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Title VI, Class Size Reduction Summary: 2001-2002

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Program Description

The purpose of the Title VI, Class Size Reduction Program (Title VI, Public Law 106-554) is to reduce class sizes in grades K-3 to 18 or fewer students. The Class Size Reduction (CSR) Program, which began during the 1999-2000 school year, allocates funds for recruiting, hiring, and training highly qualified teachers to raise student achievement through increased personal attention. A primary intent of the CSR program is to provide a solid foundation for further learning by ensuring that all students learn to read independently by the third grade. The purpose of this report is to provide information for district administrators about program effectiveness to facilitate future decision-making.

For the 2001-2002 school year, the Austin Independent School District (AISD) received a total of approximately $2.8 million to reduce class sizes. Of that amount, approximately $450,000 has been rolled forward from the 2000-2001 school year. A minimum of 72% of these funds was required to be used for recruiting, hiring, or training certified teachers in grades K-3. Up to 25% could be used for testing of and professional development for teachers. District administrators elected to use most of the funds for salaries and benefits for new teachers hired under the CSR program – a total of approximately $2.1 million. Another $77,200 of the total allotment was used for recruiting teachers, and $72,200 for professional development, which included non-CSR-funded teachers, as well as teachers from 17 private schools (as allowed under the program's guidelines). No more than 3% of CSR funds could be used for local administrative and indirect costs. The amount used by AISD for such expenditures was $59,400. There were 3,805 students, excluding special education students, in CSR-funded grades during 2001-02. The allocated cost per student was approximately $736. Using actual CSR expenditures, the cost per student was approximately $603.

Participating Campuses and Teachers Hired

District administrators determined that CSR funding for hiring teachers would be allocated to the elementary campuses with the highest percentages of low-income students. All 44 campuses that received CSR funding in 2001-02 also received Title I funding. A total of 58 teachers were hired with CSR funds at these campuses during 2001-02. Of these, seven were kindergarten teachers, 13 taught first grade, 18 taught second grade, and 19 taught third grade.

Finally, one teacher hired under the CSR program taught a classroom of first and second grade students combined.

Participating Grade Levels

A random sample of 26 school administrators at CSR-funded campuses completed survey questions as part of the district's annual Employee Coordinated Survey that dealt specifically with the CSR program. They reported basing their decisions as to which grade level(s) to assign a CSR teacher primarily on which grade was anticipated to have the greatest academic need. This factor was cited by nearly 70% of campus administrators (16 of 23 responding) at CSR-funded schools. Also frequently mentioned as an influence, by 48% of campus administrators responding (11 of 23), was the expectancy of a high student-teacher ratio at a particular grade level.

Recruiting CSR Teachers

To assess the impact of the Class Size Reduction program on recruitment a human resources staffing coordinator was interviewed about teacher recruitment, and campus administrators were asked to respond to survey questions on the district's Coordinated Survey. As stated above, $77,200 of CSR funds was used to recruit teachers. This included the production of a DVD used on recruiting visits and mailed to universities with education programs, with information on teaching opportunities with the AISD, the community, various perspectives on AISD, and a weblink to the AISD website to download an application. This effort saved on reproduction costs, and was reported to have been well-received by potential applicants. Funds were also used to offer Early Bird Supplements as incentives to teachers willing to teach at an Account For Learning (AFL) school.

Teacher Certification Status

All teachers hired under the Class Size Reduction program were certified in accordance with CSR and district requirements. The percentage of fully-certified teachers on CSR-funded campuses was 88% in 2001-02, down from 93% on CSR-funded campuses in 2000-01. The percentage of fully-certified teachers on elementary campuses that did *not* receive CSR funding was 95% in 2001-02, a decrease of 3% from the 2000-01 percentage of 98%. Elementary schools, in general, experienced difficulty in hiring fully-certified teachers in 2001-02, especially the CSR-funded campuses. This was corroborated by responses to an item on the Employee

Coordinated Survey from administrators on CSR-funded campuses, in which 48% (12 of 25) indicated that it was difficult to recruit state-certified teachers for their reduced-size classes.

Class Sizes under the CSR Program

Campus-reported data show that, on average, class sizes were reduced to the target level of 18 students or fewer in those grade levels that included a CSR-funded teacher in 2001-2002. These data indicate that the average number of students per class across all CSR-affected grade levels was 15.4. Schools adding a CSR-funded teacher in a grade level which had *not* been a CSR-impacted grade level in 2000-01 experienced a decrease in average class size from 16.9 to 15.3. In schools that used CSR funding in the same grade levels for each of these years, a decrease in average class size from 16.7 to 15.5 was observed.[1]

Student Achievement at CSR-Funded Schools

Results on the Reading and Mathematics tests of the Texas Assessment of Academic Skills (TAAS), for 2000-01 and 2001-02, were compared for 16 of 17[2] schools that had third grade teachers funded by CSR during 2001-02:

♦ Allan	♦ Brooke	♦ Brown	♦ Campbell
♦ Dawson	♦ Galindo	♦ Graham	♦ Hart
♦ Jordan	♦ Langford	♦ Palm	♦ Rodriguez
♦ Sanchez	♦ Sunset Valley	♦ Travis Heights	♦ Walnut Creek

Results from the set of *all students with valid test scores* who were *not in special education* were used from the above campuses. This data set was used because AISD did not hire special education teachers under the CSR program in 2000-01 or 2001-02.

Figures 1a and 1b on the following page show the percentages of students who mastered the Reading and Mathematics sections of the English or Spanish versions of the TAAS tests in 2000-01 and 2001-02. The percentage of students who passed the Reading portion of the English language version of the TAAS was 79 % in 2001-02, compared to 76% in 2000-01. Among those same schools, 75% of third grade students passed the Mathematics portion of the English version of TAAS in 2000-01. In 2001-02, the percentage was 78%.

[1] Data were excluded from these figures when (1) grade levels included multi-age classrooms, or (2) a campus was not open in 2000-01 and thus could not provide comparison data on class size.
[2] One school (Pickle) was eliminated from this analysis because it was a new school, and thus had no comparative 2000-01 data.

Figures 1a and 1b also show that among schools that received CSR funding for third grade teachers, 71% of third grade students passed the Reading portion of the Spanish version of TAAS in 2000-01; 75% passed in 2001-02. Among these same schools, 70% of third grade students passed the Mathematics portion of the Spanish version of TAAS in 2000-01; 73% passed in 2001-02.

Figure 1a
Percentage of Students who Passed TAAS Reading in CSR-Funded 3rd Grade Levels by Language Version (English or Spanish)

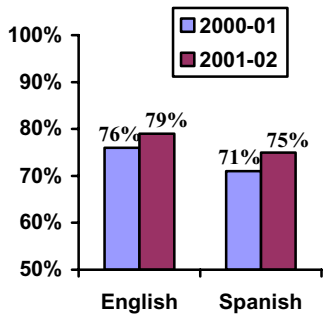
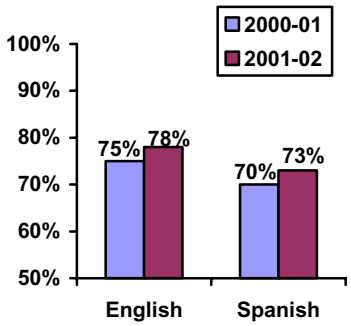


Figure 1b
Percentage of Students who Passed TAAS Mathematics in CSR-Funded 3rd Grade Levels by Language Version (English or Spanish)



Source: AISD District Database

Classroom Observations and Teacher Survey Responses

Random samples of eight classes from both CSR and non-CSR-funded third grade classrooms were selected for observation. The purpose for the observations was to determine whether teachers adopted different approaches to teaching, depending on class size. Research has suggested that reducing class size does not, by itself, result in higher student achievement. Rather, increases in achievement levels are the result of instructional strategies that are better suited to smaller classes, such as small group and one-on-one instruction, and creating opportunities to discuss and share learning.

The average class size of CSR-funded classes observed was 15.[3] The average non-CSR class size observed was 19. While many of the teaching strategies observed did not vary between the smaller and larger classes, a few noticeable differences emerged. In the CSR classes, 88% (7 of 8) of the teachers observed checked for understanding of instructions prior to

[3] Excluded from this calculation were two small pull-out classes observed.

having students work on their assignments, compared to 50% (4 of 8) of the non-CSR teachers. The same percentages were observed for giving students the opportunity to discuss and share learning as a group. A larger percentage of CSR-funded teachers circulated during seatwork to address questions (75%, 6 of 8) compared to their non-CSR counterparts (1 of 8)). Surprisingly, compared to CSR teachers, non-CSR teachers were more often observed meeting with individuals (7 of 8 compared to 3 of 7) and small groups (7 of 8 compared to 2 of 6) while other students completed a seatwork assignment. Because the number of observations in each group was small, however, caution needs to be observed in drawing conclusions from the findings.

The CSR teachers observed were also asked to complete a questionnaire that asked for their perceptions regarding smaller versus larger classes. Survey responses indicated that, in their smaller classes, CSR teachers believed they were able to cover more content, spend more time individualizing instruction and giving help, engage students in discussion and sharing, and involve students in hands-on activities and problem-solving. They also reported spending more time teaching rather than managing their classrooms, being better able to design activities based on students' prior knowledge, utilizing cooperative groups as a teaching strategy, and feeling more enthusiastic about their teaching.

CSR-Funded Professional Development

The CSR Program Guide emphasizes the importance of not only hiring highly qualified teachers, but also providing them with professional development opportunities to spark new and creative approaches to enhance learning in the classroom. In the 2001-02 school year, three district-wide, professional development workshops were held for this purpose. The first workshop, presented by the Polaroid Education Program, consisted of a half-day session focused on Visual Learning. The second workshop, a full-day session, offered strategies for improving student achievement by creating a cooperative-learning classroom environment. The final workshop, another full-day session, consisted of several break-out sessions on a variety of approaches to changing the status quo in our classrooms and schools, including such topics as involving parents, implementing new mathematics and science standards, and valuing diversity in our students. The CSR program joined with Title I in funding the two full-day workshops. All sessions were well-received by participants; attendees included 59 AISD staff members and administrators, as well as staff from 17 private schools in Austin that participated in federal grants programs during 2001-02.

Conclusions and Recommendations

The final distribution of Class Size Reduction funds was made to states in October 2001. For the 2002-03 school year, the Class-Size Reduction Program was incorporated into the new ESEA Title II Teacher Quality block grant. These funds may be used by local education agencies to hire qualified teachers in order to reduce class sizes, among other purposes. The recommendations that follow are made in light of this flexibility in the use of future funds.

In 2001-02, class sizes were reduced to an average of 15.4 in those grade levels receiving CSR funds. This represented an average decrease of approximately two students per class compared to the previous year. At the same time, an increase in student achievement was observed, as evidenced by the third grade TAAS passing rates reported above. On both the Mathematics and Reading tests, for both the English and Spanish versions, passing rates increased at least 3% from 2000-01 to 2001-02. For the district as a whole, the trend in passing percentages for third graders on TAAS Mathematics and Reading tests has also been one of increasing percentages from 2000-01 to 2001-02, with the exception of the English TAAS Reading test where the percentage passing remained the same. In light of these general findings, then, it is not possible to say how much of the improvement in TAAS test performance on CSR campuses might have been due to the reductions in class size, and how much was attributable to other TAAS-focused initiatives in the district, such as the Principles of Learning program.

The results of a meta-analysis by Glass and Smith (1979) suggested that class sizes would need to be reduced to 15 in order to observe a strong impact on student performance. When AISD's CSR-funded third grades were divided into those with an average class size of 15 or fewer and those with average class sizes over 15, evidence to support the Glass and Smith conclusion was observed. As shown in the table on the next page, in the 11 schools with average third grade class sizes of 15 or fewer, not including special education students, passing rates on the English TAAS were six percentage points higher in both Reading and Math, compared to their counterparts with average class sizes over 15. On the Spanish TAAS, the results were more pronounced, with an average passing rate that was 13 percentage points higher and 11 percentage points higher on the Reading and Math tests, respectively, in those schools with CSR-funded 3rd grades averaging 15 or fewer students per class. Thus, the data here would suggest that student achievement increases with a decrease in class size, and that the impact on student achievement is even more pronounced in classes with 15 or fewer students.

TAAS passing rates for schools with CSR-funded 3rd grades – 15 or fewer students and more than 15 students

	15 or fewer students (n = 11 schools)	More than 15 students (n = 6 schools)
English TAAS:		
Reading	81%	75%
Math	79%	73%
Spanish TAAS:		
Reading	79%	66%
Math	77%	66%

Source: SASI Database, 2001-02

Although there is no clear consensus in the literature regarding a class size threshold, several researchers (e.g., Achilles, 1997; Gursky, 1998) place it somewhere in the 15 to 17 range, below which research studies have found the most impressive gains in student achievement. Considerable consensus does exist, however, based on reviews of the research literature, that while all students are likely to respond with higher achievement when placed in small classes, the results are most dramatic for minority and disadvantaged students (e.g., Finn & Achilles, 1999; Pritchard, 1999). Therefore, although federal funds will no longer be specifically allocated for class size reduction, district administrators may wish to consider using a portion of the Title II Teacher Quality funds to reduce class sizes to 15 or fewer on those campuses with the greatest need.

Many researchers believe that while class size is an important influence on student achievement, other and possibly more important factors also need to be considered. In particular, researchers (e.g., Greenwald, Hedges & Laine, 1996; Ferguson, 1991) have pointed to teacher education and expertise as being significant influences that might help to explain *how* smaller classes achieve increases in student learning. Teachers with appropriate education and training might be able to modify their teaching approaches to take advantage of smaller classes, and use adaptations of those strategies when faced with larger classes. In fact, Darling-Hammond (1998) concluded that when funds for reductions in class size are tight, available resources should be funneled into providing high-quality professional development, because of the potential for a return on investment.

While all teachers hired with CSR funds were fully certified in accordance with program requirements, the percentage of fully certified teachers on campuses receiving CSR funds declined from 2000-01 to 2001-02. The percentage of fully certified teachers on non-CSR

campuses also declined, but not as much as on CSR campuses; thus, the discrepancy between CSR and non-CSR campuses was greater in 2001-02 compared to the previous year. AISD administrators may wish to consider applying a portion of available funds toward assisting teachers holding temporary permits in their efforts to meet state certification requirements, particularly those on campuses with high levels of minority and economically disadvantaged students.

Finally, administrators responsible for allocating professional development funds may wish to consider funding programs that offer training in working with small groups in the classroom. The Education Commission of the States (1999), in its evaluation of the results of CSR efforts, found that the effectiveness of reducing class size depends, in part, on whether teachers alter their teaching strategies to take advantage of small classes, and have more focused instructional time with students. As part of the STAR initiative in Tennessee, several classroom teaching strategies were identified that characterized effectiveness in small classes (Pate-Bain, Achilles, Boyd-Zaharias & McKenna, 1992). These included the use of learning centers, providing more individualized attention to students, and offering more opportunities for first-hand/hands-on learning. Other researchers (e.g., Achilles, 1999; Galton, Simon & Croll, 1980; Molnar, Smith & Zahorik, 2000) have suggested an increased use of class discussion, challenging questions, higher-level thinking activities, and peer tutors. Professional development opportunities offered this year did include sessions on the use of cooperative learning in the classroom, and on the appreciation of diversity among students served, which might, in turn, improve small-group direct instruction efforts. Several CSR teachers commented, in response to open-ended questions on the teacher survey, that they highly valued training in working with small groups and would appreciate more such opportunities. Several also pointed to the potential value of observing other teachers utilizing small group strategies in the classroom. Accumulating evidence suggests that students in smaller classes are more engaged in learning activities, and that this is one of the primary reasons for the higher achievement levels observed in small classes (Pritchard, 1999). Assisting teachers in the development of skills in implementing effective small group strategies, such as those mentioned above, which increase the amount of time students are actively engaged in learning, might reap benefits in student achievement in small classes as well as in somewhat larger classes, even up to the maximum class size of 22 mandated by Texas law (TEC 25.112). That is, *all* teachers might benefit from

training in small-group strategies, regardless of the class sizes they face, particularly if it were combined with training in how to manage several small groups simultaneously in the classroom.

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