Read 180 ® Program Evaluation
Pinellas County Schools
August 2006

Executive Summary

Read 180 is a computer-assisted literacy program that facilitates the targeted reading instruction of struggling students. Pinellas County Schools began utilizing the program in 1999-2000, and it is still being used. This study provides the first analysis of the program's effectiveness in Pinellas County Schools. This evaluation uses the 2005-2006 implementation study to identify levels of implementation for students.

The study analyzed the FCAT Reading performance of Read 180 students in relation to an academically matched sample, on what the state has identified as one year's growth on the FCAT. The findings are extremely promising for a fully implemented Read 180 program. For programs which are partially and poorly implemented, the results are not as promising, with the students performing on par with their academically matched peers that are receiving traditional instruction.

The Read 180 program costs more than the Regular Language Arts Program. The cost is between twice as much and three times as much as a Regular Language Arts class, depending on the grade level of the school. The fact that a fully implemented Read 180 class provides more improvement for students enrolled in that class implicates that there may be some cost savings, however due to the nature of the data an analysis that indicates if the amount spent for the improvement is comparable to the Regular language arts class was not possible.

The Reading Department has taken a few steps to ensure that there is an improvement in the implementation of the Read 180 Program. These improvements include increasing the training opportunities for teachers, increasing the technical support to the teachers in the form of a flow chart for troubleshooting common problems with the Read 180 system, a call center for more complicated technical problems, and improvement of the collection of data for the program overall.

Recommendations:

- Direct principals to properly implement the Read 180 program.
    - If a school is unable or unwilling to properly implement the program, remove it from the school and place it elsewhere.
- Direct principals to:
    - utilize a standardized county wide course identification system.
    - provide the identity of every language arts teacher and the courses that they are teaching to the Reading Department.
- Conduct another evaluation of the program at the mid year (Nov/Dec time point) to include:
    - The implementation of the program
    - If the technical support and training offered by the Reading Department have been successful/useful
    - A summative evaluation of the available Scholastic Reading Inventory using an academically matched sample of students
- Investigate other programs for the High School level students requiring intensive reading instruction.
- Investigate the feasibility of increasing the number of students in the Read 180 class by:
    - Talking to the Read 180 teachers concerning the in-class pedagogical concerns which have not been discussed
    - Talking to the Reading Department concerning the district wide implications of such a decision
- Continue to monitor the implementation, effectiveness and efficacy of the program yearly with a standard evaluation model that is used to address programmatic problems.

Read 180 ® Program Evaluation

This evaluation is a summative evaluation of the Read 180 Program. The analysis uses the findings of the 2005 – 2006 implementation evaluation of the Read 180 Program to identify students based on the level of implementation of the classes that they attend. This evaluation provides an analysis of the program using the FCAT to demonstrate effectiveness.

Background Information

Program History

Read 180 was developed as the Peabody Literacy Program by Ted S. Hasselbring to provide a reading intervention by using technology to enhance learning in students at risk for school failure. Scholastic licensed the program from the Peabody School of Education at Vanderbilt University in 1999, the same year that Pinellas County Schools instituted the Read 180 program in 19 schools. The number of schools utilizing the Read 180 program has increased each year to 75 schools in 2005-2006.

Program Description

Structure of Read 180

Read 180 is an intensive reading program that uses literacy-based equipment in the form of audio books (books on tape and on CD), printed books, and computer guided instruction. Each Read 180 class begins with a teacher-led "whole" group instruction, in which all the students participate. Following the whole group instruction, the class is split into three groups which go to three stations: independent reading, small group, or computer area for twenty minutes. At the end of twenty minutes, the groups rotate to the next station; after each group has spent twenty minutes at each of the three stations, they once again participate in a whole group session which is designed to "wrap-up" the class. The structure of the program requires that there be at least 90 minutes of class time dedicated to reading in order for the model to be fully implemented. The program is designed to provide the instructor with the ability to utilize information from the computer program to individualize and target instruction while the students are in the small group rotation.

Pedagogical Purpose

The goal of the Read 180 program within Pinellas County Schools is to increase targeted students' reading levels to their appropriate grade level. The objective of the Read 180 program directly addresses the district's strategic goal of highest student achievement.

Program Target Population

The Read 180 program was designed to support teachers in meeting the needs of students who read below grade level. In Pinellas County Schools, the Read 180 program is administrated separately by the elementary reading and secondary reading departments. Placement of students in the Read 180 program is handled at the school level, with guidance from the elementary and secondary reading departments to identify students who are struggling readers based on their Scholastic Reading Inventory (SRI) scores and their FCAT Reading levels. Students who are reading at least two grade levels behind their age-appropriate peers (as measured by SRI and teacher assessment) and have low FCAT scores (Sunshine State Standards Reading level 1 and 2) are targeted for inclusion in the Read 180 program. After the initial identification of students who are appropriate for the class, school level administrators and counselors make placement decisions based on program availability and the individual student's needs.

In elementary and middle school, students are assigned to Read 180 in lieu of a regular Language Arts class. In high school, students are assigned to both a regular Language Arts and a Read 180 class.

Program Delivery

Read 180 teachers are assigned to teach classes based on school level administrative staff decisions following district procedures. The reading department encourages principals to select teachers for reading programs who are certified in reading. Further, under the federal *No Child Left Behind Act of 2000* (*NCLB*) and state law, any teacher who is placed in a position for which they are not "highly qualified" must be identified and provided the opportunity to pursue certification in the area in which they are teaching.

Program Preparation

Every year the district has conducted a Read 180 training program at the beginning of the school year to familiarize and orient new teachers to the Read 180 model. The reading departments report that this training includes all the information Read 180 teachers need to fully implement the program when they are provided with all the necessary equipment and support. The reading departments' assertion is corroborated by the teachers' responses to the online survey and individual interviews from the 2005-2006 implementation evaluation. The reading departments have acknowledged that there are relatively few training opportunities offered for new Read 180 teachers who are hired after the school year has begun, but have reported planning for more training opportunities in the future.

Program Fidelity

There had been no comprehensive implementation evaluations of the Read 180 program until the 2005-2006 school year. The findings of the 2005-2006 implementation study were used to provide information to this evaluation. The criteria for Read 180 program fidelity was determined based on modification of the rubric provided by scholastic using input from the reading departments during the implementation evaluation. The implementation study provided information that allowed identification of classes as full, partially and poorly implemented. Students were identified based on the implementation level of their class. This procedure provides an equalized basis of comparison, which will help determine if the effectiveness of the Read 180 program is dependent on the level of its implementation.

Method

Design

Students who participate in the Read 180 program should show improvements in their reading scores. In order to evaluate each student's improvement, we considered two markers of student achievement from the Florida Comprehensive Assessment Test (FCAT). The present analyses utilize the Sunshine State Standard Reading Scale Scores (RSS) and the Reading Developmental Scale Score (DSS). The Reading Scale Scores range from 100 to 500, to assess students' achievement of the Sunshine State Standards in reading. Higher Reading Scale Scores indicate greater mastery of grade-level reading content. The RSS is based on a test for a specific grade level and thus should not be used to make direct comparisons between or across grade levels.

The Florida Department of Education developed the Developmental Scale Score to examine a student's reading achievement ability over time. The DSS was developed so that a student's reading score could be compared to their previous year's score (across grade levels). The Developmental Scale Score is a mathematical conversion of the Reading Scale Score. It provides longitudinal information about the student's development over time. The Florida Department of Education (FDOE) has published the amount of change necessary in the Reading DSS to be considered a single year's growth, based on the student's grade level (Table 1).

Table 1. Florida Department of Education's definition of one year's growth in Developmental Scale Score change by grade level

Developmental Scale Score Change	Grade in which Change is seen
230	Grade 4
166	Grade 5
133	Grade 6
110	Grade 7
92	Grade 8
77	Grade 9
77	Grade 10

Using the FDOE's indication of one year's growth, the Read 180 students' Reading Developmental Scale Score changes could be examined to determine if they have improved by at least what the FDOE considers one year's worth of growth in their reading test scores.

The DSS provides valuable information for a longitudinal comparison of one individual's performance or of aggregates across a district; however, there are some arguments against using it to examine between-student differences. Since the DSS is a direct mathematical conversion of the Reading Scale Score, it equates these scores over different test administrations. Instead, using the actual Reading Scale Score (RSS) from the FCAT provides a pre-converted representation of each student's ability for a comparison within the same year. Therefore, using the RSS, an academically matched comparison group for each Read 180 student was formed.

The average change in each student's matched comparison groups' Reading Scale Scores was computed. The average change in Scale Scores was then compared to that of the Read 180 students. The comparison provided information concerning the Read 180 students' change in reading ability in relation to their academically matched Pinellas County peers. A Z-Score was computed for each Read 180 student to provide information on the amount of change for the students in Read 180 compared to their academically matched peers. This method of comparison is based on a method proposed by the Center for Research Evaluation, Assessment and Measurement (CREAM) at the University of South Florida.

The matching process accomplishes several beneficial effects. First, it identifies students with similar Reading Scale Scores; these students arguably were eligible for the Read 180 program but were not in it. Additionally, it eliminates the extremely high functioning students from the sample, thereby eliminating an unfair comparison between students of differing ability levels. Finally, it provides a group of academically matched students who received the regular curriculum of Pinellas County for reading and thus represents the curriculum that the Read 180 student would have received if they had not been enrolled in the program.

Sample

FCAT reading results for all students enrolled in the Read 180 program (N=5887) were examined for the 2005 and 2006 FCAT tests. Any student who did not have two years of reading scores was eliminated from subsequent analyses. Eighty-one percent (N=4775) of the Read 180 students who were initially identified had both a prior and current year FCAT reading Scale Score. These students' scores were used to examine the effectiveness of the Read 180 program.

The 2005-2006 implementation study provided information on a class period basis, which allowed each student to be grouped into one of four categories in relation to the level of implementation of Read 180 that they experienced. The four levels are "Full Implementation", "Partial Implementation", "Poor Implementation" and "Not Reported".

The three implementation levels which indicate "Full", "Partial" and "Poor" were identified using data from the implementation study conducted during the 2005-2006 school year. The implementation study provided information which allowed individual students to be categorized into implementation levels based on their specific class of attendance.

Only those teachers identified by the elementary and secondary reading departments as Read 180 teachers were included in the 2005-2006 implementation evaluation. Due to teacher movements and site based assignments, some teachers were not properly identified for the implementation survey. Further, some of the data collected could not be matched to specific teachers and therefore could not be used to determine students' implementation level. These Read 180 students are classified as "Not Reported."

The final sample consisted of 3058 students who could be classified into some level of implementation for Read 180 (Full, Partial, or Poor), and 1717 students with unknown ("Not Reported") implementation. The entire matched sample (N=4775) was used to see if just being in Read 180 provided a benefit to students, regardless of program fidelity. In addition, the sample which could be identified into some level of implementation (N=3058) was used to look at the effectiveness of Read 180 based on program fidelity.

Results

Developmental Scale Score Change (Using state's definition of one year's growth)

Initially the Developmental Scale Score changes were examined for all of the students who were enrolled in Read 180 (N=4775). Read 180 students who had one year's growth or more comprised 51.4% of the sample (n=2456), while those students who had not attained at least one year's worth of growth were the remaining 2319 (48.6%). A similar analysis of all the students who were not enrolled in Read 180 and not reading on grade level the prior year (students eligible for Read 180), demonstrated that 55.3% (N=9509) of them had at least one year's worth of growth based on their Developmental Reading Scale Score change. This overall analysis, which does not take into account students' implementation level, indicates that the Read 180 students are not increasing their reading scores any more than students receiving traditional reading instruction.

However, when the levels of implementation are examined, the picture changes somewhat. Of the 217 students in the fully implemented Read 180 labs, 57.1% (N=124) improved their reading scores by at least one year's worth of growth using FDOE standards. Table 2 lists the number and percentage of students by amount of reading growth ("less than a year" and "a year or more") within each level of implementation. The students whose Read 180 implementation status was "Not Reported" were withheld from this analysis.

Table 2. Read 180 Students Developmental Scale Score Change by Implementation Level

		STUDENTS' GROWTH BY FDOE STANDARDS			
		less than a year		a year or more	
implementation level	NOT Read 180; Reading below grade level	7673	44.7%	9509	55.3%
	Read 180 Full	93	42.9%	124	57.1%
	Read 180 Partial	794	50.1%	792	49.9%
	Read 180 Poor	633	50.4%	622	49.6%

Table 3 uses the same population as Table 2, separated by school level. It is interesting to note that across instructional levels, the fully implemented Read 180 labs consistently had a larger percentage of students achieving at least one year's growth as defined by the FDOE.

Table 3. Students Developmental Scale Score Change by Implementation Level and school Level

			STUDENTS' GROWTH BY FDOE STANDARDS			
			less than a year		a year or more	
ELEM	implementation level	NOT Read 180; Reading below grade level	1713	52.3%	1560	47.7%
		Read 180 Full	52	47.7%	57	52.3%
		Read 180 Partial	124	61.7%	77	38.3%
		Read 180 Poor	140	55.6%	112	44.4%
		Read 180 Elem. Total	316	56.2%	246	43.8%
SEC	implementation level	NOT Read 180; Reading below grade level	5960	42.8%	7949	57.2%
		Read 180 Full	41	38.0%	67	62.0%
		Read 180 Partial	670	48.4%	715	51.6%
		Read 180 Poor	493	49.2%	510	50.8%
		Read 180 Sec. Total	1204	48.2%	1292	51.8%

Academically Matched Peer Comparison

While the examination of the students' Developmental Scale Score changes is illustrative, it still does not adequately demonstrate whether the Read 180 program was successfully raising students' reading scores in Pinellas County Schools. In order to answer this question, a comparison sample was constructed for each Read 180 student based on their previous year's FCAT Reading Scale Score. This provides a baseline

comparison group for each Read 180 student, matching them with students who had similar FCAT Reading Scale Score the previous year. The Reading Scale Score is one of the primary indicators of a student's eligibility for Read 180.

All Read 180 Students.

Each of the Read 180 students was matched to a **group** of non Read 180 students based on their prior year's FCAT Reading Scale Score. This matched **group** provides a population of students who were academically similar (academic peers) to each individual Read 180 student. Initially, all of the students within the Read 180 program were considered. Based on the comparison of **each** Read 180 student to their academically matched comparison **group**, approximately 50% (N=2382) of the Read 180 students demonstrated more improvement than their academically matched peers. This means that any student enrolled in the Read 180 program (without considering their level of implementation) had about the same likelihood of improving on the FCAT Reading test as an academically matched peer within the district. In other words, the program does no better than the other reading programs within the district. While this may not seem promising, it is a relatively even starting place to consider the various levels of implementation.

Read 180 Students By Implementation Level.

Using only those students whose Read 180 class implementation level could be determined (N=3058), a similar analysis was conducted to determine if there were any differences in the students' growth when compared to their academically matched peers when taking implementation level into account.

For the "Partial" and "Poorly" implemented Read 180 classes, the results were similar to the analysis of "all the Read 180 students." Students in a partially or poorly implemented Read 180 class were equally likely to make the same levels of advancement on the FCAT Reading Scale Score as their academically matched peers receiving regular Language Arts instruction. However, those Read 180 students in fully implemented classes were **twice as likely** to have more growth in FCAT Reading than their academically matched peers, as shown in Table 4.

Table 4. Read 180 Students Amount of Growth Compared to Academically Matched Sample by Implementation Level

		Students' position in relation to average growth of comparison group			
		Less Growth		Equal or more Growth	
Read 180 implementation level	Full	79	36.4%	138	63.6%
	Partial	806	50.8%	780	49.2%
	Poor	637	50.8%	618	49.2%

Read 180 students By Implementation Level And School Level.

The Elementary and Secondary Reading departments defined their criteria for levels of implementation differently, so an analysis of level of implementation by level of instruction was conducted. As can be seen in Table 5, the students in the fully implemented groups at both instructional levels (elementary and secondary) were 2 times more likely to show more growth on their FCAT Reading Scale Scores than their academically matched peers within the district.

Table 5. Read 180 Students Amount of Growth Compared to Academically Matched Sample by Implementation Level and School Level

			Students' position in relation to average growth of comparison group			
			Less Growth		Equal or more Growth	
ELEM	Read 180 implementation level	Full	36	33.0%	73	67.0%
		Partial	94	46.8%	107	53.2%
		Poor	118	46.8%	134	53.2%
SEC	Read 180 implementation level	Full	43	39.8%	65	60.2%
		Partial	712	51.4%	673	48.6%
		Poor	519	51.7%	484	48.3%

Read 180 Students By Implementation Level And Grade Level.

The above analysis provides evidence that when the Read 180 program is properly implemented, it provides better outcomes than the alternatives of either not having the program, or less than fully implementing the program. The data also allows us to look at the efficacy of the program at different grade levels. It is interesting to note that the differences seen in the earlier analyses hold true for the elementary grades (4 & 5). At the secondary level, fully implemented Read 180 classes also result in greater improvement for 6th and 8th grade students. There were not enough students in the 7th grade fully implemented group to make any definitive statements about group differences, and the 9th and 10th grade classes did not have any identifiable fully implemented Read 180 classes (Table 6). While these grade levels lacked identifiable fully implemented classes, the partially and poorly implemented classes demonstrated results consistent with the other poorly and partially implemented students. Across all grade levels, students in a partially or poorly implemented class were equally likely to make the same levels of advancement on the FCAT Reading Scale Score as their academically matched peers.

Table 6. READ 180 STUDENTS COMPARED TO ACADEMICALLY MATCHED SAMPLE – BY STUDENT GRADE AND LEVEL OF IMPLEMENTATION

				Students' position in relation to average growth of comparison group			
				Less Growth		Equal or more Growth	
Grade	4.00	Read 180 implementation level	Full	11	27.5%	29	72.5%
			Partial	49	49.0%	51	51.0%
			Poor	68	50.0%	68	50.0%
	5.00	Read 180 implementation level	Full	25	36.2%	44	63.8%
			Partial	45	44.6%	56	55.4%
			Poor	50	43.1%	66	56.9%
	6.00	Read 180 implementation level	Full	28	40.0%	42	60.0%
			Partial	82	50.0%	82	50.0%
			Poor	114	51.1%	109	48.9%
	7.00	Read 180 implementation level	Full	0	.0%	4	100.0%
			Partial	282	53.1%	249	46.9%
			Poor	94	53.4%	82	46.6%
	8.00	Read 180 implementation level	Full	15	44.1%	19	55.9%
			Partial	112	51.6%	105	48.4%
			Poor	74	54.8%	61	45.2%
	9.00	Read 180 implementation level	Partial	172	49.9%	173	50.1%
			Poor	149	53.2%	131	46.8%
	10.00	Read 180 implementation level	Partial	64	50.0%	64	50.0%
			Poor	88	46.6%	101	53.4%

Limitations & Strengths of the Study

This study examined those students enrolled in Read 180 who were associated with information from the 2005-2006 implementation study compared to the entire population of academically similar students with two years of FCAT reading data. Using this method, traditional inferential statistics are not needed. The students used in this evaluation were not a sample; they are the entire population of low performing readers in the district. Therefore, there is no need to **infer** if the program is working; the results of the analysis tell us how the program is working for those students enrolled. Inferential analysis would only be necessary if a sample was used to predict if a program or treatment is working.

The matched comparison model is often used in quasi-experimental research to eliminate possible differences between the control group and the treatment group. The CREAM model of comparison utilized in this evaluation provides a method of academically matching students based on their previous year's ability scores. This allows the population of students who are academically similar to be identified for subsequent analysis.

Theoretically, there is an argument for improving the design of this evaluation by randomly assigning students to the program. The district (as a public educational agency), and most researchers, consider it unethical and of questionable legality to withhold services from any child based on a random selection or assignment to programs. As professional educators, the district strives to best serve the needs of all students; therefore programs are provided to students on the basis of need and availability.

The 2005-2006 implementation evaluation provided valuable information about the level of Read 180 implementation for each student based on their Read 180 teachers. This presented difficulties for the current study, because not all Read 180 teachers were identified by the reading departments at the time of the implementation evaluation. This lack of information during the implementation evaluation resulted in nearly 36% (N=1717) of the students in Read 180 classes being classified as "Not Reported" for their level of implementation. This can be corrected in future evaluations by ensuring that the reading departments are fully apprised of teacher assignments to all Language Arts programs.

The 2005-2006 implementation study also introduced, but did not fully address, the encroachment of the Project Focus program on the Read 180 program. Some teachers report being directed to conduct Project Focus lessons during their Read 180 class time. This practice generates concern, in that the inclusion of Project Focus during the Read 180 class time violates the underlying structure of the Read 180 curriculum. A central tenet of the Read 180 program dictates that instruction is individually targeted to students' needs based on the data generated from their classroom activities. If a teacher includes Project Focus in their class without adjusting the curriculum based on the individual needs of the students in the class, by definition the Read 180 class would not be properly implemented. Further, if the teacher adjusted the Project Focus curriculum to match the criteria of Read 180, Project Focus would not be properly implemented. Given the lack of data concerning the interaction of these two programs, there is no real way to assess the amount of interference or synergy that occurred between them.

Program Costs

In order to provide a comparison to the Read 180 program costs, the average per-seat cost of a Regular Language Arts class was computed (Table 7). This cost was computed using the average salary of staff in Language Arts classes (including benefits) as provided by the Budget department ($58,000) and the average yearly per-student cost of textbooks as provided by the Instructional Materials department ($44.95 for elementary; $95.73 for middle school; and $103.28 for high school). An instructional materials cost analysis indicated that the replacement schedule for textbooks is amortized over 5 years, therefore the per-student, per-year cost of regular Language Arts materials decreases to $8.99 in elementary, $19.15 in middle

school and $20.66 in high school. The number of regular Language Arts seats was identified using the requirements of the Florida Class-size Amendment for each grade in which Read 180 is offered (grades 4 through 8 is 22 students per class, and grades 9 through 10 is 25 students per class).

The per-seat cost for Read 180 was computed using the average salary of staff in Language Arts classes (including benefits) as provided by the Budget department ($58,000 for instructional personnel and $24,513 for teachers aides). The average yearly per-lab cost of equipment replacement was identified during the implementation study ($650 per lab). Finally, the number of available Read 180 seats was identified as 15 per classroom, as determined in the 2005-2006 implementation evaluation. The length of a standard school year (180) was used for both the Read 180 and the regular Language Arts classes.

Regular Language Arts Cost

Utilizing the parameters outlined above, the average per-seat, per-day cost for a regular Language Arts class in elementary (4th & 5th grades) is $4.49. The per-seat, per-day cost in middle school (6th through 8th grades) is $2.77. The per-seat, per-day cost for a regular Language Arts class in a regular high school (9th through 12th grades) is $2.46. The per-seat, per-day cost for a regular Language Arts class at a 4X4 high school (9th through 12th grades) is $2.07.

Read 180 Cost

The average per-seat, per-day cost for a Read 180 class at the elementary level is $9.32.The per-seat, per-day cost for a Read 180 class at the middle and high school levels (secondary) is $6.57.

Cost Comparison

A comparison between the per-seat, per-day costs of traditional Language Arts and Read 180 classes at the elementary level demonstrates that Read 180 has a cost that is 2.08 times more than a regular Language Arts class. At the middle school level the Read 180 program costs 2.37 times more than a regular Language Arts class. At a traditional high school the Read 180 class costs 2.67 times more than a regular Language arts class, while at a 4X4 high school the Read 180 class costs 3.18 times more. This comparison has thus far looked at the program cost alone; however, this does not capture the actual cost ratio when considering instructional time.

For instance in elementary and middle schools, students do not attend both a regular language arts class and a Read180 class. At these levels, the Read 180 class supplants the normal instruction received in regular Language Arts classes. However, in high school, students attend both a regular Language Arts class and the Read 180 class.

Thus, in the 9th grade and later, the cost of Read 180 is additive over and above the cost of the normal Language Arts instruction. While, in 4th through 8th grades, although Read 180 costs more than a regular Language Arts class, it replaces the curriculum and thus the costs are not additive in nature.

At the elementary level the curriculum identified in the Pinellas Instructional Assessment Plan calls for 90 minutes of reading instruction throughout the 4th and 5th grades. This is precisely the amount of time a student spends in Read 180. Therefore, the added per-seat, per-day cost of the Read 180 instruction in elementary schools is $4.83 over the regular reading instruction, making the overall cost ratio of Read 180 in elementary schools 2.08 times the amount of one regular Language Arts class.

At the middle school level the Read 180 class lasts as long as two regular Language Arts class sessions. While the cost for one Read 180 class in middle school has an added per-seat, per-day cost of $3.80, if a comparison to the same amount of instructional time is desired the added cost is reduced to $1.03 greater than regular Language Arts instruction. It is not standard operating procedure to enroll students in

more than one Language Arts class in middle school, thus this may seem like a spurious comparison, however it is provided to point out the overall cost of the instructional time to the district is only .37 times greater than a normal class that takes the same amount of time to conduct. The overall cost ratio of Read 180 at the middle school level is 2.37 times the amount in relation to a regular Language Arts class, but only 1.37 times the cost in relation to the equivalent amount of instructional time.

At the high school level the Read 180 class also takes what amounts to two class sessions. Unlike middle schools, in high school the Read 180 class is in addition to regular Language Arts instruction. Thus the added per-seat, per-day cost of Read 180 in regular and 4X4 high schools is $6.57, for an overall cost ratio of 3.67 times greater in regular high schools and 4.18 times greater in a 4 X 4 high school.

Table 7. LANGUAGE ARTS CLASS COSTS

	Books and/or equipment per-student per-day	instructor salary per-student per-day	Total program cost per-seat per-day	Added cost Per-seat per-day for Language Arts instruction
Grades 4 – 5 (elementary)	$0.05	$4.44	$4.49	
read180 (elementary)	$0.06	$9.26	$9.32	$4.83
Grades 6-8 (middle school)	$0.11	$2.66	$2.77	
Read 180 (middle school)	$0.06	$6.51	$6.57	$3.80
Grades 9-129-12 (reg high school)	$0.11	$2.34	$2.46	
Read 180 (high school)	$0.06	$6.51	$6.57	$6.57
Grades 9-12 (4X4 high school)	$0.11	$1.95	$2.07	
Read 180 (high school)	$0.06	$6.51	$6.57	$6.57

Discussion

Overall Effectiveness

The Read 180 program has a positive effect on reading performance for students enrolled in fully implemented classes. They are two times more likely to improve their reading scores, in relation to their academically matched peers within the district. The effect of the program for partially and poorly implemented was similar to the improvements seen from the regular curriculum of the district. In elementary and middle school this means that a student's enrollment in poorly or partially implemented Read 180 class was not likely to make much more of a difference than if they had enrolled in a regular Language Arts course in Pinellas County. A **positive** consideration of this finding is that the students in the program are **not doing worse than their peers.** However this is not necessarily a good fiscal finding, since the district is paying

more for the program than for a regular Language Arts class. This is particularly troubling at the high school level, in light of the fact that the Read 180 is a program that is attended in addition to the regular Language Arts curriculum. Thus, even with the added intervention of Read 180, the students did no better than their peers who received only the regular Language Arts curriculum. It is often a tacit assumption that more instruction is better; however, it appears that additional Read 180 instruction that is not properly implemented in high school produces no added benefits, only added cost.

There is the possibility that the students who were enrolled in the Read 180 program were more in need of reading intervention than their peers, which would explain the apparent lack of program effectiveness for the partial and poorly implemented Read 180 classes. However the nature of the comparison uses Read 180 students' academically matched peers to prevent just such an occurrence, and should provide a comparison to those students who are "in the same boat," academically speaking.

Program Cost

The Read 180 program costs more than a regular Language Arts class at any of the school levels. In relation to the average per-day, per-seat expenditure by a school for a Language Arts class, a Read 180 class costs only about twice (2.08) what a regular class costs and replaces the regular curriculum at the elementary school level. At the middle school level the cost is about two and a third (2.37) more and also replaces the regular curriculum. The cost at the high school level is between two and a half (2.67) for a regular high school and three and a fifth (3.18) more for a 4X4 school and does not replace the regular curriculum, so the actual daily cost to the school for Language Arts instruction is greater by a factor of one (3.67 and 4.18 respectively).

Although, the Read 180 program costs more than a regular language arts class there are unseen cost considerations in relation to the class size amendment. The read 180 program counts as a core curriculum class in both middle and elementary school (which are the type of classes affected by the amendment). While, the districts finance department indicated that the Read 180 Program undoubtedly affects the district's compliance with the class size amendment it was not possible to determine the actual cost or savings derived from the program in regards to class size requirements.

Training Opportunities

The reading departments reported planning for more mid-school-year training opportunities for Read 180 teachers in the future. These trainings are designed to both supplement the existing knowledge base of currently trained teachers and to provide new Read 180 teachers with the adequate training to assist them in providing a fully implemented program to their students.

Technical Assistance

The reading departments, working with the Management Information Systems department, have provided technical support in the form of a flow chart for trouble shooting common problems with the Read 180 system and a call center for more complicated problems.

Continued Monitoring

In order to continue to assess the program fidelity, continued evaluation of implementation and outcomes should be conducted by individuals outside the purview of the program in question. Further, better information needs to be collected by the respective reading departments in relation to the actual classroom data, such as who the Read 180 teachers are and what students and classes they are teaching. With better information, additional analyses can be conducted using other test scores that are specific to the program in question (i.e., the Scholastic Reading Inventory), which may provide a different perspective on the overall program effectiveness.

Recommendations

This evaluation is not a single case study, and the analyses do not investigate single students; they look at aggregates and therefore will not necessarily reflect the performance of any specific student. The analyses provide information on the overall program performance and how the students who were enrolled in the program performed on average. Results from district evaluations are meant to be used to improve or modify program delivery based on the findings. While the Evaluation department makes recommendations, it expects those individuals who have specific curricular expertise in the area under discussion to consider the appropriateness and feasibility of these recommendations, not perceive them as requirements or the only methods available to improve a given program.

Considering that the evaluation is intended to assist the district in improving the program, the results of this evaluation should be shared with all stakeholders involved in Read 180 programs (teachers, administrators etc.). While the implementation of any program is directly affected by teachers, the overall program fidelity is often not within their sphere of control. Therefore it is important that school administrators and district personnel who are responsible for programmatic decisions work to ensure that the fidelity of programs within the district is maintained.

In order to ensure that the proposed solutions to the problems identified by the evaluation have succeeded, it is important to reassess the implementation of Read 180 at the end of the first semester of the 2006-2007 school year. Additionally, further investigation of the available reading indices such as the Scholastic Reading Inventory scores (when they become available for students in the Read 180 program) should be conducted to examine program outcomes.

In order to adequately provide training and services to the Read 180 teachers and students, as well as performing a useful evaluation of the program, it is very important that the reading department has an accurate list of the teachers and courses for the various reading programs. Thus it is recommended that each semester the Reading Department be informed of the identity of every Language Arts instructor and the course that they are teaching. Further, in order to ensure that courses are being properly classified, and to allow easy identification of individual courses of instruction, schools should comply with a standardized county wide method of identifying courses.

In light of the lack of properly implemented Read 180 courses in the high schools and the additive comparatively increased cost of the program at the high school level, several alternatives are recommended for consideration:

1. Properly implement the program at the high school level
2. Re-evaluate of the inclusion of the program at the high school level.
3. Because the program takes up the same amount of time as two regular Language Arts classes and costs four times as much, consider replacing the program with a different reading intervention at the high school level.
4. If the high schools cannot properly implement the program, remove it and put the labs into elementary or middle schools – where students can receive the intervention at an earlier developmental stage.

Finally, as a way to address the overall cost of the program at all levels of instruction, consider increasing the number of students in each Read 180 class from 15 to 21.

- Increasing the number of students in a Read 180 classroom would be within the model as identified by Scholastic (5-7 students per rotation = 15-21 students in each class).
- The increase would necessitate the purchase of two more computers per lab.

- Increasing the size of the Read 180 classes would also decrease the overall class-load at the school level by the equivalent of one class (24 students) at the elementary and middle school levels.
- This would also still be within the constraints of the Class Size Amendment.
- This would decrease the cost of the overall program at the middle and high school levels.
- While this appears to be a simple and direct solution to some of the cost problems, it is imperative to include the input of the Read 180 teachers before implementing such an action.

The cost comparison of the change in class-size is discussed below; increases in costs for equipment have been included in the analysis. The increase in class size is offered with the assumption that the individual classes are fully implemented (Table 8).

Table 8. INCREASING READ 180 TO 21 STUDENTS PER CLASS COST COMPARISON

	Books and equipment per student per day	instructor salary per student per day	Total program cost per-seat per-day	Added cost per-seat per-day for Language Arts instruction
Grades 4 – 5 (elementary)	$0.05	$4.44	$4.49	
Read 180 (21 students)	$0.07	$6.61	$6.68	$2.20
Read 180 (15 students)	$0.06	$9.26	$9.32	$4.83
Grades 6-8 (middle school)	$0.11	$2.66	$2.77	
Read 180 (15 students)	$0.06	$6.51	$6.57	$3.80
Read 180 (21 students)	$0.07	$4.65	$4.72	$1.95
Grades 9-12 (reg high school)	$0.11	$2.34	$2.46	
Read 180 (15 students)	$0.06	$6.51	$6.57	$9.03
Read 180 (21 students)	$0.07	$4.65	$4.72	$7.18
Grades 9-12 (4X4 high school)	$0.11	$1.95	$2.07	
Read 180 (15 students)	$0.06	$6.51	$6.57	$8.64
Read 180 (21 students)	$0.07	$4.65	$4.72	$6.79