

**Miami-Dade County Public Schools  
Office of Program Evaluation  
1500 Biscayne Boulevard  
Miami, Florida 33132**

**Evaluation of the  
School Improvement Zone  
2005-06**

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## EXECUTIVE SUMMARY

The School Improvement Zone (Zone) is a comprehensive school reform program in the Miami-Dade County Public Schools. It is designed to bolster the performance of the students in 39 selected schools. The program is under the direct supervision of the Superintendent. The basic components of the program include: (a) a core literacy program that extends from prekindergarten through grade 12; (b) a structured curriculum with instructional strategies that build across grade and school levels; (c) an extended day and school year to provide additional instructional time; and (d) enhanced professional development for teachers. A first evaluation of the Zone program was conducted during the period of initial development in 2004-05 as a cooperative venture by the District's Office of Program Evaluation (OPE) and Florida International University's Center for Urban Education. The present evaluation report conducted by the OPE examines the first full year of implementation of the Zone's implementation.

This report gauges the implementation of the program's components, describes participating students' learning environment, examines students' academic achievement and associated educational outcomes, and explores stakeholders' perceptions of home-school-community relations. The results of stakeholder interviews and surveys suggest that the program's elements were generally implemented as planned and that the District has provided the necessary resources to support program operation. A majority of teachers reported working collaboratively, taking pride in their schools, and having high expectations for their students.

Despite the above results, other interview and survey data revealed substantial dissatisfaction stemming from exhaustion, burnout, and frustration. Long hours and heavy workload reportedly made the completion of the teachers' mandated professional development unexpectedly burdensome. Overall, fewer than 50 percent of teachers indicated that morale was high at their school, a percentage that varied widely between schools. Moreover, teacher turnover was high. Other measures of the learning environment (i.e., average years teaching) improved in Zone schools, but not to a greater extent than in the control schools. Implementation of the extended school day and year was designed to provide extra learning time for students. Although nearly two-thirds of teachers indicated that the time was used effectively, an examination of student entry and withdrawal patterns indicated that the extended day schedule was linked to sharp increases in student mobility.

The primary goal of the Zone program is to improve student achievement. As such, this was the central focus of the evaluation. The purpose of this study was to determine if the achievement gains seen in the Zone exceeded the gains of students not in the Zone while accounting for other factors thought to influence those gains thus providing an impartial assessment of program effectiveness.

Analyses of the Zone students' academic achievement were conducted using a series of non-equivalent control group designs. These designs were considered to be non-equivalent because the schools and the students were not randomly assigned to either the Zone or comparison schools, as would be the case with a true experimental design. A mathematical procedure was used to identify the comparison schools for this evaluation by finding the best possible matches to the Zone schools on a series of school demographic variables related to achievement. Once the matching process was completed, all further analyses consisted of separate comparisons of all the students in the

Zone schools and all the students in the control schools conducted at each grade level. Since the Zone schools were by design the lowest performing, a statistical adjustment was made during the analysis to account for the initial differences (pretest scores) between the Zone and the comparison schools.

Comparisons were conducted on the results of three tests: (a) FCAT-NRT, (b) FCAT-SSS, and (c) FCAT Writing. The analysis based on the FCAT-SSS and Writing Assessment showed few statistically significant differences, which were weak in magnitude. Hierarchical Linear Modeling (HLM) was used in the analysis of the FCAT-NRT results. It revealed that although significant growth was seen on average at each grade, the annual rate of growth of Zone students exceeded the control students in only one of six comparisons. Consequently, the impact of the Zone program on the students' academic achievement after one year of operation appears to be small.

Since the Zone program is based on strategies that have demonstrated success in the past, there is no reason why they should not work together to produce the desired outcome given additional time to go to scale. Although, organizational factors such as morale and staff turnover may contribute to the program's weak impact, research has demonstrated that poor fidelity is the principal reason why programs fail (Chen, 1998). Thus, while implementation was found to be adequate overall, this evaluation did yield evidence of considerable variation between schools. Suggested is that some schools (in both the Zone and control group) are applying the program's strategies correctly while others are not resulting, in an overall non-significant program effect. Based on these conclusions, the following recommendations are made.

- 1) Investigate implementation variations at Zone schools by analyzing data from fidelity monitoring systems currently in place. Address any problems that are identified, and maintain the data so that implementation can be analyzed in the future.
- 2) Consider changing the structure and delivery of the extended day program in light of problems that are evident and the quantity of resources committed thereto by making the program mandatory to only those students who are below grade level.
- 3) Improve the accessibility of professional development offerings by expanding the efforts of job embedded professional learning communities during non-instructional school hours.

## DESCRIPTION OF THE PROGRAM

The School Improvement Zone (Zone) is a comprehensive program designed to bolster the performance of the district's lowest performing schools. Approved by the School Board of Miami-Dade County on August 18, 2004, the primary aspects of the initiative include: (a) a core literacy program that extends from prekindergarten through grade 12; (b) a structured curriculum with instructional strategies that build across grade and school levels; (c) an extended day and school year to provide additional instructional time; and (d) enhanced professional development. The stated goal of the program is to "advance high achievement while eliminating low performance" in 39 of the District's lowest performing schools, which are placed under the direct supervision of the Superintendent. In order to administer the program consistently across the various administrative regions of the District, the Zone was placed under the direct supervision of the Associate Superintendent for School Improvement (Office of School Improvement, 2004b). Staff began to scale up the reforms called for in this initiative following its approval, full implementation was reached, and the major components were put in place by January 18, 2005. An evaluation of the program has been scheduled for its first three years of operation.

The School Improvement Zone which spans prekindergarten through grade 12, addresses the needs of at-risk youngsters in poorly performing schools (Office of School Improvement, 2004a). It is comprised of six critical components, each of which is addressed in the ensuing paragraphs.

**Comprehensive Literacy:** The comprehensive literacy component, which is developed for all students, features differentiated instruction and targeted tutoring and intervention. Specific emphasis is placed on providing students who are reading below grade level with a contiguous balanced literacy program. Instructional materials are geared to the students' reading levels as opposed to their age-determined grade level. A common set of instructional materials has been adopted for each school level, which must be used by all schools that participate in the program (Office of School Improvement, 2004b).

**Early Childhood Readiness:** The early-childhood readiness component is designed to help preschool youngsters acquire the skills needed to succeed in school. This component incorporates assessment, early literacy, math/science content, and character education. Professional development for prekindergarten teachers is also provided (Office of School Improvement, 2004b).

**Student Development Teams:** Students who persistently fall behind in school need continuous assistance to help them to succeed. In order to assist these students, the Zone provides Student Development Teams. These teams, which operate like Comprehensive Problem Solving Teams for students in Exceptional Student Education programs, analyze student difficulties and intervene to remove barriers to achievement. A Student Development Team is comprised of teachers, administrators, and community involvement specialists. A school psychologist, education specialists, and social workers may also be included (Office of School Improvement, 2004b).

**Extended Day and Year:** The Zone also offers an extended-day and an extended school year. At Zone schools, the school day is one hour longer than at other MDCPS schools each day except Wednesday. The school year at Zone schools is also ten days longer than at non-Zone schools. Senior high students who have passed the High School Competency Test (HSCT) may opt out of the extended time.

Professional Development: The Zone provides intensive professional training and development to teachers and administrators in participating schools. Professional development for teachers and administrators is provided through Critical Mass Training, Coaching Models, Saturday Academies, and Wednesday Workshops. The Critical Mass Training is an intensive program that targets certain subject areas or grade levels. The Coaching Model utilizes trained reading specialists who provide professional development through demonstration lessons, feedback on strategy implementation, and planning with classroom teachers. The Saturday Academies and Wednesday Workshops provide professional development in areas such as using assessment data, capacity building, and differentiated instruction (Office of School Improvement, 2004a).

Schools were chosen to participate in the Zone based on three criteria: (a) low academic performance for three years, (b) membership in a feeder pattern in which low performance is widespread, and (c) possession of the leadership capacity necessary to successfully adopt a comprehensive school reform program (Office of School Improvement, 2004b). Nine of the schools selected to participate in the Zone were already under state mandate for school improvement. Overall, 39 schools across eight feeder patterns were selected to participate in the program. These schools are listed in Table 1.

**Table 1**  
**School Improvement Zone Schools by Feeder Pattern, 2005-06**

Region	High School	Feeder Schools
I	Hialeah-Miami Lakes	Bunche Park Elementary Opa-Locka Elementary
II	Miami Norland	Myrtle Grove Elementary Norland Elementary Norland Middle Parkway Middle
III	Miami Central	Lakeview Elementary Dr. H. W. Mack/West Little River Elementary Madison Middle Westview Middle
III	Miami Northwestern	Holmes Elementary Martin L. King Jr. Elementary K-2 Brownsville Middle Charles Drew Middle
IV	Miami Edison	Thena Crowder K-3 Edison Park Elementary Little River Elementary Toussaint L'Ouverture Elementary Morningside Elementary Shadowlawn Elementary Horace Mann Middle Miami Edison Middle
IV	Miami Jackson	Paul Dunbar Elementary Santa Clara Elementary Allapattah Middle
IV	Booker T. Washington	Phillis Wheatley Elementary Jose De Diego Middle
VI	Homestead	Florida City Elementary Leisure City K-8 Laura Saunders Elementary Campbell Drive Middle

## DESIGN OF THE EVALUATION

The School Board of Miami-Dade County approved the School Improvement Zone (Zone) in August 2004 for development to scale during the 2004-05 school year. Full implementation was achieved with the major components put in place by January 18, 2005. The evaluation of the program will examine its first three years of operation. The evaluation was originally conceived as a joint venture between the Center for Urban Education & Innovation at Florida International University (FIU) and the Office of Program Evaluation (OPE) of Miami-Dade County Public Schools (MDCPS). However, OPE is currently responsible for all components of the evaluation. The evaluation consists of an implementation component, a context component, and an outcome component. The implementation component examines the extent to which the elements of the Zone initiative are being put in place around the District and at the various school sites. The context component describes the learning environment at Zone schools and addresses attitudinal aspects of the program. Finally, the outcome component of the evaluation addresses the efficacy of the Zone.

The three components of the evaluation are addressed by a series of questions, which define the specific focus of the evaluation. The questions are as follow:

1. Is the Zone being implemented according to program design?
2. What is the impact of the Zone on the students' learning environment?
3. What is the impact of the Zone on the students' academic achievement?
4. What is the impact of the Zone on parental and community relations?

In order to address these questions, the OPE evaluation team utilized a mixed-methods design, which draws on qualitative and quantitative data collection methodologies. Data sources utilized by OPE were: a) district publications<sup>1</sup>; b) archival student and personnel records maintained on the District's mainframe computer system; c) students' demographic and academic achievement data from the student database system; d) climate surveys administered to school staff; e) surveys of students, parents, and school staff; and, f) interviews with district administrators. The combination of approaches used by OPE provides a comprehensive view of the Zone. The specific sources for each question are described below.

### Implementation

It is important to determine whether the Zone program was implemented according to its design before an assessment of its impact can be made (question 1). Therefore, the evaluation addressed the degree and nature of program implementation. The focus of the inquiry was twofold. Examined first was the extent that the elements of the program were put in place as specified. The nature and sufficiency of professional development that was provided to those required to deliver the program were also assessed; since research has shown that adequacy of training is central to program effectiveness. Data were drawn from several sources to address this issue: (a) observations and

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<sup>1</sup>District publications served largely to provide information about the required components of the Zone in the preparation of the evaluation plan and data collection instruments. They include *District and School Profiles, 2004-05* and *2005-06* produced by the MDCPS Office of Data Quality Management.

principal interviews; (b) surveys conducted of the schools' administrators, parents, and teachers; and, (c) archival records maintained on the District's mainframe computers.

The first source of data was obtained through principal interviews and school-site observations conducted by OPE staff. This data source provides a narrative description of the ethos of Zone schools as well as the implementation of the primary components of the initiative. Five of the six items (1 – 2 and 4 - 6) on the Administrator Interview Protocol addressed implementation. On-site interviews were conducted at 12 schools from April through May 2006. Interviews were conducted with the principal or his/her designee. The majority of the administrative interviews were recorded. Handwritten notes supplemented recorded interviews. Interview duration ranged from 20 to 45 minutes. All tape-recorded interviews were transcribed. Cross-case analysis procedures were used to analyze each question in the Administrative Interview Protocol, which served as an initial typology that facilitated the identification of key words and phrases from each transcribed interview. The phrases were coded and triangulated by verification with another researcher. The constant comparative technique was used to develop a grounded theory. Key phrases perceived as germane to the evaluation questions were extracted from the interview transcripts. Each phrase was examined and assigned to a category. Phrases were constantly compared to existing phrases as data were collected until themes emerged. Subsequently collected data were used either to create new themes or incorporate into existing themes. Themes were gradually reduced to a smaller set of higher-level conceptual categories in order to provide the beginnings of theory development. The results of the administrative interviews adhered to the tradition of qualitative inquiry and, as such, consisted of narrative descriptions supplemented by rich textual quotations.

Observations were conducted of a minimum of one reading and one mathematics classroom randomly selected at different grade levels of each school site. During classroom observations, evaluators completed a checklist that recorded the types of books and materials that teachers used with selected groups of students. The analysis of the results from the classroom observations was limited to descriptive statistics. Informal discussions with reading coaches and curriculum specialists supplemented classroom observations and were documented as field notes. Content analysis was used to examine the field notes, which were reported in narrative form.

The sample of schools targeted for on-site observations and administrative interviews was purposively selected based on a statistical model that was used in the 2004-05 evaluation of the Zone to predict the students' FCAT-NRT reading scores. Based on the results of this model, six schools (two elementary, two middle, and two senior high schools) were randomly selected from each of two groups of Zone schools: schools classified as highest performing and schools classified as lowest performing. Schools were classified into the highest performing group if their actual scores were greater than their predicted scores in a majority of grades. Schools were classified into the lowest performing group if their actual scores were less than their predicted scores in a majority of grades. Copies of the Administrator Interview Protocol and Classroom Observation Instrument may be found in Appendix A.

The second source of data was obtained through surveys of administrators, teachers, and parents at Zone schools. The Administrator Survey is comprised of 14 items that adhere to a Likert-scale format with forced response options that range from a low of 1 (strongly disagree) to a high of 4 (strongly agree). A neutral response is not provided. Ten of the 25 items (1 – 7, 9, 11, and 17) on

the Administrator Survey measure implementation. Survey forms were distributed through school mail to the principals of the 39 Zone schools during May 2006.

The Parent Survey targeted the parents of participating students. The survey was designed to ascertain satisfaction with their children's school and their perceptions of the Zone. It addresses home-school communications, the extent to which the parents feel welcome at the school, and their level of involvement. The Parent Survey was anonymous. It was comprised of 11 items, which adhered to a forced-response Likert-scale format. Numerical values of the item responses ranged from a low of 1 (strongly disagree) to a high of 4 (strongly agree). A neutral response option was not provided. One of the 11 items (8) on the Parent Survey assessed implementation.

Sets of 30 Parent Survey instruments (approximately 2,300) were sent via school mail during May 2006 to the teachers of two randomly selected classrooms at each Zone school. Copies of the survey were provided in English, Spanish, and Haitian-Creole. The accompanying instructions directed the teacher to distribute survey instruments to each student in the class. Students were instructed to return the completed instruments to their classroom teacher. The instruments were in turn returned to OPE as class groups. The analysis of the results from the survey was limited to descriptive statistics.

The Teacher Survey solicited the opinions of instructional staff assigned to Zone schools. The survey was designed to gauge their perception of implementation, school climate, staff communication, administrative support, professional development, and program effectiveness. The Teacher Survey instrument was anonymous but coded for follow up purposes. The instrument was comprised of 29 items that adhered to a forced response Likert-scale format. It also included two demographic items, an implementation grid to gauge the materials used to deliver the curriculum, and one open-ended item for teacher comments. The Likert response scale ranged from a low of 1 (strongly disagree) to a high of 4 (strongly agree). A neutral response was not provided. Thirteen of the 33 items (1-10, 12, 14, and 21) on the Teacher Survey addressed implementation. Survey forms were distributed through school mail to each teacher assigned to a Zone school. Approximately 2,500 were sent out to teachers in May 2006. The analysis of the results from the close-ended responses to the survey was limited to descriptive statistics. Cross-case analysis procedures, which were used in the analysis of the responses to the principal interviews, were also used to analyze the open-ended comments from the Teacher Survey. Copies of the Administrator, Parent, and Teacher Survey forms may be found in Appendix B.

The third source of data was the archives that are maintained on the District's mainframe computer system. One of the objectives of the Zone was to improve school level indicators associated with higher levels of achievement. Such indicators include student-teacher ratio, average years teaching experience, percentage of teachers with advanced degrees, and percentages of new and beginning teachers. Changes in the status of these indicators from 2004-05 to 2005-06 were examined for Zone schools and compared to other similar district schools. Independent sample *t*-tests were used to compare the changes and to assess the statistical significance of the differences. In this and ensuing sections of the report, the term "significance" will be used in the statistical sense to refer to findings that are identified with a generally accepted level of statistical uncertainty of less than 5 percent. When used in that context, significance does not imply a value judgment or refer to the importance of a result.

The examination of these school-level indicators was conducted for all Zone schools. A second set of schools was defined to serve as a control group. The groups of schools and the students within them that resulted must be considered nonequivalent because the schools were not randomly assigned to the program and the students were not randomly assigned to the schools (as would be the case with a true experimental design). The two sets of schools were matched on a series of contextual factors thought to have impact on student achievement. These factors include the percentage of enrolled students eligible for the free and reduced priced lunch (FRL) program, the percentage of Black students, and the percentage of limited English proficient (LEP) students. A cluster analysis procedure was used to group the schools mathematically on relevant variables. Separate cluster analyses were conducted for the elementary, middle, senior-high schools, and K through 8 centers. Each cluster analysis generated a proximity matrix, which provided the mathematical distance between the Zone schools and all other schools in the District. A tree-diagram called a dendrogram was used to graphically depict those distances. Then, for each Zone school, a control school with the same grade organization was selected by choosing from among those schools at the end-points of the dendrogram. Where multiple control schools were available, the one in closest demographic proximity was selected. Where no potential control schools were found at the end-point of the dendrogram, the closest matching school at the nearest branch was selected. This process was repeated until all the control schools were selected. The schools selected to comprise the control group are listed on Table 2. These schools include 12 designated as STELLAR (Schools Targeting Excellence in Literacy, Learning, and Reading) schools and 24 traditional MDCPS schools. One Zone school was not matched due to its grade configuration.

**Table 2**  
**Schools in the Control Group**

Level		
Elementary/K-8	Middle/Junior	Senior High
Amelia Earhart	Carol City <sup>a</sup>	American <sup>a</sup>
Barbara J. Hawkins	Centennial <sup>a</sup>	Miami Carol City <sup>a</sup>
Benjamin Franklin <sup>a</sup>	Cutler Ridge	Miami Lakes Educational Center
Broadmoor	Homestead	Miami Southridge <sup>a</sup>
Carol City	John F. Kennedy	North Miami Beach
Carrie P. Meek/Westview	Lake Stevens	North Miami
Charles R. Drew	Mays Community <sup>a</sup>	Robert Morgan Education Center
Dr. William A. Chapman	North Dade	South Dade <sup>a</sup>
Frederick Douglass	North Miami <sup>a</sup>	
Fulford	Richmond Heights	
Kelsey L. Pharr <sup>a</sup>	Ruben Dario	
Lillie C. Evans		
Miami Park		
Naranja		
North Glade		
Parkway		
Scott Lake		
Van E. Blanton		
Marcus A. Milam <sup>b</sup>		

*Note.* The control group represents an approximate match to the treatment group on a series of school demographic variables and are non-equivalent, as random assignment was not used to assign schools to the program or students to the schools. <sup>a</sup> STELLAR (Schools Targeting Excellence in Literacy, Learning, and Reading) schools. <sup>b</sup> K-8 Center.

## Learning Environment

The learning environment refers to the overall context for which the program was designed and into which it was incorporated (question 2). The issues addressed included perceptions of staff cohesion, morale, and expectations/concern for students; teacher and student mobility; and, teacher experience. Data were drawn from the following sources: (a) principal interviews; (b) surveys of the schools' administrators, parents, students, and teachers; (c) the 2004-05 and 2005-06 administrations of the School Climate Survey Staff Form; and, (d) archival data maintained on the District's mainframe computer system. The first source of data was obtained through principal interviews conducted by OPE staff. This data source provides a narrative description of the program's impact on school culture and operation. The second source of data involved survey of administrators, parents, students, and teachers. Nine of the items on the Administrator Survey (8, 12 – 16, 18, 19, and 24), four of the items on the Parent Survey (4, 6, 7, and 10), and eleven of the items on the Teacher Survey (11, 15-20, 22-24, and 28) examined the learning environment. Each of these survey instruments is described in detail in the previous section.

The Student Survey was designed to gauge the opinions of Zone students regarding school climate, curricular difficulty, parental participation, and program effectiveness. The Student Survey was comprised of 12 items: nine items that adhered to a forced response Likert-scale format and three demographic items. The Likert response scale ranged from a low of 1 (strongly disagree) to a high of 4 (strongly agree). A neutral response was not provided. Seven of the items (1 – 5, 7, and 9) on the Student Survey addressed the learning environment. Individual students' responses were anonymous. Sets of 30 survey forms were sent through school mail to the teacher of one randomly selected classroom at each of the 39 Zone schools. Instructions to the teachers requested that they administer the survey to their students, place the completed forms in a provided envelope, and return the set to OPE through school mail. The analyses of the results from the student survey and each of the aforementioned surveys were limited to descriptive statistics. Copies of the Administrator, Parent, Student, and Teacher Survey forms may be found in Appendix B.

The third source of data was the School Climate Survey Staff Form, which is designed to gauge the opinions of school site personnel regarding the administrative effectiveness, administrative-staff relations, barriers to instructional delivery, and the overall effectiveness of their schools. The survey was anonymous and comprised of 39 items: thirty five items that adhered to a Likert scale format, and five demographic items. The Likert response scale ranged from a low of 1 (strongly agree) to 5 (strongly disagree) with 3 (undecided/unknown) provided as a neutral response. The survey is conducted on-line during January of each year. Over 24,000 staff members were targeted to complete the survey during 2004-05 and 2005-06 including more than 5,700 staff assigned to the Zone and comparison schools. (A copy of the School Climate Survey Staff Form may be found in Appendix C.)

The fourth source of data was archival records maintained on the District's mainframe computer system. An important aspect of the learning environment is the stability of the schools' students and teachers. Therefore, student mobility and teacher transfers, leaves, separations, and appointments were examined.

## Academic Achievement

The primary focus of the Zone program is improving the students' achievement in some of the District's lowest performing schools (question 3). Five sources of data were used to assess the impact on the students' academic achievement, each is listed below, with a detailed description following.

- 1) The Florida Comprehensive Assessment Test, Norm-Referenced Test (FCAT-NRT) is a secure form of the Stanford Achievement Test, 10<sup>th</sup> Edition (SAT-10). It is a standardized norm-referenced test designed to measure students' performance in comparison to a national normative sample. It thereby facilitates comparisons among individuals and groups. The FCAT-NRT is administered statewide to all students in grades 3 through 10 in March of each school year. The MDCPS concurrently administers a commercially available form of the SAT-10 to students in grade 2.
- 2) The Florida Comprehensive Assessment Test, Sunshine State Standards (FCAT-SSS) is a standardized, criterion-referenced test of reading and mathematics designed to measure students' mastery of the knowledge specified by the Sunshine State Standards. In 2005 and 2006, this test was administered to students in grades 3-10.
- 3) FCAT Writing is a test that asks students to plan and produce a written response (essay) to a topic or prompt. The 2006 FCAT Writing assessment was administered to students in grades 4, 8, and 10.
- 4) Indicators that are associated with students' achievement such as their mobility, retention, attendance, and suspension rates were examined.
- 5) An interview of principals and surveys of administrators, parents, students, and teachers at Zone schools provided an additional gauge of the program's effectiveness.

### *Student Performance on the FCAT-NRT*

To gauge the students' performance on the FCAT-NRT, a quasi-experiment was conducted. A quasi-experiment is a technically acceptable alternative to a true experiment. Quasi-experiments are often conducted in *natural social settings* where true experiments are not technically feasible (Campbell & Stanley, 1963). The specific quasi-experimental design used in this evaluation is the *multiple time series design*. This involves using series of scores collected over time to compare the performance of a group of subjects who are exposed to an experimental treatment (i.e., the experimental group) with that of a group who are not (i.e., the control group). In applying the multiple time series design in this evaluation the students' SAT (grade 2) and FCAT-NRT (grades 3-10) scores served as the series of scores, and the Zone program represents the experimental treatment.

All students who attended the Zone schools were included in the quasi-experiment, if they had valid baseline (2004), Year 1 (2005), and Year 2 (2006) scores and were enrolled in the same school during March of the baseline year and during October and February of Years 1 and 2. This criterion for inclusion is an extension of the state of Florida's participation requirement for

inclusion of students in school performance grades (Evaluation and Reporting Office, 2005). A control group of students from the previously identified comparison schools was also selected. The criteria for inclusion in the control group were the same as that of the treatment group.

Hierarchical Linear Modeling (HLM) was used in this analysis to examine variations in the students' SAT and FCAT-NRT scale scores while controlling for the unique characteristics of individual students, as well as the schools in which they were enrolled. A three-level HLM model was employed that examined attributes at the test administration, student, and school levels. The first (test administration) level of the model examined the relationship between the criterion variable (SAT or FCAT-NRT score) and a predictor (time). The second (student) level of the model examined the relationship between the criterion variables (initial status and growth rate) and a set of demographic predictors, which include gender, free and reduced price lunch eligibility, English proficiency, and disability classification. The third (school) level of the model examined the relationship between the criterion (student demographic) variables and a set of school level predictors that included a dichotomous variable that indicated implementation of the Zone program. For a detailed description of the HLM analysis, see Appendix D.

Finally, independent sample *t*-tests were used to compare the Zone and control schools' adjusted posttest scores and assess the statistical significance of those differences. As the statistical significance of differences is impacted by sample size, the effect size *d* was computed to ascertain the practical import of significant findings. The effect size *d* expresses the difference between the mean scores of two groups in terms of the dispersion within the scores.

### ***Student Performance on the FCAT-SSS***

FCAT-SSS results are used by the state to report student progress as required by the federal No Child Left Behind Act of 2001 (P.L. 107-110). As such, it is of value to ascertain the level of improvement Zone schools have achieved in this regard. The same treatment and control groups used in the FCAT-NRT analysis were used in the FCAT-SSS analysis. The analysis addressed the issue of student progress from one achievement level to another.

The FCAT-SSS achievement levels range from 1 (low) to 5 (high). The difference between each student's achievement level on the 2005 and 2006 administrations of the FCAT-SSS was computed. For the purposes of this analysis, students whose 2005 achievement levels were 1 or 2 were considered to have made progress if they gained one or more achievement level. Students whose 2005 achievement levels were 3, 4, or 5 were considered to have made progress if they maintained their previous level or gained one or more levels. The students were then partitioned into two groups: those who made progress and those who did not.

Chi-Square ( $\chi^2$ ) analyses were performed to compare the percentages of students who made progress at Zone and control schools. Separate comparisons were made overall and by grade in reading and mathematics. To determine the practical significance of any differences, the effect size Phi was computed.

### ***FCAT Writing***

Student performance on the FCAT Writing Assessment is reported in terms of achievement levels that range from 1 (lowest) to 6 (highest). The FCAT Writing Assessment (FWA) is considered a criterion-referenced test, because the score it yields is based on standards defined by the state. For 2005-06, the state defined *high standards* in writing as a score of 3.5 or above. To gauge the students' performance on the FWA, a quasi-experiment was conducted as part of the evaluation. The specific quasi-experimental design used is a form of the *non-equivalent control group* design. (Campbell & Stanley, 1963) This involved using pretest and posttest scores to compare the performance of students who attended Zone schools (i.e., the experimental group) with those of students who did not (i.e., the control group). The groups were considered nonequivalent because the subjects were not randomly assigned to them.

All students who attended the Zone schools were included in the experimental group, if they had valid pretest scores (2005) and posttest scores (2006) and were enrolled in the same school during October and February of the 2004-05 school year. A control group of students from the previously identified comparison schools, who met this inclusion rule, was also defined.

As the FWA is only administered in non-consecutive grades, the 2005 reading subtest of the FCAT-NRT was used as the pretest. The posttest was the 2006 FWA. The students' scores from the latter were converted into a dichotomous criterion measure: Attainment of the 3.5 standard or not.

An analysis of covariance was used to adjust the writing criterion scores to account for differences in the students' initial reading scores. The analysis of covariance was performed using logistic regression. Logistic regression is a type of multiple regression analysis specifically designed to analyze data with dichotomous outcomes. The conditional probabilities of attaining the 3.5 standard given the initial reading scores were compared for students in the Zone and control students. Separate analyses were conducted for grades 4, 8, and 10.

### ***Other Indicators Associated with Student Achievement***

Several indicators were addressed by this evaluation because of a demonstrated association with student achievement. They included attendance and incidence of students referred to indoor and outdoor suspensions. These archival data were accessed through the District's mainframe computer system. Changes in these indicators from 2004-05 to 2005-06 were examined for Zone schools and compared to those of the control schools. Independent sample *t*-tests were used to compare the changes and to assess the statistical significance of the differences. The transition of students from grade to grade was also examined as an indicator of effective educational progress. Chi-Square ( $\chi^2$ ) analyses were performed to compare the percentages of students who made gains at Zone and control schools. Only those students who were enrolled in the same school during October 2005 and February 2006 were included in the analyses. Separate comparisons were made for each grade. The results for twelfth grade constituted a comparison of graduation rates for that grade. To determine the practical significance of any differences, the effect size Phi was computed.

### *Perceptions of the Program's Effectiveness*

The opinions of stakeholders provide an important adjunct measure of the efficacy of a program.. Data were drawn from two sources: interviews with principals, and surveys of administrators, parents, students, and teachers. The program effectiveness was addressed by one item on the Administrator Interview Protocol, four items on the Administrator Survey, two items on the Parent Survey, one item on the Student Survey, and four items on the Teacher Survey. Additionally, an item on the Teacher Survey included space for open-ended comments. Each of these survey instruments is described in detail in a previous section. The results of the principal interviews and teacher comments adhered to the tradition of qualitative inquiry and, as such, consisted of narrative descriptions supplemented by rich textual quotations

### **Home-School and School-Community Relations**

A good rapport between the home and school, as well as the school and community are important elements of any school reform initiative (question 4). Therefore, the evaluation queried the opinions of administrators, parents, students, and teachers on these issues. The relations of home-school and community-school were addressed by one item on the Administrator Interview Protocol, one item on the Administrator Survey, four items on the Parent Survey, one item on the Student Survey, and one item on the Teacher Survey. Additionally, an item on the Teacher Survey included space for open-ended comments. Each of these survey instruments is described in detail in a previous section. The results of the principal interviews and teacher comments adhered to the tradition of qualitative inquiry and, as such, consisted of narrative descriptions supplemented by rich textual quotations. A copy of the Administrator Interview Protocol may be found in Appendix A; and copies of the Administrator, Parent, Student, and Teacher Survey forms may be found in Appendix B.

## RESULTS

The School Improvement Zone entered into development during the 2003-04 school year and reached full implementation with all major components in place by January 18, 2005. The evaluation of the program in its first full year of implementation took place mainly during the spring of 2006. The evaluation was conducted by the Office of Program Evaluation (OPE) of Miami-Dade County Public Schools. Data was gathered by OPE from a variety of sources including interviews, observations, district records, and assessment results. Surveys of teachers, parents, and students were also conducted. The examination of the perceptions of multiple stakeholders provided for a more holistic view of the program. It also permitted the findings to be triangulated, which yielded evidence of their validity. The term “significance” used throughout this report refers to the statistical sense and does not imply a value judgment or refer the importance of a result.

Tables 3 and 4 list the participants targeted and the number and percentage of those who responded to each of the survey instruments used in the evaluation of the Zone. Two types of instruments are shown in the tables. Surveys used to gauge the perception of Zone stakeholders in table 3, and the School Climate Survey that measured the perceptions of school staff districtwide in table 4. Among the Zone surveys, considerable variation in the return rates was seen between the targeted groups. All administrators targeted responded to the Administrators Survey, but the response rate of the parents was only 22.1%. This was the lowest of targeted groups and represents a sharp decrease from the previous year. Examination of the return rates by school paints a more disconcerting picture. Two classrooms in each of the 39 Zone schools were targeted to receive the Parent Survey. However, only six schools returned surveys from both classes. 26 schools returned surveys from only one class. And seven schools did not return surveys. Thus, the results from the Parent Survey may not be representative of the attitudes of the entire population of parents of students attending Zone schools.

**Table 3**  
**Return Rates of Zone Surveys**

	Targeted	Responded	
	<i>N</i>	<i>N</i>	%
Administrator Survey	39	39	100.0
Parent Survey	1203	266	22.1
Student Survey	778	629	80.8
Teacher Survey	2525	1568	62.1

**Table 4**  
**Return Rates of School Climate**  
**Survey: Zone Schools vs. Control Schools**

	Targeted	Responded	
	<i>N</i>	<i>n</i>	%
Zone Schools			
2004-05	2862	1450	50.6
2005-06	2841	1786	62.8
Control Schools			
2004-05	2918	1841	63.1
2005-06	2994	2175	72.6

The Student Survey yielded a return rate of 80.8 percent. One classroom in each of the 39 schools was targeted to receive the Student Survey. Examination of the return rates by school indicates that each school level was adequately represented. Of the 39 schools so targeted, surveys were received from 73.6% of elementary schools, 72.7% of middle schools, 75.0 % of senior high schools, and 100.0% of the K-8 centers. Thus, the results from the Student Survey can be considered representative of the attitudes of the population of students attending Zone schools. Teachers Surveys were returned by 62.1 percent teachers targeted. This rate of return represents an increase over the previous year. Return rates among the teachers varied by school type ranging from a low of 57.9 in the senior high schools to a high of 82.8 in the K-8 center. Thus, the results from the Teacher Survey may be considered representative of the attitudes of the population of teachers assigned to Zone schools.

School Climate Survey is administered annually to schools districtwide to provide an ongoing barometer of student learning environment and to augment school improvement planning. Data from the 2004-05 and the 2005-06 administrations were used in this evaluation. During both years, Zone schools returned a smaller percentage of surveys than did the control schools. Considerable between-school variations were seen. Due to the low return rate seen for the Zone schools during 2004-05, the results from the School Climate Survey may not be representative of the attitudes of staff assigned to the Zone schools. Subsequently, the rates of return are sufficient to generalize the Zone survey findings from all stakeholders except parents. The evaluation findings are presented in ensuing sections.

### **Implementation**

It is important to determine whether the Zone program was implemented according to a specified design before an assessment of its impact can be made. Therefore, the present evaluation addressed the degree of program implementation. Implementation is a multidimensional construct which includes: (a) the adequacy of materials, time, and administrative support (resources); (b) the extent to which the program elements are put in place as specified (adherence); (c) the type and nature of training received (capacity); (d) the efforts of principals to direct adoption (leadership); and (e) unintended benefits and consequences (discrepant events) (Dane & Schneider, 1998; Chen, 1998). Data were drawn from three sources to address this issue: observations and principal

interviews; archival records maintained on the District's mainframe computer system; and, parallel survey forms developed to gauge the opinions of administrators, parents, and teachers.

### *Resources*

Results indicate that the District provided support for the programs implementation in the form of materials, curricular support, and instructional planning. Mostly, support was provided in the form of curriculum specialists who primarily worked full-time with teachers to develop strategies for teaching reading. Support for benchmarking, planning, and the use of manipulatives was also provided. One principal reported, "The District provided us with a focus, a calendar [of events], materials, and experts coming in and advising us of the things available, and helped us to determine how we can improve scheduling and curriculum."

Administrators reacted positively to the level of district support, which was often cited as an unexpected benefit of being a Zone school. One principal stated, "We were just given a huge amount of money to buy technology. . . . No longer is the school being swept under the rug." A second principal reports, "The benefit is all the support that you get from the District [and] the resources that are pulled into [the] School Improvement Zone." The extent to which district support was available to teachers was gauged through surveys of administrators and teachers. While 97.4 percent of the administrators agreed that district office personnel are responsive to the needs of teachers, only 59.9 percent of the teachers shared that conviction. A closer examination of the results revealed variation among the schools in the percentage which ranged from a low of 34.4 to a high of 100.0. The percentage, furthermore, decreased as the grade level of the school increased.

The results of surveys of administrators and teachers were also used to gauge the adequacy of materials. While 97.4 percent of the administrators agreed that teachers have sufficient materials for all of their students, only 58.7 percent of the teachers shared that perception. Though differences are to be expected, large discrepancies in the groups' perceptions are a source of concern. A closer examination of the results revealed variation among the schools, which ranged from a low of 11.1 to a high of 100.0. The percentage, once again, decreased as the grade level of the school increased.

An additional source of data on the adequacy of materials was the open-ended item on the Teacher Survey that afforded teachers an opportunity to address any topic.<sup>2</sup> The majority of the 44 comments that related to materials cited insufficient number, or delays in stocking and distribution. One teacher reported, "Ordered materials took five months to arrive and then more than half of the order was 'never received' and the process [needed to be] restarted." A primary teacher claimed, "The entire first grade has [gone] the whole school year with no math books, among other missing materials." Others supplemented missing materials on their own as one teacher related, "Many of my hard earned dollars went to purchasing supplies for the students. What's wrong with this picture?" Some teachers reported that little or no materials were provided.

In sum, there is evidence that the District has provided materials and support to facilitate implementation and program diffusion. However, there is reason to suspect that some of these resources may not be reaching the classroom as intended.

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<sup>2</sup> Individuals who respond to open-ended items are often those whose attitudes are extreme. Of the 1568 teachers that completed the Teacher Survey, only 21.9 percent ( $n=343$ ) responded to the open ended question.

## *Adherence*

To address the issues of program adherence, the evaluation focused on the extent to which the programs' elements are in place and functioning as specified and intended. Data were drawn from several sources, but primarily from the results of the surveys. Table 5 lists the number and percentage of respondents that agree and strongly agree to adherence-related items from the surveys of administrators, parents, and teachers. Responding administrators and teachers largely concurred that teachers have the materials prescribed by the Zone (item 7) and that an early literacy program was in place at the school (item 10). Two thirds of responding teachers agreed that the instructional materials used were geared to students' reading level as opposed to their grade level (item 6). The pattern of these responses suggests that by and large the core instructional components were operated according to program specifications.

The fidelity to prescribed material and books was confirmed during visits by OPE staff to two randomly selected classrooms at each of 12 sample schools. The materials that teachers reported using conformed to those specified by the program in virtually all cases. However, some responses to the Teacher Survey seem to contradict this. One item on the survey asked teachers to identify the reading series used with specified groups of students. The results are depicted in Table 6, which uses shaded cells to illustrate the prescribed use of each series. A review of the table reveals numerous results outside the shaded cells. This outcome, however, cannot be generalized due to the item's low response rate of 33.1 percent. Nevertheless, these results suggest that particular reading series are not used exclusively with specific groups of students as delineated in program specifications. Thus, while the curricular resources prescribed by the Zone may be available to teachers, the materials may not be in some cases used as intended.

**Table 5**  
**Stakeholder Agreement to Items Addressing Adherence to Program Design**

Item	Administrators		Parents		Teachers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
7 Teachers have the books and materials prescribed by the Zone for their students.	39	97.4	---	---	1468	75.5
10 There is an early literacy program in place at this school to help preschoolers develop beginning reading skills.	22	90.9	---	---	717	75.2
6 Instructional materials in use at this school are geared to students' reading levels as opposed to their grade level.	---	---	---	---	1433	66.7
5 Classes at this school are homogenously grouped by achievement level.	39	71.8	---	---	1436	56.5
12 After-school tutoring is offered at this school for students in need of assistance <sup>a</sup> .	37	94.6	234	87.6	1496	81.4
9 Student development teams at this school meet regularly to plan strategies for students in need of academic assistance.	39	92.3	---	---	1419	69.8
14 All of the components of the Zone program are operational in this school.	39	97.4	---	---	1458	79.8

*Note.* Columns labeled *N* indicate total number of respondents.

<sup>a</sup> This item is worded somewhat differently on the Parent Survey.

The Zone program requires students to be grouped based on achievement level as opposed to age. Returning to Table 5, one sees that only 56.5 percent of responding teachers agreed that students were grouped in this manner (item 5). As seen with sufficiency of materials, these results tend to vary by school with the percentages ranging from a low of 35.9 to a high of 90.9. Additionally, the percentages decrease as the grade level of the school increases. These results indicate that some schools may not be grouping students homogeneously by achievement level as delineated in program specifications. It would appear that conflicting objectives associated with attempting to deliver appropriate instruction to students grouped by achievement level may pose logistical constraints at some schools.

The extended day and school year of the Zone program exists to provide supplementary academic services to students. This component of the program requires lengthening teachers' workdays, changing the schedule of mandated professional development activities, and an increase in salary expenditures. Thus, this component may be expected to affect stakeholders' attitudes, student achievement, and fiscal allocation. Data were gathered to gauge the effect of this component.

**Table 6**  
**Usage of Instructional Books and Materials by Student Group**

Series	Level	Total n	Group 1: On Grade Level		Group 2 <sup>a</sup>		Group 3 <sup>b</sup>		Group 4: ESOL	
			n	%	n	%	n	%	N	%
Ellis – Academic	6-12	18	5	27.8	7	38.9	2	11.1	4	22.2
Ellis – Kids	6-12	14	4	30.8	5	38.5	1	7.7	3	23.1
HB – Avenues	K-5	12	5	41.7	5	41.7	1	8.3	1	8.3
HM - Early Success	K-5	118	59	50.0	45	38.1	4	3.4	10	8.5
HM – Soar to Success	K-5	136	60	44.1	62	45.6	8	5.9	6	4.4
HM – Legacy of Literacy	K-5	76	44	57.9	18	23.7	6	7.9	8	10.5
ML – Language of Literature	6-12	132	79	59.8	36	27.3	9	6.8	8	6.1
Pearson - Shining Star	6-12	18	3	16.7	5	27.8	4	22.2	6	33.3
Scholastic - Read 180	6-12	163	38	23.3	68	41.7	43	26.4	14	8.6
Scholastic - Read XL	6-12	90	33	36.7	47	52.2	10	11.1	---	---
TH – Visions	6-12	13	2	15.4	7	53.8	1	7.7	3	23.1
Voyager Passport	K-5	72	29	40.3	32	44.4	9	12.5	2	2.8
Other	K-12	45	15	33.3	14	31.1	10	22.2	6	13.3

Note. Shaded cells indicate recommended use. HB=Hampton-Brown, HM=Houghton-Mifflin, ML=MacDougall-Littell, TH=Thompson-Heinle.

<sup>a</sup> Group 2 (grades K-5), known reading problems, never retained or retained once; (grades 6-12), 1 or 2 years below grade level

<sup>b</sup> Group 3 (grades K-5), retained twice in the same grade level; (grades 6-12), below grade 4 level

Principals interviewed reported that the primary purpose of the extended day was to provide assistance and other forms of intervention to students deemed at risk of failing to meet state standards in reading and mathematics. Additionally, the extended day served as a source of curricular enhancement and enrichment for proficient students. The extended day took the form of

an extra period at one elementary school and at all the senior high schools. The entire staff was often involved in the delivery of the program.

Tutoring outside regular hours was offered by all schools. Returning to Table 5, one sees that nearly all of stakeholders were aware of the availability of tutoring (item 12). Tutoring was typically delivered to small groups of students on a daily basis using specialized materials. A principal describes the process by saying, “The whole hour was just used for *Soar to Success* and *Early Success*. We use all of those to make sure that our kids are reading [at] their benchmarks.” As the extended day program was mandatory, there were potential problems motivating students to actively participate. One school dealt with this by spreading the intervention throughout the day. The principal reports, “We don’t have problems like other schools do with kids leaving and not participating in the extended period . . . We provide all the different resources . . . we have the materials, the curriculum, and the support.” Some schools offered test preparation and reinforcement of skills. One principal recalls, “When we were getting ready for the [FCAT] Writing, we used [the extended day] for student conferencing. We took that hour and inserted it in the morning [when] the children were a bit perkier.” One school used a portion of the time for collaborative planning and professional development for teachers.

Reaction to the extended day was decidedly negative. Several principals reported stress on both students and staff from the additional hour as well as the longer year. One principal complained:

My day starts [when] we start preschool tutorial sessions. We start at 6:40 in the morning and our last session ends at 5:50 in the afternoon. That’s a long day, I don’t care who it is. That’s an extremely long day.

Another principal observed, “You have to come in with the mindset [of] work, work, work, [and] work long hours.” A sense of frustration is evident in several teacher comments. One teacher notes, “By the end of the day, both students and staff are exhausted.” The additional pay received was perceived as insufficient to compensate for the level of effort required as this teacher observed:

The Zone pay is no longer worth the extra time required for the day. Teachers are burned out and tired. The day is too long and the extra hour is not utilized effectively to make any significant change in student performance.

One principal recognizes that “some parents do not like the extended day so they take their kids and place them elsewhere.” Another principal feels that “a lot of kids feel punished because they have to stay the extra hours . . .”

An unintended consequence of the extended day and school year was to limit the availability of mandated professional development activities. Teachers were forced to pursue required training after school and on weekends thereby impinging on personal time. One teacher stated, “Many of the courses are offered at inconvenient times and locations. You will burn us out.” Another teacher lamented, “[school is over] around five-thirty [but there are no] workshops on site. It’s all I can do to arrive home at seven alive.” Thus, a variety of anecdotal evidence points to widespread dissatisfaction with the extended day component.

Student development teams serve as a preemptive source of intervention for students at risk of school failure (item 9). A cadre of professionals meets on a regular basis to develop comprehensive strategies tailored to the needs of the students. Returning to Table 5, one sees that 92.3 percent of responding administrators and 69.8 percent of responding teachers agreed or strongly agreed that student development teams at their school met regularly.

In sum, the results of stakeholders’ surveys and principal interviews suggest that the disparate elements of the Zone program were put in place as planned. Overall, 97.4 percent of responding administrators and 79.8 percent of responding teachers agreed that all the components of the program were operational in their schools (item 14). Extended day programs were operating as planned with tutoring available for students in need of assistance and enrichment activities. Nevertheless, despite the ubiquity of the extended day program, there is evidence of dissatisfaction due to exhaustion, burnout, and frustration among faculty, students, and parents.

### *Capacity*

The skill and knowledge level of the instructional staff is an important determinant in the successful implementation of a prescriptive program. Accordingly, professional development is an important component of such an endeavor. The adequacy of professional development in the Zone program was considered from three perspectives. The first was the type and nature of the offerings. The second was the availability and accessibility of training. The final prospective was the knowledge and skills acquired by the participants. Data were drawn from two sources to address this issue: interviews of principals and surveys of administrators and teachers.

Table 7 lists the number and percentage of respondents agreeing and strongly agreeing to survey items addressing the issue of professional development. Nearly all responding teachers and administrators agreed that teachers are encouraged to pursue professional development (item 1). This is not surprising because professional development is mandated by the Zone program. As Table 7 shows, nearly all principals, and 77.8 percent of the teachers noted the availability of some on-site professional development (item 2). Almost two-thirds of the responding teachers agreed that it was not difficult to gain access to inservice courses (item 3), a finding supported by principals interviewed who recognized the difficulty inherent in obtaining the 56 professional development hours needed for teachers to receive extra pay. Two-thirds of responding teachers agreed that the type and nature of training offered was dictated by the needs of the students and the school (item 4), in accordance with program philosophy.

**Table 7**  
**Stakeholder Agreement to Items Addressing Professional Development**

Item	Administrators		Teachers	
	<i>n</i>	%	<i>n</i>	%
1 Teachers in this school are encouraged to pursue professional development.	39	97.4	1556	91.3
2 On-site professional development for teachers is made available in this school.	37	94.9	1551	77.8
3 It is [not] difficult to gain access to in-service courses. <sup>a</sup>	---	---	1517	59.7
4 The professional development planning in the school takes into account individual needs and interests.	---	---	1511	66.4

<sup>a</sup> Item wording is presented in reverse for consistency with other questions.

Principals interviewed addressed the nature of the training only peripherally. One principal reported, “We receive the same professional development as other schools in the District with the

exception of our reading program, Read-180. . . . [which is now] spilling over into the District.” Another principal noted:

We do our training in small learning communities . . . [which allowed me to go] through the training with [the teachers]. . . CRISS<sup>3</sup> strategies . . . [which are] similar to those of direct instruction [were covered. . . . The objective was] to bring instruction more in line with the needs of the learner as opposed to [teachers’] own learning modality.

Several of the principals interviewed, furthermore, recognized the difficulty. One principal noted that, “80 to 85 percent of training is held off-campus. Another principal observed, “Teachers must attend professional development activities after school hours and on Saturdays [in order to meet Zone requirements].” Observed another principal, “there were no choice options to accommodate personal schedules.”

An additional source of data on professional development was the open-ended item on the Teacher Survey that afforded teacher an opportunity to address any topic. Most of the open-ended comments pertained to hours and accessibility. Other comments related to the paucity and narrow focus of the course offerings. One teacher remarked, “In the subject area I teach, sometimes it is ‘difficult’ to get workshops to complete the requirements of the points I need for this year.” The frustration of special area teachers forced to satisfy mandated professional development through coursework that was not applicable to their subject areas is captured by the following comment:

There is little in the way of professional development for elective teachers in the Zone. Having an art, music, or home economics teacher take classes geared towards Read-180 or some other reading intensive course gives the signal that there is little regard for those subjects. . . . [We] are expected to have these things in our lesson plans, but we're not given any guidance as to how this can be done.

In sum, the nature of professional development offerings may not be adequate to meet the needs of Zone teachers. Lack of accessibility may pose additional hardships. Finally, the scheduling of professional development after school hours may be causing frustration and fatigue among school staff with a deleterious effect on morale.

### *Leadership*

Leadership is the act of guiding a group of individuals toward the achievement of common goals and may be manifested in individuals regardless of the possession of position power (Burns, 1978). Stakeholders’ attitudes toward the leadership exhibited by the Zone administrators were gauged indirectly through data derived from two sources principal interviews, and the open-ended item on the Teacher Survey. The comments were mixed. Most principals interviewed reported that district administrators were responsive to their needs and provided direction with implementation. Resources provided were consistently cited as a benefit of membership in the Zone. Among the problems cited were organizational issues. A coherent intervention was constrained by the fact that the Zone administration, the region offices and the district’s office of Curriculum and Instruction were each responsible for ensuring that aspects of the program were delivered. Lack of

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<sup>3</sup> Creating Independence through Student Owned Strategies is a National Diffusion Network project designed to develop thoughtful and independent readers and learners.

coordination among these offices may have undermined the effort. One principal expressed this confusion in the following comment:

We were accustomed to the region and the directors. [When] you needed something, you called them for [it]. And now you have the Zone, so you call the region and they tell you you're a Zone school.

Another principal relates, "I did expect a lot more. . . . The lack of consistency in the leadership, in the initiatives, in the expectations, it's been hard for me as a principal."

Some teachers felt that the leadership provided by the District had not reached the school level. One teacher noted:

Student instruction prescribed by the Zone is effective at promoting student learning. In fact, the zone couldn't have come out at a better time. We see students' scores rising and students are making progress [reaching grade level]. However, a lot of the problems came [from] the administration [having] limited support to teachers.

Another teacher explained:

This school has no strong leadership or guidance in place. The principal is the head of the school's administrative team, which should strongly support the school's functioning system. Therefore, it is the principal's responsibility to be sure all aspects of the school are effective in maintaining a healthy learning environment for the students. Some teachers also felt excluded from the decision progress, and this was detrimental to morale.

One teacher relates:

The teachers at this school and [I] feel that we are sometimes treated like children. We don't get the support we need from the administration. They sometimes make us feel like we are incompetent. We have not had any problems previously.

To summarize, evidence suggests that the District concentrated considerable effort and provided guidance to ensure that the elements of the Zone program were put in place. Problems may have resulted from the presence of multiple administrative lines of authority. The commitment of principals to the initiative may also be variable.

### ***Discrepant Events***

The adoption of any reform initiative like the Zone program has unintended consequences. Many of these unintended effects have been already discussed in previous sections. Positive effects include levels of tangible and intangible resources, support, and attention. Negative effects include teacher burnout, inaccessible and inadequate training opportunities, and low morale. High teacher absenteeism and turnover were also reported. Another negative aspect noted by several principals was stigma, "The detriment is being labeled as a failing school and what comes along with that, and trying to overcome that cloud of failure."

### **Learning Environment**

The learning environment refers to the overall context of the program. The following aspects of the learning environment were addressed: (a) perceptions of staff cohesion, morale, and expectations/concern for students; (b) teacher and student mobility; and, (c) teacher experience. Data to conduct this portion of the evaluation were drawn from three sources: (a) archival data maintained on the District's mainframe computer system, (b) the School Climate Survey Staff

Form, and (3) parallel survey forms developed to gauge the opinions of administrators, parents, and teachers. The majority of the items on these surveys adhered to a Likert scale format. The items addressed the areas of safety and discipline, staff cohesion/collaboration, high expectations and caring, and instruction and services. An overall assessment of the learning environment was also obtained. Table 8 lists the number and percentage of respondents agreeing and strongly agreeing to items addressing perceptions of the learning environment.

**Table 8**  
**Stakeholders' Agreement to Items Addressing the Learning Environment**

	Administrators		Parents		Students		Teachers			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
<b>Safety and Discipline</b>										
6	I (feel) (believe my child is) safe at this school. <sup>a</sup>		---	---	254	77.6	592	46.1	---	---
23	There is an agreed upon philosophy on discipline at this school. <sup>a</sup>		38	92.1	---	---	607	87.8	1533	73.1
24	Discipline is enforced in a consistent fashion in this school. <sup>a</sup>		---	---	249	78.3	---	---	1537	41.6
<b>Staff Cohesion</b>										
15	Teachers work collaboratively at this school.		39	97.4	---	---	---	---	1552	77.9
17	Staff members take pride in this school.		39	97.4	---	---	---	---	1539	77.6
18	There is good communication between staff members in this school.		37	100.0	---	---	---	---	1547	68.4
19	Teachers in this school can rely on their colleagues for support and assistance when needed.		38	100.0	---	---	---	---	1543	81.4
22	Teachers in this school are encouraged to provide feedback to school and district administrators.		37	100.0	---	---	---	---	1486	63.5
<b>High Expectations and Caring</b>										
4	There are people at this school to give me help with school work.		---	---	---	---	604	74.3	---	---
11	The students in this school are capable of meeting high standards.		39	97.4	---	---	---	---	1552	84.5
3	My teachers want me to do well in school.		---	---	---	---	609	90.1	---	---
16	The teachers in this school take a personal interest in the students they teach.		39	97.4	---	---	---	---	1550	91.8
<b>Instruction and Services</b>										
4	This school has services available that address the needs of my child and family (for example, before/after school care, health/counseling services).		---	---	247	85.4	---	---	---	---
1	In my classes, the work is hard to do.		---	---	---	---	602	38.7	---	---
2	I have homework to do every night.		---	---	---	---	611	59.6	---	---
<b>Overall Climate</b>										
20	Staff morale is high in this school.		37	86.5	---	---	---	---	1525	49.1
28	This school is better since becoming a Zone school.		35	91.4	234	66.7	572	42.1	1382	59.9

<sup>a</sup> Item s are worded somewhat differently on the Parent, Student, and Teacher survey forms

As seen in the table, three items addressed the issue of safety and discipline. The large difference in the percentages of parents and students who agreed that their school was safe is consistent with the results of other surveys (item 6). While 77.6 percent of parents felt their children were safe at the school, only 46.1 percent of students concurred.

A high percentage of administrators, students, and teachers affirmed the existence of an agreed upon philosophy of discipline at their school (item 23). On the issue of disciplinary consistency, large disparities in the perceptions of parents and teachers were seen (item 24). While 78.3 percent of parents agreed, only 41.6 percent of teachers expressed concurrence. Closer examination of the results revealed variation among the schools in the percentage of teachers who agreed that discipline was enforced consistently that ranged from a surprisingly low of zero to a high of 78.5. Additionally, the percentages decreased as the grade level of the school increased. The extent of disaffection with this aspect of the school environment was also revealed through open-ended comments on the Teacher Survey.

One teacher opined, “All attempted measures of student discipline are complete failures due to a severe lack of administrative support. There are no consequences . . . enforced when students break rules. So the school is out of control!” Another teacher observed,

A key foundation- discipline -has collapsed, crumbled, absolutely. A deep sense of impunity tends to prevail among most students; a strong feeling that they can get away with anything and everything and that learning is . . . irrelevant, they will be promoted anyway.

Staff cohesion is another important aspect of the learning environment. Returning to Table 8, five items addressed staff cohesion. The vast majority of administrators and teachers agreed that teachers work collaboratively, take pride in their school, and can rely on their colleagues for support when needed (items 15, 17 and 19). However, on issues of communication, teachers were far less favorable than were administrators. While all administrators agreed that there was good communication (item 18) teachers were encouraged to provide feedback (item 22), only about two thirds of teachers shared those views.

An additional source of data on staff cohesion was the School Climate Survey Staff Form. Factor analysis of the survey’s items revealed the presence of a thirteen-item scale describing Staff Perception of the Principal (SPP). The SPP scale was positively correlated with both staff cohesion and was the most important source of variation among teacher responses to the instrument. Rasch modeling was used to align the survey responses that measured SPP on an equal interval scale. Rasch modeling is a type of Item Response Theory (IRT) which uses the sum of individuals’ scores across items to estimate the strength of their attitudes, and the number of individuals responding to the items’ response categories to estimate how difficult the items are to endorse. The estimates that result are used to calibrate the items and simultaneously measure the strength of individual attitudes (Wright & Masters, 1982). The strength of individual teachers’ SPP score was measured using this process. The result was a set of IRT scores, which measured the teachers’ attitudes and the endorsement difficulty of the survey items.

Table 9 illustrates a comparison of the Zone schools and the control schools on the SPP scores. The table lists the total number of respondents, the school mean and median percentile on the SPP score for each group for the 2004-05 and 2005-06 school years. A school’s median percentile represents the percentage of respondents in the District that have scores below mid-point score of the school. Table 9 shows that from 2004-05 to 2005-06 the mean score of the Zone schools increased from 457.8 to 466.3 representing a shift from the 39.6<sup>th</sup> percentile to the 42.4<sup>th</sup>. At the same time, the mean score for the control schools decreased from 491.0 to 475.8 representing a shift from the 50.4<sup>th</sup> percentile to the 43.5<sup>th</sup>. The analysis revealed no statistically significant differences between the groups’ attitude changes from 2004-05 to 2005-06 and while the mean score improved at the

Zone schools and declined at the control schools, the Zone groups' SPP scores remained less positive than that of the control schools.

**Table 9**  
**School Climate Survey**  
**Staff Perception of the Principal**  
**Zone and Control Schools**

Group	2004-05			2005-06			Change			
	<i>n</i>	Mean	Median Percentile	<i>n</i>	Mean	Median Percentile	Mean	Std. Error <sup>b</sup>	<i>t</i>	<i>d</i>
Zone	1398	457.8	39.6	1735	466.3	42.4	8.56	41.9	1.35	.31
Control	1784	491.0	50.4	2122	475.8	43.5	-5.76	30.5		

*Note.* The median percentile is the percentage of respondents in a population that have scores lower than the middle scoring respondent in a group. Tabulated values for each group are for the median school. Means and standard errors are based on school means for the thirty-eight schools in each group. The counts displayed in the table represent the total number of respondents in each group.

Returning to Table 8, one sees that four items addressed high expectations and caring. Across stakeholders, most respondents agreed that teachers took a personal interest in the students (item 16), wanted them to do well in school (item 3), and felt that the students were capable of meeting high standards (item 11). A somewhat smaller percentage of students agreed that people were available to give them help if needed (item 4). Three items addressed perceptions of the instructional program and supporting services. Over 85 percent of parents agreed that their school has services available that address the needs of their children and family (item 4). Students' low opinion of the instructional program's rigor, however, may be cause for concern. Only 38.7 percent of students agreed that their school work was difficult to do (item 1). By school results for this item ranged from a low of 16.7 percent to a high of 88.9 percent. The lowest rates of agreement were found for the high schools. Only 59.6 percent of responding students affirmed having homework to do every night (item 2).

Another important aspect of the learning environment is the stability of the teaching staff. Professional assignments must be of sufficient duration to afford teachers the opportunity to attain proficiency in delivering the program. Data to address this issue were gathered from archival records maintained on the District's mainframe computer system. Table 10 lists the mean percentages of teacher appointments, leaves, resignations, retirements, separations, and transfers for the Zone and control schools. The results of independent sample *t*-tests and effect-size calculations, which indicate respectively the statistical and practical significance of differences between the groups, are displayed in the last two columns of the table. All instructional staff members who were assigned to the school for one or more days were included in the calculation.

Table 10 shows that the Zone schools had a significantly higher percentage of appointments at 16.3 percent than the control schools at 15.1 percent. This difference represents a moderate effect size. Transfers into the Zone schools accounted for 8.4 percent of the instructional staff as opposed to 5.9 percent at the control schools. This higher percentage represents a moderate effect size. Leaves at the Zone schools accounted for only 4.4 percent of instructional staff as compared to 5.2 percent at the control schools. This lower percentage represents a moderate effect size. Transfers out of the Zone schools were accepted by 15.3 percent of instructional staff in contrast to 7.7 percent of the staff at the control schools. This higher percentage represented a strong effect size. While the high

level of instructional staff transfers indicates that Zone schools have significantly less staff stability than the control schools, the lower percentage of leaves is encouraging.

**Table 10**  
**Instructional Staff Movement, 2005-06**  
**Zone and Control Schools**

	Zone Schools			Control Schools			Difference	
	<i>n</i>	Mean	Std. Dev.	<i>n</i>	Mean	Std. Dev.	<i>t</i>	<i>d</i>
Appointments	38	16.3	5.7	38	15.1	5.7	2.8**	0.1
Leaves	38	4.4	2.4	38	5.2	2.4	-4.8**	-0.3
Resignations	38	6.2	3.6	38	6.0	3.6	0.8	0.0
Retirements	38	1.5	1.6	38	1.6	1.7	-0.6	0.0
Separations	38	0.2	0.5	38	0.1	0.5	1.5	0.1
Transfers								
In	38	8.4	4.5	38	5.9	2.9	8.7**	0.5
Out	38	15.3	5.9	38	7.7	4.1	19.7**	1.0

Note. The counts displayed represent the total number of respondents in each group.

\*\*  $p < .01$ .

Additional data regarding the learning environment were obtained from archival records. The data include: (a) mobility, a measure of discontinuous school enrollment; (b) overcrowding, as indicated by pupil-teacher ratio; and, (c) the experience of the teaching staff as measured by average years teaching and the percent of beginning teachers. Table 11 displays the results of these analyses.

**Table 11**  
**Selected School Characteristics**

	Zone Schools					Control Schools					Difference	
	2004-05		2005-06		Change	2004-05		2005-06		Change		
	<i>n</i>	Mean	Mean	Mean		Std. Dev.	<i>n</i>	Mean	Mean		Mean	Std. Dev.
Mobility Index <sup>a</sup>	38	41.3	54.8	13.5	3.9	38	32.5	31.5	-1.0	4.4	15.3 ***	3.5
Pupil-Teacher Ratio	38	16.2	14.9	-1.3	1.3	38	17.9	17.2	-0.7	1.5	-1.8	-0.4
Average Years Teaching	38	9.8	9.2	-0.6	1.2	38	10.3	9.9	-0.4	1.1	-0.7	-0.2
Beginning Teachers	37	4.4	3.6	-0.9	3.8	37	4.6	4.2	-0.5	3.9	-0.4	-0.1

Note. The counts displayed represent the total number of respondents in each group.

<sup>a</sup> The Mobility Index is the percentage of a school's aggregate student membership that is enrolled for less than an entire school year.

\*\*\*  $p < .001$ .

Differences in these indicators from 2004-05 to 2005-06 were calculated in order to gauge their improvement over time. The large increase in the Mobility Index was a serious area of concern. Accordingly, the entry and withdrawal patterns of Zone students were examined. Of the 48,675 students who attended the Zone schools in the sample, 7,530 entered or withdrew during the school year resulting in the sharp increase in the Mobility Index. The results of the analysis indicate that many of these students were simply circumventing the Zone's extended school year by entering late or departing early. With regard to the other school characteristics, decreases in pupil-teacher ratio and the percentage of beginning teachers represent moves in the *right* direction for the Zone schools. A decrease in the average years teaching represents a move in the *wrong* direction. Independent sample *t*-tests were used to compare the changes for Zone and control schools. As the

table shows, significant differences were seen for the Mobility Index but not for any of the other characteristics.

Returning to Table 8, one sees consistent affirmation by administrators to items that addressed the overall learning environment but lower levels of endorsement found in the other stakeholder groups. As shown in the table, only 49.1 percent of teachers agreed that morale was high in their school (item 20). By school, results ranged from a low of 12.0 percent to a high of 92.3 percent. The lowest rates were found for the high schools. When asked whether the school was better since becoming a Zone school, approximately two thirds of parents and teachers and less than half of students concurred, with the highest level of agreement seen for the elementary schools (item 28).

In sum, perceptions of the learning environment at the Zone schools were mixed. Although stakeholders agreed that there was a discipline policy at their school, evidence existed that it was inconsistently enforced. Teachers reported taking pride in their schools, being able to rely on colleagues for assistance, and working collaboratively. Yet, teachers in Zone schools tended to view their principals less positively than did typical district employees. Across stakeholders, most respondents agreed that teachers took a personal interest in the students, wanted them to do well in school, and felt that the students were capable of meeting high standards. A comparison of staffing patterns revealed Zone schools to have higher percentages of instructional staff transfers, and new appointments, and lower percentages of leaves than did the control schools. An examination of archival school-level indicators revealed a higher mobility of students at the Zone schools relative to the control schools. The analysis revealed that this was due primarily to Zone students who were circumventing the extended school year.

### **Student Achievement**

The academic achievement of students in the Zone was addressed, as outlined in the Design of the Evaluation, using six sources of data: (a) Florida Comprehensive Assessment Test/Norm Referenced Test (FCAT-NRT) scores in reading and mathematics; (b) FCAT-Sunshine State Standards (FCAT-SSS) scores in reading and mathematics; (c) FCAT Writing Assessment; (d) archival student process indicators such as mobility, attendance, retentions, and suspensions; (e) principal interviews; and, (f) surveys of administrators, parents, students, and teachers. The results of the analyses from each of these sources will be discussed in turn.

#### ***Student Performance on the FCAT-NRT***

As described in the Design of the Evaluation, a multiple time series design was used to compare the FCAT-NRT performance of Zone students and students attending the control schools. The analysis of the results involved a three step process. First, the growth in the groups' test scores over time was estimated for each grade level using a Hierarchical Linear Model (HLM). The HLM analysis simultaneously conducts separate regression analyses at each level of the model. The predictor weights estimated at one level of the model are then treated as criterion variables at the higher levels of the model. Estimates for initial status and annual growth rate were adjusted for student and school characteristics thought to impact achievement. Second, predicted posttest (2006) scores were estimated by projecting the groups' baseline (2004) scores by the expected growth rate over time. Finally, independent sample *t*-tests were used to compare the adjusted posttest (2006) scores of Zone students to those of students in the control schools.

## ***Reading***

The random effects estimated by the HLM provide an overview of model fit, and delineate the way error is distributed throughout the three levels, of the model. Table 12 lists by grade level the standard deviation, variance component, chi-square, and reliability for each random effect. Listed at the left margin are the levels of the model: Level 1 temporal variation (i.e., test administration); Level 2 (students within school); and Level 3 (between schools). Listed by the model level, are error terms for the various predictors in the model.

The temporal variation gives the test score error across time periods that remains unexplained by the model. Temporal variance was reduced by 71.2 percent in grade 4, 54.2 percent in grade 5, and 60.1 percent in grade 8. These percentages, which do not appear in Table 12, represent effect sizes with strong practical significance (Cohen, 1988). The addition of the Zone program indicator to the model reduced variance in the students' annual rates of growth for grade 4 (2.07 percent) and grade 8 (5.09 percent) only, indicating that in only one of the three cases did the program exceed the threshold for a weak effect. The chi-square values for the between-schools and students-within-schools effects demonstrate that significant variation in initial status and annual growth rates remain unexplained by the model.

The fixed effects estimated by the HLM indicate the influence of the predictors on the estimated value of each criterion, when all other effects in the model are held constant. Table 13 lists by grade level, the mean, standard error, and *t*-ratio for each of the fixed effects. Listed at the left margin are the predictors for the second level of the HLM model, which estimate the value of the students' reading scale scores over time in terms of the students' initial status (i.e., at the inception of the Zone program) and annual growth rate. Listed at the first level of indentation are the predictors for the second level of the HLM model, which separately estimate criterion variables for students' initial status and annual growth rate in terms of student-level demographic predictors of gender, ethnicity, eligibility for free/reduced price lunch, LEP status, and exceptional student classification. These variables represent the main effects of achievement. Each criterion variable is estimated as the weighted sum of a student-level intercept term and a set of student-level predictors. The intercept term represents the values assumed by the criterion variable when the predictors are zero. The predictors were expressed as deviations from their sample means through the process of grand mean centering.

Listed at the second level of indentation are the predictors for the third and final level of the HLM model, which separately estimate the student-level intercept and each student-level predictor weight in terms of a school-level intercept and a weighted sum of school-level predictors, which include program type. Predictor weights with non-significant values across all grades and subject areas (i.e., Male, Black, and Gifted) are not shown. The points earned underlying the A-Plus school grade were included as a predictor for the school-level intercept term to control for differences between the treatment and control group prior to the onset of the Zone program. All predictors were grand-mean centered and the effects listed were net of the other effects in the model. These variables represent the interactive effects of achievement.

**Table 12**  
**Hierarchical Linear Model of Growth in Reading**  
**Random Effects**

Random Effect <sup>a</sup>	Grade 4					Grade 5					Grade 8				
	Standard Deviation	Variance Component	df	Chi-square	$\lambda$	Standard Deviation	Variance Component	df	Chi-square	$\lambda$	Standard Deviation	Variance Component	df	Chi-square	$\lambda$
Level 1 (temporal variation)															
Error, $e$	18.13	328.65				17.85	318.74				14.82	219.51			
Level 2 (students within schools)															
Initial status, $r_0$	22.86	522.77	1015	4379.10 ***		19.72	388.95	1573	5188.48 ***		22.65	512.94	4927	23246.43 ***	
Growth rate, $r_1$	4.56	20.78	1087	1476.98 ***		1.22	1.49	1645	1777.44 *		4.37	19.09	4973	5998.58 ***	
Level 3 (between schools)															
Initial Status															
Typical Student, $U_{00}$	4.24	18.00	2	5.49	.86	2.33	5.42	6	4.20	.73	2.72	7.39	17	53.29 ***	.96
Male, $U_{01}$	2.77	7.65	3	8.41 *	.72	4.73	22.38	7	5.37	.92	2.97	8.83	18	31.49 *	.96
Black, $U_{02}$	5.02	25.23	3	3.65	.90	9.90	97.97	7	5.36	.98	3.09	9.53	18	11.44	.97
Hispanic, $U_{03}$	5.73	32.85	3	.41	.92	8.75	76.54	7	1.16	.97	3.49	12.16	18	13.25	.97
Current LEP, $U_{04}$	9.36	87.70	3	6.03	.97	10.91	119.09	7	5.56	.98	9.52	90.69	18	44.58 ***	.99
Former LEP, $U_{05}$	6.86	47.05	3	5.88	.94	5.79	33.48	7	10.26	.94	3.78	14.31	18	29.97 *	.98
Lunch, $U_{06}$	8.20	67.27	3	2.29	.96	11.68	136.31	7	9.91	.99	1.57	2.47	18	20.23	.88
Disabled, $U_{07}$	6.38	40.73	3	6.19	.93	9.52	90.60	7	11.10	.98	4.89	23.87	18	38.52 ***	.99
Gifted, $U_{08}$	10.27	105.46	3	6.23	.97	10.81	116.77	7	12.52	.98	5.34	28.56	18	39.00 ***	.99
Growth Rate															
Typical Student, $U_{10}$	2.00	4.00	3	4.90	.58	2.67	7.14	7	25.92 ***	.78	.96	.93	18	55.31 ***	.74
Male, $U_{11}$	2.42	5.87	4	6.87	.67	2.05	4.21	8	6.15	.68	1.24	1.55	19	24.76	.83
Black, $U_{12}$	4.06	16.50	4	5.54	.85	3.61	13.02	8	7.01	.87	1.00	1.01	19	13.05	.75
Current LEP, $U_{13}$	5.97	35.59	3	12.86 **	.92	4.22	17.78	7	3.96	.90	2.43	5.92	18	22.95	.95
Former LEP, $U_{14}$	3.78	14.33	3	3.59	.83	2.59	6.69	7	3.72	.77	1.06	1.12	18	15.54	.77
Lunch, $U_{15}$	2.74	7.49	3	1.63	.72	4.24	17.97	7	11.35	.90	1.02	1.05	18	21.67	.76
Gifted, $U_{16}$	5.41	29.26	4	10.68 *	.91	6.88	47.40	8	7.98	.96	2.31	5.33	19	33.05 *	.94

Note. The symbol  $\lambda$  indicates the reliability of the error estimate.

<sup>a</sup> The Level 1 random effect ( $e$ ) gives the variation in students scores over time after the effect of student and school variables are taken into account. The Level 2 random effects ( $r_0, r_1$ ) give the variation in individual student scores after the effect of school level variables are taken into account. The Level 3 random effects ( $u_{00}, u_{16}$ ) give school-level variations in the scores.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 13**  
**Hierarchical Linear Model of Growth in Reading**  
**Fixed Effects**

Estimates	Grade 4			Grade 5			Grade 8		
	Mean	SE	t	Mean	SE	t	Mean	SE	t
Initial Status, $\pi_0$ , (level 2)									
Typical Student, $\beta_{00}$									
Typical School, $\gamma_{000}$	596.95	1.08	551.95**	613.98	0.74	825.98**	643.92	0.70	925.24**
Zone <sup>a</sup> , $\gamma_{001}$	0.48	2.76	0.18	-1.02	1.91	-0.53	-1.50	1.75	-0.86
A-Plus Grade, $\gamma_{002}$	0.06	0.03	2.24*	0.07	0.02	3.42**	0.11	0.02	5.02**
Male, $\beta_{01}$									
Typical School, $\gamma_{010}$	-7.16	1.58	-4.53**	-3.49	1.39	-2.51*	-5.10	0.96	-5.34**
Zone <sup>a</sup> , $\gamma_{011}$	3.25	2.85	1.14	1.70	2.49	0.69	-4.78	1.64	-2.92**
Black, $\beta_{02}$									
Typical School, $\gamma_{020}$	-4.41	4.53	-0.97	-8.00	4.41	-1.81	-12.93	2.08	-6.21**
Zone, $\gamma_{021}$	-12.36	8.96	-1.38	0.91	8.56	0.11	11.33	4.17	2.72*
Hispanic, $\beta_{03}$									
Typical School, $\gamma_{030}$	-4.72	4.62	-1.02	-5.59	4.43	-1.26	-4.41	2.15	-2.06
Zone <sup>a</sup> , $\gamma_{031}$	-11.75	9.24	-1.27	1.37	8.83	0.16	12.61	4.36	2.89**
Current LEP, $\beta_{04}$									
Typical School, $\gamma_{040}$	-19.03	3.12	-6.11**	-21.61	3.14	-6.89**	-34.10	2.66	-12.84**
Zone <sup>a</sup> , $\gamma_{041}$	3.46	6.14	0.56	-2.19	5.94	-0.37	1.94	5.21	0.37
Former LEP, $\beta_{05}$									
Typical School, $\gamma_{050}$	-0.43	2.41	-0.18	1.80	1.83	0.99	-2.05	1.27	-1.61
Zone <sup>a</sup> , $\gamma_{051}$	0.76	4.72	0.16	1.86	3.21	0.58	-3.42	2.40	-1.42
Free/Reduced Price Lunch, $\beta_{06}$									
Typical School, $\gamma_{060}$	-13.55	3.77	-3.59**	-11.75	3.93	-2.99**	-4.10	1.11	-3.69**
Zone <sup>a</sup> , $\gamma_{061}$	-4.72	7.46	-0.63	5.40	7.71	0.70	1.30	2.21	0.59
Disabled, $\beta_{07}$									
Typical School, $\gamma_{070}$	-35.15	3.44	-10.22**	-30.44	2.29	-13.28**	-31.01	1.45	-21.35**
Zone <sup>a</sup> , $\gamma_{071}$	-2.54	6.84	-0.37	-11.22	4.43	-2.53*	2.06	2.89	0.71
Gifted, $\beta_{08}$									
Typical School, $\gamma_{080}$	40.46	3.78	10.71**	41.40	3.39	12.21**	40.67	1.81	22.41**
Zone <sup>a</sup> , $\gamma_{081}$	-13.84	6.23	-2.22*	-10.47	6.73	-1.56	3.49	3.04	1.15
Annual Growth Rate, $\pi_1$ , (level 2)									
Typical Student, $\beta_{10}$									
Typical School, $\gamma_{100}$	27.32	0.54	50.93**	18.95	0.56	33.90**	17.70	0.26	66.90**
Zone <sup>a</sup> , $\gamma_{101}$	-1.13	1.02	-1.11	0.19	1.09	0.17	1.28	0.53	2.40*
Male, $\beta_{11}$									
Typical School, $\gamma_{110}$	0.20	0.87	0.23	-1.55	0.69	-2.23*	-0.14	0.41	-0.34
Black, $\beta_{12}$									
Typical School, $\gamma_{120}$	-0.49	1.28	-0.38	0.23	1.09	0.21	0.12	0.47	0.25
Current LEP, $\beta_{13}$									
Typical School, $\gamma_{130}$	7.63	1.79	4.26**	7.59	1.55	4.91**	5.05	0.93	5.42**
Zone <sup>a</sup> , $\gamma_{131}$	-5.65	2.98	-1.90	-0.41	2.61	-0.16	-1.63	1.77	-0.92
Former LEP, $\beta_{14}$									
Typical School, $\gamma_{140}$	3.47	1.28	2.71*	2.31	0.95	2.43*	0.47	0.47	1.00
Zone, $\gamma_{141}$	-0.32	2.01	-0.16	3.12	1.56	2.00	-0.06	0.82	-0.07
Free/Reduced Price Lunch, $\beta_{15}$									
Typical School, $\gamma_{150}$	2.39	1.83	1.31	1.79	1.79	1.00	1.19	0.53	2.24*
Zone <sup>a</sup> , $\gamma_{151}$	5.83	3.65	1.60	-3.47	3.55	-0.98	0.90	1.06	0.85
Gifted, $\beta_{16}$									
Typical School, $\gamma_{160}$	-2.56	1.91	-1.34	-6.00	1.96	-3.07**	-3.57	0.79	-4.53**

*Note.* Subscripts that begin with “0” refer to intercept values while subscripts that begin with “1” pertain to predictor weights. All student and school level predictors are grand-mean centered which causes the intercept terms to represent the value of the criterion for the typical student and the predictor weights to represent differences between the groups. Predictor weights with non-significant values across all grades and subject areas (i.e., Male, Black, and Gifted) are not shown.

<sup>a</sup> Zone is a dichotomous program variable equal to “1” for schools in the Zone and “0” for schools in the control group.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

With regard to the initial status, the intercept for the typical student in the typical school corresponds to the value assumed by the combined group’s mean pretest scale score when the predictors are at their sample means. It ranges from a low of 596.95 in grade 4 to a high of 643.92 in grade 8. The predictor weights give the achievement differences in initial status within the subgroups prior to the onset of the program. The achievement gap between male and female students ranged from 3.49 points in grade 4 to 7.16 points in grade 5. Current LEP students were outscored by non-LEP students by an amount that ranged from 19.03 points in grade 4 to 34.10 points in grade 8. Students who were eligible for the FRL program were outscored by non-eligible students by an amount that ranged from 4.10 points in grade 8 to 13.55 points in grade 4. The achievement gap between disabled students and non-disabled students ranged from 30.44 points in grade 5 to 35.15 points in grade 4. Finally, the amount by which gifted students outscored non-gifted students ranged from 40.46 points in grade 4 to 41.40 points in grade 5. The Zone program variable indicates the difference in the initial status of typical students in Zone and control schools and for each of eight subgroups. For the typical student in the typical school this value was not statistically significant at each grade, which indicates that overall the groups were comparable when the average A plus points earned was included as a covariate. Within the subgroups, no consistent pattern was detected.

With regard to the annual growth rate, the intercept for the typical student in the typical school corresponds to the value assumed by the combined group’s mean annualized gain score when the predictors are at their sample means. All values were statistically significant and ranged from a low of 17.70 in grade 8 to a high of 27.32 in grade 4 indicating that on average significant growth was seen at each grade. The predictor weights give achievement differences in annual growth rate within the subgroups. The achievement gap between current LEP and non-LEP students was 7.63 for grade 4, 7.59 points for grade 5, and 5.05 points for grade 8. Former LEP students were outscored by non-LEP students by an amount that ranged from 2.31 points in grade 5 to 3.47 points in grade 4. Finally, gifted students grew at a slower annual rate than non-gifted students by an amount that ranged from 3.57 points in grade 8 to 6.00 points in grade 5. The Zone program variable gives the difference between the groups’ annual growth rates and as the groups’ initial status was comparable indicates the effect of the program. A statistically significant predictor weight of 1.28 was noted for this interactive effect in grade 8 only. No other significant effects were detected.

**Table 14**  
**Comparison of the Groups’ Adjusted Reading Posttest Scores**

	Actual						Adjusted				Difference		
	Zone			Control			Zone		Control				
	<i>N</i>	Mean	Standard Deviation	<i>N</i>	Mean	Standard Deviation	Mean	Standard Error <sup>a</sup>	Mean	Standard Error <sup>a</sup>	<i>df</i>	<i>t</i>	<i>d</i>
Grade 4	586	643.70	29.51	753	647.48	31.84	641.63	9.47	643.52	10.15	34	-.63	-.21
Grade 5	833	646.37	32.82	1064	651.59	31.00	645.64	8.62	645.46	9.56	34	.06	.02
Grade 8	2277	669.76	30.19	2857	678.80	32.19	674.54	6.55	672.41	7.34	21	.73	.31

*Note.* The groups’ initial status is equated and the counts displayed represent the total number of respondents in each group.

<sup>a</sup> Standard errors are based on observed posttest (2006) values aggregated to the school level.

The final issue examined is a comparison of the posttest scores predicted for the typical student adjusted for between-group demographic and achievement differences. The predicted posttest score was determined by projecting the annual growth rate overall and the difference between the Zone and control schools, and adding the result to the overall initial status. Table 14 lists by grade

level the groups' size, mean, and standard deviation and the adjusted mean and standard error. The results of independent sample *t*-tests of the Zone and control groups' adjusted scores are displayed in the last three columns of the table. The table shows that for both groups the actual mean scores are usually higher than the adjusted mean scores. Results show that the adjusted mean score of eighth grade students in the Zone schools was higher, 674.54, than that of their counterparts, 672.41. No statistically significant differences were found.

In sum, the absence of a significant difference in the initial status scores for typical students in the Zone and control schools indicates that the groups' adjusted reading scores were comparable at the inception of the program in all three grade levels. Therefore, a comparison of the groups' annual growth rates provides a direct measure of the Zone program's efficacy. In grade 4 and 5 no significant differences in the rates of growth of typical students in the Zone and control schools were found. However, in grade 8, a significant positive difference in the annual growth rate for typical students in the Zone and control schools was also found. The difference favored the Zone students thus, while the Zone may be considered effective at increasing reading achievement for students in grade 8, the results for the other grades were inconclusive.

### ***Mathematics***

The random effects estimated by the HLM provide an overview of model fit, and delineate the way error is distributed throughout the three levels, of the model. Table 15 follows the same format as Table 12 and lists by grade level the standard deviation, variance component, chi-square, and reliability for each random effect. Listed at the left margin are the levels of the model: Level 1 temporal variation (i.e., test administration); Level 2 (students within school); and Level 3 (between schools). Listed by the model level, are error terms for the various predictors in the model.

The temporal variation which gives the test score error across time periods that remains unexplained by the model was reduced by 71.4 percent in grade 4, 67.2 percent in grade 5, and 71.5 percent in grade 8. These percentages, which do not appear in Table 15, represent effect sizes with strong practical significance (Cohen, 1988). The addition of the Zone program indicator to the model did not reduce variance in the students' annual growth rates at any grade indicating that in none of the three cases did the program exhibit an effect. The chi-square values for the between-schools and students-within-schools effects demonstrate that significant variation in initial status and annual growth rates remain unexplained by the model.

The fixed effects estimated by the HLM indicate the influence of the predictors on the estimated value of each criterion, when all other effects in the model are held constant. Table 16 follows the same format as Table 13 and lists by grade level, the mean, standard error, and *t*-ratio for each of the fixed effects. Listed at the left margin are the predictors for the second level of the HLM model, which estimate the value of the students' reading scale scores over time in terms of the students' initial status (i.e., at the inception of the Zone program) and annual growth rate. Listed at the first level of indent are the predictors for the second level of the HLM model, which separately estimate criterion variables for students' initial status and annual growth rate in terms of student-level demographic predictors of gender, ethnicity, eligibility for free/reduced price lunch, LEP status, and exceptional student classification. These variables represent the main effects of achievement.

**Table 15**  
**Hierarchical Linear Model of Growth in Mathematics**  
**Random Effects**

Random Effect <sup>a</sup>	Grade 4					Grade 5					Grade 8				
	Standard Deviation	Variance Component	df	Chi-square	$\lambda$	Standard Deviation	Variance Component	df	Chi-square	$\lambda$	Standard Deviation	Variance Component	df	Chi-square	$\lambda$
Level 1 (temporal variation)															
Error, e	20.63	425.63				16.81	282.55				14.59	212.88			
Level 2 (students within schools)															
Initial status, $r_0$	25.99	675.43	1014	3866.63 **		22.96	526.97	1574	7088.10 **		23.00	529.19	4918	24159.00 **	
Growth rate, $r_1$	2.25	5.07	1086	1338.22 **		4.37	19.08	1646	2127.37 **		4.14	17.18	4964	5896.96 **	
Level 3 (between schools)															
Initial Status															
Typical Student, $U_{00}$	8.44	71.29	2	13.09 **	.95	2.78	7.75	5	14.28 *	.81	2.71	7.35	17	49.18 **	.96
Male, $U_{01}$	1.96	3.83	3	5.27	.50	6.44	41.46	6	8.56	.96	2.77	7.67	18	27.62	.96
Black, $U_{02}$	5.55	30.79	3	3.73	.89	17.59	309.53	6	7.42	.99	5.65	31.92	18	22.83	.99
Hispanic, $U_{03}$	4.78	22.86	3	2.56	.86	14.96	223.90	6	4.58	.99	5.69	32.33	18	22.84	.99
Current LEP, $U_{04}$	12.89	166.25	3	4.31	.98	5.77	33.24	6	2.60	.95	8.59	73.73	18	34.57 *	.99
Former LEP, $U_{05}$	4.55	20.73	3	5.28	.84	2.81	7.89	6	5.50	.82	2.21	4.90	18	16.34	.94
Lunch, $U_{06}$	14.41	207.69	3	13.69 **	.98	10.38	107.76	6	6.98	.98	3.63	13.19	18	29.23 *	.98
Disabled, $U_{07}$	12.94	167.55	3	0.26	.98	6.58	43.32	6	7.22	.96	5.88	34.61	18	38.84 **	.99
Gifted, $U_{08}$	9.60	92.21	3	1.14	.96	9.72	94.39	6	13.30 *	.98	5.69	32.34	18	28.84	.99
Growth Rate															
Typical Student, $U_{10}$	5.19	26.93	3	15.91 **	.88	3.57	12.75	6	39.98 **	.88	2.15	4.61	18	147.91 **	.94
Male, $U_{11}$	3.35	11.22	4	15.60 **	.75	3.50	12.27	7	17.04 *	.87	1.25	1.55	19	31.69 *	.83
Black, $U_{12}$	5.14	26.46	4	4.11	.87	4.17	17.39	7	5.61	.91	1.74	3.04	19	25.75	.91
Current LEP, $U_{13}$	9.46	89.51	3	13.22 **	.96	2.12	4.49	6	9.48	.72	2.08	4.33	18	16.23	.93
Former LEP, $U_{14}$	6.71	45.02	3	15.83 **	.92	3.63	13.18	6	7.69	.88	0.72	0.51	18	15.32	.62
Lunch, $U_{15}$	5.42	29.39	3	12.46 **	.89	4.26	18.19	6	6.94	.91	1.47	2.16	18	23.50	.87
Gifted, $U_{16}$	7.35	53.98	4	10.35 *	.93	5.09	25.87	7	8.66	.94	2.32	5.39	19	31.80 *	.94

Note. The symbol  $\lambda$  indicates the reliability of the error estimate.

<sup>a</sup> The Level 1 random effect ( $e$ ) gives the variation in students scores over time after the effect of student and school variables are taken into account. The Level 2 random effects ( $r_0, r_1$ ) give the variation in individual student scores after the effect of school level variables are taken into account. The Level 3 random effects ( $u_{00}, u_{16}$ ) give school-level variations in the scores.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Listed at the second level of indent are the predictors for the third and final level of the HLM model, which separately estimate the student-level intercept and each student-level predictor weight in terms of a school-level intercept and a weighted sum of school-level predictors, which include program type. Predictor weights with non-significant values across all grades and subject areas (i.e., Male, Black, and Gifted) are not shown. The points earned underlying the A-Plus school grade were included as a predictor for the school-level intercept term to control for differences between the treatment and control group prior to the onset of the Zone program. All predictors were grand-mean centered and the effects listed were net of the other effects in the model. These variables represent the interactive effects of achievement.

With regard to the initial status, the intercept for the typical student in the typical school corresponds to the value assumed by the combined group's mean pretest scale score when the predictors are at their sample means. It ranges from a low of 583.67 in grade 4 to a high of 648.70 in grade 8. The predictor weights give the achievement differences in initial status within the subgroups prior to the onset of the program. The male students outscored female students by an amount, which ranged from 2.66 points in grade 8 to 3.78 points in grade 5. The performance deficit between Black and White/Other students ranged from 11.76 points in grade 4 to 16.31 points in grade 5. Current LEP students were outscored by non-LEP students by an amount that ranged from 16.44 points in grade 4 to 27.52 points in grade 5. The achievement gap between disabled students and non-disabled students ranged from 29.34 points in grade 5 to 41.18 points in grade 4. Finally, the amount by which gifted students outscored non-gifted students ranged from 37.54 points in grade 4 to 44.67 points in grade 5. The Zone program variable indicates the difference in the initial status of typical students in Zone and control schools and for each of eight subgroups. For the typical student in the typical school this value was not statistically significant at each grade, which indicates that overall the groups were comparable when the average A-plus points earned was included as a covariate. Within the subgroups, the achievement gap between male and female students differed between Zone and control schools by an amount, which ranged from a 4.66 point deficit in grade 8 to 7.33 points advantage in grade 4. No other consistent pattern was detected.

With regard to the annual growth rate, the intercept for the typical student in the typical school corresponds to the value assumed by the combined group's mean annualized gain score when the predictors are at their sample means. All values were statistically significant and ranged from a low of 22.79 points in grade 8 to a high of 31.79 in grade 4 indicating that on average significant growth was seen at each grade. The predictor weights give achievement differences in annual growth rate within the subgroups. The achievement gap between current LEP and non-LEP students was 5.56 for grade 4, 7.22 points for grade 5, and 7.34 points for grade 8. The Zone program variable gives the difference between the groups' annual growth rates and as the groups' initial status was comparable indicates the effect of the program. This variable was not significant at any grade level and no any other significant effects were detected.

**Table 16**  
**Hierarchical Model of Growth in Mathematics**  
**Fixed Effects**

Estimates	Grade 4			Grade 5			Grade 8		
	Mean	SE	t	Mean	SE	t	Mean	SE	t
<b>Initial Status, <math>\pi_0</math>, (level 2)</b>									
Typical Student, $\beta_{00}$									
Typical School, $\gamma_{000}$	583.67	1.70	342.67**	604.26	0.82	734.55**	648.70	0.70	928.26**
Zone <sup>a</sup> , $\gamma_{001}$	2.96	3.99	0.74	-1.30	2.08	-0.63	-2.00	1.79	-1.12
A-Plus Grade, $\gamma_{002}$	0.11	0.04	2.90**	0.11	0.02	4.66**	0.10	0.02	4.43**
Male, $\beta_{01}$									
Typical School, $\gamma_{010}$	3.78	1.75	2.15*	0.34	1.66	0.20	2.66	0.93	2.86*
Zone <sup>a</sup> , $\gamma_{011}$	7.33	3.35	2.19*	-0.59	2.75	-0.21	-4.66	1.82	-2.57*
Black, $\beta_{02}$									
Typical School, $\gamma_{020}$	-11.76	5.59	-2.11*	-16.31	5.92	-2.76*	-13.98	2.52	-5.56**
Zone <sup>a</sup> , $\gamma_{021}$	-8.12	11.11	-0.73	8.19	11.08	0.74	10.44	4.94	2.12*
Hispanic, $\beta_{03}$									
Typical School, $\gamma_{030}$	-8.03	5.65	-1.42	-9.30	5.74	-1.62	-3.19	2.58	-1.24
Zone <sup>a</sup> , $\gamma_{031}$	-10.42	11.29	-0.92	6.74	11.08	0.61	10.91	5.08	2.15*
Current LEP, $\beta_{04}$									
Typical School, $\gamma_{040}$	-16.44	3.78	-4.35**	-27.52	2.90	-9.50**	-31.86	2.54	-12.55**
Zone <sup>a</sup> , $\gamma_{041}$	-0.22	7.33	-0.03	0.42	5.76	0.07	-4.12	4.59	-0.90
Former LEP, $\beta_{05}$									
Typical School, $\gamma_{050}$	2.80	2.51	1.12	-0.37	1.72	-0.22	-2.03	1.12	-1.82
Zone <sup>a</sup> , $\gamma_{051}$	2.08	4.91	0.42	3.41	3.27	1.04	-4.37	2.23	-1.96
Free/Reduced Price Lunch, $\beta_{06}$									
Typical School, $\gamma_{060}$	-6.61	5.14	-1.29	-11.02	3.84	-2.87**	-1.41	1.35	-1.04
Zone <sup>a</sup> , $\gamma_{061}$	-12.07	10.07	-1.20	-0.95	7.45	-0.13	6.99	2.69	2.59*
Disabled, $\beta_{07}$									
Typical School, $\gamma_{070}$	-41.18	4.78	-8.62**	-29.34	2.12	-13.83**	-32.86	1.67	-19.69**
Zone <sup>a</sup> , $\gamma_{071}$	-13.61	9.40	-1.45	-8.86	4.22	-2.10*	0.87	3.04	0.29
Gifted, $\beta_{08}$									
Typical School, $\gamma_{080}$	37.54	4.05	9.26**	44.67	3.59	12.46**	43.59	1.85	23.55**
Zone <sup>a</sup> , $\gamma_{081}$	-24.62	7.11	-3.46**	-7.44	6.78	-1.10	-0.70	3.45	-0.20
<b>Annual Growth Rate, <math>\pi_1</math>, (level 2)</b>									
Typical Student, $\beta_{10}$									
Typical School, $\gamma_{100}$	31.79	1.00	31.65**	23.16	0.69	33.52**	22.79	0.48	47.34**
Zone <sup>a</sup> , $\gamma_{101}$	-1.83	1.75	-1.05	-0.31	1.36	-0.23	-0.43	0.88	-0.49
Male, $\beta_{11}$									
Typical School, $\gamma_{110}$	-0.76	1.01	-0.75	-0.24	0.85	-0.28	-0.14	0.41	-0.35
Black, $\beta_{12}$									
Typical School, $\gamma_{120}$	1.08	1.61	0.67	-0.07	1.18	-0.06	-0.36	0.58	-0.63
Current LEP, $\beta_{13}$									
Typical School, $\gamma_{130}$	5.56	2.34	2.38*	7.22	1.39	5.17**	7.34	0.89	8.21**
Zone <sup>a</sup> , $\gamma_{131}$	0.14	3.80	0.04	-0.58	2.56	-0.23	-0.26	1.77	-0.15
Former LEP, $\beta_{14}$									
Typical School, $\gamma_{140}$	2.48	1.72	1.44	0.88	1.06	0.83	0.99	0.46	2.15*
Zone <sup>a</sup> , $\gamma_{141}$	0.72	2.66	0.27	-0.96	1.69	-0.57	0.15	0.81	0.19
Free/Reduced Price Lunch, $\beta_{15}$									
Typical School, $\gamma_{150}$	1.58	2.22	0.71	0.98	1.76	0.56	-0.02	0.57	-0.04
Zone <sup>a</sup> , $\gamma_{151}$	7.35	4.34	1.69	12.89	3.40	3.79**	0.08	1.14	0.07
Gifted, $\beta_{16}$									
Typical School, $\gamma_{160}$	4.64	2.37	1.95	-3.56	1.74	-2.04*	3.15	0.78	4.03**

Note. Subscripts that begin with “0” refer to intercept values while subscripts that begin with “1” pertain to predictor weights. All student and school level predictors are grand-mean centered which causes the intercept terms to represent the value of the criterion for the typical student and the predictor weights to represent differences between the groups. Predictor weights with non-significant values across all grades and subject areas (i.e., Male, Black, and Gifted) are not shown.

<sup>a</sup> Zone is a dichotomous program variable equal to “1” for schools in the Zone and “0” for schools in the control group.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

The final issue examined is a comparison of the posttest scores predicted for the typical student adjusted for between-group demographic and achievement differences. The predicted posttest score was determined by projecting the annual growth rate overall and the difference between the Zone and control schools, and adding the result to the overall initial status. Table 17 follows the same format as Table 14 and lists by grade level the groups' size, mean, and standard deviation and the adjusted mean and standard error. The results of independent sample *t*-tests of the Zone and control groups' adjusted scores are displayed in the last three columns of the table. The table shows that for both groups the actual mean scores are usually higher than the adjusted mean scores. Results show that while the adjusted mean scores of students in the Zone schools was somewhat lower than that of their counterparts, no statistically significant differences were found.

**Table 17**  
**Comparison of the Groups' Adjusted Mathematics Posttest Scores**

	Actual						Adjusted				Difference		
	Zone			Control			Zone		Control				
	<i>N</i>	Mean	Standard Deviation	<i>N</i>	Mean	Standard Deviation	Mean	Standard Error <sup>a</sup>	Mean	Standard Error <sup>a</sup>	<i>df</i>	<i>t</i>	<i>d</i>
Grade 4	584	633.02	36.27	754	636.99	38.03	635.03	13.17	638.09	11.67	34	-.74	-.24
Grade 5	831	641.14	33.36	1067	647.99	35.76	642.67	8.09	643.19	8.68	34	-.18	-.06
Grade 8	2271	679.89	35.02	2854	693.98	36.61	686.41	7.07	687.11	11.16	21	-.36	-.07

*Note.* The groups' initial status is equated and the counts displayed represent the total number of respondents in each group.

<sup>a</sup> Standard errors are based on observed posttest (2006) values aggregated to the school level.

In sum, the absence of significant differences in the adjusted initial status scores for the typical student in the Zone and control schools indicates that the groups' adjusted scores were comparable at the inception of the Zone program in all three grade cohorts. Therefore, comparison of the groups' annual growth rates provides a direct indication of the efficacy of the Zone program. At each grade for the sample overall, a significant increase in annual growth rate of students was found for the typical student, with positive differences seen for students classified as current LEP. No significant differences between Zone and control schools were found. Thus, this analysis does not indicate that the program is effective at increasing mathematics achievement at any grade.

### *Student Performance on the FCAT/SSS*

The second measure of academic performance examined by the evaluation involved the movement of students from lower to higher achievement levels on the FCAT/SSS. This analysis was done across grades 3 through 10, as well as individually by grade. Combining results across grade levels is possible because the FCAT/SSS is designed to assess students' performance with regard to specified Sunshine State Standards criteria established for each grade level. Thus, a 3<sup>rd</sup> grade student scoring "proficient" on the 3<sup>rd</sup> grade test has met the same standard as a 9<sup>th</sup> grade student scoring "proficient" on the 9<sup>th</sup> grade test.

In order to measure shifts in achievement on the FCAT/SSS, the difference between each student's 2004-05 and 2005-06 achievement levels was calculated. For students at level 1-2 in 2004-05, an achievement gain was defined as any full-level rise above the 2004-05 level. For students at level 3-5 in 2004-05, (considered to be at or above "proficient" status) an achievement gain was defined as any level equal to or above the 2004-05 level. Chi-square ( $\chi^2$ ) analyses were performed to compare the percentages of students who met the achievement level criteria in 2004-05 at the Zone and control schools. The strength of differences was further examined using a Phi ( $\phi$ ) coefficient to assess effect size and thus ascertain practical significance. Separate analyses were performed for

reading and mathematics; the results are displayed in Table 18 and Table 19 respectively. The cells of data used in the computation of achievement gains are shaded. These two tables display the number and percent of Zone and control students by 2004-05 achievement levels (horizontally), and by 2005-06 achievement levels (vertically), followed by the Chi-square and Phi statistics.

An examination of all Grades section of Table 18 shows that, the percentage of students scoring in level 1 in reading on the FCAT/SSS declined from 2004-05 to 2005-06 in both the Zone and control schools. Looking at the fourth column of the table, it may be seen that in 2004-05, 51.3% of the students in Zone schools scored in level 1. Following down this column, it can be seen that 22.6% of the students in Zone schools scored in level 2, 19.5% in level 3, 5.8% in level 4, and 0.8% in level 5. Their counterparts in control schools performed similarly: 38.4% of the students in control schools scored in level 1, 24.1% in level 2, 25.0% in level 3, 10.2% in level 4, and 2.3% in level 5. Now, changes in achievement level from 2004-05 to 2005-06 may be seen by following across the first row. It reveals that, of the students in Zone schools who initially scored in level 1, 78.6% remained in level 1 the following year 16.2% improved one level, to level 2; 4.7% improved two level, to level 3; 0.5% improved three level, to level 4; and, none improved four levels to level 5.

The last two columns of Table 18 display the results of the Chi-square analyses and the Phi-coefficients respectively. These tests are used to determine the statistical significance of the shifts in achievement for students in Zone and control schools. As may be seen in the second to the last column of the all grade section of the table, three statistically significant differences were identified. They stemmed from the shifts out of levels 1, 2, and 4. The percentage of level 1 students in 2004-05 at the Zone schools who scored in level 2 or higher in 2005-06 was smaller than that of their counterparts at the control schools. Specifically, 78.6% of the Zone students initially scoring in level 1 remained in level 1, while only 71.9% of the control students remained in level 1. Likewise the percentage of the Zone students who moved from level 2 to levels 3 and above, or from level 4 to levels 4 and 5 was significantly smaller than that of the control students.

Because statistical significance is more easily obtained when the sample size is large, as in the previous analyses, it is prudent to examine the strength of an effect to determine its practical significance as well. For the Chi-square test the appropriate post-hoc analysis is the Phi-coefficient, which is displayed in the last column of Table 18. The Phi-coefficient is an effect size measure that has been classified as .10 = weak, .30 = moderate, and .50 = strong (Cohen, 1988). Accordingly, the control students who originally scored in levels 1, 2, and 4 in reading improved more than did their counterparts in the Zone but the differences were weak.

**Table 18**  
**Comparison of FCAT- SSS Reading Achievement Level Change**

ALL GRADES															
2004-05				2005-06										$\chi^2$	$\Phi$
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5			
				n	%	n	%	n	%	n	%	n	%		
1	Zone	9879	51.3	7767	78.6	1598	16.2	464	4.7	48	0.5	2	0.0	88.0**	-0.06
	Control	9740	38.4	7007	71.9	2069	21.2	598	6.1	66	0.7	0	0.0		
2	Zone	4344	22.6	1336	30.8	2018	46.5	913	21.0	71	1.6	6	0.1	13.1**	-0.03
	Control	6127	24.1	1652	27.0	2833	46.2	1478	24.1	154	2.5	10	0.2		
3	Zone	3751	19.5	253	6.7	1077	28.7	1901	50.7	474	12.6	46	1.2	1.8	-0.01
	Control	6354	25.0	367	5.8	1701	26.8	3166	49.8	995	15.7	125	2.0		
4	Zone	1123	5.8	17	1.5	69	6.1	465	41.4	476	42.4	96	8.5	8.6**	-0.05
	Control	2594	10.2	27	1.0	159	6.1	920	35.5	1143	44.1	345	13.3		
5	Zone	160	0.8	0	0.0	0	0.0	23	14.4	70	43.8	67	41.9	0.2	0.01
	Control	577	2.3	0	0.0	9	1.6	89	15.4	260	45.1	219	38.0		
ALL	Zone	19257	100.0	9373	48.7	4762	24.7	3766	19.6	1139	5.9	217	1.1		
	Control	25392	100.0	9053	35.7	6771	26.7	6251	24.6	2618	10.3	699	2.8		

GRADE 3															
2004-05				2005-06										$\chi^2$	$\Phi$
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5			
				n	%	n	%	n	%	n	%	n	%		
1	Zone	383	100.0	116	30.3	87	22.7	152	39.7	28	7.3	0	0.0	0.1	0.01
	Control	346	99.4	101	29.2	71	20.5	152	43.9	22	6.4	0	0.0		
2	Zone	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-- a	--
	Control	1	0.3	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0		
3	Zone	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	-- a	--
	Control	1	0.3	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0		
4	Zone	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
	Control	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
5	Zone	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
	Control	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
ALL	Zone	383	100.0	116	30.3	87	22.7	152	39.7	28	7.3	0	0.0		
	Control	348	100.0	102	29.3	71	20.4	153	44.0	22	6.3	0	0.0		

GRADE 4															
2004-05				2005-06										$\chi^2$	$\Phi$
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5			
				n	%	n	%	n	%	n	%	n	%		
1	Zone	293	23.2	192	65.5	57	19.5	36	12.3	6	2.0	2	0.7	0.0	0.01
	Control	317	19.6	209	65.9	64	20.2	31	9.8	13	4.1	0	0.0		
2	Zone	332	26.3	113	34.0	114	34.3	89	26.8	16	4.8	0	0.0	0.5	0.03
	Control	383	23.7	162	42.3	110	28.7	102	26.6	9	2.3	0	0.0		
3	Zone	472	37.4	41	8.7	112	23.7	242	51.3	73	15.5	4	0.8	0.1	0.01
	Control	622	38.4	68	10.9	139	22.3	313	50.3	100	16.1	2	0.3		
4	Zone	150	11.9	4	2.7	14	9.3	57	38.0	69	46.0	6	4.0	0.3	-0.03
	Control	260	16.1	5	1.9	22	8.5	96	36.9	123	47.3	14	5.4		
5	Zone	16	1.3	0	0.0	0	0.0	2	12.5	10	62.5	4	25.0	-- a	
	Control	37	2.3	0	0.0	0	0.0	6	16.2	20	54.1	11	29.7		
ALL	Zone	1263	100.0	350	27.7	297	23.5	426	33.7	174	13.8	16	1.3		
	Control	1619	100.0	444	27.4	335	20.7	548	33.8	265	16.4	27	1.7		

Note. Due to rounding, percentages indicated as 0.0 may be greater than zero and percentages may not total to 100.  
<sup>a</sup> The number of students in a group (Zone vs. Control) or in a classification (gain vs. no gain) was less than five.  
 \* p < .05. \*\* p < .01.

**Table 18, Continued**  
**Comparison of FCAT- SSS Reading Achievement Level Change**

<b>GRADE 5</b>															
<b>2004-05</b>				<b>2005-06</b>											
<b>Level</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Level 1</b>		<b>Level 2</b>		<b>Level 3</b>		<b>Level 4</b>		<b>Level 5</b>		$\chi^2$	$\phi$
				<b>n</b>	<b>%</b>										
<b>1</b>	<b>Zone</b>	<b>349</b>	<b>28.3</b>	267	76.5	56	16.0	25	7.2	1	0.3	0	0.0	2.3	-0.06
	<b>Control</b>	<b>330</b>	<b>20.6</b>	236	71.5	77	23.3	14	4.2	3	0.9	0	0.0		
<b>2</b>	<b>Zone</b>	<b>243</b>	<b>19.7</b>	74	30.5	107	44.0	55	22.6	7	2.9	0	0.0	0.2	0.02
	<b>Control</b>	<b>295</b>	<b>18.4</b>	97	32.9	128	43.4	67	22.7	3	1.0	0	0.0		
<b>3</b>	<b>Zone</b>	<b>429</b>	<b>34.8</b>	52	12.1	107	24.9	235	54.8	34	7.9	1	0.2	1.5	0.04
	<b>Control</b>	<b>604</b>	<b>37.7</b>	73	12.1	174	28.8	301	49.8	55	9.1	1	0.2		
<b>4</b>	<b>Zone</b>	<b>196</b>	<b>15.9</b>	4	2.0	16	8.2	87	44.4	81	41.3	8	4.1	0.2	-0.02
	<b>Control</b>	<b>316</b>	<b>19.7</b>	14	4.4	28	8.9	123	38.9	137	43.4	14	4.4		
<b>5</b>	<b>Zone</b>	<b>17</b>	<b>1.4</b>	0	0.0	0	0.0	2	11.8	9	52.9	6	35.3	0.0	0.02
	<b>Control</b>	<b>57</b>	<b>3.6</b>	0	0.0	0	0.0	7	12.3	31	54.4	19	33.3		
<b>ALL</b>	<b>Zone</b>	<b>1234</b>	<b>100.0</b>	397	32.2	286	23.2	404	32.7	132	10.7	15	1.2		
	<b>Control</b>	<b>1602</b>	<b>100.0</b>	420	26.2	407	25.4	512	32.0	229	14.3	34	2.1		

<b>GRADE 6</b>															
<b>2004-05</b>				<b>2005-06</b>											
<b>Level</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Level 1</b>		<b>Level 2</b>		<b>Level 3</b>		<b>Level 4</b>		<b>Level 5</b>		$\chi^2$	$\phi$
				<b>n</b>	<b>%</b>										
<b>1</b>	<b>Zone</b>	<b>759</b>	<b>34.7</b>	547	72.1	154	20.3	58	7.6	0	0.0	0	0.0	7.3**	-0.07
	<b>Control</b>	<b>872</b>	<b>26.4</b>	576	66.1	194	22.2	93	10.7	9	1.0	0	0.0		
<b>2</b>	<b>Zone</b>	<b>507</b>	<b>23.2</b>	139	27.4	197	38.9	157	31.0	14	2.8	0	0.0	0.2	0.02
	<b>Control</b>	<b>647</b>	<b>19.6</b>	145	22.4	231	35.7	240	37.1	31	4.8	0	0.0		
<b>3</b>	<b>Zone</b>	<b>677</b>	<b>30.9</b>	57	8.4	158	23.3	348	51.4	106	15.7	8	1.2	1.5	0.04
	<b>Control</b>	<b>1061</b>	<b>32.2</b>	63	5.9	211	19.9	552	52.0	225	21.2	10	0.9		
<b>4</b>	<b>Zone</b>	<b>221</b>	<b>10.1</b>	4	1.8	13	5.9	85	38.5	97	43.9	22	10.0	0.2	-0.02
	<b>Control</b>	<b>593</b>	<b>18.0</b>	2	0.3	29	4.9	184	31.0	290	48.9	88	14.8		
<b>5</b>	<b>Zone</b>	<b>26</b>	<b>1.2</b>	0	0.0	0	0.0	4	15.4	10	38.5	12	46.2	0.0	0.02
	<b>Control</b>	<b>125</b>	<b>3.8</b>	0	0.0	2	1.6	14	11.2	62	49.6	47	37.6		
<b>ALL</b>	<b>Zone</b>	<b>2190</b>	<b>100.0</b>	747	34.1	522	23.8	652	29.8	227	10.4	42	1.9		
	<b>Control</b>	<b>3298</b>	<b>100.0</b>	786	23.8	667	20.2	1083	32.8	617	18.7	145	4.4		

<b>GRADE 7</b>															
<b>2004-05</b>				<b>2005-06</b>											
<b>Level</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Level 1</b>		<b>Level 2</b>		<b>Level 3</b>		<b>Level 4</b>		<b>Level 5</b>		$\chi^2$	$\phi$
				<b>n</b>	<b>%</b>										
<b>1</b>	<b>Zone</b>	<b>1641</b>	<b>52.9</b>	1134	69.1	382	23.3	117	7.1	8	0.5	0	0.0	23.7**	-0.08
	<b>Control</b>	<b>1725</b>	<b>40.3</b>	1048	60.8	478	27.7	187	10.8	12	0.7	0	0.0		
<b>2</b>	<b>Zone</b>	<b>643</b>	<b>20.7</b>	124	19.3	255	39.7	246	38.3	18	2.8	0	0.0	7.8**	-0.07
	<b>Control</b>	<b>970</b>	<b>22.7</b>	144	14.8	358	36.9	415	42.8	52	5.4	1	0.1		
<b>3</b>	<b>Zone</b>	<b>611</b>	<b>19.7</b>	10	1.6	82	13.4	373	61.0	139	22.7	7	1.1	1.0	0.02
	<b>Control</b>	<b>1065</b>	<b>24.9</b>	18	1.7	160	15.0	589	55.3	276	25.9	22	2.1		
<b>4</b>	<b>Zone</b>	<b>179</b>	<b>5.8</b>	2	1.1	2	1.1	47	26.3	109	60.9	19	10.6	1.2	-0.04
	<b>Control</b>	<b>442</b>	<b>10.3</b>	2	0.5	3	0.7	103	23.3	249	56.3	85	19.2		
<b>5</b>	<b>Zone</b>	<b>29</b>	<b>0.9</b>	0	0.0	0	0.0	1	3.4	13	44.8	15	51.7	0.2	0.04
	<b>Control</b>	<b>79</b>	<b>1.8</b>	0	0.0	0	0.0	4	5.1	38	48.1	37	46.8		
<b>ALL</b>	<b>Zone</b>	<b>3103</b>	<b>100.0</b>	1270	40.9	721	23.2	784	25.3	287	9.2	41	1.3		
	<b>Control</b>	<b>4281</b>	<b>100.0</b>	1212	28.3	999	23.3	1298	30.3	627	14.6	145	3.4		

Note. Due to rounding, percentages indicated as 0.0 may be greater than zero and percentages may not total to 100.  
<sup>a</sup>The number of students in a group (Zone vs. Control) or in a classification (gain vs. no gain) was less than five.  
\* p < .05. \*\* p < .01.

**Table 18, Continued**  
**Comparison of FCAT- SSS Reading Achievement Level Change**

<b>GRADE 8</b>															
<b>2004-05</b>				<b>2005-06</b>											
<b>Level</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Level 1</b>		<b>Level 2</b>		<b>Level 3</b>		<b>Level 4</b>		<b>Level 5</b>		$\chi^2$	$\Phi$
				<b>n</b>	<b>%</b>										
1	Zone	1764	53.0	1382	78.3	340	19.3	42	2.4	0	0.0	0	0.0	29.2**	-0.09
	Control	1721	40.9	1212	70.4	441	25.6	64	3.7	4	0.2	0	0.0		
2	Zone	700	21.0	187	26.7	377	53.9	134	19.1	2	0.3	0	0.0	6.4*	-0.06
	Control	939	22.3	188	20.0	519	55.3	218	23.2	14	1.5	0	0.0		
3	Zone	634	19.0	34	5.4	262	41.3	305	48.1	32	5.0	1	0.2	13.3**	-0.09
	Control	1055	25.1	51	4.8	344	32.6	573	54.3	82	7.8	5	0.5		
4	Zone	201	6.0	3	1.5	7	3.5	118	58.7	70	34.8	3	1.5	0.4	-0.02
	Control	381	9.1	2	0.5	18	4.7	213	55.9	137	36.0	11	2.9		
5	Zone	31	0.9	0	0.0	0	0.0	8	25.8	19	61.3	4	12.9	0.5	-0.06
	Control	111	2.6	0	0.0	1	0.9	25	22.5	65	58.6	20	18.0		
ALL	Zone	3330	100.0	1606	48.2	986	29.6	607	18.2	123	3.7	8	0.2		
	Control	4207	100.0	1453	34.5	1323	31.4	1093	26.0	302	7.2	36	0.9		

<b>GRADE 9</b>															
<b>2004-05</b>				<b>2005-06</b>											
<b>Level</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Level 1</b>		<b>Level 2</b>		<b>Level 3</b>		<b>Level 4</b>		<b>Level 5</b>		$\chi^2$	$\Phi$
				<b>n</b>	<b>%</b>										
1	Zone	2273	57.9	1932	85.0	319	14.0	19	0.8	3	0.1	0	0.0	25.2**	-0.07
	Control	2112	41.3	1670	79.1	407	19.3	33	1.6	2	0.1	0	0.0		
2	Zone	1010	25.7	326	32.3	530	52.5	148	14.7	6	0.6	0	0.0	9.7**	-0.06
	Control	1532	30.0	410	26.8	814	53.1	288	18.8	20	1.3	0	0.0		
3	Zone	546	13.9	33	6.0	188	34.4	263	48.2	56	10.3	6	1.1	9.6**	-0.08
	Control	1109	21.7	29	2.6	339	30.6	546	49.2	173	15.6	22	2.0		
4	Zone	89	2.3	0	0.0	5	5.6	38	42.7	33	37.1	13	14.6	1.5	-0.06
	Control	321	6.3	0	0.0	16	5.0	112	34.9	126	39.3	67	20.9		
5	Zone	10	0.3	0	0.0	0	0.0	1	10.0	4	40.0	5	50.0	-- a	--
	Control	41	0.8	0	0.0	0	0.0	3	7.3	15	36.6	23	56.1		
ALL	Zone	3928	100.0	2291	58.3	1042	26.5	469	11.9	102	2.6	24	0.6		
	Control	5115	100.0	2109	41.2	1576	30.8	982	19.2	336	6.6	112	2.2		

<b>GRADE 10</b>															
<b>2004-05</b>				<b>2005-06</b>											
<b>Level</b>	<b>Group</b>	<b>N</b>	<b>%</b>	<b>Level 1</b>		<b>Level 2</b>		<b>Level 3</b>		<b>Level 4</b>		<b>Level 5</b>		$\chi^2$	$\Phi$
				<b>n</b>	<b>%</b>										
1	Zone	2417	63.2	2197	90.9	203	8.4	15	0.6	2	0.1	0	0.0	41.9**	-0.09
	Control	2317	47.1	1955	84.4	337	14.5	24	1.0	1	0.0	0	0.0		
2	Zone	909	23.8	373	41.0	438	48.2	84	9.2	8	0.9	6	0.7	2.8	-0.03
	Control	1360	27.6	505	37.1	673	49.5	148	10.9	25	1.8	9	0.7		
3	Zone	382	10.0	26	6.8	168	44.0	135	35.3	34	8.9	19	5.0	0.5	-0.02
	Control	837	17.0	65	7.8	334	39.9	291	34.8	84	10.0	63	7.5		
4	Zone	87	2.3	0	0.0	12	13.8	33	37.9	17	19.5	25	28.7	0.4	-0.03
	Control	281	5.7	2	0.7	43	15.3	89	31.7	81	28.8	66	23.5		
5	Zone	31	0.8	0	0.0	0	0.0	5	16.1	5	16.1	21	67.7	3.3	0.14
	Control	127	2.6	0	0.0	6	4.7	30	23.6	29	22.8	62	48.8		
ALL	Zone	3826	100.0	2596	67.9	821	21.5	272	7.1	66	1.7	71	1.9		
	Control	4922	100.0	2527	51.3	1393	28.3	582	11.8	220	4.5	200	4.1		

Note. Due to rounding, percentages indicated as 0.0 may be greater than zero and percentages may not total to 100.

<sup>a</sup> The number of students in a group (Zone vs. Control) or in a classification (gain vs. no gain) was less than five.

\* p < .05. \*\* p < .01.

While it is useful to examine the achievement across all grade levels, this aggregation of the data may mask important differences by grade level. Examining the Grades section of Table 18 reveals that almost all of these students had scored in level 1 in 2004-05. This is because the analysis was confined to students who had been retained in Grade 3, since only they had the requisite FCAT-SSS scores in two consecutive years. There were no statistically significant differences identified in the reading level gains in Grade 3. By examining the Grades 4 and 5 sections of the table, one sees that comparatively low percentages of students initially scoring in level 1. And, while shifts were evident, no statistically significant differences were identified between the Zone and control schools in either grade 4 or 5.

In the middle school grades of 6 through 8, the percentage of students who initially scored in level 1 in reading ranged from a low of 26.4 percent of the Grade 6 control students to a high of 53.0 percent of the Grade 8 Zone students. Approximately two-thirds of the students remained at that level in 2005-06. Statistically significant differences between the Zone and control students in the percentages improving from level 1 and from level 2 were found in Grades 6, 7, and 8. Additionally, statistically significant differences were noted in the percentages of Grade 8 students improving from level 3. In all cases, however, a weak advantage was found for the control schools.

At the high school grades of 9 and 10, the percentage of students who initially scored at level 1 in reading ranged from a low of 41.3 percent of Grade 9 control students to a high of 63.2 percent of Grade 10 Zone students. More than four-fifths remained at that level in 2005-06. At Grade 9, statistically significant percentages of students in the Zone schools improved from level 1, from level 2, and from level 3 than did their counterparts in the control schools. At Grade 10, statistically significant percentages of control students improved from level 1 than did Zone students. In each instance, however, the differences were weak.

Table 19, which adheres to the same format as Table 18, examines the achievement level changes in students' mathematics performance on the FCAT/SSS. The all Grades section of Table 19 shows that the percentage of students scoring in level 1 in mathematics declined from 2004-05 to 2005-06 in both the Zone and control schools. Looking at the fourth column of the table, it may be seen that in 2004-05, 45.3% of the students in Zone schools scored in level 1. Following down this column, it can be seen that 25.3% of the students in Zone schools scored in level 2, 20.9% in level 3, 7.2% in level 4, and 1.3% in level 5. Their counterparts in control schools performed similarly: 31.8% scored in level 1, 24.8% in level 2, 27.1% in level 3, 12.6% in level 4, and 3.6% in level 5. Now, changes in achievement level from 2004-05 to 2005-06 may be seen by following across the first row. It reveals that of the students in Zone schools who initially scored in level 1, 71.7% remained in level 1 the following year; 23.4% improved one level to level 2; 4.5% improved two levels to level 3; 0.4% improved three levels to level 4; and none improved four levels to level 5.

**Table 19**  
**Comparison of FCAT- SSS Mathematics Achievement Level Change**

ALL GRADES															
2004-05				2005-06										$\chi^2$	$\Phi$
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5			
				n	%	n	%	n	%	n	%	n	%		
1	Zone	8669	45.3	6216	71.7	2028	23.4	393	4.5	32	0.4	0	0.0	31.6**	-0.04
	Control	8037	31.8	5394	67.1	2090	26.0	510	6.3	38	0.5	5	0.1		
2	Zone	4840	25.3	1223	25.3	2276	47.0	1239	25.6	102	2.1	0	0.0	8.6**	-0.03
	Control	6260	24.8	1358	21.7	3023	48.3	1731	27.7	142	2.3	6	0.1		
3	Zone	4004	20.9	195	4.9	958	23.9	2221	55.5	614	15.3	16	0.4	10.5**	-0.04
	Control	6857	27.1	286	4.2	1407	20.5	3936	57.4	1172	17.1	56	0.8		
4	Zone	1371	7.2	8	0.6	54	3.9	419	30.6	781	57.0	109	8.0	5.2*	-0.03
	Control	3192	12.6	15	0.5	87	2.7	839	26.3	1916	60.0	335	10.5		
5	Zone	242	1.3	0	0.0	0	0.0	10	4.1	99	40.9	133	55.0	0.7	-0.02
	Control	920	3.6	0	0.0	1	0.1	18	2.0	393	42.7	508	55.2		
ALL	Zone	19126	100.0	7642	40.0	5316	27.8	4282	22.4	1628	8.5	258	1.3		
	Control	25266	100.0	7053	27.9	6608	26.2	7034	27.8	3661	14.5	910	3.6		

GRADE 3															
2004-05				2005-06										$\chi^2$	$\Phi$
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5			
				n	%	n	%	n	%	n	%	n	%		
1	Zone	245	64.3	68	27.8	100	40.8	66	26.9	11	4.5	0	0.0	1.8	0.06
	Control	226	64.0	75	33.2	71	31.4	74	32.7	6	2.7	0	0.0		
2	Zone	100	26.2	4	4.0	14	14.0	59	59.0	23	23.0	0	0.0	0.3	0.04
	Control	81	22.9	4	4.9	14	17.3	45	55.6	17	21.0	1	1.2		
3	Zone	32	8.4	0	0.0	0	0.0	20	62.5	10	31.3	2	6.3	-- <sup>a</sup>	--
	Control	44	12.5	0	0.0	2	4.5	21	47.7	18	40.9	3	6.8		
4	Zone	4	1.0	0	0.0	0	0.0	1	25.0	2	50.0	1	25.0	-- <sup>a</sup>	--
	Control	2	0.6	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0		
5	Zone	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
	Control	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
ALL	Zone	381	100.0	72	18.9	114	29.9	146	38.3	46	12.1	3	0.8		
	Control	353	100.0	79	22.4	87	24.6	140	39.7	43	12.2	4	1.1		

GRADE 4															
2004-05				2005-06										$\chi^2$	$\Phi$
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5			
				n	%	n	%	n	%	n	%	n	%		
1	Zone	296	23.4	180	60.8	77	26.0	33	11.1	6	2.0	0	0.0	0.6	-0.03
	Control	304	18.8	175	57.6	95	31.3	27	8.9	3	1.0	4	1.3		
2	Zone	299	23.7	70	23.4	121	40.5	94	31.4	14	4.7	0	0.0	6.2*	0.10
	Control	368	22.7	104	28.3	164	44.6	86	23.4	9	2.4	5	1.4		
3	Zone	463	36.6	28	6.0	103	22.2	259	55.9	68	14.7	5	1.1	2.2	0.04
	Control	607	37.4	41	6.8	159	26.2	318	52.4	74	12.2	15	2.5		
4	Zone	179	14.2	1	0.6	14	7.8	76	42.5	73	40.8	15	8.4	0.0	0.00
	Control	286	17.6	0	0.0	11	3.8	135	47.2	125	43.7	15	5.2		
5	Zone	27	2.1	0	0.0	0	0.0	2	7.4	17	63.0	8	29.6	0.2	-0.04
	Control	56	3.5	0	0.0	0	0.0	1	1.8	36	64.3	19	33.9		
ALL	Zone	1264	100.0	279	22.1	315	24.9	464	36.7	178	14.1	28	2.2		
	Control	1621	100.0	320	19.7	429	26.5	567	35.0	247	15.2	58	3.6		

Note. Due to rounding, percentages indicated as 0.0 may be greater than zero and percentages may not total to 100.

<sup>a</sup> The number of students in a group (Zone vs. Control) or in a classification (gain vs. no gain) was less than five.

\* p < .05. \*\* p < .01.

**Table 19, Continued**  
**Comparison of FCAT- SSS Mathematics Achievement Level Change**

GRADE 5															
2004-05				2005-06											
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5		$\chi^2$	$\phi$
				n	%	n	%	n	%	n	%	n	%		
1	Zone	357	28.9	263	73.7	89	24.9	5	1.4	0	0.0	0	0.0	0.3	-0.02
	Control	323	20.1	232	71.8	79	24.5	10	3.1	2	0.6	0	0.0		
2	Zone	368	29.8	96	26.1	211	57.3	54	14.7	7	1.9	0	0.0	1.6	-0.04
	Control	438	27.3	109	24.9	241	55.0	77	17.6	11	2.5	0	0.0		
3	Zone	395	32.0	16	4.1	133	33.7	180	45.6	66	16.7	0	0.0	3.0	0.05
	Control	605	37.6	50	8.3	212	35.0	242	40.0	100	16.5	1	0.2		
4	Zone	103	8.3	1	1.0	6	5.8	30	29.1	58	56.3	8	7.8	0.4	0.03
	Control	208	12.9	4	1.9	20	9.6	58	27.9	108	51.9	18	8.7		
5	Zone	11	0.9	0	0.0	0	0.0	1	9.1	3	27.3	7	63.6	2.0	0.21
	Control	33	2.1	0	0.0	1	3.0	1	3.0	18	54.5	13	39.4		
ALL	Zone	1234	100.0	376	30.5	439	35.6	270	21.9	134	10.9	15	1.2		
	Control	1607	100.0	395	24.6	553	34.4	388	24.1	239	14.9	32	2.0		

GRADE 6															
2004-05				2005-06											
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5		$\chi^2$	$\phi$
				n	%	n	%	n	%	n	%	n	%		
1	Zone	684	31.2	631	92.3	47	6.9	5	0.7	1	0.1	0	0.0	23.7**	-0.12
	Control	787	23.8	661	84.0	102	13.0	24	3.0	0	0.0	0	0.0		
2	Zone	731	33.3	390	53.4	259	35.4	79	10.8	3	0.4	0	0.0	28.1**	-0.13
	Control	934	28.3	338	36.2	400	42.8	185	19.8	11	1.2	0	0.0		
3	Zone	517	23.6	67	13.0	189	36.6	228	44.1	31	6.0	2	0.4	24.7**	-0.13
	Control	857	26.0	79	9.2	234	27.3	458	53.4	80	9.3	6	0.7		
4	Zone	235	10.7	1	0.4	20	8.5	114	48.5	88	37.4	12	5.1	17.1**	-0.14
	Control	599	18.1	6	1.0	40	6.7	205	34.2	285	47.6	63	10.5		
5	Zone	25	1.1	0	0.0	0	0.0	3	12.0	13	52.0	9	36.0	0.5	-0.06
	Control	125	3.8	0	0.0	0	0.0	10	8.0	60	48.0	55	44.0		
ALL	Zone	2192	100.0	1089	49.7	515	23.5	429	19.6	136	6.2	23	1.0		
	Control	3302	100.0	1084	32.8	776	23.5	882	26.7	436	13.2	124	3.8		

GRADE 7															
2004-05				2005-06											
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5		$\chi^2$	$\phi$
				n	%	n	%	n	%	n	%	n	%		
1	Zone	1786	57.6	1329	74.4	389	21.8	67	3.8	1	0.1	0	0.0	28.6**	-0.09
	Control	1811	42.3	1193	65.9	469	25.9	141	7.8	8	0.4	0	0.0		
2	Zone	598	19.3	111	18.6	296	49.5	184	30.8	7	1.2	0	0.0	8.0**	-0.07
	Control	1019	23.8	162	15.9	458	44.9	374	36.7	25	2.5	0	0.0		
3	Zone	528	17.0	19	3.6	99	18.8	317	60.0	91	17.2	2	0.4	8.4**	-0.08
	Control	944	22.0	22	2.3	131	13.9	571	60.5	208	22.0	12	1.3		
4	Zone	167	5.4	1	0.6	4	2.4	50	29.9	98	58.7	14	8.4	13.8**	-0.15
	Control	422	9.8	1	0.2	5	1.2	75	17.8	269	63.7	72	17.1		
5	Zone	23	0.7	0	0.0	0	0.0	2	8.7	9	39.1	12	52.2	2.2	-0.14
	Control	89	2.1	0	0.0	0	0.0	0	0.0	28	31.5	61	68.5		
ALL	Zone	3102	100.0	1460	47.1	788	25.4	620	20.0	206	6.6	28	0.9		
	Control	4285	100.0	1378	32.2	1063	24.8	1161	27.1	538	12.6	145	3.4		

Note. Due to rounding, percentages indicated as 0.0 may be greater than zero and percentages may not total to 100.  
<sup>a</sup> The number of students in a group (Zone vs. Control) or in a classification (gain vs. no gain) was less than five.  
 \* p < .05. \*\* p < .01.

**Table 19, Continued**  
**Comparison of FCAT- SSS Mathematics Achievement Level Change**

GRADE 8															
2004-05				2005-06											
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5		$\chi^2$	$\phi$
				n	%	n	%	n	%	n	%	n	%		
1	Zone	1807	54.4	1336	73.9	395	21.9	76	4.2	0	0.0	0	0.0	20.8**	-0.08
	Control	1572	37.4	1048	66.7	432	27.5	88	5.6	3	0.2	1	0.1		
2	Zone	740	22.3	164	22.2	334	45.1	234	31.6	8	1.1	0	0.0	1.5	-0.03
	Control	983	23.4	170	17.3	464	47.2	329	33.5	20	2.0	0	0.0		
3	Zone	557	16.8	24	4.3	91	16.3	362	65.0	78	14.0	2	0.4	3.2	-0.05
	Control	1019	24.2	32	3.1	141	13.8	693	68.0	140	13.7	13	1.3		
4	Zone	187	5.6	0	0.0	3	1.6	62	33.2	94	50.3	28	15.0	4.7*	-0.08
	Control	509	12.1	0	0.0	5	1.0	128	25.1	297	58.3	79	15.5		
5	Zone	29	0.9	0	0.0	0	0.0	0	0.0	5	17.2	24	82.8	2.7	0.13
	Control	125	3.0	0	0.0	0	0.0	0	0.0	41	32.8	84	67.2		
ALL	Zone	3320	100.0	1524	45.9	823	24.8	734	22.1	185	5.6	54	1.6		
	Control	4208	100.0	1250	29.7	1042	24.8	1238	29.4	501	11.9	177	4.2		

GRADE 9															
2004-05				2005-06											
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5		$\chi^2$	$\phi$
				n	%	n	%	n	%	n	%	n	%		
1	Zone	1945	49.7	1342	69.0	539	27.7	61	3.1	3	0.2	0	0.0	1.9	-0.02
	Control	1673	33.0	1112	66.5	489	29.2	68	4.1	4	0.2	0	0.0		
2	Zone	939	24.0	168	17.9	517	55.1	241	25.7	13	1.4	0	0.0	0.0	0.00
	Control	1168	23.0	230	19.7	620	53.1	309	26.5	9	0.8	0	0.0		
3	Zone	756	19.3	24	3.2	182	24.1	429	56.7	119	15.7	2	0.3	3.2	-0.04
	Control	1457	28.7	39	2.7	304	20.9	905	62.1	204	14.0	5	0.3		
4	Zone	198	5.1	2	1.0	4	2.0	47	23.7	124	62.6	21	10.6	0.3	0.02
	Control	498	9.8	2	0.4	2	0.4	144	28.9	302	60.6	48	9.6		
5	Zone	76	1.9	0	0.0	0	0.0	1	1.3	26	34.2	49	64.5	1.3	0.06
	Control	275	5.4	0	0.0	0	0.0	6	2.2	110	40.0	159	57.8		
ALL	Zone	3914	100.0	1536	39.2	1242	31.7	779	19.9	285	7.3	72	1.8		
	Control	5071	100.0	1383	27.3	1415	27.9	1432	28.2	629	12.4	212	4.2		

GRADE 10															
2004-05				2005-06											
Level	Group	N	%	Level 1		Level 2		Level 3		Level 4		Level 5		$\chi^2$	$\phi$
				n	%	n	%	n	%	n	%	n	%		
1	Zone	1549	41.7	1067	68.9	392	25.3	80	5.2	10	0.6	0	0.0	0.3	-0.01
	Control	1341	27.8	898	67.0	353	26.3	78	5.8	12	0.9	0	0.0		
2	Zone	1065	28.6	220	20.7	524	49.2	294	27.6	27	2.5	0	0.0	1.0	0.02
	Control	1269	26.3	241	19.0	662	52.2	326	25.7	40	3.2	0	0.0		
3	Zone	756	20.3	17	2.2	161	21.3	426	56.3	151	20.0	1	0.1	6.8**	-0.06
	Control	1324	27.5	23	1.7	224	16.9	728	55.0	348	26.3	1	0.1		
4	Zone	298	8.0	2	0.7	3	1.0	39	13.1	244	81.9	10	3.4	0.1	0.01
	Control	668	13.9	2	0.3	4	0.6	94	14.1	528	79.0	40	6.0		
5	Zone	51	1.4	0	0.0	0	0.0	1	2.0	26	51.0	24	47.1	0.8	-0.05
	Control	217	4.5	0	0.0	0	0.0	0	0.0	100	46.1	117	53.9		
ALL	Zone	3719	100.0	1306	35.1	1080	29.0	840	22.6	458	12.3	35	0.9		
	Control	4819	100.0	1164	24.2	1243	25.8	1226	25.4	1028	21.3	158	3.3		

Note. Due to rounding, percentages indicated as 0.0 may be greater than zero and percentages may not total to 100.  
<sup>a</sup> The number of students in a group (Zone vs. Control) or in a classification (gain vs. no gain) was less than five.  
 \* p < .05. \*\* p < .01.

As can be seen in the second to the last column of the all Grades section of Table 19, the Chi-square computation identified four statistically significant differences between Zone and control students in mathematics. These were in the shifts out of levels 1 through 4. The percentage of level 1 Zone students who scored in level 2 or higher was smaller than that of the control students. Specifically, 71.7% of the Zone students initially scoring in level 1 remained in level 1, while only 67.1% of the control students remained in level 1. Likewise, the percentage of Zone students who moved from level 2 to levels 3 and above, from level 3 to levels 3 and above, or from level 4 to levels 4 and 5 in 2005-06 was significantly smaller than that of the control students. The significant differences were further analyzed using a phi-coefficient to determine the practical significance of the findings. As may be seen in the final column of Table 19, all of the comparisons indicate weak practical significance. Consequently, across all grade levels, the control students who originally scored in levels 1 through 4 in mathematics improved more than their counterparts in the Zone, but the differences were weak.

Through continued examination of Table 19, it may be noted that in the Grade 3 section nearly two-thirds of the students had scored in level 1 during the previous school year. This is because, as previously noted, the analysis was confined to students who had been retained in Grade 3. There were no statistically significant differences identified in the mathematics gains of the Zone and control students in Grade 3, Grade 5, and with one exception Grade 4. At level 2 of Grade 4, significant differences in favor of the Zone schools were found. Of the fourth graders who initially scored at level 2, 76.6 percent of the Zone students advanced to levels 3 and above as opposed to 71.7 percent of the control students in the control schools. However, the Phi-coefficient yielded a weak effect.

In the middle school grades of 6 through 8, the percentage of students who initially scored in level 1 in mathematics ranged from a low of 23.8 percent of Grade 6 control students to a high of 57.6 percent of Grade 7 Zone students. More than two-thirds remained at that level in 2005-06. At Grade 6 and 7, statistically significant differences in the percentages of students improving from levels 1 and 2, and maintaining/improving from levels 3 and 4 were identified. At Grade 8, statistically significant differences in the percentages of students improving from level 1 and maintaining/improving from level 4 were identified. In all cases, however, a weak advantage was found for the control schools.

At the high school grades of 9 and 10, the differences between the percentages of Zone and control students who initially scored in level 1 were somewhat greater. At level 3 of Grades 10, significant differences in favor of the control schools were found. However, the effect was weak. No other significant differences were found.

In summary, it may be seen that at all grade levels, higher percentages of the Zone students than control students initially scored in level 1 in both the reading and mathematics portion of the FCAT/SSS. This was the rationale for focusing on the proportions of students shifting from lower to higher levels of achievement. Although higher percentages of control students shifted out of level 1 than did Zone students, statistically significant differences yielded by the Chi-square analyses were few in both reading and mathematics. Overall, less than one-third of the by-grade comparisons in reading (10 of 34) resulted in statistically significant findings. In mathematics, fewer than half of the by-grade comparisons (14 of 37) resulted in statistically significant findings.

### *Student Performance on the FCAT Writing Assessment*

The third measure of achievement examined was student performance on the FCAT Writing Assessment (FWA). Logistic regression was used to gauge the effect of group membership on the variation in writing scores unexplained by differences in initial reading scores. The log-odds ratio of attaining a score of 3.5 on the assessment was predicted. Such a score is regarded as a high standard. The adjusted odds of meeting this standard were compared for students in the Zone and control schools. The results of this analysis are shown in Table 20.

**Table 20**  
**Logistic Regression of Analysis of FCAT-Writing Results**

Effect	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>Exp(B)</i>	<i>R</i> <sup>2</sup>
<b>Grade 4</b>					
Intercept	1.19	0.05	616.84 ***	3.27	0.13
Reading	0.03	0.00	217.00 ***	1.03	
Zone	-0.11	0.10	1.20	0.90	
Zone x Reading	0.00	0.00	0.51	1.00	
<b>Grade 8</b>					
Intercept	1.80	0.04	1985.37 ***	6.05	0.27
Reading	0.04	0.00	959.52 ***	1.04	
Zone	-0.05	0.08	0.33	0.95	
Zone x Reading	0.00	0.00	0.21	1.00	
<b>Grade 10</b>					
Intercept	1.20	0.03	1553.06 ***	3.31	0.30
Reading	0.04	0.00	1379.36 ***	1.04	
Zone	0.08	0.06	1.86	1.09	
Zone x Reading	0.01	0.00	9.05 **	1.01	

*Note.* All predictors are grand-mean centered. *B* gives the predictor weight, which is the influence of the indicated effect on the outcome variable. *Wald* is a measure of statistical significance given by the square of the ratio of *B* to its standard error. *Exp (B)* expresses the predictor weight as an odds ratio, which is the probability of meeting the criterion divided by the probability of not meeting the criterion. *R*-square is an effect size, which indicates the proportion of variance accounted for by the model.  
\*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 20 lists for each grade, the predictor weight, (*B*), standard error, (*S.E.*), Wald statistic, odds ratio of each predictor, *Exp (B)*, and effect size (*R*<sup>2</sup>). Each predictor weight indicates the predictor's influence on the criterion adjusted for the other effects in the model. The Wald statistic is a measure of statistical significance given by the square of the ratio of *B* to its standard error. A statistically significant value for the Wald statistic indicates that an effect has an influence on the odds of meeting the criterion. Listed also is the *R*<sup>2</sup> value for the prediction model used at each grade, which gives the proportion of variance accounted for by the equation and is, as such, a measure of effect size.

Table 20 shows that the odds of meeting the high standard for Grade 4 students in the sample was 3.27 to 1. That is, over three times as many students exceeded a score of 3.5 as those who did not. Each one point increase in the students' initial reading scale score above the mean improved those odds by a factor of 1.03 to 1. The odds of meeting the high standard for students in the Zone relative to the control group, 0.90 to 1, was not statistically significant. Thus, when the students' initial reading scale scores were equal to their sample means, no significant program effect was seen. The interaction was also not statistically significant. Therefore, changes in the reading score

did not change the relative odds of the Zone and control groups meeting the high standard. Model  $R^2$  value of .13 represented a moderate level of practical significance<sup>4</sup>. Chi-square computations, which are not shown in the table, revealed significant lack of fit, indicating that much of the effects of meeting the high standard remain unexplained by the model.

The odds of meeting the high standard for Grade 8 students in the sample was 6.05 to 1. Each one point increase in the students' initial reading scale score above the sample mean improved those odds by a factor of 1.04 to 1. The odds of meeting the high standards for students in the Zone relative to the control group, .95 to 1 was not statistically significant. Thus, when the value of the students' initial reading scale scores were equal to the sample mean, no significant program effect was seen. The interaction was also not statistically significant. Therefore, changes in the students' initial reading scores did not change the relative odds of the program and control groups meeting the high standard. Model  $R^2$  value of .27 represented a moderate level of practical significance. Chi-square computations, which are not shown in the table, revealed a significant lack of fit indicating that much of the effects of meeting the high standard remain unexplained by the model.

The odds of meeting the high standard for Grade 10 students in the sample was 3.31 to 1. Each one point increase in the students' initial reading scale score above the sample mean improved those odds by a factor of 1.04 to 1. The odds of meeting the high standards for students in the Zone relative to the control group, 1.09 to 1 was not statistically significant. Thus, when the value of the students' initial reading scores were equal to the sample mean, no significant program effect was seen. However, there was a statistically significant interaction between program effect and initial reading score. An interaction between variables occurs when different levels of one variable (initial reading scale score) have differential effect on a second variable (program effect). In this case, each one point increase in the students' initial reading scale scores above the sample mean increases the odds of Zone students meeting the high standard compared to the control students by a factor of 1.01 to 1. As such, when the value of the students' initial reading scores is more than 6.1 scale score points above the sample mean, the odds of Zone students meeting the high standard is significantly greater than that of control students. Thus, 33.5 percent (1260 of 3764) of Zone tenth graders have significantly higher odds of scoring 3.5 and above on the FWA than do control students. Similarly, each one point decrease in student's initial reading scale scores below the sample mean decreases the odds of Zone students meeting the high standard compared to the students by a factor of .99 to 1. As such, when the value of the students' initial reading scores is less than 33.9 scale score points below the sample mean, the odds of control students' meeting the high standard is significantly greater than those of Zone students. Thus, 14.6 percent (704 of 4825) of control tenth graders who have higher odds of scoring 3.5 and above on the FWA than do Zone students. Model  $R^2$  value of .30 represents a strong level of practical significance. Chi-square computations which are not shown in the table, revealed significant lack of fit, indicating that much of the effects of meeting high standards remain unexplained by the model.

Table 21 contrasts for each grade, the Zone and control groups' actual performance on the FWA with adjusted values, which account for differences in the students initial reading scale scores. The actual percentage of students who met the high standard ranged from a low of 65.1 (Zone, grade 10) to a high of 80.1 (control, grade 8). As expected, the adjusted percentages, which account for initial differences in the students' reading scores, showed smaller differences between the groups.

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<sup>4</sup> Cohen (1988) classified an effect size based on  $R^2$  as .02 (weak), .15 (moderate), and .35 (strong).

The adjusted percentage of students that met the high standard ranged from a low of 75.5 (Zone, grade 4) to a high of 86.1 (control, grade 8). Between-group differences in the adjusted percentages were not statistically significant at any grade level.

**Table 21**  
**FCAT Writing Assessment**  
**Actual and Adjusted Percentage of Students Meeting High Standards**

Grade	Actual				Adjusted			
	Zone		Control		Zone		Control	
	N	%	N	%	N	%	N	%
4	1334	70.0	1706	74.6	1258	75.5	1612	77.4
8	3775	74.8	4413	80.1	3267	85.5	4155	86.1
10	4084	65.1	5248	72.7	3764	76.3	4825	76.1

In sum, in grades 4 and 8 the conditional odds of scoring 3.5 or above on the FWA was comparable for the Zone and control students. For most tenth-grade students, there was also no difference between the groups in the odds of meeting the high standard. However, for the third of tenth-grade Zone students with the highest initial reading scale scores, the odds of meeting the high standard was significantly higher than that of control students. Likewise, for the fifth of tenth-grade control students with the lowest initial reading scale scores, the odds of meeting the high standard was significantly higher than that of Zone students.

***Other Indicators Associated with Student Achievement***

Several other indicators were examined for this evaluation because of a demonstrated association with student achievement. These included student attendance and incidence of students referred to indoor and outdoor suspensions. The data were obtained from the archives maintained on the District's mainframe computer system. Only those students who were enrolled in the same school during October 2005 and February 2006 were included in the analyses. The actual value and change from 2004-05 to 2005-06 were examined for each of the indicators. Table 22 lists the results of these analyses.

**Table 22**  
**Selected School Level Student Indicators**

	Zone					Control					Difference	
	2004-05		2005-06		Change	Std. Dev.	2004-05		2005-06			
	N	Mean	Mean	Mean			N	Mean	Mean	Mean	Mean	t
Student Attendance	38	92.9	92.2	-0.7	1.0	38	94.1	93.9	-0.2	0.7	-2.6 *	-0.59
Suspensions												
Indoor	38	12.6	10.6	-2.1	6.2	38	10.4	10.3	-0.1	5.4	-1.5	0.34
Outdoor	38	14.7	13.3	-1.5	4.2	38	10.9	9.0	2.0	3.6	-0.6	0.13

Note. Counts indicate the number of schools for which data were available.

\*  $p < .05$ .

All indicators listed in Table 22 for the Zone students are less favorable than are those of the control students. Student attendance was lower, and indoor and outdoor suspensions were higher during both 2004-05 and 2005-06. Furthermore, it may be seen that for both the Zone and the

control group, suspensions are moving in the “right” direction, while student attendance is moving in the “wrong” direction. However, a statistically significant difference between the groups was only seen for the change in student attendance, which favored the control group.

The pupil progression was also examined as an indicator of achievement. Chi-Square ( $\chi^2$ ) analyses were performed to compare the percentages of Zone students who made gains versus control students. Only those students who were enrolled in the same school during October 2005 and February 2006 were included in the evaluation. Separate analysis were made for each grade. The results for twelfth grade, constituted a comparison of graduation rates. To determine the practical significance of any differences, the effect size Phi-coefficient was computed. Table 23 shows the results of analyses and lists for each group the number and percentage of students who were promoted and retained for each grade.

**Table 23**  
**Student Promotion, Retention, and Graduation Rates**

Grade <sup>a</sup>	Zone			Control			Difference	
	N	Promoted (%)	Retained (%)	N	Promoted (%)	Retained (%)	$\chi^2$	$\phi$
K	1268	92.7	7.3	1549	94.2	5.8	2.6	-.03
1	1413	93.9	6.1	1593	94.4	5.6	0.3	-.01
2	1319	92.9	7.1	1627	94.7	5.3	4.0*	-.03
3	1522	81.2	18.8	1771	82.2	17.8	0.6	-.01
4	1222	98.7	1.3	1551	98.4	1.6	0.4	.01
5	1215	99.3	0.7	1547	98.8	1.2	1.6	.02
6	2331	94.9	5.1	3357	94.5	5.5	0.4	.01
7	3291	93.9	6.1	4222	96.1	3.9	19.8**	-.05
8	3482	93.7	6.3	4044	95.5	4.5	12.2**	-.04
9	4386	85.5	14.5	5297	89.7	10.3	39.0**	-.06
10	4016	82.6	17.4	5072	89.4	10.6	88.1**	-.10
11	2995	85.1	14.9	4061	93.0	7.0	115.9**	-.13
12 <sup>b</sup>	<u>3168</u>	<u>76.7</u>	<u>20.3</u>	<u>3838</u>	<u>82.2</u>	<u>17.8</u>	<u>32.4**</u>	<u>-.07</u>

*Note.* Only students who were enrolled in the same school during October 2005 and February 2006 are included.

Source: Student counts are based on data drawn from the student database system with grade levels defined on March 1, 2006. Promotion status is based on course file information effective August 5, 2006. <sup>a</sup> Grades K-11 exclude students whose promotion status is unknown. <sup>b</sup> Values for “Promoted” represent high school completion rate for twelfth graders. Values for “Retained” represent all twelfth grade students who did not complete high school, based on withdrawal codes maintained on the district’s mainframe computer system. \*  $p < .05$ . \*\*  $p < .01$ .

Retention rates in the Zone schools ranged from a low of 0.7 percent in grade 5 to a high of 18.8 percent in grade 3. At the control schools, the rates were generally lower and ranged from a low of 1.2 percent in grade 5 to a high of 17.8 percent in grade 3. The median grade level retention rate for the sample was 5.9 percent, which represents an increase over the rates observed when social promotion was still considered acceptable. Retention rates were highest in third grade, reached a nadir in fourth and fifth grades, rose to average levels in the middle grades, and increased to above average levels in the senior high grades. Retention rates at Zone and control schools were comparable in kindergarten through grade six except at grade 2, where the retention rate at the Zone schools was significantly higher. For grades seven and above, retention rates at the Zone schools were significantly higher than in the control schools. Finally, the twelfth-grade high school completion rate in the Zone schools, at 76.7 percent, was significantly lower than in the control schools, at 82.2 percent. All observed differences fell in the weak range.

### *Perceptions of the Program's Effectiveness*

The opinions of stakeholders provide an important adjunct measure of the efficacy of a program. Therefore, the evaluation gauged stakeholders' attitudes. Data were drawn from two sources to address this issue: interviews with principals and surveys of administrators, parents, students, and teachers. Table 24 lists the number and percentage of respondents agreeing and strongly agreeing to items addressing the issue of program effectiveness from surveys of administrators, parents, students, and teachers.

**Table 24**  
**Stakeholder Perceptions of the Program's Effectiveness**

	Item	Administrators		Parents		Students		Teachers	
		n	%	n	%	n	%	n	%
25	The strategies designed by the student development teams place at this school are effective at helping students in need of assistance.	36	94.4	--	--	--	--	1397	73.5
26	The differentiated instruction prescribed by the Zone is effective at promoting student learning.	38	86.8	--	--	--	--	1485	74.7
27	Time is utilized effectively in the extended-day program offered at this school. <sup>a</sup>	38	90.9	247	62.8	--	--	1515	66.0
29	Overall, the Zone program is an effective means of improving student achievement. <sup>b</sup>	37	94.6	254	87.4	569	48.2	1504	66.4

<sup>a</sup> Parents were asked if the longer school day was beneficial.

<sup>b</sup> Students were asked if they were doing better since the school became a Zone school

High percentages of administrators, 94.4, and teachers, 73.5, affirmed that the strategies used by the student development teams were effective at helping students in need of assistance (item 25). Additionally, most administrators and teachers agreed that the differentiated instruction in place in the Zone was effective at promoting student learning (item 26). Almost all administrators, 90.9 percent, agreed that time was utilized effectively during the extended day program (item 27). Parents and teachers were less certain, with less than two-thirds of each group expressing agreement. The open-ended question on the Teacher Survey, which afforded respondents an opportunity to address any topic depict this ambivalence. One teacher reiterated:

The extra hour at the end of the day has worn both students and staff out! We are not adjusting well to it. New reading programs, extra assistance during reading should continue instead of at the end of the day only.

Other teachers were more constructive and offered suggestions for improvement, for example:

I think that that the extended day program is not as effective as it should be. Students refuse to be at school until 4:40 p.m. Although the results in this school year have been better, they do not reflect teachers' enormous effort.

Still another teacher offered this suggestion:

I still think what was in place before the Zone was more effective. There was FCAT tutoring for only students that needed to pass the FCAT. If [the student] passed the FCAT, the student should not be required to come to the last class hour. There needs to be an incentive for the students

Returning to Table 24, one sees that the vast majority of administrators and parents agreed that the Zone program was an effective means of improving student achievement (item 29). However, the

majority of students did not concur nor did approximately one third of the teachers. The latter group did offer some constructive comments. For example, some teachers felt that the program should differentiate instruction further.

One teacher stated:

I believe that Read 180 has promoted gains in student reading abilities. However, there needs to [be a] unified and consistent effort to challenge or reward students for their hard work on the program. Unfortunately, many of our students do not possess [intrinsic] motivation but respond [more] favorably to [other] challenges . . . .

Others felt the program should be more tailored to individual need, as this teacher recommended. “Some instructional strategies are duplicating each other, but not benefiting the students. . . . Tutorial programs need to target specific skills for specific students, not general skills for everybody.”

A few teachers had mixed feelings about the program. For example, one teacher noted:

Students’ instruction prescribed by the Zone is effective at promoting student learning. In fact, the Zone couldn’t have come out at a better time. We see students’ scores rising and students are making progress (reaching grade level). However, a lot of the problems came with the administration with limited support to teachers.

### Home-School and School-Community Relations

The involvement of parents and the quality of home-school relations are important elements of any school reform initiative. Accordingly, another focus of the evaluation was the parents’ levels of satisfaction with their child’s school and their perceptions of the program. Also addressed were home-school communications, the extent to which the parents feel welcome at the school, and their level of involvement. Data was drawn from two sources to address this issue: interviews with principals and surveys of administrators, parents, and teachers. Table 25 lists the number and percentage of respondents agreeing and strongly agreeing to items addressing the issue of home-school relations gathered from surveys of administrators, parents, and teachers.

**Table 25**  
**Stakeholder Perceptions of Home-School-Community Relations**

Item	Administrators		Parents		Teachers	
	N	%	N	%	N	%
13 There is a concerted attempt by the staff at this school to improve communication with parents.	37	100.0	--	--	1545	84.1
1 I am regularly informed about what is happening at this school.	--	--	257	84.0	--	--
2 I feel welcome at this school.	--	--	256	90.6	--	--
3 I feel as though the teachers and administrators at this school respect my opinions and me.	--	--	255	82.7	--	--
5 I am expected to participate in my child’s education.	--	--	250	91.6	--	--

*Note.* Tabulated counts represent total number of respondents.

All responding principals and 84.1 percent of teachers agreed that the staff at their school exerted a concerted effort to improve communications with parents (item 13). Consequently, 84.0 percent of parents affirmed that they were regularly informed about events in the school (item 1). However, it is unclear whether their perceptions are in response to Zone initiatives as opposed to districtwide parent-outreach efforts. When asked about the impact that the Zone has had on parental and community involvement, principals interviewed were similarly uncertain. One principal remarked,

“[I’m] unsure if there is an effect.” Another noted that there was “no effect on parental involvement.” A third sighed, “Parental involvement here . . . just doesn’t want to budge.”

Returning to Table 25 one sees that almost all responding parents, 90.6 percent, reported feeling welcomed in their school (item 2). More than four-fifths agreed that the teachers and administrators at the school respected them and their opinions (item 3). Finally, nearly all responding parents recognized that they were expected to participate in their children’s education (item 5).

In sum, Zone schools appear to be making positive efforts to reach out to parents and create an environment conducive to parental involvement. However, it is unclear whether these efforts are program related or the result of other districtwide initiatives.

## DISCUSSION

In August 2004, the School Improvement Zone (Zone) was approved by the School Board for implementation in 39 of the Miami-Dade County Public Schools' lowest performing schools. The groundwork was laid in the early months of the 2004-05 school year, and full implementation was reached by January 2005. Primary aspects of the initiative include: (a) a core literacy program that extends from prekindergarten through grade 12; (b) a structured curriculum with instructional strategies that build across grade and school levels; (c) an extended day and school year to provide additional instructional time; and (d) enhanced professional development opportunities for teachers. In order to administer the program consistently across the various administrative regions of the District, schools in the Zone are administered by the Deputy Superintendent for School Improvement (Office of School Improvement, 2004b).

### Summary

An evaluation of the Zone program is to be conducted annually for the first three years of its operation. This report addresses the first full year of operation (i.e., 2005-06). The evaluation activities were conducted primarily during the spring semester of 2006. This report, furthermore, reflects the first full year of implementation. The specific focus of the evaluation was defined by a series of questions, derived from the stated objectives of the program. These questions can now be addressed.

#### **1. Is the Zone being implemented according to program design?**

Variations in implementation were noted among the Zone schools, which might have impinged on the overall effectiveness of the program. Fidelity of implementation was examined using both qualitative and quantitative research methodologies. The data revealed that the District has provided materials and support to facilitate the implementation of the Zone program. However, some of the resources provided may not be reaching the classroom as intended. Nevertheless, the results of stakeholders' surveys and principal interviews suggest that the disparate elements of the Zone intervention were operational in their schools. Extended day programs were operating as planned with tutoring available for students in need of assistance and enrichment activities available for students on grade level. Nonetheless, there is evidence of dissatisfaction due to exhaustion, burnout, and frustration among faculty, students, and parents. With regard to professional development, the nature of the offerings may not be adequate to meet the needs of teachers. Scheduling and accessibility issues may be causing frustration and fatigue among school staff. Evidence suggests that the District made a considerable effort to ensure that the elements of the Zone were put in place. Unfortunately, the effort may have been undermined by the presence of multiple administrative lines of authority. Finally, the commitment of some principals to the initiative may be in doubt.

#### **2. What is the impact of the Zone on the students' learning environment?**

Perceptions of the learning environment at the Zone schools were mixed. Stakeholders acknowledged the presence of a common philosophy of discipline policy at their school, but they felt that it was not consistently enforced. Teachers reported taking pride in their

school, being able to rely on colleagues for assistance, and working collaboratively. Yet, teachers' Staff Perception of Principal ratings were less positive than were those of typical district teachers. Across stakeholders, most respondents agreed that teachers took a personal interest in the students, wanted students to do well in school, and felt that the students were capable of meeting high standards. A comparison of staffing patterns revealed Zone schools to have higher percentages of instructional staff transfers, new appointments, and lower percentages of leaves than did the control schools. An examination of archival school-level indicators revealed a higher mobility of students at the Zone schools when compared with the control schools. The analysis revealed that this was primarily due to Zone students, who were circumventing the extended school year. Overall two thirds of teachers felt that their school was better since becoming a Zone school. However, teacher morale varied widely between Zone schools. On average, less than half of responding teachers agreed that morale was high in their school. Thus, in its second year of implementation, the stakeholder groups' support of the program varied.

### **3. What is the impact of the Zone on the students' academic achievement?**

The impact of the program after its first year of implementation appears to be small although outcomes may improve over time. Three sources of data were used to conduct a controlled comparison of the academic achievement of Zone students and students in a control group. The three sources consisted of the results of the administration of: (a) Florida Comprehensive Assessment Test-Norm Referenced Test (FCAT-NRT); (b) FCAT-Sunshine State Standards (FCAT-SSS); and, (c) FCAT Writing. The three sources of data served as complementary measures of the students' academic performance.

Hierarchical Linear Modeling was used to compare student performance on the FCAT\_NRT controlling for differences in students' characteristics, initial ability, and differences between the Zone and control schools.

The analysis addressed both the reading and mathematics results of the FCAT-NRT in grades 4, 5, and 8. It revealed that, at each grade, students in both the Zone and the control group, made significant adjusted annual achievement gains. In grade 8, the adjusted annual rate of growth and adjusted mean reading scores for Zone students in grade 8 were significantly higher than that of students in the control group. However, in grades 4 and 5, the analysis failed to identify any statistically significant difference in reading scores. Likewise, no statistically significant difference was identified in the mathematics scores of any of the three grade levels.

With regard to the FCAT-SSS, the evaluation examined the shift in the students' performance from the 2004-05 and 2005-06 school years. Controlled comparisons of the shift from lower to higher levels of achievement in both reading and mathematics were conducted. In reading, statistically significant differences were found for 10 of 34 comparisons with all of the outcomes in favor of the control group. In mathematics, statistically significant differences were found for 14 of 37 comparisons with one outcome in favor of the Zone and 13 in favor of the control group. Nevertheless, in every case, the magnitude of the difference was small.

With regard to the FCAT Writing assessment in grade 4, 8 and 10, the odds of attaining a score of 3.5 or above was predicted by logistic regression. The odds, which were adjusted to account for students' initial reading scores, were compared for Zone students and control students. No statistically significant difference between the groups was found in any of the three grades. However, in grade 10 an interaction between variables revealed that for the third of students with the highest initial reading scale scores, the odds of meeting scores 3.5 or above was significantly higher for Zone students. In contrast, for the fifth of students with the lowest initial reading scale scores, the odds of scoring 3.5 or above was significantly higher for control students.

Other indicators that have demonstrated association with student achievement were also examined. These included student attendance and incidence of students referred to indoor and outdoor suspensions. The analysis of the indicators rendered a less favorable picture of the Zone schools than the control schools. The pupil progression was also examined as an indicator of effective educational progress. Retention and promotion rates at Zone and control schools were generally comparable in kindergarten through grade six. For grades seven and above, retention rates at the Zone schools were significantly higher and the twelfth-grade high school completion rate was significantly lower at the Zone schools. Finally, the results of surveys of stakeholders indicated that a vast majority of administrators and parents felt that the Zone program was an effective means of improving student achievement. However, a majority of students did not concur.

#### **4. What is the impact of the Zone on home-school and community relations?**

The effect of the program on home-school and community relation is inconclusive. Data on the involvement of parents and the quality of home-school relations were solicited through surveys of parents and teachers. The results indicate that Zone schools appear to be making efforts to reach out to parents and create an environment conducive to their involvement. However, it is unclear whether these efforts are solely the product of the Zone program or that of other districtwide initiatives, such as the Parent Academy..

### **Conclusions**

The results from the evaluation of the School Improvement Zone in its first full year of operation are mixed. Findings from stakeholder interviews and surveys suggest that the program's elements were generally implemented as planned and that the District has provided the necessary resources to support program operation. A majority of teachers reported working collaboratively, taking pride in their schools, and having high expectations for their students.

Despite the above results, other interview and survey data revealed substantial dissatisfaction stemming from exhaustion, burnout, and frustration. Long hours and heavy workload reportedly made the completion of the teachers' mandated professional development unexpectedly burdensome. Overall, fewer than 50 percent of teachers indicated that morale was high at their school, a percentage that varied widely between schools. Moreover, teacher turnover was high. Other measures of the learning environment (i.e., average years teaching) improved in Zone schools, but not to a greater extent than in the control schools. Implementation of the extended school day and year was designed to provide extra learning time for students. Although nearly two-

thirds of teachers indicated that the time was used effectively, an examination of student entry and withdrawal patterns indicated that the extended day schedule was linked to sharp increases in student mobility.

The primary goal of the Zone program is to improve student achievement. As such, this was the central focus of the evaluation. The purpose of this study was to determine if the achievement gains seen in the Zone exceeded the gains of students not in the Zone while controlling for other factors thought to influence those gains thus providing an impartial assessment of program effectiveness.

Analyses of the Zone students' academic achievement were conducted using a series of non-equivalent control group designs. These designs were considered to be non-equivalent because the schools and the students were not randomly assigned to either the Zone or comparison schools, as would be the case with a true experimental design. A mathematical procedure was used to identify the comparison schools for this evaluation by finding the best possible matches to the Zone schools on a series of school demographic variables related to achievement. Once the matching process was completed, all further analyses consisted of separate comparisons of all the students in the Zone schools and all the students in the control schools conducted at each grade level. Since the Zone schools were by design the lowest performing, a statistical adjustment was made during the analysis to account for the initial differences (pretest scores) between the Zone and the comparison schools.

Comparisons were conducted on the results of three tests: (a) FCAT-NRT, (b) FCAT-SSS, and (c) FCAT Writing. The analysis based on the FCAT-SSS and Writing Assessment showed few statistically significant differences, which were weak in magnitude. Hierarchical Linear Modeling (HLM) was used in the analysis of the FCAT-NRT results. It revealed that although significant growth was seen on average at each grade, the annual rate of growth of Zone students exceeded the control students in only one of six comparisons. Consequently, the impact of the Zone program on the students' academic achievement after one year of operation appears to be small.

Since the Zone program is based on strategies that have demonstrated success in the past, there is no reason why they should not work together to produce the desired outcome given additional time to go to scale. Although, organizational factors such as morale and staff turnover may contribute to the program's weak impact, research has demonstrated that poor fidelity is the principal reason why programs fail (Chen, 1998). Thus, while implementation was found to be adequate overall, this evaluation did yield evidence of considerable variation between schools. Suggested is that some schools (in both the Zone and control group) are applying the program's strategies correctly while others are not resulting, in an overall non-significant program effect. Based on these conclusions, the following recommendations are made.

### **Recommendations**

- 1) Investigate implementation variations at Zone schools by analyzing data from fidelity monitoring systems currently in place. Address any problems that are identified, and maintain the data so that implementation can be analyzed in the future.

- 3) Consider changing the structure and delivery of the extended day program in light of problems that are evident and the quantity of resources committed thereto by making the program mandatory to only those students who are below grade level.
- 3) Improve the accessibility of professional development offerings by expanding the efforts of job embedded professional learning communities during non-instructional school hours.

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**APPENDIX A**

**Site Visit Protocol**





Miami-Dade County Public Schools Office of Program Evaluation



Evaluation 2005-06

Curriculum Form

School number \_\_\_\_\_  
 School \_\_\_\_\_  
 Grade \_\_\_\_\_ Room \_\_\_\_\_  
 Teacher \_\_\_\_\_  
 Date \_\_\_\_\_

Class/Period	Reading Level	Tier	Comments
Language Arts/ Reading	Curriculum Content <input type="checkbox"/> ELLIS Academic <input type="checkbox"/> ELLIS Kids <input type="checkbox"/> HB Avenues <input type="checkbox"/> HM Early Success <input type="checkbox"/> HM Legacy of Literature <input type="checkbox"/> HM Soar to Success <input type="checkbox"/> Voyager Passport <input type="checkbox"/> Scholastic Read 180 <input type="checkbox"/> Scholastic Read XL <input type="checkbox"/> Other (specify) _____		
Begin _____ End _____			
Mathematics	<input type="checkbox"/> Cognitive Tutor <input type="checkbox"/> Connected Mathematics <input type="checkbox"/> Math Trailblazers <input type="checkbox"/> Plato Math Expeditions <input type="checkbox"/> Other (specify) _____		
Begin _____ End _____			
Extended Day Program	<input type="checkbox"/> Academy of Reading <input type="checkbox"/> Art/ Music Appreciation <input type="checkbox"/> Booktalks <input type="checkbox"/> Career Exploration <input type="checkbox"/> Chess <input type="checkbox"/> Computer Literacy <input type="checkbox"/> Creative Writing <input type="checkbox"/> Dance/ Music <input type="checkbox"/> Drama/Role Playing <input type="checkbox"/> ESOL <input type="checkbox"/> Journalism <input type="checkbox"/> Journalism <input type="checkbox"/> Languages <input type="checkbox"/> Physical Education <input type="checkbox"/> Plays/Props/Sets <input type="checkbox"/> Small group tutorials <input type="checkbox"/> Soar to Success (1:6 ratio) <input type="checkbox"/> Storytelling <input type="checkbox"/> Web Page Creation <input type="checkbox"/> Other (specify) _____		
Begin _____ End _____			





**APPENDIX B**  
**Attitude Surveys**

Miami-Dade County Public Schools



**Evaluation  
ADMINISTRATOR SURVEY  
2005-06**

This survey is being conducted as part of an evaluation of the School Improvement Zone. Your opinions are an important part of this evaluation. It should take about 15 minutes to complete the survey form. Your identity will be kept confidential. Please return the completed form in the envelope provided by **May 8, 2006**. If you have any questions, please contact Mr. Steven M. Urdegar at 305-995-7538.

**INSTRUCTIONS**

Please read each of the following items. Based on your experience in this school, fill in the circle corresponding to your response to each item using the following scale. Please respond to every item to the best of your ability.

1	2	3	4	0
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Not Applicable</b>

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
1. Teachers in this school are encouraged to pursue professional development.	①	②	③	④	⑤
2. On-site professional development for teachers is made available in this school.	①	②	③	④	⑤
3. Classes at this school are homogenously grouped by achievement level.	①	②	③	④	⑤
4. Teachers have the books and materials prescribed by the Zone for their students.	①	②	③	④	⑤
5. Teachers have sufficient books and materials for all their students.	①	②	③	④	⑤
6. Student development teams at this school meet regularly to plan strategies for students in need of academic assistance.	①	②	③	④	⑤
7. There is an early literacy program in place at this school to help preschoolers develop beginning reading skills.	①	②	③	④	⑤
8. The students in this school are capable of meeting high standards.	①	②	③	④	⑤
9. After-school tutoring is offered at this school for students in need of assistance.	①	②	③	④	⑤
10. There is a concerted attempt by the staff at this school to improve communication with parents.	①	②	③	④	⑤
11. All of the components of the Zone program are operational in this school.	①	②	③	④	⑤
12. Teachers work collaboratively at this school.	①	②	③	④	⑤
13. The teachers in this school take a personal interest in the students they teach.	①	②	③	④	⑤
14. Staff members take pride in this school.	①	②	③	④	⑤

**INSTRUCTIONS**

*Please read each of the following items. Based on your experience, in this school, fill in the circle corresponding to your response to each item using the following scale. Please respond to every item to the best of your ability.*

1	2	3	4	0
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Not Applicable</b>

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
15. There is good communication between staff members in this school.	①	②	③	④	⑤
16. Teachers in this school can rely on their colleagues for support and assistance when needed.	①	②	③	④	⑤
17. District office personnel are responsive to the needs of teachers at this school.	①	②	③	④	⑤
18. Teachers at this school are encouraged to provide feedback to school and district administrators.	①	②	③	④	⑤
19. Staff morale is high in this school.	①	②	③	④	⑤
20. There is an agreed upon philosophy on discipline at this school.	①	②	③	④	⑤
21. The strategies designed by the student development teams at this school are effective at helping students in need of assistance.	①	②	③	④	⑤
22. The differentiated instruction prescribed by the Zone is effective at promoting student learning.	①	②	③	④	⑤
23. Time is utilized effectively in the extended-day program offered at this school.	①	②	③	④	⑤
24. This school is better since becoming a Zone school.	①	②	③	④	⑤
25. Overall, The Zone program is an effective means of improving student achievement.	①	②	③	④	⑤

**Thank you for completing this survey.**

*Please return this form in the enclosed envelope via school mail to:  
Mr. Steven M. Urdegar, Office of Program Evaluation - Location Code 9020*

Miami-Dade County Public Schools



**Evaluation  
PARENT SURVEY  
2005-06**

This survey is being conducted as part of an evaluation of the School Improvement Zone. Your opinions are an important part of this evaluation. It should take about 5 minutes to complete the survey form. Please return the completed form to your child's teacher by **May 8, 2006**. If you have any questions, please contact Mr. Steven M. Urdegar at 305-995-7538.

**INSTRUCTIONS**

Please read each of the following items. Based on your experience in this school, fill in the circle under the answer that best reflects your feelings about each item using the following scale. Please respond to every item to the best of your ability.

1 Strongly Disagree      2 Disagree      3 Agree      4 Strongly Agree      0 Not Applicable

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
1. I am regularly informed about what is happening at this school.	①	②	③	④	⑤
2. I feel welcome at this school.	①	②	③	④	⑤
3. I feel as though the teachers and administrators at this school respect my opinions and me.	①	②	③	④	⑤
4. This school has services available that address the needs of my child and family (for example, before/after school care, health/counseling services).	①	②	③	④	⑤
5. I am expected to participate in my child's education.	①	②	③	④	⑤
6. I believe my child is safe at this school.	①	②	③	④	⑤
7. The discipline policy at this school is fair and consistent.	①	②	③	④	⑤
8. After-school tutoring is available for my child if he or she needs it.	①	②	③	④	⑤
9. The longer school day is beneficial to my child.	①	②	③	④	⑤
10. This school is better since becoming a Zone school.	①	②	③	④	⑤
11. I believe my child gets a good education at this school.	①	②	③	④	⑤

**Thank you for completing this survey.**

Please return this form in the enclosed envelope via school mail to:  
Mr. Steven M. Urdegar, Office of Program Evaluation - Location Code 9020

Miami-Dade County Public Schools



**Evaluation  
STUDENT SURVEY  
2005-06**

This survey is part of a study about your school. We'd like to know how you about your school. Your opinions are important to us. Please complete this form and turn it in to your teacher.

**INSTRUCTIONS**

Please read each of the following sentences and fill in the circle under the answer that is closest to the way you feel. Answer every question as best as you can.

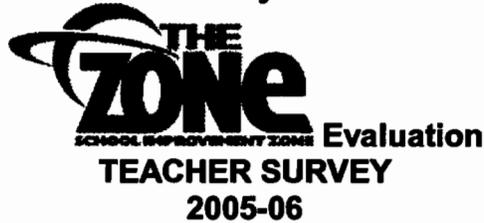
1 Strongly Disagree      2 Disagree      3 Agree      4 Strongly Agree      0 Not Applicable

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
1. In my classes, the work is hard to do.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
2. I have homework to do every night.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
3. My teachers want me to do well in school.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
4. There are people at this school to give me help with school work.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
5. I know what the school rules are and what will happen if I break them.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
6. Parents are often invited to come to this school.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
7. I feel safe at this school.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
8. I am doing better in school since this school became a Zone school.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
9. This school is better since it became a Zone school.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 0
10. Are you are boy or a girl? (Fill in one box). <input type="checkbox"/> Boy <input type="checkbox"/> Girl					
11. What grade are you in? (Fill in one box) <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12					
12. How old are you? (Fill in one box) <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18+					

**Thank you for completing this survey.**

*Please return it to your teacher.*

Miami-Dade County Public Schools



This survey is being conducted as part of an evaluation of the School Improvement Zone. Your opinions are an important part of this evaluation. It should take about 15 minutes to complete the survey form. The form is coded to follow-up with non-respondents; however, your identity will be kept confidential. Please return the completed form in the envelope provided by **May 15, 2006**. If you have any questions, please contact Mr. Steven M. Urdegar at 305-995-7538.

**INSTRUCTIONS**

Please read each of the following items. Based on your experience, in this school, fill in the circle corresponding to your response to each item using the following scale. Please respond to every item to the best of your ability.

1 Strongly Disagree      2 Disagree      3 Agree      4 Strongly Agree      0 Not Applicable

	2392	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
1. Teachers in this school are encouraged to pursue professional development.		①	②	③	④	⑤
2. On-site professional development for teachers is made available in this school.		①	②	③	④	⑤
3. It is difficult to gain access to in-service courses.		①	②	③	④	⑤
4. The professional development planning in the school takes into account individual needs and interests.		①	②	③	④	⑤
5. Classes at this school are homogenously grouped by achievement level.		①	②	③	④	⑤
6. Instructional materials in use at this school are geared to students' reading levels as opposed to their grade level.		①	②	③	④	⑤
7. Teachers have the books and materials prescribed by the Zone for their students.		①	②	③	④	⑤
8. Teachers have sufficient books and materials for all their students.		①	②	③	④	⑤
9. Student development teams at this school meet regularly to plan strategies for students in need of academic assistance.		①	②	③	④	⑤
10. There is an early literacy program in place at this school to help preschoolers develop beginning reading skills.		①	②	③	④	⑤
11. The students in this school are capable of meeting high standards.		①	②	③	④	⑤
12. After-school tutoring is offered at this school for students in need of assistance.		①	②	③	④	⑤
13. There is a concerted attempt by the staff at this school to improve communication with parents.		①	②	③	④	⑤
14. All of the components of the Zone program are operational in this school.		①	②	③	④	⑤

**INSTRUCTIONS**

Please read each of the following items. Based on your experience in this school, fill in the circle corresponding to your response to each item using the following scale. Please respond to every item to the best of your ability.

1	2	3	4	0
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Not Applicable</b>

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable
15. Teachers work collaboratively at this school.	<input type="radio"/>				
16. The teachers in this school take a personal interest in the students they teach.	<input type="radio"/>				
17. Staff members take pride in this school.	<input type="radio"/>				
18. There is good communication between staff members in this school.	<input type="radio"/>				
19. Teachers in this school can rely on their colleagues for support and assistance when needed.	<input type="radio"/>				
20. Staff morale is high in this school.	<input type="radio"/>				
21. District office personnel are responsive to the needs of teachers at this school.	<input type="radio"/>				
22. Teachers in this school are encouraged to provide feedback to school and district administrators.	<input type="radio"/>				
23. My expectations about discipline are about the same as other teachers at this school.	<input type="radio"/>				
24. Discipline is enforced in a consistent fashion in this school.	<input type="radio"/>				
25. The strategies designed by the student development teams place at this school are effective at helping students in need of assistance.	<input type="radio"/>				
26. The differentiated instruction prescribed by the Zone is effective at promoting student learning.	<input type="radio"/>				
27. Time is utilized effectively in the extended-day program offered at this school.	<input type="radio"/>				
28. This school is better since becoming a Zone school.	<input type="radio"/>				
29. Overall, The Zone program is an effective means of improving student achievement.	<input type="radio"/>				

**INSTRUCTIONS**

For each of the following items, provide the requested information or place a check (✓) in the box corresponding to your response.

30. What grade(s) do you teach? (Check all that apply.)  
 K    1    2    3    4    5    6    7    8    9    10    11    12
31. What subject(s) do you teach? (Check all that apply.)  
 Language Arts    Math    Science    Social Studies    Elective (please specify) \_\_\_\_\_

**INSTRUCTIONS**

Place a check (✓) in the grid below to indicate the instructional reading groups of the students in the language arts classes that you teach who currently use any of the curricular materials listed. The instructional reading groups are:

Grades K - 5: (a) On grade level, (b) known reading problems never retained or retained once, (c) retained twice in the same grade level, and (d) ESOL Levels I-II

Grades 6-12: (a) On grade level, (b) 1 or 2 years below grade level, (c) below 4<sup>th</sup> grade level, and (d) ESOL Level I

32. Reading Curriculum	Instructional Reading Group			
	(a) On grade level	(b)	(c)	(d) ESOL
Ellis – Academic				
Ellis – Kids				
Hampton-Brown - Avenues				
Houghton-Mifflin - Early Success				
Houghton-Mifflin - Soar to Success				
Houghton-Mifflin - A Legacy of Literature				
McDougal-Littell - Language of Literature				
Pearson Education – Shining Star				
Scholastic – READ 180				
Scholastic – READ XL				
Thompson/Heinle Learning - Visions				
Voyager - Passport				
Other, please specify				

33. If you wish to comment on any of the questions, please do so.

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**Thank you for completing this survey.**

Please return this form in the enclosed envelope via school mail to:  
Mr. Steven M. Urdegar, Office of Program Evaluation - Location Code 9020

**APPENDIX C**

**School Climate Survey**



# Miami-Dade County Schools Climate Survey

## Staff Form

The purpose of this questionnaire is to survey your perceptions based on your experiences in this school. There are no "right" or "wrong" answers. The information gained from this questionnaire is anonymous. Your responses will be combined with those of other professional staff. Your ID number, which you received in a sealed envelope chosen by you, is known only to you.

**Instructions:** Each of the following statements describes a particular aspect of the school climate. Read each statement carefully and decide to what extent you agree or disagree with the statement as it applies to your school.

1. Please indicate your school: \*

*Click on the arrow and choose your school from the dropdown menu. The schools are ordered by location number.*

2. Are you:

Male?  Female?

3. How would you best describe yourself?

White, non-Hispanic  Black, non-Hispanic  Hispanic  
 American Indian/Alaskan Native  Asian/Pacific Islander  Multiracial  Other

4. Are you teaching students?

Yes  No

5. If you are teaching, what grade do you teach most?

Prekindergarten  Kindergarten  1st  2nd  3rd  4th  5th  6th  7th  8th  
 9th  10th  11th  12th  Other

6. At this school . . .

	Strongly agree	Agree	Undecided/ Unknown	Disagree	Strongly disagree
I feel safe and secure.	<input type="radio"/>				

the building is kept clean and in good condition.	<input type="radio"/>				
personnel work together as a team.	<input type="radio"/>				
administrators solve problems effectively.	<input type="radio"/>				
I feel that my ideas are listened to and considered.	<input type="radio"/>				
adequate disciplinary measures are used to deal with disruptive behavior.	<input type="radio"/>				

7. The principal at this school . . .

	Strongly agree	Agree	Undecided/ Unknown	Disagree	Strongly disagree
is an effective administrator.	<input type="radio"/>				
represents the school in a positive manner.	<input type="radio"/>				
demonstrates good interpersonal skills.	<input type="radio"/>				
deals with conflict constructively.	<input type="radio"/>				
responds in a reasonable time to my concerns.	<input type="radio"/>				
treats me with respect.	<input type="radio"/>				
is receptive to constructive criticism.	<input type="radio"/>				
is supportive of teachers.	<input type="radio"/>				

8. My ability to do the best possible job at this school is limited by . . .

	Strongly agree	Agree	Undecided/ Unknown	Disagree	Strongly disagree
too many students in each class.	<input type="radio"/>				
student deficiencies in basic academic skills.	<input type="radio"/>				
lack of concern/support from parents.	<input type="radio"/>				
lack of concern/support from the principal.	<input type="radio"/>				
lack of concern/support from the district administration.	<input type="radio"/>				
insufficient resources (e.g., funds,					

books, equipment, supplies, etc.).	<input type="radio"/>				
school violence.	<input type="radio"/>				
student gang activity.	<input type="radio"/>				
student substance abuse.	<input type="radio"/>				

9. Students generally come to my class at the beginning of the term prepared for the grade level or courses I teach.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
10. I feel satisfied concerning how my career is progressing at this school.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
11. I have a feeling of job security in my present position.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
12. I like working at my school.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
13. Staff morale is high at my school.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
14. I frequently feel overloaded and overwhelmed while working at my school.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
15. Annual teacher evaluations are fair and reasonable.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
16. Annual teacher evaluations are used to improve teacher performance.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
17. Inservice programs keep me informed of the latest educational strategies.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
18. I believe children attending my school are receiving a good education.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
19. The overall climate or atmosphere at my school is positive and helps students learn.  
 Strongly agree  Agree  Undecided/Unknown  Disagree  Strongly disagree
20. Students get grades A, B, C, D, or F for the quality of their school work. What overall grade would you give to this school?  
 A  B  C  D  F



## **Appendix D**

### **Hierarchical Linear Model Analysis**



## Hierarchical Linear Model Analysis

A quasi-experiment was conducted to gauge the students' performance on the FCAT-NRT. The specific quasi-experimental design used in this evaluation was the multiple time series design. This involved using series of scores collected over time to compare the performance of a group of subjects who were exposed to an experimental treatment with that of a group who were not. In applying the multiple time series design in this evaluation, the students' SAT (grade 2) and FCAT-NRT (grades 3-10) scores served as the series of scores, and the Zone program represented the experimental treatment. A control group from the previously defined comparison schools was also defined. All students who attended the Zone and control schools were included in the quasi-experiment, if they had valid baseline (2004), Year 1 (2005), and Year 2 (2006) scores and were enrolled in the same school during March of the baseline year and during October and February of Years 1 and 2.

Hierarchical Linear Modeling (HLM) was used to estimate the students' scale scores over the course of the program's implementation for each group. HLM is a type of multiple regression analysis specifically designed to analyze data in research problems where the subjects are *nested* (contained) in higher level units, such as students within schools (Bryk & Raudenbusch, 2002). Multiple regression analysis is a statistical technique for estimating the relationships among a series of variables by predicting the value of one variable (criterion) given the values of the other variables (predictors). The analysis yields predictor weights that produce the weighted sum that most closely approximates the criterion and indicate the influence of the predictors on the criterion (Hair, Anderson, Tatham & Black, 1998). Also defined for each regression equation is an intercept, which is a constant that represents the value assumed by the criterion when all the predictors are equal to zero.

HLM extends this concept by simultaneously conducting separate regression analyses at each level of the model. The intercept and predictor weights estimated at one level of the model are then treated as criterion variables at the next higher level of the model. For example, in the evaluation of the Zone, the students' FCAT-NRT scale scores were analyzed as test administrations nested within students who are nested within school. Students' scale scores over time (criterion) are represented by an initial status (intercept) and a growth rate over time (predictor). HLM computes separate intercepts and growth terms for each student and then estimates the value of each as a weighted sum of a student level intercept and student-level predictors such as gender, ethnicity, limited English proficiency, and disability. Thus, predictor variables defined at the test administration level become criterion variables at the student level. As such, students' initial scores and growth rates are modeled as varying based on student level factors. Similarly, the student level intercept and each student level predictor are estimated as a weighted sum of school level variables such as program type (Zone vs. Control) and initial school accountability grade. As such, the influence of the various student level predictors is modeled as varying according to school level factors.

Equation 1 describes the mathematical relationship between the criterion and predictor variables at the test administration level. The criterion variable SCORE is the individual students' SAT (grade 2) and FCAT-NRT (grades 3 – 10) score in the appropriate content domain (i.e., reading or mathematics) and is modeled as varying from test administration to test administration. The predictor variable TIME gives the fractional number of years from the inception of the Zone

program to each test administration period. As such, **TIME** has three data points, -.33 (2004), .67 (2005), and 1.67 (2006) and assumes a value of zero at the beginning of the 2004-05 school year.

The value of **SCORE** at a given value of **TIME** is determined by adding the initial status represented by the symbol  $\pi_0$  to the growth rate represented by the symbol  $\pi_1$  multiplied by the **TIME** since program inception. Initial status is the value of **SCORE** when **TIME** equals zero. The symbols are the predictor weights, which represent the influence of the predictors on the criterion. An error term  $e$  is also defined to account for the difference between the predicted and actual values of the criterion.

$$\text{SCORE} = \pi_0 + \pi_1 * \text{TIME} + e \quad (\text{D1})$$

The values for initial status  $\pi_0$  and rate of growth  $\pi_1$  are conceptualized in the HLM as varying according to student level characteristics. Thus, the intercept and predictor weights defined at the test administration level become criterion variables at the student level. The following student demographic factors, which have historically been associated with differences in achievement, were used as predictors at the student level: gender, ethnicity, Free and Reduced Price Lunch (FRL) eligibility, Limited English Proficiency (LEP) classification, and Exceptional Student Education (ESE) program status. Each demographic predictor is represented by a series of dichotomously coded numbers (0 or 1), and is listed in Table D1.

**Table D1**  
**Predictors defined at the Student-Level of the HLM**

Predictor	Definition/Values	Code
Gender	Student Gender	
	Male	1
	Female	0
Ethnicity	Ethnic Classification	
	Black	10
	Hispanic	01
	White/Other	00
FRL	Free/reduced priced lunch program	
	Eligible	1
	Not Eligible	0
LEP	Limited English Proficiency status	
	Current	10
	Former	01
	Non-LEP	00
ESE	Exception Student Education status	
	Student with Disability	10
	Gifted	01
	Non-Gifted, Non-Disabled	00

Equations D2 and D3 describe the mathematical relationship between the criterion and predictor variables at the student level. The criterion variable for initial status  $\pi_0$  was determined by adding the intercept  $\beta_{00}$  to the deviation scores represented by the product of each student demographic predictor (MALE, BLACK, HISPANIC, etc.) and its predictor weight ( $\beta_{01}$ ,  $\beta_{02}$ ,  $\beta_{03}$ , etc.). The criterion variable for growth  $\pi_1$  is determined by adding the intercept  $\beta_{10}$  to the product of each student demographic predictor (MALE, BLACK, HISPANIC, etc.) and its predictor weight ( $\beta_{11}$ ,  $\beta_{12}$ ,  $\beta_{13}$ , etc.). Separate error terms  $r_0$  and  $r_1$  were also defined to account for the difference between the predicted and actual values of the criterion variables.

Grand-mean centering was used to express all student and school level predictors as deviations from their sample means, a process that equates the intercept to the value assumed by the criterion variable when all the predictors are equal to their sample means. At the student level, the intercept represented the value of the criterion variables for those values of the predictors that represent the typical student. At the school level, the intercept represented the value of the criterion variables for those values of the predictors that represented the typical school (Bryk & Raudenbusch, 2002).

$$\pi_0 = \beta_{00} + \beta_{01} * \text{MALE} + \beta_{02} * \text{BLACK} + \beta_{03} * \text{HISPANIC} + \beta_{04} * \text{FRL} + \beta_{05} * \text{CUR} + \beta_{06} * \text{FMR} + \beta_{07} * \text{DISABLED} + \beta_{08} * \text{GIFTED} + r_0 \quad (\text{D2})$$

$$\pi_1 = \beta_{10} + \beta_{11} * \text{MALE} + \beta_{12} * \text{BLACK} + \beta_{13} * \text{HISPANIC} + \beta_{14} * \text{FRL} + \beta_{15} * \text{CUR} + \beta_{16} * \text{FMR} + \beta_{17} * \text{DISABLED} + \beta_{18} * \text{GIFTED} + r_1 \quad (\text{D3})$$

Each of predictors  $\beta_{00} \dots \beta_{08}$  defined for initial status  $\pi_0$  and each predictor  $\beta_{10} \dots \beta_{18}$  defined for rate of growth  $\pi_1$  was conceptualized in the HLM as varying according to school level variables. Therefore, the intercept and predictor weights defined at the student level become criterion variables at the school level. The primary predictor defined for the school level is a dichotomous variable, ZONE, which represents implementation of the Zone program. The value of the predictor weights for that variable gives the influence of the Zone program on the students' initial status and annual growth rate, respectively. Examined for the initial status and growth rate was the effect of the Zone program on the typical student and the extent to which the differential demographic effects of gender, ethnicity, free and reduced price lunch eligibility, English proficiency, and disability were mediated by the presence of the Zone program. An additional predictor was also included as a covariate in the prediction equation for the intercept  $\beta_{00}$  to control for differences in student achievement between students attending Zone and comparison schools that existed at the time of program inception. The covariate used was the "points earned" which underlie the computation of school accountability grades under the state of Florida's A-Plus Plan for Education.

Equations D4 through D21 describe the mathematical relationship between the criteria, the intercepts, and the predictors at the school level. Each criterion variable is determined by adding an intercept to the product of the predictor and weight for each of the school level characteristics for initial status ( $\gamma_{000}$  through  $\gamma_{080}$ ) and rate of growth ( $\gamma_{100}$  through  $\gamma_{180}$ ). Separate error terms  $u_{00}$  through  $u_{08}$  and  $u_{10}$  through  $u_{180}$  are also defined to account for the difference between the predicted and actual values of the criterion variables.

$$\begin{aligned} \beta_{00} &= \gamma_{000} + \gamma_{001} * \text{ZONE} + \gamma_{001} * \text{POINTS} + u_{00} & (\text{D4}) \\ \beta_{01} &= \gamma_{010} + \gamma_{011} * \text{ZONE} + u_{01} & (\text{D5}) \\ \beta_{02} &= \gamma_{020} + \gamma_{021} * \text{ZONE} + u_{02} & (\text{D6}) \\ \beta_{03} &= \gamma_{030} + \gamma_{031} * \text{ZONE} + u_{03} & (\text{D7}) \\ \beta_{04} &= \gamma_{040} + \gamma_{041} * \text{ZONE} + u_{04} & (\text{D8}) \\ \beta_{05} &= \gamma_{050} + \gamma_{051} * \text{ZONE} + u_{05} & (\text{D9}) \\ \beta_{06} &= \gamma_{060} + \gamma_{061} * \text{ZONE} + u_{06} & (\text{D10}) \\ \beta_{07} &= \gamma_{070} + \gamma_{071} * \text{ZONE} + u_{07} & (\text{D11}) \\ \beta_{08} &= \gamma_{080} + \gamma_{081} * \text{ZONE} + u_{08} & (\text{D12}) \\ \beta_{10} &= \gamma_{100} + \gamma_{101} * \text{ZONE} + u_{10} & (\text{D13}) \\ \beta_{11} &= \gamma_{110} + \gamma_{111} * \text{ZONE} + u_{11} & (\text{D14}) \\ \beta_{12} &= \gamma_{120} + \gamma_{121} * \text{ZONE} + u_{12} & (\text{D15}) \\ \beta_{13} &= \gamma_{130} + \gamma_{131} * \text{ZONE} + u_{13} & (\text{D16}) \\ \beta_{14} &= \gamma_{140} + \gamma_{141} * \text{ZONE} + u_{14} & (\text{D17}) \\ \beta_{15} &= \gamma_{150} + \gamma_{151} * \text{ZONE} + u_{15} & (\text{D18}) \\ \beta_{16} &= \gamma_{160} + \gamma_{161} * \text{ZONE} + u_{16} & (\text{D19}) \\ \beta_{17} &= \gamma_{170} + \gamma_{171} * \text{ZONE} + u_{17} & (\text{D20}) \\ \beta_{18} &= \gamma_{180} + \gamma_{181} * \text{ZONE} + u_{18} & (\text{D21}) \end{aligned}$$

Equation D13 bears particular scrutiny as it predicts the growth rate for the typical student in the sample. A statistically significant positive value for the predictor weight  $\gamma_{101}$  would indicate that the Zone program is having a beneficial effect on the achievement of participating students, while a statistically significant negative value would indicate that it is having a deleterious effect. A value for the predictor weight  $\gamma_{101}$  that is not statistically significant would indicate that the Zone program is not having an effect on the achievement of participating students. The final step in the HLM analysis involved a comparison of adjusted posttest (2006) scores of students attending the Zone and comparison schools. The scores were corrected for demographic differences between the groups by applying Equation 1 to both groups for a hypothetical group of students imbued with the demographic characteristics seen for the overall sample. Since all student and school-level variables were grand-mean centered, each effect is expressed as a deviation from its mean value. Adjusted posttest scores were computed for each group by adding the initial status to the product of the growth rate and the number of years since program inception.

## **Bureau Response/Plans of Action to Address Evaluation Findings<sup>1</sup>**

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<sup>1</sup>The following section was developed by program staff. It consists of a bureau/office response and plans of action which are to be (or have already been) initiated by the relevant bureau/office.



## PLAN OF ACTION FORM

Name and Title of Respondent: Dr. Geneva K. Woodard, Associate Superintendent,  
School Improvement Zone

Signature: Geneva K. Woodard Date: 11/6/07

Title of Report: Evaluation of the "School Improvement Zone Second Interim Report: 2005-06"

Recommendation 1 of 3: Investigate implementation variations at Zone schools by analyzing data from fidelity monitoring systems currently in place. Address any problems that are identified, and maintain the data so that program implementation can be analyzed in the future.

check on:  I agree with this recommendation (discuss below)

I disagree with this recommendation (discuss below)

If you agree with the recommendation, please describe your Plan of Action. Otherwise, provide your rationale for disagreement.

At the end of this school year, 07-08, the School Improvement Zone will have completed its third year of implementation. The process of analyzing instruction, assessments, and the resulting data is being monitored more closely and consistently to ensure program fidelity.

In order to achieve this end, at the beginning of this school year, all Zone schools were provided with the following:

- a curriculum resource binder for reading and language arts, mathematics, and science
- a weekly focus calendar that is aligned with the District's Pacing Guide, all textbooks, additional labs and lessons, and available resources
- a set of planning cards that are made up of all of the Test Item Specifications and sample FCAT questions, by benchmark, from the FLDOE
- professional development on the use of these resources to assist teachers with focused planning and instruction.
- a Zone pretest and monthly assessments, aligned to the Zone curriculum guide
- data from the above mentioned assessments by subject area, grade level, FCAT level, lowest 35%, and subgroups
- a recommended assessment calendar, including a schedule for 'data chats' between school administrators and leadership teams to be held with zone administrators.

The data from these chats included 2007 FCAT results and the Zone pretest as the baseline data and the monthly assessments to indicate progress. Schools are given immediate feedback and support in the areas of weakness, as indicated by the data. Schools that have successes share their best practices and their model teachers and classrooms.

In addition, principals were given data binders that included FCAT baseline for their school. The

binders were organized so that principals would be ready for the data chats. Schools were required to have data binders for each teacher with their students' ongoing assessment results. Administrators were also required to hold ongoing data chats with their teachers, as well as teachers with their students.

PLAN OF ACTION FORM

Name and Title of Respondent: Dr. Geneva K. Woodard, Associate Superintendent,  
School Improvement Zone

Signature: Geneva K. Woodard Date: 11/6/07

Title of Report: Evaluation of the "School Improvement Zone Second Interim Report: 2005-06"

Recommendation 2 of 3: Consider changing the structure and delivery of the extended day program in light of problems that are evident and the quality of resources committed thereto by making the program mandatory to only those students who are below grade level.

check on:  I agree with this recommendation (discuss below)  
 I disagree with this recommendation (discuss below)

If you agree with the recommendation, please describe your Plan of Action. Otherwise, provide your rationale for disagreement.

In transition, this final year of the School Improvement Zone (07-08), elementary and middle schools had the option of infusing the extended day interventions during, rather than at the end of, the school day. The senior high schools are a part of the Secondary School Reform and already have the extended day as a part of their 4 x 4 block schedule. The interventions that are provided will be to assist students that are below grade level and/or do not achieve mastery on benchmark assessments and need additional differentiated instruction. This model will take into consideration the resources and materials that are available

PLAN OF ACTION FORM

Name and Title of Respondent: Ms. Ava G. Byrne, Deputy Superintendent,  
Professional Development

Signature: Ava Byrne (092) Date: 11/8/07

Title of Report: Evaluation of the "School Improvement Zone Second Interim Report: 2005-06"

Recommendation 3 of 3: Improve the accessibility of professional development offerings by expanding the efforts of job embedded professional learning communities during non-instructional school hours.

check on:  I agree with this recommendation (discuss below)  
 I disagree with this recommendation (discuss below)

If you agree with the recommendation, please describe your Plan of Action. Otherwise, provide your rationale for disagreement.

*In order to build capacity and strengthen efforts to increase access to job embedded professional development, we have taken the following steps:*

- 1) established the Professional Development Liaison designation at each school;*
- 2) provided training in facilitating professional learning communities for Professional Development Liaisons and Zone professional development teams;*
- 3) expanded the Student Teacher Support Team Model (ST2) to include 8 Zone elementary schools;*
- 4) Collaboratively tracking professional development services delivered in Zone with web based tool.*