

“I Like to Read Again!”

Using Ace Reader to Improve the Skills
of Intermediate Adult Readers

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1. Introduction

Over the last two years, the Community Learning Center (CLC) in Cambridge, Massachusetts has found Ace Reader to be a powerful accelerator of student progress in classes whose students are aiming for a high school diploma. Teachers and counselors for those classes report that their students are able, often for the first time, to complete mandated timed standardized tests and to improve their scores; that they are better able to focus, concentrate, and actually enjoy reading; and that in some cases “a switch has flipped,” as one counselor put it, in students who have stagnated, enabling them to progress rapidly toward graduation. Both students and teachers are enthusiastic over the program, and we are in the process of expanding its use.

2. The setting

At the CLC, over 1,000 students come through our doors every year, the majority of them learning English as speakers of other languages (ESOL). A sizable number of both native speakers and English language learners are in Adult Basic Education (ABE) classes working toward a high school credential, either a GED or an adult diploma.

Like other adult learners, our students bring years of baggage with them: educations minimal to begin with and often interrupted by family instability, illness, boredom, substance abuse, wars and other upheavals both natural and man-made, learning disabilities, economic inability to afford school, and academic failure. Our students include those who have little or no literacy in their native languages (including English), highly

educated immigrants whose only need is to learn English, recent high school dropouts (some of whom were unable to pass the state's high-stakes test required for a high school diploma), and older students tired of dead-end jobs. Why do they return to school, sometimes in their 30s, 40s, or even later? Universally, they know education means better jobs and better lives for themselves and, more often than not, their children.

Experience with all of these students shows academic progress to be most often a hard-fought battle, characterized by interruptions of months or years caused by personal, family, or economic emergencies, by small steps forward offset by frequent moves backward, and often by long periods of stagnation frustrating to students and teachers alike. We use many tools to reduce these obstacles, knowing that no tool, no matter how excellent or how supported by research, works for every student.

Since July of 2004, the CLC has used Ace Reader with several ABE classes totaling roughly 44 students (depending on how we count students who attended only one or two classes, or entered after or dropped out before testing). All of the classes met twice a week for an hour and a half, some in the morning and some in the evening. Most were five-week summer programs, but one class used Ace Reader once a week for a full semester. Participants were typical ABE students: their reading levels varied, according to our standard instrument, the Test of Adult Basic Education (TABE) from about third- to twelfth-grade; they ranged in age from teens to 50s; many were originally speakers of other languages; even those whose native language is English came from many different parts of the world.

Different teachers have been involved with these classes. One teacher (myself) used Ace Reader in four different classes in the summers of 2004 and 2005; others have

used it in only one class, so the methods of using the program have differed. In addition, because we have many fewer offerings in the summer, these classes contain a much wider range of student levels than in our academic year programs, in which students are assigned to classes based largely on their TABE test scores. Obviously, then our application of Ace Reader has hardly been uniform. In addition, technical problems resulted in the loss of much computer data, so in this paper I rely heavily on other forms of evaluation.

Even with this uneven data, however, we feel extremely positive about using Ace Reader with our students. We have seen some who have struggled for years finally move up from a plateau; we have seen others improve their attitudes toward both themselves and education, leading to faster progress; and even where progress has continued to be slow, we have seen students with improved attitudes toward reading, which is one of the most powerful predictors of future progress.

3. The data

Summer 2004

In the summer of 2004, I taught two five-week courses using Ace Reader. Each class used Ace Reader first for about 45 minutes. I attempted to have students take one self-paced comprehension test each class, followed by warm-ups and then whatever of the basic activities appealed to them. In the remainder of the class, students would read on their own for 15-20 minutes; there might be discussion of homework (short readings followed by quizzes) or vocabulary; if there was time left, students would return to the computers. A student who attended all classes would have had at least 7.5 hours exposure to Ace Reader. Students took pre- and post-tests using two different forms of an

adult test different from the TABE, the multiple-choice reading comprehension section of the ABE 2. Students had a half-hour to complete as many questions as they could of the 48 in this section.

The results, as shown in Table 1, are suggestive. The first three columns show (1) the number of questions students completed on the ABE in week 1; (2) the raw number correct among the questions they answered; and (3) the percentage of correct answers among the questions they completed. The next three columns show the same information for week 5. The final column shows, where the information was available, the change between the students' TABE reading score before the course and after it. (Students routinely take the TABE three times a year in all Massachusetts ABE programs.)

The data show that of 12 students, 9 improved their speed in answering questions by an average of 69%, 2 showed speed reduced by an average of 17.1%, and 1 remained unchanged. Ace Reader computer data for this groups is similarly positive, as is shown by trend lines in Figure 1: of 13 students (Linda joined the class too late for pre-testing, so we can show only a trendline for her), 10 improved, two declined, and one appears unchanged. It is unsurprising that students with the best attendance showed the largest gains: some more than doubled the number of questions they completed with little or no impact on their comprehension. In fact, one student, able in Week 1 to complete only 13 of 48 questions with 46% accuracy, by week five completed 21 questions with 72% correct. Another went from 29 to 48 questions, improving comprehension at the same time from 83 to 90%; another went from 29 to 44 questions answered with comprehension improving from 69 to 97%. Still another went from 15 questions to 38 with no appreciable change (a 1% improvement) in her comprehension. In other words, these students were

able to significantly increase their speed in reading and answering questions with either significant or minor improvement in their comprehension levels. In fact, for the five students whose before-and-after TABE scores were available, improvement for four of them ranged from half a grade-level equivalent (GLE) to a full 3 GLEs. One student declined half a GLE.

Table 1. Summer 2004 classes

Name	Completed 1	Completed 2	Change	% change	Correct 1	Correct 2	Change
Linda	N/A -- entered too late for pre-testing					91.0%	
Yati	N/A -- absent for pre- and post-testing						
Armanda	22	43	21	95.5%	77.0%	81.0%	4.0%
Theresa	36	48	12	33.3%	81.0%	79.0%	-2.0%
Bert	37	35	-2	-5.4%	81.0%	82.0%	1.0%
Sadek	29	44	15	51.7%	69.0%	97.0%	28.0%
Adilca	19	26	7	36.8%	68.0%	69.0%	1.0%
Agnes	13	29	16	123.1%	46.0%	72.0%	26.0%
Angella	29	48	19	65.5%	83.0%	90.0%	7.0%
Pierrette	20	44	24	120.0%	65.0%	52.0%	-13.0%
Antonia	20	20	0	0.0%	85.0%	60.0%	-25.0%
Careaine	15	38	23	153.3%	73.0%	74.0%	1.0%
Nicole	38	27	-11	-28.9%	84.0%	85.0%	1.0%
Kehinde	24	25	1	4.2%	96.0%	76.0%	-20.0%
Sharon	25	41	16	64.0%	88.0%	95.0%	7.0%

N= 15

Number of questions completed:

- 10 improved an average of 74.7%;
- 2 declined an average 17.1%;
- 1 unchanged
- 2 N/A.

Percent of completions correct:

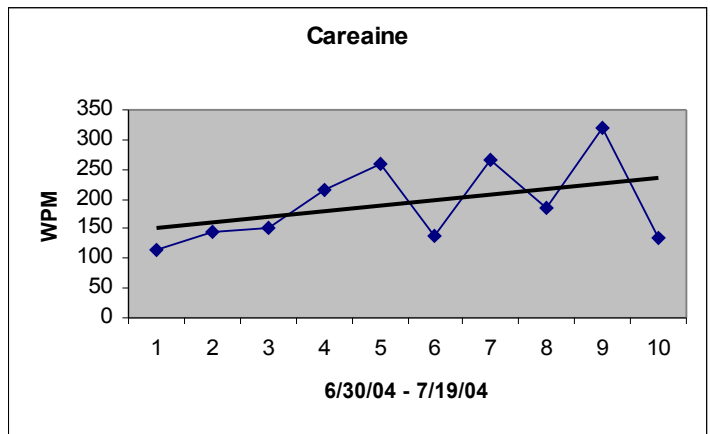
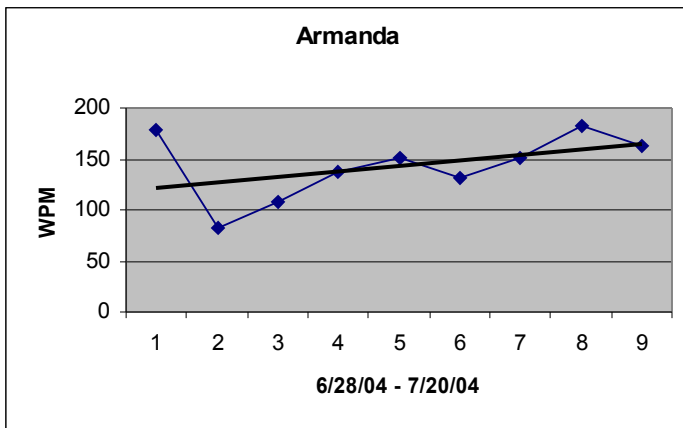
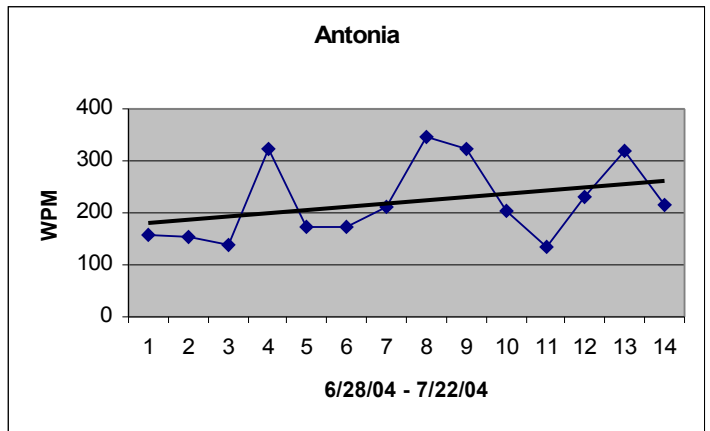
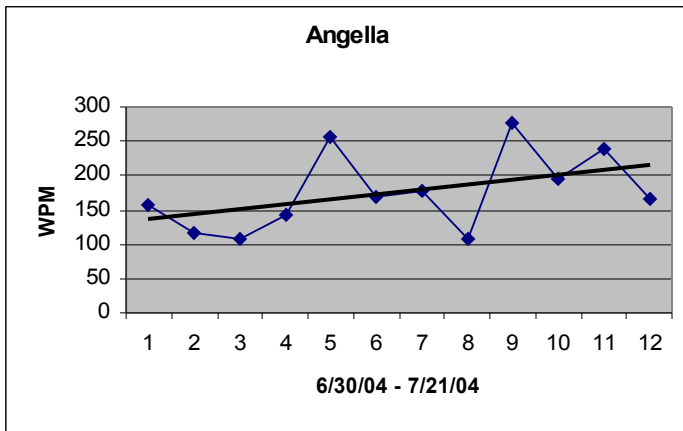
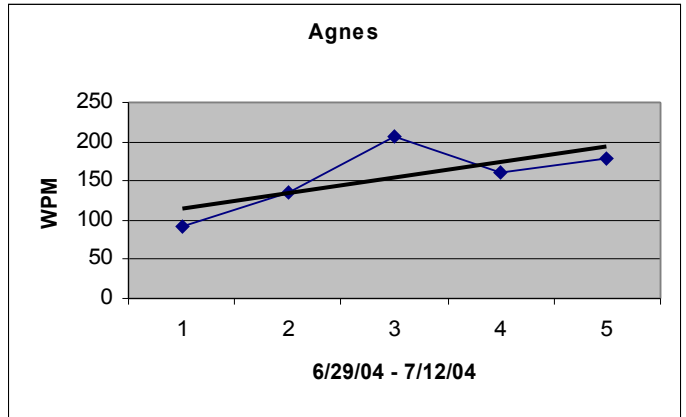
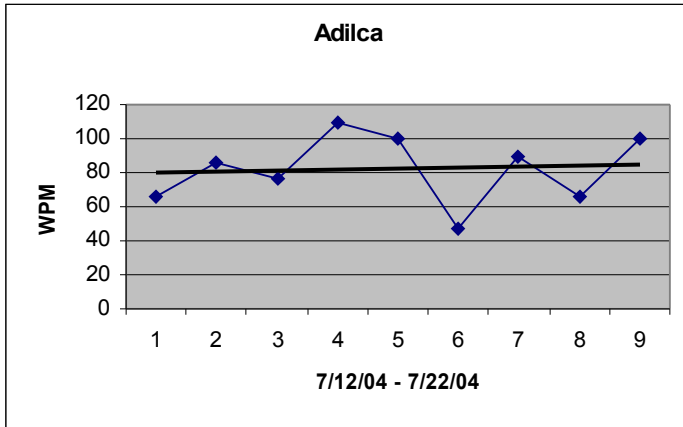
- 9 improved an average of 8.4%,
- 4 declined an average of 15%
- 2 N/A.

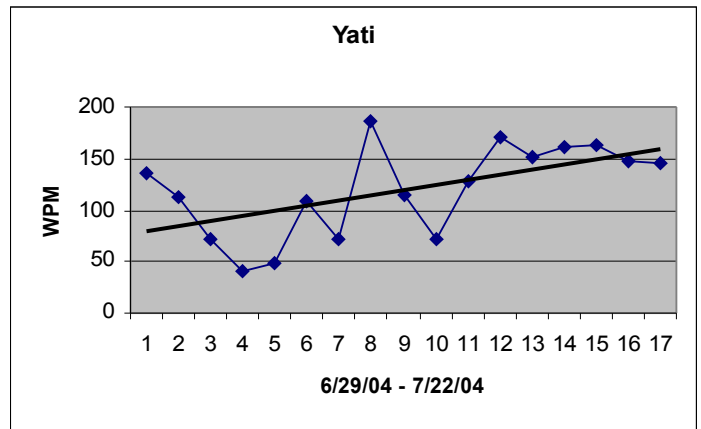
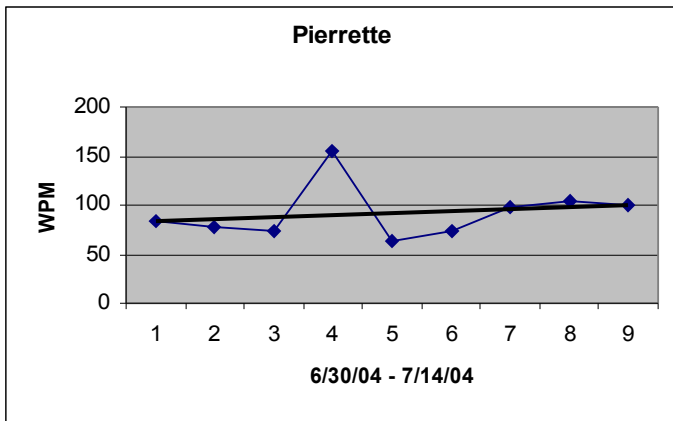
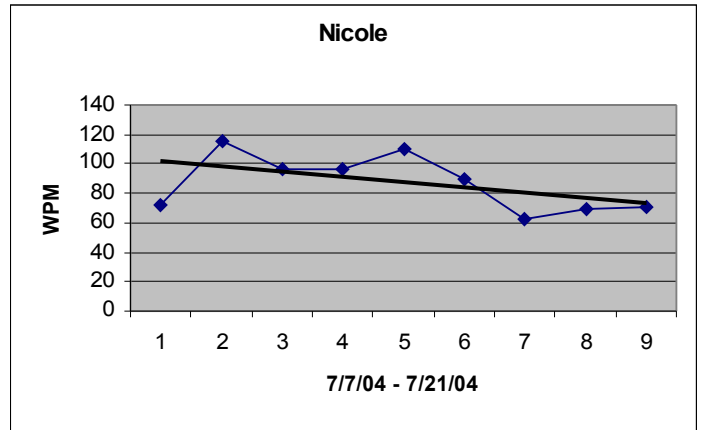
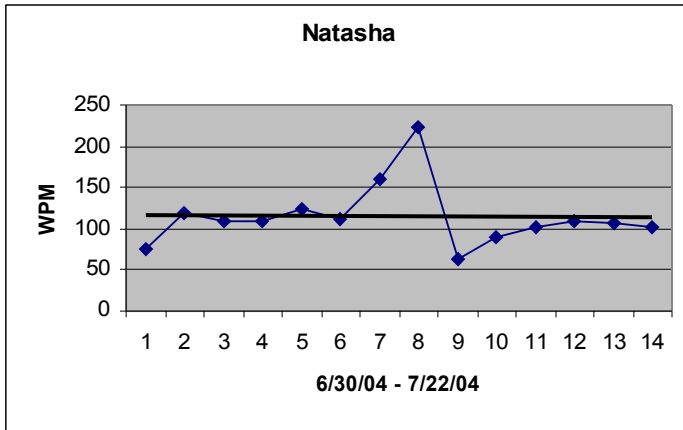
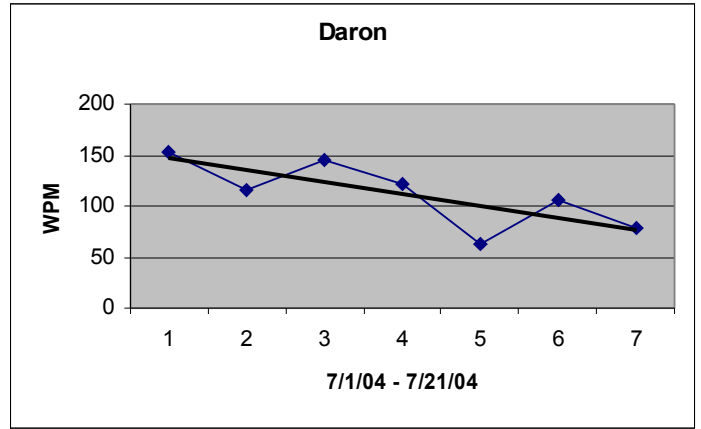
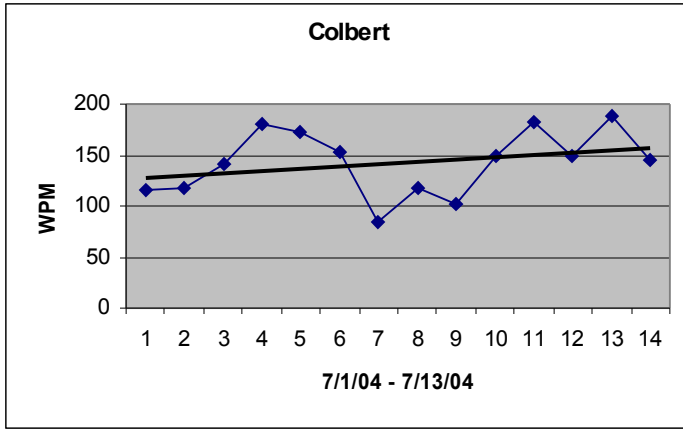
Of available TABE scores:

- 4 improved by an average of 1.9 GLEs
- 1 declined by .5 GLE.

Figure 1. Trend lines for 2004 students

N= 13
 10 trendlines up
 2 trendlines down
 1 trendline unchanged





Summer 2005

Summer 2005 classes also showed mixed results, none of them quite so positive as in the previous year. Three classes were offered; I taught two while the third was team-taught by two other teachers. All classes used the ABLE 2 for pre- and post-testing; all used Ace Reader for approximately half the class time. My classes were similar to the year before, with slightly more emphasis on vocabulary. The third class emphasized comprehension strategies.

The results shown in Table 2, like those of the previous summer, are inconclusive but suggestive. Of 23 students, 10 improved in speed by an average of 5.5%; 5 declined an average 4%; 8 were unchanged. Results proved much more positive for changes in comprehension: 13 improved an average of 13.5%; 9 declined an average of 10%; one remained unchanged. No computer results were available for these classes, so we cannot examine trend lines for their reading speed.

Table 2. Summer 2005 classes

Name	Completed on pretest	Completed on post-test	Change	% change	% Correct on pre-test	% Correct on post-test	Change
Laura	48	48	0	0.0%	87.5%	97.8%	10.3%
Gary	25	20	-5	-20.0%	76.0%	75.0%	-1.0%
Danielle	48	48	0	0.0%	37.5%	60.0%	22.5%
Anthony	48	48	0	0.0%	83.3%	90.0%	6.7%
Nicole	12	24	12	100.0%	25.0%	29.0%	4.0%
Awagu	8	6	-2	-25.0%	25.0%	50.0%	25.0%
Dorothy	48	48		0.0%	66.6%	73.0%	6.4%
Adekola	30	32	2	6.7%	56.6%	41.0%	-15.6%
Robert	48	48	0	0.0%	91.6%	85.0%	-6.6%
O'Neil	40	42	2	5.0%	75.0%	95.0%	20.0%
Rosita	48	48	0	0.0%	67.0%	81.0%	14.0%
Claudia	20	29	9	45.0%	75.0%	55.0%	-20.0%
Qandeel	39	38	-1	-2.6%	90.0%	95.0%	5.0%
Anthony	33	30	-3	-9.1%	88.0%	87.0%	-1.0%
Fouzia	33	42	9	27.3%	52.0%	69.0%	17.0%
Joan	30	35	5	16.7%	73.0%	54.0%	-19.0%
Hueton	38	38	0	0.0%	79.0%	76.0%	-3.0%
Valerie	23	24	1	4.3%	91.0%	75.0%	-16.0%
Loretta	48	48	0	0.0%	83.0%	92.0%	9.0%
Duane	48	39	-9	-18.8%	100.0%	92.0%	-8.0%
Arnaldo	33	38	5	15.2%	74.0%	82.0%	8.0%
Adrian	33	38	5	15.2%	82.0%	82.0%	0.0%
Linda	28	33	5	17.9%	57.0%	85.0%	28.0%

N= 23

Number of completions:

- 10 improved an average of 5.5%;
- 5 declined an average 4%;
- 8 unchanged.

Percent of completions correct:

- 13 improved an average of 13.5%;
- 9 declined an average of 10%;
- 1 unchanged.

Of available TABE scores:

- 6 improved by an average of 1.4 GLEs
- 5 declined an average of .8%

Winter-spring semester 2005

During the second semester of 2005, one teacher used Ace Reader with her evening class for one of its two sessions each week. She also taught a morning class at the same level which did not use Ace Reader, and so can serve as a control. These classes were at a level the CLC calls Intermediate 2, in which reading levels are roughly from 4th to 8th grade levels as measured by the TABE.

This is a level which includes nearly 60% of all adult learners (Strucker and Davidson, "Adult Reading Components Study," A NCSALL Research Brief, November 2003). At the CLC, this is a level at which many students who have completed their ESOL studies move into ABE classes. It is also a level in which many students with learning disabilities may remain for many semesters, if not years.

As with all of our data, the results for these classes, shown in Table 3, are Table 3.

Comparison of Experimental and Control Results

Experimental class

	TABE 1	TABE 2	GLE Change
Mary	4.1	4.9	0.8
Wisler	2.8	3.3	0.5
Annie	8.4	6	-2.4
Antonia	5.6	6.4	0.8
Guerline	3.7	4.6	0.9
Andrea	5.3	4.6	-0.7
Wisley	3.2	3.2	0
Marcia	5.3	5.4	0.1

N=8

Five improved TABE scores by an average of .62 GLE

Two declined, one by 2.4 GLEs and one by .7 GLE

One remained unchanged

Median change (removing -2.4 outlier) .5 GLE

suggestive but not definitive. (Unfortunately

Control class

	TABE 1	TABE 2	GLE Change
Marie	2.4	3.2	0.8
Gary	5.2	5	-0.2
Agnes	5.2	4.6	-0.6
Hung	3.9	4.8	0.9
Adekola	3.7	4.6	0.9
Christine	3.7	2.3	-1.4
Alicia	5.1	5.3	0.2
Claudia	3.2	2.8	-0.4
Nicole	1.7	0.8	-0.9
Glen	2.6	3.7	1.1

N=10

Five improved TABE scores by an average of .78 GLE

Five declined by an average of .7 GLE

Median change (removing -1.4 outlier) .2 GLE

we do not have computer data to examine reading speeds for this group.) With the

experimental class of 8 students, 5 improved on their TABE scores by an average of .62 GLE. Two declined, one by 2.4 GLEs and one by .7 GLE, and one remained unchanged. In the control class of 10, 5 students improved an average of .78 GLE, while five declined by an average of .7 GLE. While these numbers may seem at first disappointing, it is important to note that in the control class, fully half the students got lower scores after the testing period than before, while in the experimental class nearly two-thirds improved. In addition, the median change in the experimental class was a gain of .5 GLE, but only .2 GLE in the control. According to observers of these classes, the experimental group consisted largely of severely learning-disabled students for whom any progress at all – never mind a time-appropriate gain of half a GLE in half a year -- is a significant achievement. I will have more to say on this topic in the next section which recounts my own and other teachers' anecdotal evidence with some of these students.

4. Anecdotal evidence

Students in the experimental class just described, like all adult students in Massachusetts, take the TABE at least twice and more likely three times every year. Students who have been at the CLC for many years are therefore experienced in taking this test. Nevertheless, this class, for the first time in their long-time teacher's experience, did not complain that there wasn't enough time, and many finished the test, also for the first time in their school careers.

The title of this paper was taken from a comment made by Valerie, one of my summer 2005 students. Like other students who return to school after many years, she was desperately worried about her ability to learn, convinced that her mind had atrophied beyond repair. Her performance and attendance was uneven; in the 5 weeks, her speed

improved by 4.3% while her comprehension declined 16%. Nevertheless, she remained enthusiastic about working with Ace Reader, and about halfway through the five weeks, she said, “You know, I used to like to read, but it got so hard. Now that I’m reading faster, I like to read again!” In adult education, these are magic words – few of our students read outside class, and, as Valerie noticed, the less one reads, the harder it gets, and so one reads even less (reading teachers call this “the Matthew effect” – as in the Gospel of Matthew, those who have get more, while those without lose even more). We teachers are convinced that anything that can increase students’ outside reading will improve their later performance – and in fact, the next time Valerie took the TABE, she gained 1.5 GLEs, from 4.9 to 6.4.

Dorothy, who also worked with Ace Reader in the summer of 2005, is a student who has been at the CLC for many years with awfully little to show for it. At the beginning of the five-week course, she could already complete all 48 questions on the ABLE, and by the end her comprehension showed a modest 6.4% gain. But Dorothy had taken the official GED Language Arts, Reading practice test in May, before she used Ace Reader, scoring only 370 (410 is minimum passing, and students must achieve an average of 450 over all 5 GED tests). In September, her teacher wrote me an excited note that with a different form of the same test, Dorothy scored 470. “Wow!” the teacher exclaimed.

Qandeel, who in July actually declined in speed by 2% while increasing her accuracy by 5%, earned her GED the following November. Adrian has been at the CLC for more years than most of us care to remember; scored a below-passing 390 (9 correct out of 20) on his last GED practice Language Arts, Reading test before the summer. Over the summer, he improved his speed by 15.2%, and, after many tries, this fall passed the

(different) reading test required for the adult diploma with a score so high (43 correct out of 48) that it is simply called “post high school.” He is graduating in 2006. Antonia, relatively new to the CLC in 2004, had seemed to stagnate. After a semester in the experimental class, she gained nearly a full GLE (5.6 to 6.4) , as did Guerline (3.7 to 4.6) and Mary (4.1 to 4.9) with similar histories. Tested again in December of 2005, Antonia had jumped again, this time more than 2 GLEs to 8.6.

Students from the 2004 class also had numerous anecdotal successes. Kehinde, who had struggled with timed tests before using Ace Reader, and who showed a moderate 4.2% gain in speed with a 20% reduction in accuracy, nonetheless earned her GED several months later. Careaine, another long-term student who more than doubled her speed, also earned her GED in the spring of 2005. Colbert, after years of experience with the TABE, finished it for the first time after the summer class with Ace Reader, and earned his high school diploma that academic year, as did Armanda, who nearly doubled her reading speed during the five-week summer course.

We obviously cannot attribute all of these successes to Ace Reader alone. But what we do see is that using the computer for reading forces students out of old bad habits in a way that they find enjoyable. Ace Reader also, because of its engaging nature, helps our students learn to concentrate and stay focused on a reading task, which is often extremely difficult for them. In these classes, students read more in a few weeks than they might otherwise in a semester, and in ways that make them feel like successful readers. For adult learners, the importance of this kind of affirmation on student motivation and success cannot be overstated.

What may be even more significant is that students with large gains were often those who had seemed to stagnate in their academic performance prior to using Ace Reader. Students like Adrian and Dorothy, over whom we had despaired, feeling that they would never reach their goal of a high school credential, began to show improvement. It is often these students whom we as ABE teachers worry over the most, trying strategy after strategy to produce improvement. Although we cannot call Ace Reader a magic bullet, it is one we are more than happy to add to our arsenal.

Summary

In two years of experience, Ace Reader has proven itself at the Community Learning Center to be a valuable accelerator of adult student progress. We have seen many of our student users progress more according to the TABE in a given time than would be expected (more than a semester's gain in one semester, for example), and continue to gain thereafter. Numbers are always tricky in adult education, because of students' spotty attendance and dropping in and out. Still, we feel the following results show significant positive movement for our students after using Ace Reader:

- In the one class for which we have computer data on reading rate, 10 of 13 students showed rising trendlines.
- On an external assessment, 20 of 38 students improved the number of questions they were able to complete in a given time; 10 more stayed the same, mostly because they finished the test the first time.
- Among the same students, 22 of 38 improved the percentage of questions they answered correctly.

- Students in low-intermediate reading class which used Ace Reader for a semester also showed improvement in the ability to complete the state-mandated TABE assessments, and showed gains over a control class.
- Even when little or no quantitative change was evident, teachers and counselors noted that students developed improved attitudes toward reading and toward their ability to be successful readers.
- Some of our most difficult students, who have been at the CLC for many years with little or no progress, showed significant improvement in their academic performance, including earning their GEDs or graduating from our adult diploma program after working with Ace Reader.

All in all, both students and teachers at CLC are enthusiastic about Ace Reader, finding that it gives students the ability to see themselves as successful readers. In adult education, that is an important step that can be the most difficult one for our students. Ace Reader not only improves reading skills, but improves students' self-esteem and self-image as well.