters of traditional class size research by examining teacher load and workload, the allocation of the teacher workday, the

impact of special needs students on classroom instruction, and the consequences of classroom conditions for teacher stress and morale. Allen surveyed a random sample of 1,150 elementary and 1,500 middle, junior and senior high teachers in Wisconsin in order to ascertain the qualitative conditions of classroom life. Student achievement data was not reviewed.

The Wisconsin study revealed that there was little difference in the length of the school day reported by teachers at the various grade levels; the median length of the school day was 467 minutes for elementary teachers and 468 minutes for teachers in the upper grades. However, some variation was reported in "direct contact" time, with elementary teachers reporting 325 minutes each day in direct contact with students and teachers at the middle, junior and senior high grades reporting 283 minutes of direct contact time (Allen, p. 8). These data do not include supervisory time.

The complexity of teacher workload was addressed in a number of ways in this research. It was determined that for teachers meeting with the same group of students each day (60% of elementary teachers and 4% of middle, junior and senior high school teachers) the median number of students in class was 24. However, evaluation responsibilities were determined by Allen to be a more accurate indicator of workload. These data revealed that the median number of students evaluated by elementary teachers each year was 25 while the mean number was 88. The median number of students evaluated each year by middle, junior and senior high school teachers was 136, while the mean was 164. Over one quarter of these teachers reported evaluating 200 or more students each year (Allen, pp. 10-11). As noted earlier, teachers of art, music, and physical education confront heavy workload and evaluation responsibilities.

The impact of student diversity, specifically the numbers of students with Exceptional Educational Needs, was also addressed. The number of students identified as having special needs in Wisconsin schools has increased from 5% to more than 9% of the student population over the past fifteen years. These students require extra attention and more preparation time if they are to be successful in the classroom. The WEAC study found that the median number of EEN students taught by elementary teachers was between 4 and 5 while the median number taught by teachers at the upper grade levels was nearly 8. To assess the impact of these numbers on classroom instruction, Allen created an "EEN Index Number." The number reflects the total number of minutes of instructional time during which the teacher is in contact with EEN students. It is a measure of the increased responsibility the teacher confronts in such circumstances. The index number is calculated by multiplying the number of EEN students present by the number of minutes the teacher meets with each student on a daily basis. For example, if Teacher A meets with three EEN students for ten minutes each day and Teacher B meets with three EEN students during the entire school day (assume 325 minutes), the Index Numbers would be 30 and 975 minutes, respectively.

Elementary teachers reported a median index number of 600 minutes spent each day with students who have special needs, while teachers at the middle, junior and senior high reported an index number of 400 minutes per day (Allen, pp. 13-14). The amount of total contact time, as an indicator of professional responsibility, is more important than is the total number of EEN students enrolled.

Between two-thirds and three-fourths of the teachers responding to the WEAC study indicated that they would make changes in how they teach if they had significantly fewer students in their classes.

Changes mentioned included:

- more individual attention
- more written assignments

- more creative activities
- more opportunity to monitor the progress of each student
- more problem-solving activities, more projects, more essay tests
- more attention to gifted children, and
- more field trips (Allen, p. 17).

Between 8 and 14% of the teachers indicated they would not make changes in how they would teach and about 18% were not certain.

Implications of the WEAC Study

In a previous study of teacher mobility in Wisconsin, Allen and Helming (1991) found that a significant number of teachers expressed high levels of job dissatisfaction. Thirty-one percent of Wisconsin teachers had given “quite a lot” or “a great deal” of thought to changing teaching jobs, leaving teaching, or both. Large class sizes and excessive responsibilities contribute to high stress levels and high levels of job dissatisfaction among teachers. This research offers new insights into the complexities of teacher workload and , by implication, suggests avenues by which student achievement may be enhanced.

Summary and Recommendations

Major findings presented in the research on class size include:

- There is probably no optimum class size for all types of students, in all subject areas, and at all grade levels.
- Smaller classes produce the necessary, though not sufficient, conditions for successful teaching and learning.
- Reduced class sizes in grades K-3, in the range of 13-17 students per class, significantly enhance student achievement.
- Reductions in class sizes to less than 20 students without changes in instructional methods cannot guarantee enhanced student achievement.
- Small class size, in the range of 13-17 students, benefits all students in all contexts at the K-3 level.
- Regular-size classes with a teacher aide are less effective than small classes in enhancing student achievement at the K-3 level.
- There are identifiable teaching behaviors which will enhance the benefits of a small class design; these include individual instruction, coaching, mentoring, and tutoring.
- The evidence favoring small class size at the upper grade levels is weak because teaching behaviors appear to be more rigid and research methodologies have been inadequate.
- Teacher inservice opportunities must accompany reduced class sizes so that appropriate teaching can be developed and reinforced.
- Class size definitions vary, depending on whether mean or median numbers are used.
- Class size averages may obscure the fact that some students, such as EEN, require extra attention and care.
- Both class size and teacher workload (the number of students evaluated during the year) are important indicators of school quality.

This review of existing research, with all of its incumbent limitations, suggests that increasing student learning by reducing class size is a complex matter. It suggests that class size reductions should be targeted to specific student groups for specific purposes, that teachers must receive the training needed to make the most of the new learning opportunities available in smaller classes, and that little is known about how to effectively approach the problem of large student numbers in the upper grade levels without confronting the basic structures of those institutions.

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This document was prepared by Ken Kickbusch of the WEAC Professional Development Division

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