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READ 180: An Evaluation of a Community College Pilot

IMPACT STUDY

Acknowledgements

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Abstract

Is *READ 180*, a program originally developed for middle and high school students, a viable alternative to traditional developmental reading courses for struggling readers at the college level? This paper describes a 2006 pilot program at Phoenix Community College, in which *READ 180* was implemented in two five-week summer sessions as part of a controlled research study. Results indicated that the program had both immediate and sustained positive effects on the reading achievement of the community college students.

The study evaluated the progress of *READ 180* students in ESL, basic, and intermediate developmental reading courses, and included a control group of students in an intermediate developmental reading course. Assessment instruments included the College Preparatory Reading Test (CPRT), the Scholastic Reading Inventory™ (SRI), student surveys, and teacher interviews. Follow-up data was collected during the 2006–2007 school year. Results showed that *READ 180* students made significant gains on the CPRT from the beginning to the end of one summer session, while control group students did not. *READ 180* participants also exhibited considerable gains in their self-assessments of their literacy skills compared to control group students. Furthermore, a larger proportion of *READ 180* students than control group students had completed a 100-level English course and stayed enrolled in college one year later.

Both teachers and students gave *READ 180* very favorable overall ratings on surveys and in interviews. They also provided useful suggestions of ways in which the program could be enhanced to make it even better suited for a college population. Their reports and the above results indicate that *READ 180* is indeed a promising intervention for struggling readers at the community college level.

Contents

Introduction

Every year, more and more students enter community colleges as struggling readers, unprepared for the challenging, rigorous reading that college entails. This lack of preparation results in high attrition rates for these students. Nearly half of all students enrolled in community colleges do not return for a second year. Failure to complete a college degree, in turn, makes it harder to secure employment in today's workplace, as demonstrated by the following statistics: Only 40 percent of adults who dropped out of high school are employed, compared to 60 percent of adults who completed high school and 80 percent for those with a bachelor's degree.

During the spring and summer of 2006, Phoenix College in Arizona began implemention of *READ 180* as part of a two-year pilot program with students in developmental reading and ESL classes to determine if *READ 180* could be a viable alternative to traditional developmental reading courses in community colleges. *READ 180* was implemented in two five-week summer sessions as part of a controlled research study. The study was guided by the following research questions:

1) After one summer semester of *READ 180*, how did the reading proficiency of READ 180 students compare with that of other developmental students, as measured by standardized tests and self-reports?

2) How did the academic success of *READ 180* participants compare with that of other developmental students two to three semesters after participation?

3) Did *READ 180* students and teachers respond positively to the program?

4) Since *READ 180* was not developed for college learners, what kinds of changes would be needed to better target the program for the college level?

Study Participants and Implementation

The study sample consisted of 68 entering students at Phoenix Community College who had been assigned to one of three summer developmental reading courses: Reading 040, Reading 071, or Reading 081. Reading 040 was a reading course designed for English language learners (ELLs); students were placed in the class on the basis of their performance on CELSA, a standardized English and reading test. ACT's ASSET/COMPACT[1] reading tests were used to place other developmental readers in either Reading 071 (for the lowest-scoring readers) or 081 (for those who scored higher).

All students in the Reading 040 and 071 classes took *READ 180*[2]. Students who had been assigned to Reading 081 (which was offered in both Summer Session I and Summer Session II) self-selected either *READ 180* or control classes according to their schedules. The summer developmental reading courses and ESL courses did not count toward graduation and were not transferable credit courses. As shown in Table 1, 40 students received *READ 180* (13 were ELLs) and 28 were in the control group.

Table 1: **READ 180 *Pilot***

Grade	Instructors	*READ 180* Students N	Control Students N
Session I—5 weeks			
Reading 040 (ELL)	A	13	
Reading 071	A	7	
Reading 081	B, D	7	16
Session II—5 weeks			
Reading 081	C, D	13	12
TOTALS		40	28

The three *READ 180* instructors (A, B, C) were experienced college reading teachers but had never taught a *READ 180* class. The control class was also taught by an experienced instructor (D) who, in addition, had taught *READ 180* for the first time in the previous semester.

[1] ASSET is a timed paper version and COMPASS is the untimed computer version. Students can select either version. For more information, see: *http://www.act.org/asset/*

[2] The Enterprise Edition (EE) of *READ 180* was used.

As shown in Table 2, overall the *READ 180* students were not so different from the students in the control classes. However, the *READ 180* students were somewhat younger, rated themselves lower in English and computer skills, and a lower proportion had an internet-connected computer at home. In addition, a somewhat lesser proportion of the *READ 180* students spoke a second language (88% vs. 97%) and considered this second language to be their best language (82% vs. 93%).

Table 2: Student Demographic Information

Variables	*READ 180* Students (N=34) %	Control Students (N=28) %
AGE		
18–20	59	48
21–30	11	38
31+	23	14
GENDER		
Female	71	62
Male	29	38
OTHER		
Hispanic ethnicity	73	64
High school graduate	94	97
Plan to graduate from Phoenix College	94	86
Plan to attend four-year university	50	72
Self-report of English skills: high/very high	See Table 4	
Self-report of computer skills: high/very high	33	55
Internet-connected computer at home	33	72
Speak a second language	88	97
Spanish/other language is best language	82	93

The *READ 180* instructional model is designed for an entire school year and requires a 90-minute class period, which includes Whole-Group Instruction and three rotations: Small-Group Instruction, independent reading, and software usage. In this study, the daily instruction time was extended to fill up the summer session class periods, which were two hours in length (120 minutes, four days a week), but the duration of the course was only five weeks. The total class time was 40 hours (compared with a total of 270 hours of *READ 180* in a high school year).

The control class received traditional instruction in a whole-class setting. No technology was available and there were fewer opportunities to individualize instruction.

Data Collection and Measures

This report includes information collected over two sessions in the summer of 2006. One cohort of students took courses during the first session, from June 5th to July 6th, and a separate cohort of students took courses during the second session, from July 10th to August 10th. The report also includes fall 2006 and spring 2007 follow-up data for all students in Reading 081.

The following reading measures and evaluation instruments were used (see Table 3 for summary):

- **College Preparatory Reading Test (CPRT) and Scholastic Reading Inventory (SRI)**—Students in Reading 071 and 081 were administered two pre-post test instruments: the Scholastic Reading Inventory (SRI) and the College Preparatory Reading Test (CPRT)[3] .
- **Groundwork for College Reading Test (GCRT)**—Because the CPRT had a relatively high level of difficulty for ELLs, the Reading Department Head decided not to use it with the ESL Reading class. Therefore, the SRI and the Groundwork for College Reading Test (GCRT) were administered in the Reading 040 class as pre-post test instruments.
- **Student pre- and post-surveys**—In each *READ 180* class, students were asked to assess their own reading skills and the *READ 180* program at three points during each summer session.
- **Classroom observations**—An evaluation consultant observed all classes at least once a week to assess fidelity of implementation.
- **Instructor interviews**—Each *READ 180* instructor was asked to provide detailed feedback about the program at the end of the summer sessions.
- **Student progress assessment data**—Data from the Scholastic Achievement Manager (SAM), a comprehensive student data collection system that tracks student progress, was available for analysis.
- **Follow-up data**—In fall 2006 and spring 2007, four types of indicators were calculated for both *READ 180* and control students: 1) the proportion of students completing a 100-level English or reading course, 2) the credit completion rate (the number of credit hours attempted divided by the number of credit hours completed), 3) the mean grade point average, and 4) the retention rate (the number of students still enrolled after four semesters divided by the number of students who began in the summer 2006 semester).

[3] The CPRT is published by Townsend Press and is widely used by community colleges across the nation. The test is aligned with Townsend's *Ten Steps to Advancing College Reading Skills*, a textbook used in developmental reading college courses that includes the following topics (skills): vocabulary in concept, main idea, supporting details, implied main idea, relationships, fact and opinion, inferences, purpose and tone, and argument.

Table 3: Data Available by Class

	Summer Session I				Summer Session II	
	READ 180			Control Group	*READ 180*	Control Group
	Reading 040 (ELL)	Reading 071	Reading 081	Reading 081	Reading 081	Reading 081
CRPT		X	X	X	X	X
GCRT	X					
SRI	X	X	X	X	X	X
Student surveys	X	X	X	X*	X	X*
Classroom observations	X	X	X	X	X	X
Instructor interviews	X	X	X	X	X	X
SAM data	X	X	X		X	
Completion of 100-level English course			X	X	X	X
Credit completion rate			X	X	X	X
G.P.A.			X	X	X	X
Retention rate			X	X	X	X

*The post-survey was administered to only one of the control classes.

Key Findings

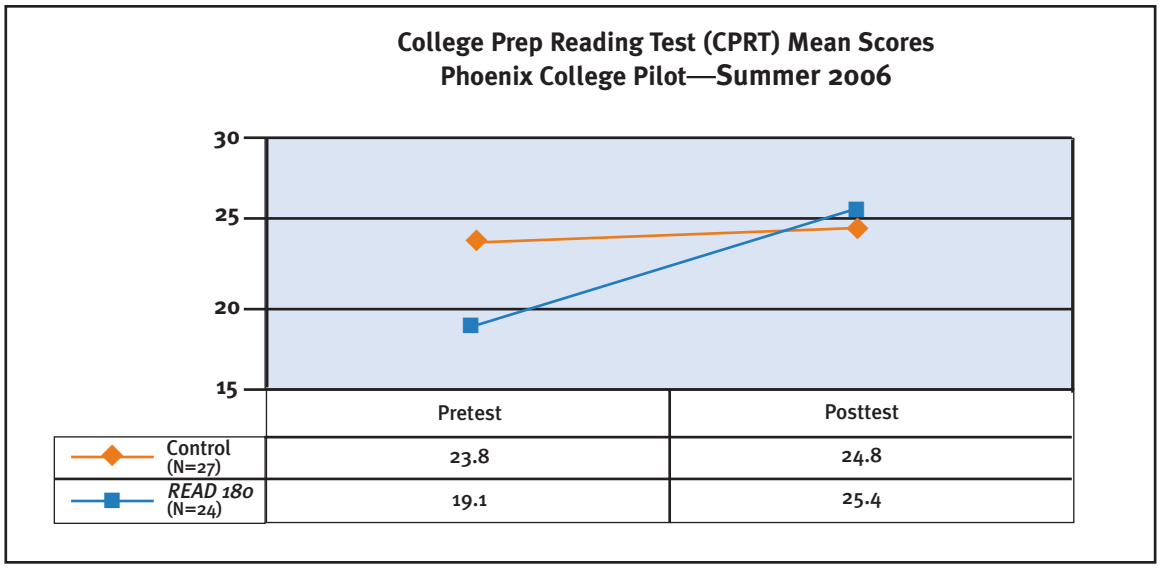
Research Question 1

After one semester of *READ 180*, how did the reading proficiency of *READ 180* students compare with that of other developmental students, as measured by standardized tests and self-reports?

1. *READ 180* participants significantly outperformed the control group on the CPRT.

READ 180 students gained an average of 6.3 points from pretest to posttest on the CPRT, compared with an average gain of only 1.0 point by the students in the control group. T-test results suggest that the gains of the *READ 180* students were statistically significant, whereas the gains of the students in the control group were not. The effect size for *READ 180* was 0.95 (compared with 0.19 for the control group). These results are presented in Figure 1.[4]

Figure 1. Pre- and Posttest Scores on College Preparatory Reading Test (CPRT) for* READ 180 *Participants and Control Group



2. SRI results varied by class and showed a promising trend for ELLs.

The results of the SRI were inconclusive for students in the Reading 071 and 081 classes. Overall, no generalized results were found.[5] However, disaggregating the SRI results by instructor revealed that the pre-post gains for the Session I Reading 081 class were significant. This class gained an average of 31 Lexile® points, from 800 to 831. The effect size for this gain is 0.30. In addition, for the ELLs in Reading 040, a trend toward positive improvement was apparent. The average gain of 43 Lexile points in this class approached significance, with an effect size of 0.30. None of the control classes made significant gains on the SRI.

[4] It should be noted that assignment to the *READ 180* group was not random (students self-selected based on their schedules). As suggested by the mean pretest scores, the *READ 180* students started the summer sessions with considerably lower scores on the CPRT than the control group. Despite this initial disadvantage, they scored higher than their control counterparts on the posttest and the difference is significant. Possible explanations for these results are discussed in the Limitations section.

[5] Note: One of the *READ 180* classroom labs had significant technical issues related to synchronization of software. The Phoenix College technician said that QuickTime 7.0.4 didn't work with *READ 180* and that the headphones were not "enabled" on the computers. The delay took almost two-thirds of the class time to get resolved and may have influenced both test and survey results. In addition, one of the instructors left the class one week early (out of five weeks) for her vacation. This affected both testing and survey results, as four students did not attend class that last week.

3. READ 180 students exhibited larger gains than control group students in self-assessments of their English skills.

A pre-survey and an online post-survey were administered to all students. One set of questions on the pre- and post-surveys involved a self-assessment of English skills. As shown in Table 4, on the pre-survey considerably fewer students in *READ 180* rated their English skills as High/Very High compared with students in the control classes. However, on the post-survey the situation was reversed, with an overall greater proportion of *READ 180* students rating themselves more highly than their control counterparts. With the exception of listening comprehension, pre-post gains were greater for the students in *READ 180*.

Table 4: Pre- and Post-Survey Results: English Skills Growth (Self-Assessment) (% Indicating High/Very High Skills)

	A Pre-Survey High/Very High Skills %		B Post-Survey High/Very High Skills %		C Pre-Post Gains High/Very High Skills %	
English Skills	**Control**	***READ 180***	**Control**[6]	***READ 180***	**Control**	***READ 180***
Reading	24	24	58	59	34	35
Speaking	45	21	42	53	-3	32
Writing	21	21	25	56	4	35
Spelling	34	18	50	53	16	35
Grammar	28	9	50	53	22	44
Reading speed	31	15	58	56	27	41
Reading vocabulary	45	21	75	68	30	47
Reading comprehension	31	36	50	62	19	26
Listening comprehension	59	61	83	82	23	21
Number of skills with higher proportion reporting High/Very High	5	2	3	6	1	8

[6] The post-survey was administered to only one of the control classes. Percentages are based on a total of 13 students.

Research Question 2

How did the academic success of *READ 180* participants compare with that of other developmental students two to three semesters after participation?

1. *READ 180* participants outperformed control group students on measures of academic success by the end of the 2006–2007 school year.

During the 2006–2007 school year, follow-up data was collected on the students' grade point averages, their credit completion rates, the proportion of students completing a 100-level English or reading course, and the rate of retention.[7] Little difference was found between *READ 180* students and control group students in their GPAs and credit completion rates. *READ 180* students from Summer Session I had slightly higher GPAs, on average (3.3), and slightly lower credit completion rates (81%) than their counterparts in the Session I control classes (3.1 and 92%, respectively). These indicators were identical for both groups in Summer Session II.

On the other hand, the overall proportion of students completing a 100-level course was higher for the *READ 180* students than for the control students for both summer sessions. For Summer Session I, the proportion was 71% for *READ 180* and 69% for the control class. For Summer Session II, the proportion was 62% for *READ 180* and 50% for the control class. Students in Summer Session I had one additional semester to complete a 100-level English or Reading course than those in Summer Session II (Table 5).

Table 5: Proportion of Reading 081 Students Completing 100-Level English Courses in 2, 3, or 4 Semesters

	Proportion of Students Completing 100-Level English Course					
	Summer Session I Cohort			Summer Session II Cohort		
Experimental Condition	After 3 semesters	After 4 semesters	Overall ratio	After 2 semesters	After 3 semesters	Overall ratio
READ 180	2/7	3/7	5/7	3/13	5/13	8/13
Control	7/16	4/16	11/16	3/12	3/12	6/12
Same results as above, expressed as percentages						
READ 180	29%	43%	71%	23%	39%	62%
Control	43%	25%	69%	25%	25%	50%

As shown in Table 6, *READ 180* students also had considerably higher retention rates than students in the control classes. Overall, 70% of the *READ 180* participants were still enrolled in the college at the end of the academic year. By contrast, only 50% of the control group was still enrolled.

[7] All of the follow-up data reported here includes only students who were enrolled in Reading 081 (Session I or Session II) during the summer. This was the only course that included both *READ 180* participants and a control group to which they can be compared.

Table 6: Retention Rates for Reading 081 Students from READ 180 *Group and Control Group*

	Summer Session I Cohort		Summer Session II Cohort		Overall	
Experimental Condition	Proportion	Percentage	Proportion	Percentage	Proportion	Percentage
READ 180	4/7	57%	10/13	77%	14/20	70%
Control	6/16	38%	8/12	67%	14/28	50%

In conclusion, after three or four semesters (one or two summer sessions in 2006 plus the fall 2006 and spring 2006 semesters), *READ 180* students performed as well or better than students in the control classes despite beginning their summer courses with substantially lower reading scores.

Research Question 3

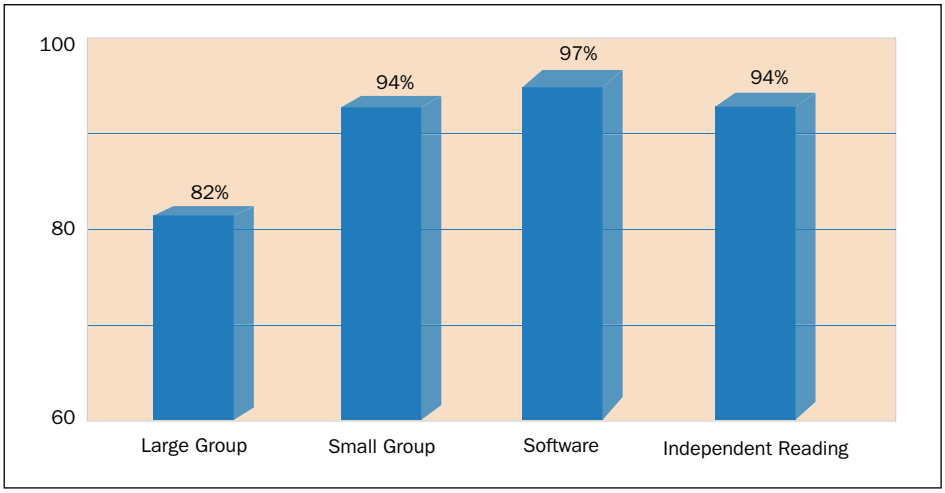
Did *READ 180* students and teachers respond positively to the program?

1. *READ 180* students reported highly positive feelings about the usefulness of the program.

Results from the Post Student Survey are presented in Figure 2 below. These results suggest that students in the *READ 180* classes regarded their summer reading experience in very positive terms. A large majority of the students (82%–97%) rated each component of the *READ 180* model as either Helpful or Very Helpful. As shown in Figure 2, the rotation most favored by students was the software. Independent reading and Small-Group Instruction were not too far behind.

Asked whether *READ 180* helped the students to read English faster, 91% responded with "Agree/Strongly Agree." 86% indicated they thought *READ 180* helped them to understand English better. Over 70% said they would like to continue in another *READ 180* class and 95% said that *READ 180* helped them in their other college classes.

Figure 2: READ 180 *Rotation Ratings of Helpful/Very Helpful (% of Students)*



2. *READ 180* instructors reported highly positive feelings about the usefulness of the program.

READ 180 instructors expressed enthusiasm about the program on their surveys and in interviews. Like the students, teachers gave very high marks to the software, saying that it was very effective and motivating for students. One pointed out that it was particularly helpful for ESL students to hear standard pronunciation when working on the software. In general, the small-group rotations were well received by the instructors, who appreciated the opportunities to individualize instruction. The instructors also reported that the online and support materials were excellent. In general, the *READ 180* instructors felt that the program showed good promise for developmental readers at the community college level. In one instructor's words: "I am pleased with the attitude these students have toward reading whole books. Scholastic really encourages them to read!"

Research Question 4

Since *READ 180* was not developed for college students, what kind of changes would be needed to better target the program for the college level?

Teachers and students suggested some adjustments that could be made for implementation of *READ 180* at the college level, such as modifying the time frame, including more college-age appropriate themes, and focusing the SAM reports for college use.

Although *READ 180* instructors and students were very enthusiastic about the program, in their surveys and interviews they identified a number of areas that could be improved in order to increase the value of *READ 180* for community college students. One of the main challenges that teachers identified for college implementation of *READ 180* is the 90-minute, full-year instructional model, which could conflict with the typically short time frame (about 40 hours a semester) of most college courses. The teachers suggested making the instructional model more flexible for the college level—for example, by decreasing small group time and finding ways for students to do independent reading and work on *READ 180* Software outside of class hours. Another important issue brought up by students and teachers was that *READ 180* content is currently oriented toward younger students. Although students rated the *rBook*® and independent readings favorably, they expressed the desire for more adult-oriented themes in these areas. Finally, the teachers reported that they found the following SAM reports most useful in addressing the needs of adult learners and instructors: Reading Progress Report, Reading Counts Scores, Comprehension Skills, Grouping Reports, and Skills Alert.

Limitations

In interpreting the results of the study, certain limitations of the design and implementation must be kept in mind. On both the CPRT and SRI pretests, the average scores of *READ 180* students were quite a bit lower than the average scores of students in the control classes. Thus, it appears that there was a greater proportion of struggling readers in the *READ 180* group than in the control group. In addition, the implementation of the *READ 180* program was not ideal, in that one class did not have use of the computers for more than half of the summer session and another class was taught by a substitute teacher for the last week of the summer session. Nonetheless, the fact that *READ 180* students made significant pre-post gains in spite of these limitations—each of which were potential obstacles to the success of the intervention—provides further support for the strength of the program.

Alternative plausible explanations for the successful implementation of *READ 180*, including the significant improvement in CPRT scores from the pre- to posttest involve the possible effects of differential instructional effectiveness and the presence of a statistical artifact called regression to the mean. Results of the extensive observations conducted suggest that all instructors were conscientious and well prepared. However, students were observed to be more actively involved in learning in the *READ 180* classes than in the control classes. In addition, while all the *READ 180* instructors were enthusiastic and worked hard at motivating students to learn, the control class was traditional in nature, with the instructor at the front of the class and students in rows facing the teacher. Not only was there a lack of technology-based learning in the control class, but there were also fewer opportunities to individualize instruction.

With respect to regression to the mean, it is a well know statistical artifact described in the research literature. If regression to the mean was in fact present in our pilot study, it would mean that the significant increase in CPRT scores is due to chance and not to the treatment. Regression to the mean occurs when the control and the treatment groups are not equivalent, as was the case in the pilot: the pretest scores of the *READ 180* group were significantly lower than those of the control group. The mean pretest score of all students lies between the means of the two subgroups. Regression to the mean signifies that the subgroup with pretest scores below the mean for the entire group will likely increase on the posttest, and the group with pretest scores above the mean will likely decrease. In our study, the mean posttest score for the *READ 180* group increased significantly and the mean posttest score for the control group increased a nonsignificant amount.

Conclusions

The results of the summer study are encouraging, with positive quantitative data and a very high rate of student and instructor acceptance. The standardized test results show noteworthy changes in reading ability among *READ 180* students. Unlike students in the control class, *READ 180* students made significant pretest-posttest gains on the CPRT. One *READ 180* class also made significant pretest-posttest gains on the SRI, despite the considerably short time period for implementation. Furthermore, after an additional academic year, *READ 180* students were completing 100-level English courses and staying enrolled in college at higher rates than other developmental reading students.

The survey results revealed very positive teacher and student attitudes toward *READ 180*. The teachers reported that, overall, they found the program motivating and helpful for students—especially those who were reading at a lower level. Students in the *READ 180* class made greater pre-post gains than control class students in their self-assessments of their English skills. In addition, the students were nearly unanimous in rating the *READ 180* rotations—especially the software rotation—as Helpful/Very Helpful. Similarly, a large majority of students reported that the *READ 180* program helped them with their reading and comprehension skills, as well as with their performance in other college classes. It should be noted that, unlike public elementary or high school students, community college students pay for their classes, and therefore are likely to demand value in return. Their favorable ratings of the *READ 180* class—for which they received no credit—suggest that they found the program worth the investment.

While there are some obstacles to overcome and changes to be made, this study of two trial semesters indicates that the program appears to be a viable alternative to college reading programs. Further trials and research are warranted to continue exploring how *READ 180* can best serve the needs of community college students.

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