Language Arts Learning with Online SES:
A Third Year Research Report
of the Educate Online Star Schools Project

Submitted by

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I. Executive Summary

This report covers the final year of a three-year study of the impact of the online, supplementary education services (SES) provided by Educate Online, Inc. (EO). The study was conducted by Rockman et al (REA) and funded by the Star Schools Program of the U.S. Department of Education.

In the first year of this project, REA worked in tandem with EO staff to identify, recruit, and select research sites in urban and rural schools that offer SES services. REA established criteria for LEA and school participation and they are described in its research study. REA and staff continued to work with EO managers to solidify LEA participation. Additionally, REA revisited and strengthened the research design to include a randomization element in order to enhance the internal and external validity of research results and to address potential IRB hurdles. Researchers cleaned and analyzed the previous two years of EO student-level data, including achievement, demographic, and program participation measures. They developed surveys, interview protocols, and observation protocols for EO teachers, students, and parents. Researchers also produced technical reports reviewing literature relevant to supplemental educational services (SES) math and reading provision and delivery via various remote technologies.

The year two study consisted of a year-long, national evaluation of the EO 1:1 SES program aimed at improving math performance for middle school students who are performing below grade level on standardized assessments. Participating students received instruction from teachers in real-time over internet connections with VoIP technology and interactive computer-based instructional strategies. The evaluation consisted of a randomized control trial (RCT) to determine the relationship between student academic achievement and academic attitudes with involvement in the SES math program and an examination of the school contexts that support successful SES.

In the year two study, we found that, overall, the program positively and significantly affected students' computational skills, but not their understanding of math concepts and application. Participating students outperformed students in the control group on computation and numbers / operations and, in some sites, on math concepts. The lower-performing students saw the greatest gain in their achievement scores, and many of the students performing above grade actually showed a decrement in their achievement on the assessments we used. It appears that those who need help with their math do receive support and guidance from the EO program.

In the project's third year, REA extended the evaluation to cover the provision of language arts in SES programs. Researchers conducted a year-long, RCT of the

EO reading SES program aimed at improving middle school reading performance for both English Language Learners (ELLs) and native-English speakers who are performing below grade level. Participating students received instruction from certified teachers in real-time over internet connections. The evaluation examined academic achievement, student attitudes, the nature of online participation, and contexts that support successful SES. The study sample consisted of nearly 400 students, distributed among 15 schools in three states (California, Ohio, and South Dakota). Three of the school samples were comprised of ELL students. Eligible students were those under-performing by at least one grade level in reading / language arts.

Although EO is not marketed specifically as a program for ELLs, the provider recognized the presence of significant numbers of ELL students in the program and responded by hiring teachers certified to teach English as a Second Language (ESL) and lowering teacher-student ratios for those students. Another purpose of this study was therefore to look closely at the online learning environment in terms of the interactions between ESL-certified teachers and ELLs.

Student achievement was measured through pre-, mid-, and posttest administrations of a paper-based assessment developed by Education, Inc. companies, the Assessment of Student Achievement (ASA), and computer-based standardized assessment, the CAT/5. Student attitudes were examined through parent, teacher, and student interviews as well as student surveys. The pre-, mid-, and postsurveys, which contained Likert-scaled items about the students' engagement in school, attitudes toward reading, supports at home and school for their learning, their perceived competence in being successful at school, and their experiences with EO.

Researchers also observed students and EO teachers interacting online, and visited schools to observe students in the classroom. To explore the program itself in greater depth, researchers observed 19 students online for a total of 88 hours; this represented approximately 20% of an individual student's total time in the program. Due to the diversity of schools involved, site visits informed researchers about the school contexts that support successful implementation. Site visits were conducted twice during the school year; these visits consisted of classroom observations, interviews with teachers and administrators, and student focus groups. Researchers also interviewed 60 parents towards the end of study.

Randomization was successful in that the two groups were equivalent at the start of the year. By the mid-test, the treatment group experienced 1¼ years grade equivalent growth in vocabulary and nearly 2 years in reading comprehension. The comparison group experienced significantly less growth; overall, fall students outperformed spring students by nearly ¾ of a grade. Additionally, the researchers

found that students with lower pre-program achievement tended to experience greater growth.

EO was particularly helpful to ELL students, who started with scores 23 points below non-ELLs on the CAT/5. At the mid-test, the mean CAT/5 scores of non-ELL fall (treatment) were 5.45 points higher than spring students. Among ELL students, however, the difference between cohorts was 21.69 points. The difference of 15 points between treatment and control on the CAT/5 mid-test represents an effect size of nearly one-half of a standard deviation. In both subtests as well as the overall score, these differences are highly significant, $p < .01$.

Immediate feedback from the online teacher appears to be an extremely valuable component for any student, but especially for English Language Learners. Educate Online teachers' quick response time, frequent contingent feedback, and steady review and reinforcement of what students had learned seemed to contribute to students' learning.

Unfortunately, the posttest data was largely unusable due to smaller numbers of students taking the assessments. Researchers went well beyond the contract period to secure posttest data, using incentives to encourage student participation. Many of those that did take the assessments did not take them seriously; mean scores actually decreased, despite the students being simultaneously enrolled in school. Researchers found that the demands placed upon schools at the end of the year, including state assessments rendered the research design difficult to enact. The invalid posttest scores stemmed from the lack of school time and the testing fatigue of students at the end of the year. Despite this difficulty, the mid-test data offers strong support that EO significantly increases the learning taking place during the school day.

Student attitudes about school improved over the course of the year. Based on quantitative survey data, there were few significant differences between cohorts so the program effect is unclear. Site visits and interviews provided a richer examination of the effects of EO, however. Students, parents and administrators were enthusiastic about the SES program and considered it valuable. Students highly praised EO for in its ease of use, academic benefit, and enjoyable environment. The student survey results strongly support the perception that participating in EO helps students perform better in school.

Participation in the Educate Online reading program had a positive impact on students' engagement in reading instruction and attitudes toward reading. At the end of their participation, EO students were more engaged in face-to-face classroom reading activities, tended to pick up books to read at home, and read more—all of which suggest a more positive attitude toward reading.

The students reported they are reading better as a result of their work in the program and more importantly they understand better what they read. Consequently, according to the survey data, students had improved not only in reading comprehension but also their grades in English Language Arts rose.

English Language Learners are often shy and intimidated by the classroom environment. Participation in the program and the supportive, non-intimidating online environment created by Educate Online reading teachers seemed to build self-confidence—especially among ELLs—as demonstrated by active participation and open interactions with their teachers and the program. Similarly, an increase in ELLs' face-to-face classroom participation seemed to be a non-intended consequence of the online experience. Teachers noted improved student classroom engagement and achievement, but were unclear about the content of the program and how it may have yielded these changes.

The online reading program as an at-home supplemental educational service was well received by parents. It gave them an opportunity to provide reading support in the home, monitor their children's work, and provide assistance when needed. The online experience seemed to have had an impact on students' ability to work independently and feel in control of their learning. After their participation in the online program, students took more responsibility for homework and turned it in on time without being prompted.

Because both teachers and administrators wanted more information about the program and student growth, the researchers suggest greater integration of the EO program with school-based standardized measures and content standards. Researchers hope that future research examines the relative contributions that online instruction, mechanisms of collecting and disseminating student progress, parental support, classroom teacher support, and district/school support all have upon student academic growth, behavior, and attitudinal change.

II. Introduction

Rockman et al (REA) in partnership with Educate Online, Inc. (EO) conducted a yearlong, national evaluation of a supplemental educational service (SES) program aimed at improving middle school reading performance for both English speakers and English Language Learners (ELLs) who are significantly below grade level. The study was funded by the U.S. Department of Education under the Star Schools Program and was the undertaken during the third year of, what was initially designed as, a five-year program of research. The program was defunded at the end of the third year and, consequently, the full, five-year research plan was not implemented.

This study was conducted during the school year 2007-2008 and consisted of three sub-studies:

1. a randomized control trial (RCT) of the relationship between student academic achievement and involvement in the SES program;
2. a study of how student SES participation related to behavioral and attitudinal changes in school and the school contexts that support successful implementation.
3. a mixed-methods analysis of how ELLs and teachers interacted during the online tutoring sessions and the relationship of those interactions to academic outcomes.

In order to address the three sub-studies, REA researchers conducted a multiple-method research strategy, which employed an experimental design to limit selection bias, accounted for varying levels of participation in the data analysis, and included qualitative examinations of both the treatment itself and the context within which the treatment took place.

Supplemental Educational Services

Supplemental Educational Services, as a provision of the No Child Left Behind, are after-school tutoring interventions offered in schools that fail to make adequate yearly progress (AYP). Nine out of 16 schools selected to participate in the EO reading program did not make AYP in the school year 2006-2007. Among them were three schools with a high population of English Language Learners. Under the law, these three schools are classified as schools “In Need of Improvement (INI) because they did not meet AYP for three consecutive years. Consequently, they are required to provide supplemental educational services to eligible students. These services have to be provided after the regular school hours from public or private providers approved by the state.

According to data from school principals, two of the ELLs sites (South Dakota) offered their ELL students several in-school programs to support learning such as ESL classes, sheltered instruction, the "READ 180" commercial program, the 21st Century community grant in reading, after school homework programs, and before school support programs.

To make SES available to families, school districts send a list of SES providers to the school site administrators to be distributed among parents of students that qualify for the service. Parents choose from the list or can seek advice from the school to make the final selection. School principals stated that in order to select a SES to support reading learning, they considered programs that were research-based, met the needs of the population they serve, and placed students according to their reading scores. They would judge if a program was working for their students when the reading grades increased, students were engaged in reading, and state and district test scores improved. Principals were very clear about the criteria they would use to judge success.

Overview of the Educate Online Program

EO is an individualized tutoring service that connects certified teachers with students (in real time) using computers, dial-up and/or broadband (cable/DSL) connections, and Voice over Internet Protocol (VoIP) technology. The company offers instruction in math and reading for students in grades 3-12. With its proprietary network, EO connects thousands of students around the country to over 900 certified teachers. EO's technical infrastructure was designed specifically to deliver tutoring services nationally, and includes:

- Dial-up, wireless, and broadband internet connectivity to enable global access through public internet service providers;
- Pre-configured account for each computer system delivered to a student. This guarantees the student does not incur any charges for the SES NCLB program;
- State-of-the-art VoIP, owned by Educate, to ensure audio communication between the teacher and student;
- Multi-point conferencing system (audio bridge technology) to provide a live collaborative learning environment;
- Real-time online whiteboard, text chat, and content sharing;
- Patented technology to generate individual education plans and handle tracking and reporting;

- Comprehensive tools for parents to view student progress and manage student scheduling;
- Custom-designed appliance model for installation in student's homes – removing challenges associated with technology access within schools;
- Company-owned, highly-available, state-of-the-art data center and web hosting facility; and
- Student/Parent technical assistance provided free of charge during the installation, set up, and the remainder of the program.

In the typical Educate Online model, after parents select EO from the list of state-approved providers, a student will begin the program by receiving a computer and all necessary hardware and software in the mail. After setting up the computer, the student's first task is to complete an online assessment. EO employs the California Achievement Test, 5th edition (CAT/5) and uses each student's test results to diagnose his/her learning needs and place him/her at the right starting point in the curriculum. After the diagnostic assessment and student placement, EO designs a unique learning path or instructional program for each individual student.

The student then begins participating in tutoring sessions of approximately one hour. While in the online classroom, each teacher begins the instructional session by choosing and loading the appropriate skill level lesson depending upon the individual student's personal learning plan. The experience mirrors instruction where teachers and students are sitting together, one-on-one, in the same room. The online classroom also includes a token economy reward system through which students accumulate tokens for working diligently and mastering skills. The combination of the tokens and the opportunity to gain a fully-functioning computer at the conclusion of the program/semester, serves to sustain participation over the instructional period.

In this grant year, nearly 400 middle school students in three states were offered 25 hours of programming, including approximately 22 hours of instruction and three hours of assessments.

III. Research Design

Experimental Study Design and Research Questions

To conduct the experimental design, researchers implemented a treatment / delayed treatment design with a pre-, mid-, and post-assessment of student outcomes. Students were randomly assigned to either the fall cohort (participating in the first half of the year—October to January) or the spring cohort (participating in the second half of the year—February to May). The outcomes for this sub-study involved student achievement measures including the California Achievement Test, 5th Edition (CAT/5), the Assessment of Student Achievement (ASA), and student survey responses. For the second and third sub-studies, researchers examined the same groups of students using a series of non-experimental quantitative and qualitative strategies. Data sources included surveys of students, analysis of teacher-student interaction during the tutoring sessions, site visits with participating schools that involved interviews with teachers and administrators, group interviews with students, parent interviews, and observations of classroom reading instruction.

The experimental study was guided by two main research questions:

- What is the effect of the SES program on reading performance and other academically related student outcomes (such as engagement and self-confidence in reading) for both ELLs and non-ELL students in middle school who are significantly below grade level in reading?
- How, if at all, do school differences mediate the effect of the SES program?

To address these questions, researchers collected individual student achievement and EO usage data before conducting analyses of the RCT. Individual student achievement measures included the CAT/5 and ASA assessments. These assessments were conducted for all participants three times during the school year: at the beginning of the study, in the middle (after the completion of the fall cohort, but before the spring cohort received the delayed treatment), and at the end of the school year.

Similarly, student surveys were administered three times: once at baseline (in October), once at the mid-point of the school year (in January or February), and once at the end of the school year (in May or June). A copy of the pre-, mid-, and post-survey is provided in Appendix C. The student survey at each point contained items about the students' engagement in school, attitudes toward reading, support at home and school for their learning, and their perceived competence in being successful at school. The mid-survey included supplemental items for fall students relating to their experience with the SES program. The post survey contained items

about spring students' experiences with the program and use of their computers. Surveys were administered at each site at the same time as the ASA assessment. Analyses of CAT/5 and ASA assessments were pooled across all of the students in the studies but also included within-school analyses.

Participant Selection and Recruitment

REA, EO, and local educational agencies in California, Ohio, and South Dakota worked together to select participating schools for the 2007-2008 study. Nine selected schools did not make average yearly progress (AYP) in reading the year prior to the study. Each school recruited students in 6th, 7th, and 8th grades, eligible for free/reduced price lunch, and under-performing by at least one grade level in reading/language arts. In the case of the ELL students, schools recruited students who were at least at an intermediate level in their reading and language proficiency (grades 3-5 language level) as measured by the English proficiency test used at each state.

The study sample consisted of nearly 400 students in grades 6, 7, and 8, distributed among 16 schools in three states (California, Ohio, and South Dakota). As the table below illustrates, the study sample included rural, suburban, and urban school sites.

Table 1: Year 3 Participants by State and School Site

State	School	NCES* Local Code	Number of students		
			Rural	Suburban	Urban
South Dakota	Axtell Park Middle School	City: Midsize (12)			26
	Chamberlain Junior High	Rural: Remote (43)	31		
	Little Wound School	N/A	28		
	Mitchell Middle School	Town: Remote (33)		21	
	Mount Vernon Middle School	Rural: Remote (43)	12		
	Platte-Geddes Junior High	Rural: Remote (43)	16		
	Wagner Junior High	Rural: Remote (43)	30		
	Whittier	City: Midsize (12)			27
Ohio	Bowling Green Junior High	Town: Fringe (31)		24	
	Eastwood Middle School	Rural: Distant (42)	11		
	Elmwood Middle School	Rural: Distant (42)	30		
	Glenwood	Town: Distant (32)		22	
	North Baltimore Middle School	Town: Distant (32)		17	
	Rossford Junior High	Suburb: Large (21)		39	
California	El Sereno Middle School	City: Large (11)			54
Total			**158**	**123**	**107**
Percent of total			**41%**	**32%**	**28%**

*National Center for Educational Statistics

School principals and English/reading teachers selected the students to participate in the EO program according to the following criteria: underperforming students as measured by state tests, students performing two to three levels below grade level in reading, and students who qualified for the free/reduced priced lunch program. In addition, to participate in the EO, ELLs were required to have a satisfactory English proficiency level to work on the EO reading program, since it is designed to target English-proficient users. The students' English proficiency level ranged from intermediate to high intermediate (California) or proficient to advanced (South Dakota) as measured by the California English Language Test (CALT) and the Dakota English Language Proficiency test (DELP)—an adapted version of the Stanford English Proficiency Test, respectively. Selected English Language Learners spoke different languages at home. Reported languages were: Swahili, Ukrainian, Krahn, Albanian, Chinese, Russian, and Spanish. These students were paired with certified English as a Second Language (ESL) teachers throughout the program.

In order to inform parents about the EO reading program and the research study, school principals and English/Reading/ESL teachers identified eligible students and invited their parents to a meeting. REA researchers and the EO program manager attended school meetings to introduce the program. At the end of the meetings, parents could sign up for the program and the research study (see Apendix B for a copy of this form). A free computer was a great incentive for parents and students to complete the program. In addition, REA offered the students incentives (gift cards) to take the final of the three assessments.

According to the No Child Left Behind Act, states and districts must ensure that eligible students who are English Language Learners receive appropriate educational services and language assistance. Accountability demands placed on schools and teachers to increase the academic achievement of ELLs are increasing and limited support is provided to meet such expectations (Klingner, Artiles, & Barletta 2007). The availability of supplemental services is limited; SES providers do not offer services that are accessible to students with special needs, specifically special education and ELLs (Burch, Steinberg, & Donovan, 2007). EO has recognized the needs of ELL students and responded by hiring teachers certified to teach English as a Second Language (ESL) and lowering teacher-student ratios for those students as a means to assess the effects of the online reading program on ELLs.

To investigate the effect of pairing ELLs with certified ESL teachers in the online learning environment, the 2007-2008-study included a sample of 108 English Language Learners (table 2) from three sites located in Los Angeles, CA and Sioux Falls, SD. We wanted to understand how the online reading program supports culturally and linguistically diverse students. To address the general research questions of the study, we conducted site visits to the ELL students' classrooms,

interviewed Reading, English, and ESL teachers, as well as ESL coordinators and school principals. We also interviewed students in groups of 5-6, which were conducted in English and/or Spanish, depending on students' language preferences.

Table 2: English Language Learner Sites

Schools/Grade	6th	7th	8th	Total
El Sereno Middle School, CA	19	26	14	59
Axtell Park Middle School, SD	4	11	11	26
Whittier Middle School, SD	7	10	6	23
Total	**30**	**47**	**31**	**108**

According to the interview data, some participating ELLs in South Dakota were concurrently enrolled in other reading programs (e.g., READ 180—a computer-based program, which encourages students to read in 90 minutes increments, the 21st Century community grant in reading and math, an after school YMCA recreational program, and/or before school tutoring). The ELLs from California did not participate in any other instructional program that supported reading while in EO.

Randomization process

Once the students were selected at the school level, REA received the list of students along with demographic data. We randomly assigned approximately half of the students to receive the online reading program during the first semester of the school year (October-January), which we will refer to as the fall cohort. We assigned the remaining students to the spring cohort; this group of students received the SES during the second half of the school year. Randomization was performed within school and within grade using a random number generator on a statistical package.

Site Visits

The site visits served three purposes: 1) to better understand the school context where participating EO students have their regular reading instruction, 2) to explore whether EO participants bring their online learning experiences to the classroom environment and how their experiences are incorporated into their regular school activities, and 3) to gather in-depth data from students, teachers, and school administrators about their experiences with the EO reading program.

Researchers addressed these issues through classroom observations, school administrator and teacher interviews, and student group interviews. Appendix E includes the classroom observation protocol and suggested interview questions for teachers, administrators, and student focus groups. Site visits were conducted twice during the school year to capture the school context that surrounds the students who were receiving EO SES.

In September 2007, two REA researchers and the EO program manager traveled to selected schools to introduce the online reading SES to school administrators, teachers, parents, and students. The schools had previously sent an invitation to parents of students who had qualified for SES and met the requirements to participate in the reading program. During the initial meeting, an informational session was held at each school. Presenters distributed brochures, described the program, played a short video demonstration of an instructional interaction between an online teacher and a student, and answered questions. Parents and students signed consent forms to participate in the research study and filled out a baseline data survey (see Appendix B). At the ELL sites, the program was presented in both English and Spanish.

At these meetings, the baseline parent survey that researchers administered was designed to assess parents' understanding of the SES process, their expectations for their children, and their level of involvement in their children's education, learning processes, and attitudes toward reading and school. Researchers also collected contact information from parents who were willing to participate in follow-up surveys or phone interviews.

During the school year 2007-2008, researchers from REA visited 14 of the 15 participating schools in California, Ohio, and South Dakota, including three ELL sites. The purpose of the site visits was to increase our understanding of the implementation of the online supplemental educational service and its reflected impact in the classroom. During these visits, REA researchers gathered data from multiple sources. We conducted classroom observations of reading, English Language Arts (ELA) and/or English as a Second Language classes (ESL), interviewed ELA/ESL teachers, interviewed schools administrators (principals and program coordinator/liaisons), and conducted group interviews with EO participants in the fall and spring cohorts. Researchers developed distinct interview protocols for each type of respondent. Each protocol had 10-12 lead questions but was flexible enough to incorporate follow-up questions during the interview based on the interviewee's responses. The 30-45 minute interviews were scheduled at least two weeks in advance. Data from site visits have been coded and analyzed looking for common patterns and consistencies across respondents and sites.

Table 3: Site Level Data

Data Sources	California	Ohio	South Dakota	Total
Schools	1	7	8	16
School Principals (interview)	1	7	8	16
Students (group interview)	42	73	51	166
Parent (phone interview)	20	20	20	60
ELA/ESL/Reading teacher (interview)	9	17	9	35
SES Program Coordinator (ELLs)	1	N/A	2	3
Classroom observation (hours)	18	79	42	139

Online Interactions Observation

We conducted an observational study of the online teacher-student interactions of a sample of ELL students enrolled in the spring group (n=19). The online observation protocol is provided in Appendix E. The purpose of these observations was to look closely at what was happening in the online learning environment and capture the interactions between ESL-certified teachers and ELL students. Through our observations we addressed the following research questions:

1. How do teachers use specific reading- and language-related instructional strategies in the lessons?
2. How do teachers use the tools and features of the program in their teaching?
3. How do students participate in the lessons?
4. How do teachers and students interact with one another in the hybrid online learning space?

IV. Data Collection and Analysis

The Assessments – CAT/5 and ASA

The California Achievement Test, 5th Edition (CAT/5) assessment is an online, multiple-choice standardized test. EO currently administers a pre and post CAT/5 to its students in order to initially place them and to measure their growth throughout the program. The reading section of the CAT/5 is comprised of two sub-tests: reading comprehension and vocabulary. Each student's CAT/5 result consists of a scale score and grade equivalency score for each of the sub-tests and a total scale score and grade equivalency, defined as the average of the two sub-test scores.

The Assessment of Student Achievement (ASA) is a multiple-choice standardized reading assessment that was developed specifically to measure the growth of students in need of remediation. Unlike the CAT/5, the ASA was administered at each of the school sites in paper-and-pencil format. Each student's ASA result consists of a scale score in the same to sub-tests of the CAT/5, reading comprehension and vocabulary, and a total scale score, defined as the average of the two sub-test scores. During this grant year, the ASA was available only in pencil-and-paper format.

For the purposes of this grant, all students were asked to complete the assessment at three times during the year: in the fall of 2007, in the winter of 2008, and in the spring of 2008. The first administration represented a pretest to determine the equivalency of the randomized fall and spring cohorts. The winter mid-test served to measure the difference between the fall group, which has already experienced EO SES, and the spring cohort, which served as a control group. Because both cohorts would have received EO SES by the final spring assessment, we expected to gain understanding about longer-term effects of EO, compared to the more immediate effects examined at the mid-test.

Classroom Observations

To understand the classroom context where the students received regular instruction, we conducted classroom observations of English, English as a Second Language, and Reading classes. Classroom observations focused on students' participation and engagement in reading activities as well as identifying specific instructional strategies that the teachers used to teach Reading, English, and ESL to English language learners. Researchers used an open log to register EO students' behaviors and instructional strategies used during the observation. At the end of each classroom visit, we also interviewed the teachers in order to

understand their perspectives on the challenges of teaching reading and the instructional strategies used to deliver the lesson of that specific day. See Appendix D for the observation protocol and teacher interview questions.

School Administrator and Teacher Interviews

To understand the school context that surrounds and supports successful SES, to obtain feedback on the EO SES program, and to examine teachers' perspectives about students' classroom behaviors and success, we conducted face-to-face interviews. During site visits, we interviewed school principals, EO program coordinators, English Language Arts teachers, Reading, and English as Second Language teachers. REA developed role-specific interview protocols for each type of respondent. The 15-20 question protocols were flexible enough to incorporate follow-up questions based on participants' responses. With participants' permission (see Appendix B for the consent form), data from interviews were digitally recorded and coded using computer software; the analysis looked for common patterns and consistencies across respondents and schools.

Student Group Interviews

To delve more deeply into students' experiences with the online reading program, understand the factors that may influence successes or non-successes of particular students, and get a sense of participants' perceptions of the program, we interviewed EO students at each school. Group interviews involved 4-5 students each and were conducted during the site visits. The consent form is provided in Appendix B. The approach gave researchers a sense of the consistency of the responses, the ability to play off of one student's response with another and go deeper into the factors that lead to greater or lesser impact and engagement.

Parent Phone Interviews

After the two groups completed the instructional program, a total of 60 parents—20 from each state, were interviewed to assess their perceptions of the program and impact that participation in EO had on their children. We also examined changes in parental involvement in children's education as a result of their participation in EO, as well as changes in their children's attitude toward reading and school. Our sampling strategy consisted of randomly selected parents of high, intermediate, and low performance students from each state as measured by the second round of the CAT5 assessment. A sample of 20 parents was selected from the ELLs' school sites. The parent survey data gathered before the beginning of the program served as baseline data. The post-program interviews provided outcome data to synthesize with other sources of information. The interviews were conducted via

phone and guided by a 20-question interview protocol. Parents of English Language Learners in California were interviewed in Spanish. The interviews lasted between 30-40 minutes.

Conclusion

Having described the study design and data collection methods, the next chapter presents a discussion of findings starting with the baseline data gathered at the beginning of the school year through the administration of parent surveys. This is followed by an examination of the school context and a discussion of differences across sites.

V. Discussion of Findings

Baseline Data - Parent Survey

This section presents findings from a parent survey conducted at the beginning of the school year before the program started. During the introductory meeting held at each school, we asked parents to complete survey questions about understanding of the SES process, expectations for their child, and their level of involvement in their child's education, learning processes, and attitudes toward reading and school. Along with data about individual schools, parent survey data served as baseline data that contextualizes the findings presented later in the report. Individual school data are discussed within the case studies included in Appendix A.

Participants Grade Makeup

Approximately 27% of the students are in sixth grade; 42% are in seventh grade; and 31% are in eighth grade.

Table 4: Grade Makeup of Study Participants

	Grade 6	Grade 7	Grade 8
Ohio (N = 144)	30%	35%	35%
South Dakota (N = 172)	24%	45%	31%
Los Angeles (N = 49)	26%	50%	24%
All Students (N = 365)	27%	42%	31%

Program Participation

- 31% of the participating students receive extra help in math, and 37% receive extra help in reading, such as Title I reading or Reading Recovery assistance.
- 12% of the students are special education; 12% receive ESL services.
- Seven percent receive speech and language services, and eight percent reported their child received other services such as homework help, afterschool tutoring, and 504 Plans.

Table 5: Student Participation in Other Services

	Math Program	Reading Program	Special Education	ESL Services	Speech or Language	Other Services
Ohio (N = 144)	28%	45%	14%	2%	6%	8%
South Dakota (N= 172)	32%	34%	12%	17%	10%	9%
All Students (N = 365)	31%	37%	12%	12%	7%	8%

Parents' Perception of Academic Behavior

Parents tended to think that their children did the work required in school, but did not pursue learning beyond the requirements of school. Over a quarter of the parents (26%) reported that their child reads at home, and 47% said their child reads at home sometimes. The majority of the parents (81%) stated that their child does his or her homework. The adults report that only 38% of the students ask their parents for help with school assignments; 30% ask other people at home.

Table 6: Parent Perception of Student Academic Behavior

	Never	Rarely	Sometimes	Often	Very Often	Total N	Mean	Standard Deviation
My child reads at home.	2%	25%	47%	18%	8%	370	3.1	0.9
My child does his or her homework.	<1%	3%	16%	34%	47%	369	4.2	0.9
My child asks me for help with school assignments.	4%	12%	46%	24%	14%	373	3.3	1.0
My child asks other people at home for help with school assignments (brothers or sisters, other adults).	14%	17%	39%	20%	10%	370	2.9	1.2
My child is absent from school.	32%	57%	8%	1%	1%	369	1.8	0.7

Students' Self-confidence and Enjoyment of Reading

Nearly half the parents (44%) believe their child does not feel confident about reading, and 47% believe their child does not like reading. Almost half of the parents (46%) reported their child does not understand what she/he reads. In contrast, the great majority of parents (85%) stated their child likes school, and 90% said their child likes his or her reading or English teacher.

Table 7: Parent Perception of Student Self-Confidence and Enjoyment of Reading

Survey Item	Strongly Disagree	Disagree	Agree	Strongly Agree	Total N	Mean	Standard Deviation
My child feels confident about reading.	9%	35%	42%	14%	350	2.6	0.8
My child likes reading.	12%	30%	47%	12%	352	2.6	0.8
My child reads well.	5%	37%	48%	10%	347	2.6	0.7
My child understands what he or she reads.	7%	39%	43%	11%	343	2.6	0.8
My child talks about reading at home.	13%	41%	37%	9%	343	2.4	0.8
My child likes school.	3%	12%	52%	33%	352	3.2	0.7
My child likes his or her reading/English teacher(s).	2%	8%	60%	30%	344	3.2	0.7

Parents' Self-reported Involvement

Forty percent of the parents reported that they often help their child with homework; 47% of the parents said they do it sometimes. Most parents (58%) also reported that they check their child's homework, too. While parents report attending meetings at the school and afterschool activities, few parents (9%) volunteer at their child's school with any frequency and another 20% do it sometimes. Notably, the great majority of parents report that they read and enjoy reading, however, only 21% state that they read regularly with their child.

Table 8: Parent Self-Reported Involvement in Students' Academic Activities

Survey Item	**Never**	**Rarely**	**Sometimes**	**Often**	**Very Often**	**Missing**	**Mean**	**Standard Deviation**
I help my child with homework.	4%	8%	47%	26%	14%	353	3.4	1.0
I check my child's homework.	3%	11%	28%	36%	22%	352	3.6	1.0
I keep track of how my child is doing in school.	1%	2%	13%	40%	44%	352	4.3	0.8
I do extra learning activities with my child at home.	6%	25%	41%	19%	9%	344	3.0	1.0
I volunteer at my child's school.	36%	34%	20%	5%	4%	343	2.1	1.1
I attend parent activities at my child's school such as parent-teacher conferences or open houses.	3%	5%	16%	32%	45%	350	4.1	1.0
I attend activities in which my child is involved such as band concerts, school plays, or sports events.	10%	5%	8%	25%	52%	346	4.1	1.3
I read books or magazines for my own pleasure.	3%	7%	22%	29%	39%	346	3.9	1.1
My child and I read together.	10%	27%	42%	15%	6%	348	2.8	1.0
I like to read.	2%	7%	27%	26%	37%	351	3.9	1.0
Reading is enjoyable for me.	2%	7%	25%	26%	39%	350	3.9	1.1

The majority of the parents (83%) feel comfortable helping their child with homework. Nearly all of the parents (95%) feel comfortable talking to someone at school about their child; similarly, 97% of them know how their child is doing at school. Education is valued by almost all of the participating parents. The overwhelming majority of them (99%) agree that it is important for their child to get a good education and do well in school.

Table 9: Parental Comfort Level with Child's Schooling

Survey Item	Strongly Disagree	Disagree	Agree	Strongly Agree	Total N	Mean	Standard Deviation
I feel comfortable helping my child with homework.	3%	13%	53%	30%	348	3.1	0.8
I am comfortable talking to someone at school about my child.	1%	4%	50%	45%	351	3.4	0.6
I know how to help my child with reading.	6%	33%	43%	18%	348	2.7	0.8
I know how my child is doing in school.	0%	2%	54%	43%	346	3.4	0.6
I know how to help my child succeed in school.	2%	24%	51%	23%	345	3.0	0.7
It is important for my child to get a good education.	0%	1%	10%	89%	352	3.9	0.4
It is important for my child to do well in school.	0%	1%	11%	88%	352	3.9	0.4

Computer use

The majority (66%) of parents reported having internet access in their home but only 32% reported to have a computer. Most parents believed that understood their children's activities on the computer. Slightly more than half of them believed that their children used computers for homework only.

Table 10: Parent Perception of Child's Computer Use

	Not at all	A little	Somewhat	A lot	Mean	Standard Deviation
To what extent does your child use your home computer for his / her homework?	26%	33%	32%	9%	3.1	.278
To what extent do you understand what your child does on the computer?	6%	19%	28%	45%	2.2	.277

Online Instruction and Interactions

Although the reading program is not marketed as a program for ELL students, a substantial proportion of students who qualify for SES are learning English as a new language. EO responded by hiring teachers certified to teach English as a Second Language (ESL) and lowering teacher-student ratios in classes with ELL students (from 3:1 to 2:1). Interviews conducted with ELL students in the program, their parents, and their classroom teachers indicate that the program's hybrid delivery format and low teacher-student ratio has contributed to an appealing learning environment for middle school ELL students.

Reading Instruction for ELL Students

Learning basic interpersonal skills in a new language can be accomplished in a relatively short amount of time (two years or less), but research has shown it takes five to seven years to gain academic language proficiency in a second (or new) language (Cummins, 2001; Thomas & Collier, 1997). The more context-reduced, cognitively-demanding language of academic texts (e.g., a chapter about chromosomes in a 7th grade science textbook, or an essay about the Battle of Gettysburg for an 8th grade social studies class) requires a specialized vocabulary, extensive background knowledge, an understanding of how those texts are structured, and a great degree of reading fluency.

This is true for all readers; in fact, reading is essentially the same process whether reading English as a first or second language:

> In other words, both first and second language readers look at the page and the print and use their knowledge of sound/symbol relationships, word order, grammar, and knowledge about the text's topic and structure along with their linguistic knowledge and reading strategies to arrive at an interpretation and to achieve their purpose for reading. (Peregoy & Boyle, 1999, p. 259)

Teaching reading to ELL students includes the traditional components of reading instruction (e.g., developing phonemic awareness, fluency, vocabulary, comprehension, and critical reading skills); however, effective reading instruction for ELL students also includes strategies for helping students acquire the English language. Such strategies include: thinking aloud, reading aloud, modeling, and demonstrating; providing immediate feedback as well as plenty of opportunities to speak; tapping students' prior knowledge and relating to students' lives; using visuals (e.g., graphic organizers, pictures), manipulatives, and non-verbal cues; pre-teaching key vocabulary, difficult language (e.g., auxiliary verbs, tense) and text

structures (e.g., idioms, long sentences); generating questions, summarizing, and discussing; monitoring comprehension and providing opportunities to practice and apply (e.g., creating sentences with new vocabulary words); modifying speech, using meaningful texts, and capitalizing on students' knowledge of their native language (e.g., use of cognates). Reading comprehension of texts provides opportunities for ELL students to make meaning from a text, but also to learn to talk about it and produce their own.

The EO Academic Reading program includes systematic instruction in four strands: comprehension, applied skills, vocabulary, and word analysis. Particular lessons within those strands focus on reading for the main idea; reading for patterns (e.g., compare / contrast); reading to evaluate (e.g., drawing conclusions); critical reading and reasoning (e.g., figurative language); literary analysis (e.g., author's purpose); reading reference materials; vocabulary building (e.g., analogies); phonetic analysis (e.g., hard / soft sounds); and structural analysis (e.g., prefixes). The lessons in the program are the same for all students.

As part of the third year research effort, REA designed a sub-study to look more closely at the instructional strategies EO teachers used, as well as the interactions between ESL-certified teachers and ELL students during Academic Reading lessons. The intent of the observations was to illuminate the larger study of ELL students in the EO program by providing contextual data.

Participant Sample

In all, there were 45 ELL students enrolled in the Academic Reading program in spring 2008, 22 in South Dakota and 23 in California. From that group, we purposively selected a sample of students to observe, using the following criteria:

- Number of Sessions remaining
- Site
- Student Progress Report

From EO, we obtained lists of ELLs from both sites, arranged by how many hours they had remaining in the program before completion. Our intent was to observe at least one-third of the students and to observe them for at least one-third of the program. Using the lists, we divided the groups into three brackets—a top third of whom had already completed more than two-thirds of the program, a middle bracket, and a bottom bracket. For our study, we selected those in the middle third—students who had enough hours left for us to observe at least 9-11 hours (of the total 26-28 hours), and who were likely to complete the program. Since the students in California had begun earlier than those in South Dakota, more of them

were closer to completion—in the top third bracket. Thus, we had a higher proportion of South Dakota students in the sample (see table 11).

Table 11: Sample of Participants

State	N	n (sample)	%
LA	23	8	35%
SD	22	11	50%
Totals	45	19	42%

Constructs and Codes

Constructs to guide the online observations included time, feedback, general instructional strategies, specific instructional strategies related to the teaching of reading/language; student initiation and response; use of language; and relationship building. For each of these constructs, we identified more specific instances that we used as codes. The codes, and a discussion of our findings in each of these areas, are included below.

Instruments

Based on the constructs and research questions, as well as several observations of students online before the study began, we designed an observation protocol that would guide the research team in conducting the observations. The observation protocol relied on researchers writing thick descriptions of the lessons—recording the interactions almost verbatim. Because the interactions between teacher and student(s) could occur very rapidly, sessions were audio recorded as well as observed. During sessions, we also took screen shots to capture dialogue in the text boxes as teachers and students used a built-in instant message component sometimes in place of audio, sometimes to supplement the audio.

After the sessions, the thick descriptions were coded using a code sheet we developed. Those were then quantified and entered into an Excel spreadsheet. To allow for easier analysis of the qualitative data, we created an online survey for the observer's post-observation notes and answers to open-ended questions (see http://study.rockman.com/starschools/observation.html).

Interrater Reliability

Three researchers conducted the observations, so a high degree of interrater reliability was important for the study. Since the observations would be coded, we wanted to calculate the percent of agreement between the three researchers in terms of the frequency with which they prescribed the same codes.

The three researchers independently viewed the same session, using the observation protocol and writing thick descriptions of the interactions. The researchers then coded their notes using the coding sheet and then computed the frequencies of the codes and entered them into a spreadsheet. Essentially, we determined reliability by number of agreements divided by the number of scores multiplied by 100.

Calculated this way, the interrater reliability among the researchers was 89.5%. Adding in the 6 additional categories for time, which are calculations of the minutes of time spent, interrater reliability was 94.7%.

The researchers conducted observations during the days and times ELL students were scheduled to do their lessons. Each week (after each five-day cycle of observations), the team met to discuss their observations, review the protocols, codes, and check consistency.

Challenges

The study was conducted within a span of six weeks, including instrument development. We observed students online for four weeks, but we could only observe one student at a time. For the last two weeks, pass codes were provided and system deemed stable to allow two researchers to observe simultaneously.

Each week, the team requested an update from EO with the number of sessions each ELL student had completed. As students moved closer to completion (and into the top bracket), we replaced them with students from the bottom third who still had the requisite number of hours remaining.

Observations Completed

We completed our observations on June 2; ELL students (except for two who finished their sessions that week) were then disenrolled by EO if they had not completed the program. In all, 31 of the 45 ESL students (69%) completed the program with a total of 26-27 hours online.

Table 12: Percentage of ELLs Completing the Reading Program

State	N (began)	n (completed)	%
LA	23	20	87%
SD	22	11	50%
Totals	45	31	69%

We observed 88 hours of sessions during the study; 9% of the total hours of online sessions for ELL students (973 hours in all). However, we observed 15% of the total hours completed by the CA students in the study, and 23% of the total hours of SD students in the study—about 20% of those students' hours in the program. (See table 13).

Table 13: Percentage of Completed Hours Observed

State	Hours completed	Hours observed	%
CA	205	31	15%
SD	253	57	23%
Totals	458	88	19%

Due to the earlier start—and finish—of students in CA, only about one-third (35%) of our observations were of students from CA; 65% of the sessions we observed were with students from South Dakota (see table 14).

Table 14: Percentage of Hours Observed by Site

State	Hours observed	% of total study hours (N=88)
CA	31	35%
SD	57	65%

Although it had been our intent to select a smaller sample of students from both sites and observe a substantial number of their sessions (about one-third, or 11 hours) online, we were able to do this with only 4 students (3 from SD and 1 from CA) due to the limited time and access. However, we were able to observe almost 20% of all the sessions of the English Language Learners involved in the larger study.

Below is a discussion of findings from our online observations organized by themes: use of instructional time, feedback, instructional strategies, reading/language strategies, student initiation/response, use of language, and relationship building, as well as findings from the data about what the study may indicate about the teacher-student ratio, types of interactions, and student participation.

Use of Instructional Time

During our observations, we carefully noted how time was spent during each session. We recorded start and end times for the session, as well as the start and end time for each "segment" during the session. Since our observation vantage point was that of the teacher's computer, we timed segments to record the number

of minutes a teacher spent with the focal student(s). A segment began when a teacher viewed the focal student's classroom, and ended when the teacher moved into another classroom to view another student's work. In cases where the ratio of student to teacher was 1:1, we coded the session as one segment, but documented the time spent in the activities listed in table 15.

Table 15: Time Constructs

Code	Construct	Definition	Mean
Inst_t	Instruction time	How much time teacher spends with the student	29.82
Wait_t	Wait time	How much time student spends waiting	2.51
Work_t	Work time	How much time student spends working	45.45
Soc_t	Social time	How much time a teacher and student are engaged in social talk	1.84
Game_t	Game time	How much time a student spends playing a game	.66
Tech_t	Technology time	How much time spent fixing technology	1.45

In the completed observations, the data show that:

- Little instructional time (less than two minutes per session) was lost on technology-related issues.

  In our observations, technical difficulties were rare. Those that occurred were frequently persistent, e.g., one student experienced ongoing difficulty with his audio. In almost every instance, teachers and students demonstrated their ability to accommodate for the technical issues and work around them. The average time spent on technology issues was 1.8 minutes, with a range of 0-11, and a standard deviation of 3.1.

  For sessions that were text only (4% of all the sessions we observed), more time (an average of almost 5 minutes) was spent on technology than in sessions were audio was used (42.7% of all sessions observed) or both text and audio were used (53.3% of all sessions observed). That time was lost in instruction: text-only sessions spent about 25 minutes per student on instruction; for both audio only and text and audio sessions, an average of 30 minutes was spent on instruction per student. (We defined instructional time as how much time the teacher spent with the student.) Students in text-only sessions also spent double the amount of time waiting (typically for the teacher to return to the student's classroom and check completed work) than in the audio-only or text

and audio sessions (from an average of almost 5 minutes to an average of 2.5 minutes—for text and audio sessions —or less).

- Students spent an average of 45 minutes each session working.

  Work time was defined as the time a student spent working on the lesson. The minutes were calculated by noting start and end times of the lesson and subtracting minutes for wait time (when the student waited for the teacher to return to the classroom), social time (time spent usually before a lesson began), game time (time at the end awarded for playing games), and technology time (any time spent troubleshooting technological issues). The amount of time students spent working ranged from 20-58 minutes per session, with a standard deviation of 9.3 minutes.

- Teachers spent an average of 30 minutes with each student in instruction.

  Instructional time was calculated by adding together the minutes the teacher spent with the focal student during a 60-minute session. Instructional time ranged from 11-56 minutes per student, with a standard deviation of 9.5 minutes.

- Students spent an average of less than three minutes waiting during each session.

  Teachers successfully juggle the demands of working with two students, effectively observing the progress of both students throughout the session. We observed teachers moving from one classroom to the other seamlessly, sometimes "dropping in" to check quickly on a student's work, and "toggling" back and forth to encourage a student, ask if a student has any questions, or remind a student to raise her hand when she had completed an exercise. When students did indicate they were ready for the teacher to check their work, or that they had a question, they usually did not have to wait long for a response. Wait time ranged from 0-13 minutes per session, with the average being 2.51 (and the standard deviation 3.0).

- Teachers spent little instructional time in "small talk," but would regularly ask a question or two at the beginning or end to make the student comfortable.

  Teachers made an effort to begin and end sessions with a greeting and often, to make a personal connection (e.g., "How's the weather there?" "How many days left of school?" "Do you have any plans for the weekend?"). However, most of the interactions that occurred during classes (86.7%) were related to the lesson content. Very little instructional time was lost to "social talk;" on average, teachers and students spent less than a minute exchanging formalities (M=0.7

minutes). “Social talk” ranged from 0-7 minutes per session, with the standard deviation 1.3.

- Teachers typically ended the sessions by asking the student to return to the homeroom where students could play a game (e.g., tic tac toe, hangman) together.

  On average, less than 2 minutes (M=1.5) was spent playing games at the end of the session; however, this seemed to be just enough. Students enjoyed playing the games and seemed to consider the games a reward and fun way to end the session. Teachers often ended the game by praising the student for her effort (e.g., “You worked really hard tonight”), to award any remaining tokens, and to say goodbye. Game time ranged from 0-6 minutes, with a standard deviation of 1.7.

Feedback

In our initial observations, we identified several different types of feedback used during the lessons (see table 16).

Table 16: Types of Feedback

Code	Type of Feedback	Definition	Example	M
VP	Verbal Praise	Acknowledging a student’s accomplishments	“Good job!”	4.77
IP	Identity Praise	Ascribing to the student an identity label as a good reader or student.	“You are a great reader.” “You’re smart!” “You’re a good student!”	.26
RS	Response Symbols	Teacher’s use of symbols to acknowledge if a student’s answer is correct or incorrect answers (Note: coded once per segment.)	happy faces, stars, thumbs up, cookies, checkmarks	4.47
TCF	Topic-Contingent Feedback	Topic-contingent feedback provides item verification and general elaborative information concerning the target topic. After incorrect responses, learners are returned to passages or other learning material where the correct information is located or they are given additional information from which they may find the answer. While topic-contingent feedback makes extensive elaborative information available, it depends upon learners to locate the correct answer within the instructional material.	“Does it say he sang? Remember, you have to get the answer from the passage.”	3.33
TCFL	Topic-	Topic contingent feedback is very	“Look back over the	1.41

	Contingent Feedback Limited	limited	first paragraph in the selection." "Check number 2 again."	
RCF	Response-Contingent Feedback	Response-contingent feedback provides both verification and item-specific elaboration. In addition to providing knowledge of the correct response, response-contingent feedback gives response-specific feedback that explains why the incorrect answer was wrong and why the correct answer is correct.	"OK, all the ones that are correct I have a star underneath if you want to look over it. [Tells the student what he did wrong on those without stars.] Ok?"	.62
PA	Providing Answer	Teacher provides the answer without explanation.	"It's D."	1.07
IWA	Identifying Wrong Answer	Teacher says an answer is wrong	"#3 is wrong" "No, it's not B, sorry."	1.01

The observation data indicate that:

- Teachers frequently provided immediate, or almost immediate feedback to students.

  Teachers typically checked students' answers promptly, often giving them immediate (or close to immediate) feedback. During 80% of the classes observed, students received some kind of indication as to whether their answers were right or wrong upon completing the question. About 30% of the time student work was checked after a section of the worksheet was completed. The immediacy of the feedback varied, even within a lesson, depending on factors such as student to teacher ratio and the speed with which the student completed the exercises. A few students initiated frequent feedback, asking the teacher if an answer was right or wrong, and requesting the teacher check their work (with a signal) when they had completed a section and the teacher was in another classroom.

- Teachers used Verbal Praise and Response Symbols most frequently as forms of feedback.

  When students' answers were correct, teachers most frequently (93% of the time) responded by awarding "stickers" or "stamps" like a thumbs-up, smiley face, star, or checkmark. Teachers frequently (80% of the time) provided verbal praise as well, telling or texting students to say they had done a good job. In about half the classes we observed (48%), teachers regularly encouraged students as well, saying things like, "Keep up the good work!"

- In response to items students had answered incorrectly, teachers most often provided topic-contingent feedback—asking students to return to the materials where the correct information is located or give students additional information.

  We observed more instances of Topic-Contingent Feedback (M=3.33) per session than Topic-Contingent Feedback Limited (M=1.41); however, the standard deviation for TCF was also larger, indicating greater variation in use of TCF that could possibly be explained by other variables (e.g., teacher, type of lesson). In cases of limited topic-contingent feedback, students were frequently reminded where they should go for help finding the answer (e.g., in the vocabulary box or the reading passage) and asked to try again.

- At times, teachers simply provided the correct answer or identified an answer as incorrect.

  Most often, teachers resorted to providing the correct answer when a student had already made several attempts and the teacher had already provided other forms of feedback. On average, teachers provided the correct answer 1 time per session, with a range of 0-5 (SD=1.4). Teachers frequently used response symbols to indicate which answers were correct and which weren't; when teachers identified an answer as incorrect (e.g., "#3 is wrong") they would typically allow the student time to correct their answers and then mark them again (using response symbols or verbal comments). Identifying wrong answers (without topic- or response-contingent feedback) occurred about as frequently as providing students with the answer (M=1.0), with a range of 0-4 times per session (SD=1.1).

Instructional Strategies

From our initial observations of Educate Online sessions with ELLs, we identified a start-list of codes for instructional strategies. We added to these as we observed new strategies to generate a list of codes that included all the instructional strategies we observed. (See table 17.)

Table 17: Instructional Strategies

Code	Type of Feedback	Definition	Example	M
APK	Activating/Making Connections to Prior Knowledge	Teacher refers to academic/content knowledge the student already has, but makes no specific reference to a prior lesson.	"Can you tell me what you remember about cause and effect?"	.97
RPL	Recap/Review Prior Lesson (content knowledge)	Teacher reviews content included in a prior lesson	"We've already done …". "Remember we did that earlier?"	1.66
WLC	Within Lesson Connections	Teacher makes connections between activities/content within a lesson	"Remember the signal words for cause and effect we talked about at the beginning of the lesson?"	.60
CRL	Connections to Real Life	Teacher refers to, or uses a situation outside of school experience to prompt understanding of the content	[After reading a passage about talents, the teacher asks:] "What would your talent be?"	.55
DR	Drawing Student's Attention	Teacher draws student's attention to an answer in order to discuss it or to point out errors in spelling or language conventions	"Let's look at # 4."	2.78
DIR	Directions	Teacher reads/walks student through the directions, paraphrases them, or reminds students to remember/not forget specific aspects. This may happen anytime in the lesson.	"Don't forget to underline." "Circle the meaning of the bold word in the sentence."	3.37
PR	Paraphrase	Teacher restates printed text (other than directions) in the lesson in different words		1.03
CU	Checking for Understanding	Teacher asks a student if he/she understands	"Does that make sense?"	.95
MP	Monitoring Progress	When teacher comes in and asks	"How are you doing?"	1.68
CL	Clarifying	Teacher clarifies student's intent or asks student to repeat response	"For #1 you have which one?	.58
DE	Demonstration	Teacher models how to do a particular skill/task	Showing a student how to divide a word into syllables	1.59
HI	Highlighting Text	Teacher highlights or underlines text to point out specific information		3.15
ENC	Encourage	Teacher encourages student	"Keep going"	3.00
OFF	Off-Script	Teacher goes off-script to create a practice activity in the chat box or in the scratch pad	Asking the student to compose a sentence	2.78

- Instruction was guided by the lesson, and teachers relied on the directions to communicate to students the key concepts and how to put those into practice through the exercises.

  During each 60-minute session, the ELL students we observed completed an average of four lessons. In one session, for example, a student worked through five lessons on various topics: Prefixes, Drawing Conclusions, Vocabulary Development, Suffixes, Fact & Opinion. Teachers read directions an average of three (M=3.37) times during a session, depending on how many lessons a student completed (range of 0-15). For each lesson, teachers typically read the directions aloud, walking students through the lesson so that they could then work on it independently. Often, the directions for the entire lesson were read at the start of a new lesson, but teachers also referred to the directions throughout the lesson if students seemed to have misunderstood the task. Teachers utilized several strategies in communicating the directions. Sometimes they would follow a verbatim reading of the directions with their own paraphrase, emphasizing important aspects of the task, for example, telling students "Don't forget to underline." They might also use the highlighter to highlight key instructions, modeling to students how to highlight the most important points. Teachers sometimes asked students to read the directions aloud and to summarize what the directions were asking them to do. Almost always, teachers checked to make sure students understood what they were supposed to do, observed them as they got started, and then moved to the other classroom.

- Teachers frequently used the highlighter as a tool for instruction.

  As mentioned, teachers used the highlighter in reading the lesson's directions to students, but they also used it to draw students' attention to key ideas in a passage, or to complement other instructional strategies—for example, highlighting a prefix in a word so students could see it and the root word more clearly. On average, teachers used the highlighter just over three times a session (M=3.15), but with a wide range (0-17; SD=3.6).

- Teachers frequently encouraged their students.

  Teachers used simple forms of encouragement (e.g., "You're doing a great job!" "Keep up the good work") an average of three times (M=3.0) during a session. Students seemed to respond positively, sometimes thanking teachers in return (e.g., "Ok, thanks."). Teachers recognized that students were working diligently and making progress: "Pretty good. Just missed 1." "You've got main idea all down." "Do you understand what to do? Give it a shot!" Encouragement was often provided summatively, at the beginning or end of a section or lesson and

almost always, at the end of a class. Teachers would congratulate students for their efforts, awarding them tokens and verbal praise (e.g., "Good job today!" "Fantastic work! You are better than you think!")

- Instruction often focused around a particular item in an exercise, and teachers would draw a student's attention to that specific item to be sure that he/she was following along.

  Without the visual cues to be able to see that the student's attention was focused, Educate Online teachers would verbally or visually (with the highlighter or their pen) draw students' attention to an item to provide additional feedback or instruction (M=2.78). Cues like "Look at the word in #2" would effectively focus the student on the item the teacher wanted to discuss.

- Although lessons focused on the activities provided, teachers also improvised.

  All the teachers spontaneously created practice activities in addition to those provided in the lesson. While some teachers were more prone to enhance the lesson with an additional question or activity, all the teachers went "off-script" by composing an exercise in the chat box or in the scratch pad—for instance, asking students to compose a sentence. On average, teachers did this 2.78 times per session, with a wide range (0-18). Sometimes teachers would begin class with an invented writing activity, asking students to write a response to a question posed on the blackboard such as: "What do you like about learning online?" or, during the week approaching the Memorial Day holiday: "What food do you like to grill? List them in ABC order."

  Improvised activities provided an opportunity for teachers to assess students' understanding: at the end of a lesson on metaphors and similes, for instance, a teacher asked a student to write one of his own examples for a simile and a metaphor. After a lesson on words with multiple meanings a student was asked to write two different sentences each with a different meaning for the word "plot."

  Teachers also provided contextual information: When one ELL student had to complete a reading comprehension activity on facts and details about George Washington, the teacher provided additional information about the first president of the United States that was not given in the passage.

  Teachers also created quick activities to review a lesson: following a lesson on mixed syllabication, the teacher wrote a few more words in the scratch pad and asked the student to divide them into syllables. While she corrected the student's work, she also reviewed the rules that were covered in the lesson.

Spontaneous activities also engaged students in creative word play: towards the end of the session, for instance, a teacher asked a student to write as many words as possible with the letters from the sentence: “Memorial Day is in May.” He wrote 8 words in the scratch space and received verbal praises from the teacher.

- Dividing their time and attention between two students effectively required teachers to monitor students’ progress closely.

  That teachers monitored students closely is evident in the low frequency with which students had to raise their “hand” to request teachers to check their completed work (M=.53). Teachers monitored progress in a number of different ways: they would move back and forth between classrooms (and screens on their computers) to observe, sometimes very quickly ascertaining that the student was still working productively, and move back to the other student. Sometimes, teachers would quietly observe students working through the exercises for longer periods of time (coded as “observing” and defined as the teacher observing students while they are working without interaction). However, when a teacher would verbally “check in” with a student (e.g., “How are you doing?”), it was coded as “monitoring progress,” and observed an average of almost two times per session (M=1.68), with a range of 0-8. Again, students seemed to respond well to monitoring progress as an instructional strategy, often responding that they were doing OK, giving an estimate of how close they were to completing the exercises and being ready for the teacher to review their answers, or sometimes, responding with a question they had about a particular item or set of items.

  Regularly checking students’ understanding is critical in teaching, and EO teachers regularly asked students if they understood the directions, vocabulary, and key concepts. In one lesson, a teacher used a series of different questions to check a student’s understanding: “Do you know what_____ is?” “Questions?” “Have you heard of_____?” “Any words you don't understand?” Checking understanding also extended to the longer passages included in some of the lessons, with teachers stopping students while they read to make sure the student was understanding the content. We also observed teachers asking students if they could explain why they had selected specific answers as correct. Teachers regularly used the texting feature to check students’ understanding: During a lesson on Facts and Details, for example, a teacher was observing the student respond to a certain item and noticed that he was taking a long time to respond, so she asked, “Do you understand # 3?” After explaining the important terms for understanding the lesson on story structure, the teacher typed in the text box: “Any questions you may have on these terms [name]?”

- At times, teachers drew connections from one lesson to another, reviewing or recapping what the student had learned in one lesson to help scaffold the knowledge required in another.

  The strategy of recapping or reviewing a prior lesson as a bridge to a more advanced lesson was observed an average of 1.66 times per session, with a wide range (0-17; SD=3.02). Scaffolding learning from one lesson to another is especially effective for ELL students, assisting them in "connecting the dots" from lesson to lesson. In one instance, a teacher made a connection to the previous lesson on opinions during a lesson about what pets are people's favorite pets. In another instance, the teacher made a connection between the topic of the text (Sacagawea) of the previous lesson and the new lesson on literary forms. By building these transitions from lesson to lesson within an hour-long session, students see the connections—even among the various strands. When logging on with a student, teachers can see the students' previous lessons, which also provide an opportunity for teachers to bridge topics, concepts, and new ideas. For example, while introducing a lesson on "Main Idea: Implied," the teacher said, "It looks like you've covered a lesson on 'Main Idea: Implied' already, so let's review this again!" Since there are fewer ESL-certified teachers and ELL students, sometimes teachers could also "pick up" where they "left off" with a student. For example, as a teacher uploaded the student's first lesson for the evening, she said, "We did this one last night, so this will be a review."

- An effective instructional strategy, teachers would sometimes provide a demonstration to students, showing them how to do an exercise or why a particular answer was correct or incorrect.

  Demonstrations were typically very simple but effective teaching/learning moments. With the online tools, teachers would provide a brief demonstration to students "just-in-time" for them to do an exercise, or sometimes, to re-teach a concept students with which students were struggling. Demonstrations were observed an average of 1.59 times per session, with a range of 0-9 (SD=1.99). When the teacher uploaded a lesson called "Main idea: Categorizing," she completed the first question from Part A as an example for the student to see. When the student was working on a lesson on prefixes in which he had to complete a crossword puzzle, the teacher demonstrated an example of a word that needed to go "across" and another word that needed to go "down." Modeling is essential to students who may struggle to comprehend written directions, even if read aloud. The practice allows for students to see what they are expected to do, how to do it, and time to ask questions.

Other instructional strategies were used as well: paraphrasing (M=1.03), activating prior knowledge (M=.97), checking for understanding (M=.95), making within lesson connections (M=.60), clarifying students' intent (M=.58), making connections to real life (M=.55). Before introducing the first lesson on Syllabication, for example, a teacher asked the student if he knew what consonants and vowels were. She also asked him to identify the consonants in his name. In another instance, as the teacher was introducing a lesson on vocabulary development (dealing with reference books), she asked the student: "Ok, without reading the definition from the dictionary box, can you tell me if you are familiar with any of these words?" (The words were almanac, atlas, dictionary, encyclopedia, newspaper, textbook, yearbook, and thesaurus.) Prompting students to recall their own experiences before introducing new vocabulary words to describe and extend them is also helpful. In explaining the directions for a lesson that featured a text about competitive swimming, the teacher asked the student whether she enjoyed going to the pool to swim with friends. She then explained built on the students' knowledge of recreational swimming with competitive swimming.

A few teachers also demonstrated the relevance of the lesson to the student's life, providing concrete examples of how the knowledge could be applied in everyday life. For example, in a lesson on fact and opinion, the teacher explained that in everyday conversations, people use both facts and their opinions. The teacher explained that examples of fact and opinion can also be found in newspaper or magazine articles.

Teachers also provided connections—to concepts outside the lesson, as well as to material within the lesson—when they noticed students struggling to complete an exercise. After observing a student who appeared stuck on a homonyms exercise, the teacher recommended the student look at the definitions in the box above the questions. The teacher added that every time the student forgot a definition, he should go scroll up to the dictionary box and that it would help him. In another instance, during the lesson on drawing conclusions, the teacher helped the student identify clues within a text to help him answer comprehension questions. She drew arrows from the comprehension questions to the text to assist him in identifying them. She also reminded him to go back to the text to find his answers, connecting the comprehension questions to the clues provided in the text. Similarly, during a lesson on cause and effect, a teacher reminded the student that she should refer back to the beginning of the lesson to check the list of signal words, telling her the list contained the words that she needed for her answers.

When teachers used these strategies, they were very effective. Activating prior knowledge and making connections (within the lesson and to real life) show students the relevance of new material and how it fits with material already learned. These strategies are effective for any learners and very effective for ELL students.

Reading/Language Strategies

Included in reading/language strategies were specific strategies related to teaching reading and teaching English as a new language. Again, a short-list was identified from early observations with additional strategies identified and added during subsequent observations. See table 18 for a list of observed reading/language strategies.

Table 18: Reading/Language Strategies

Code	Type of Feedback	Definition	M
TRA	Teacher reads aloud	When teacher reads/rereads text aloud	1.07
SRA	Student reads aloud	When student reads/rereads aloud as prompted by the teacher	1.42
DW	Defining a word/concept	Teacher defines a word or larger concept	.35
TPOL	Pronouncing out loud	Teacher pronounces a word, enunciates, articulates, etc. for the student to hear.	.67

- Reading aloud by both teachers and students was the most frequently used reading strategy.

  Like other instructional strategies, some teachers frequently read aloud (M=1.07, with a range of 0-10 and SD= 1.76) and asked students to read aloud (M=1.42, with a range of 0-9 and SD=1.99), while others did so much less frequently. Teachers would read the directions, passages of literature, lists of vocabulary words and their definitions; they might also ask students to read those aloud. Reading aloud seemed to provide several advantages: 1) teachers could immediately hear or sense when a student was unsure of herself, and could offer help or model; 2) the practice seemed to evoke more conversation between the student and teacher; 3) students seemed more likely to stop and ask questions as they were reading aloud; 4) and, as a result, students' questions were addressed more quickly.

- Defining words or concepts and pronouncing words out loud were strategies used much more frequently by some teachers than others.

  The averages for both these strategies were less than one time per session, with teacher pronunciation (M=.67) used more frequently on average than the practice of providing definitions (M=.35). Again, all students can benefit from such strategies, but hearing native English speakers pronounce difficult words is especially helpful for ELL students.

Student Initiation/Response

Much of the dialogue observed during the sessions was teacher-initiated. Typically the pattern of interactions consisted of the teacher introducing a new lesson—asking the student if she understands the concept of the lesson, going over the directions—then observing, "checking in," and then checking the student's work, providing feedback as necessary. However, there were specific interactions initiated by students (see table 19) that demonstrated their participation and effort.

Table 19: Student Initiation/Response

Code	Type of Feedback	Definition	Example	M
AC	Admitting confusion	Student states he/she does not understand or needs clarification from the teacher or asking for the teacher to repeat something	"I just couldn't do #1." "I'm not sure what that means."	.68
AFH	Asking for help	Student verbally asks the teacher for help	"I need help with this."	.32
RH	Raises hand	Student raises hand using the symbol		.25
RC	Request for check	Student indicates with checkmark symbol he/she is ready for teacher to check work		.53
RAC	Read aloud for comprehension	Student reads aloud to assist comprehension		2.81
COM	Completion of task	Student indicates completion of task	"I'm done."	.85
SPOL	Pronouncing out loud	Student pronounces a word, enunciates, articulates, etc. for the teacher to hear		.66
CLA	Clarification	Student clarifies his/her work to the teacher or a statement made in conversation/interaction.	"That's a 'b.'"	.15
SIT	Student-Initiated Talk	Student asks a question or initiates a response from the teacher (post-observation notes may capture these as falling into various categories, including asking for verification, etc.)	"Are these all wrong?" "I think it's 'singing' for #1"	1.47

- Unprompted, students read—and sometime thought—aloud to assist their comprehension.

  There was a wide range of frequency—some students did this consistently throughout the session, and others infrequently as they seemed to need it (M=2.81 with a range of 0-14; SD=3.78). Reading aloud affords many benefits for ELL students—especially in the context of an online lesson where the "audience" is limited to a supportive teacher.

- A general category of student-initiated talk captured the variety of other interactions a student initiated with the teacher. These included students indicating they had completed an exercise or lesson; expressing uncertainty or confusion about a task; and asking the teacher to check their work.

  Other types of student initiation occurred less often: indicating completion of an exercise or lesson (M=.85), admitting confusion about an item or task (M=.68), pronouncing a word or phrase out loud for the teacher to hear (M=.66), requesting for the teacher to check completed work (M=.53). Students would sometimes clarify the directions, checking to make sure they were doing the assignment correctly. Some also wanted frequent confirmation from the teacher, asking if they were doing it "right." At times, students paused in their work to ask the teacher to define or pronounce a word. There were also instances when students would ask if they could modify the directions (e.g., to circle, underline, or highlight a word rather than writing it out in the space provided). Sometimes these requests were made verbally; at other times, students texted them to their teachers. Though it didn't occur often, we did see instances of students initiating social talk (e.g., asking a teacher where she lives).

Initial observations pointed to a pattern: that student-initiated interactions (with more than one exchange between teacher and student) were most likely to occur when students expressed confusion and when they asked for help. The following examples show interaction patterns when students admitted confusion.

Interaction Exchange Patterns when Students Admitted Confusion

Example 1

1 (Student types): "I confused on 5"
2 (Teacher types): "What does the word *before* mean?"
3 (Teacher types): "Look in the yellow chart at the top, look under meaning, you will see *before* there and then pick the one that they say goes with that"
4 (Student types): "Ok, thank you"
5 (Teacher types): "Good job!"

In Example 1, the student admits confusion (1) about a specific exercise by texting the teacher. The teacher responds (2) by activating the student's prior knowledge about subordinating conjunctions. Then, the teacher adds a within-lesson connection (3), pointing the student where in the lesson to other words that indicate the same thing as before. The student acknowledges the teacher's help and thanks her (4). The teacher types back, praising the student for her selection of the correct answer (5).

Example 2

1 (Student): "I don't know # 6!"
2 (Student): "What is a hard job?"
3 (Teacher): "A hard job is a job that is not easy."
4 (Teacher): "It is a job that is very difficult."
5 (Student): "Oh, thank you!"

In Example 2, the student tells the teacher she doesn't know the answer to #6; then she clarifies, asking the teacher to provide a definition (2), which the teacher does (3). The teacher expands the definition (4), and the student thanks her for her help (5).

Example 3

1 (Student): "I don't know # 5, I don't what that is!"
2 (Teacher): "Oh, that is a shovel."
3 (Teacher): "Shovel!"
4 (Teacher): "Highlight the sound—is it *ch* or *sh*?"
5 (Student): "Oh! It's *sh*!"

Example 3, above, demonstrates a lesson on consonant digraphs for which the student had to say the name of each picture and highlight the digraph that she could hear in the word. When she came to a picture of a shovel (#5) the student admitted she didn't recognize the picture (1). The teacher provided the answer (2), telling the student it was a picture of a shovel. The teacher then pronounced the word out loud, emphasizing the initial "sh" sound (3). The teacher then paraphrases the directions, telling the student to highlight the digraph (4). The student provides the answer.

In Example 4, during a lesson on reading factual text (related to a passage about the old forts from Puerto Rico), the student said, “I don’t really get # 8” (1). The question was, “How are the forts of San Juan different now from the way they were 300 to 400 years ago?” The teacher responded by pointing the student back to the text (2), asking him to find where in the passage it explains what the differences are between the present forts and those that were there centuries ago. She adds to her prompt, asking the student to find how old the forts are now (3) and directs him to pay attention to how the forts are being described in the text (4). The student acknowledges the help (5) and pauses to reread the text. The teacher asks if people now live in the old forts, paraphrasing the response (6). The student answers her question (7) and then chooses the correct answer (8).

Example 4

1 (Student): “I don’t really get # 8”
2 (Teacher): “What is the difference between now and many centuries ago?
3 (Teacher): “How are the old forts now?”
4 (Teacher): “Pay attention to how they are described in the reading.”
5 (Student): “Ok”
6 (Teacher): “Can the people nowadays live in those old forts?”
7 (Student): “No”
8 (Student): “Ok”

In Example 5, below, while working on an exercise for a lesson on synonyms that required providing the correct synonym for a given word in the appropriate blank, the student admitted she had no idea what the correct response was. She decides to guess, asking the teacher if her guess is correct (2). The teacher tells her that is not the correct response (3), so the student takes another guess (4). The teacher affirms that is the correct answer.

Example 5

1 (Student): “I have no idea for #1.”
2 (Student): “Should I put *slender*?”
3 (Teacher): “No, that’s not right!” (IWA)
4 (Student): “Is it *narrow*?”
5 (Teacher): “You got it now!”

Interaction Exchange Patterns when Students Ask for Help

Example 1

1 (Student): "I need help with # 2."
2 (Teacher): "Ok, look back over the passage."
3 (Teacher highlights sentences that could be the answer for #2.)
4 (Student): "Oh, ok! I get it"

In Example 1, during the lesson on Main Idea: Implied, the student asked for help with a specific question (1). The teacher directed her to reread the passage (2) and helped her by highlighting sentences that could provide the answer to the question (3). The student read those sentences carefully, then exclaimed that she knew the right answer (4).

Example 2

1 (Student types): "I need help on #8."
2 (Teacher types): "Ok, sure. How are *pit* and *bottomless* similar?"
3 (Student types): "They are big."
4 (Teacher types): "No, they are both bottomless."
5 (Student types): "Ok"
6 (Teacher types): "You can write that in there and then continue on."
7 (Student types): "Thank you so much."

In Example 2, during the lesson on Figurative Language, the student had to read the prompt sentences carefully, underline the two items being compared, and then write out the comparison—that is, the quality the two items shared. The student typed that she needed help on # 8 (1). The teacher responded by rephrasing the question (2). The student answered the teacher's question, providing her best guess (3). The teacher provided the correct answer (4), and the student acknowledges the answer the teacher has provided (5). The teacher moves on, instructing the student to write the answer and continue with the rest of the questions (6). The students thanks the teacher for her help (7).

As the examples show, students frequently contributed to an exchange by responding to teachers' comments and questions: by acknowledging a teacher's comment about their work (e.g., "Oh, I understand."), answering a question posed by the teacher, or most frequently (and often, without saying a thing), by correcting their work (see table 20).

Table 20: Students' Responses to Teachers' Comments and Questions

Code	Type of Feedback	Definition	Example	M
ATC	Acknowledges Teacher Comment about their work	Student acknowledges teacher's comments, with limited acknowledgement or more expanded	"OK." "Yeah." "Ok, thanks." "I will do that." "I'll change it now."	4.18
ATQ	Answers Teacher Question	Student answers a question posed by the teacher, but not directly related to their answers.		2.08
CW	Corrects Work	In response to the feedback the teacher has provided, the student corrects his/her answers.		1.71

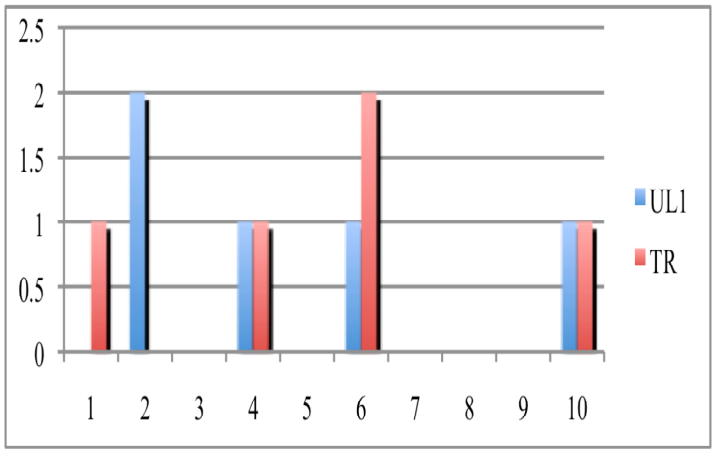
Use of Language

Although initial observations (before the study began) showed some instances of teachers using a students' first language (Spanish, in these cases) to teach English (e.g., use of cognates, a translation, comparison of a word in the student's first language), those practices were not observed very frequently during the study (see table 21). Four of the 10 teachers in the study used Spanish to teach a concept (UL1), and, except for one teacher, that occurred in only one of the lessons taught. Three of these teachers were also the ones who translated, and again, except for one instance, the practice was observed in just one lesson. For instance, while working on Vocabulary Development, one of those teachers used Spanish to explain the meaning of the word "rural". She said that it was the "contrario de la ciudad" (the opposite of the city).

Table 21: Use of Language

Code	Type of Feedback	Definition	M
UL1	Use of native language	Teacher uses Spanish to teach a concept	.22
L1	Use of L1 to help learn L2	Teacher uses cognates, defines, compares English and Spanish	.00
TR	Translate	Teacher translates printed text into Spanish	.21

Figure 1: Number of Class Sessions Teachers Used L1 and Translation, by Teacher



Student-Teacher Ratio

- Smaller student-teacher ratios provide more opportunities for students to initiate interactions.

The observation data show that students in 1:1 sessions initiated more of the interactions than students in classrooms with higher student teacher ratios. As table 22 shows, all interactions are initiated by the teacher in 75% of sessions with a 3:1 ratio; about 60% of sessions with a 2:1 ratio, and about 45% of sessions with a 1:1 ratio. The only sessions in which students initiated about half of the interactions occurred when they were the only student in the classroom.

Table 22: Initiation of Interactions by Student-Teacher Ratio

Ratio	All by Teacher	Most by Teacher	Half by Student
1:1	45.5%	36.4%	18.2%
2:1	59.3%	40.7%	0%
3:1	75%	25%	0%

In the notes on the observation protocol, a researcher described the interaction during a particular 1:1 session (see figure 2):

Figure 2: Notes from Observation Protocol

There was a lot of "OFF" script activity. Because the teacher could spend so much time with the student, the teacher spent lots of time focusing on words and meanings in individual sentences that wouldn't have affected the performance on the overall task; however, the teacher wanted to make sure that everything made sense to the student and that the student knew how to pronounce all the words. There were also several times when the teacher gave tips on how to do a skill so that the student knew how to do it more effectively. For example, the teacher told the student that "When you don't know a word, think of a word similar to it." "When you're interested in something, you should read about it." The teacher also asked the student to create sentences in the chat box using new words the student learned while reading passages.

- Smaller student-teacher ratios made a small, but not significant difference in the number of lessons students completed.

  Most of the sessions we observed (80.8%) had a student-teacher ratio of 2:1. The percentage of students who were able to begin 6 lessons in a 60-minute 1:1 session (30%) was slightly higher than those who were in a 2:1 session (10%); however, the difference was not statistically significant.

Types of Interaction

- The multiple forms of communication (text and audio) allow students to take more initiative during the lessons.

  Most of the sessions (n=42, or 58%) used both audio and text functions for student-teacher communication. Twenty-eight used audio only; three had text only (indicating a technical issue, but the decision to carry on with the session using only text messages to communicate). The average number of lessons completed did not vary greatly (from an average of 4 lessons for text only to an average of 4.7 lessons for audio only). However, those who completed 7-8 sessions were also more likely to have used both text and audio.

Table 23: Type of Interaction

Type of Interaction	n	Minimum	Maximum	Mean	Std. Deviation
Text and Audio	42	2	8	4.38	1.24
Audio	28	3	7	4.71	1.04
Text	3	3	5	4.0	1.0

There may be some indication that students felt more comfortable texting to admit to the teacher they were confused, and that the use of both audio and text facilitated students' use of their native language to help them learn English—a strategy reading experts say helps English Language Learners build on their prior language knowledge. (See tables 24 and 25.)

Table 24: How Often Students Admitted Confusion by Type of Interaction

Type of Interaction	n	Minimum	Maximum	Mean	Std. Deviation
Text and Audio	42	0	5	.88	1.435
Audio	28	0	3	.39	.737
Text	3	0	2	.67	1.155

Table 25: How Often Students Used Their Native Language by Type of Interaction

Type of Interaction	n	Minimum	Maximum	Mean	Std. Deviation
Text and Audio	42	0	6	.36	1.265
Audio	28	0	1	.04	.189
Text	3	0	0	.00	.000

In Their Own Words

As reported in an earlier section of the report, ELL students and their parents responded quite positively to the program. When asked what he had learned from the Academic Reading program, a native Spanish-speaking student from LA said, "I learned prefixes, about using vocabulary and there were a lot of words, a lot of new words I use." When the researcher probed and asked if the program had helped him with his reading, he responded, "Yes…[I'm] getting good grades for English now. It's helping me with everything." Although grades were not collected as part of the study, this student—and all the others we observed for 7 or more hours—said their grades had improved a letter grade. [Pseudonym/Adrian] commented that he knew his reading skills were better because "Now I read faster." He attributed the improvement to the Academic Reading program. In fact, he said, he learned more in the online program than in his regular English class. He added, "All my friends want to get on because they need a lot of help because the English teacher doesn't help."

The father of a 7th grade student from LA, Carmen, said he liked the program "because it is like a tutor when she needs it. I can't always help her with her homework because of work." Carmen, whom we observed for 11 hours online, said she preferred the online Academic Reading classes to her classes in school

because talking with teachers in class "makes me nervous." She said it had helped her "learn English." Ronald, a 6th grader from SD, admitted that reading is not his favorite activity: "When I'm reading, I get sleepy." He said that online Academic Reading classes are better for him than his classes in school because there is "more talking, less listening to conversations."

Katia and her family moved to South Dakota from the Ukraine. A self-professed reader, Katia said Educate Online was helping her with her reading at school "because you get to read more and recognize new words…I could read at school and understand more." She too, said she preferred her EO classes, saying, "you get to ask them [teachers] questions and that kind of stuff."

Conclusions of ELL Sub-study

Our examination of online interactions suggests that immediate feedback from the teacher is an extremely valuable component for ELL students. Attention from the teacher was important in terms of response time (providing guidance when students needed it) and review/reinforcement of what students learned.

We believe that the online lessons would be enhanced by including visuals. An effective instructional strategy in teaching reading to ELL students is the use of visuals and the online format would allow for animation, graphics, charts, manipulatives, lots of color, etc. The lessons—and instruction and learning—would be enhanced with color images, graphics, and charts. More use of what we termed "off-script" activities would also be beneficial for ELL students. These could be provided to teachers, but would allow teachers options for extended activities that would afford more opportunities for students to apply their skills. Our findings are limited in that we only examined ELL students. Future work should incorporate study of non-ELL students to compare instructional and interaction patterns.

Student Achievement on Standardized Assessments

Comparison of Achievement Gain at the Mid-test

Before examining mid-test findings, it is important to determine that the cohorts were equivalent at the start of the year. Randomization was successful in that there were no significant differences between the fall and spring cohorts as indicated by pretest scores on both the ASA and CAT/5. The fall cohort received slightly lower scale scores in each section on average, but no differences were significant. To examine achievement gain at the mid-test and posttest, we used scale scores. Using grade equivalence scores would not be appropriate due to attrition and missed tests. For example, if more eighth grade students than sixth grade students failed to take the mid-test, the mean grade equivalency score on the mid-test might be lower than the pretest. Scale scores, on the other hand, are calculated within grade and are therefore less dependent on grade makeup.

By the mid-test, we found that the treatment group (the fall cohort) exhibited greater achievement gain than the comparison group (the spring cohort) on the sub-tests and overall CAT/5 and ASA scores. On the CAT/5, the differences were highly significant at the .01 level. The difference between groups was greatest in reading comprehension. Together, these data support the effectiveness of EO SES. The difference of 15 points between treatment and control on the CAT/5 mid-test represents an effect size of nearly one-half of a standard deviation. Table 26, below, summarizes pre- and mid-test mean scores for the fall and spring cohorts on the CAT/5.

Table 26: CAT/5 Scale Scores for Fall and Spring Cohorts at Pretest and Mid-test

	Cohort	Mean (Standard Deviation)
Vocabulary Pretest	Fall (n=194)	713.84 (26.28)
	Spring (n=197)	715.79 (29.02)
	Difference	-1.95
Vocabulary Mid-test	Fall (n=132)	731.69 (27.97)
	Spring (n=142)	723.59 (29.17)
	Difference	8.10**
Reading Comprehension Pretest	Fall (n=194)	690.12 (50.89)
	Spring (n=197)	688.63 (48.44)
	Difference	1.49
Reading Comprehension Mid-test	Fall (n=132)	732.64 44.34)
	Spring (n=142)	710.20 (55.61)
	Difference	22.44**
Overall Pretest	Fall (n=194)	702.23 (35.56)
	Spring (n=197)	702.46 (35.23)
	Difference	-.22

Overall Mid-test	Fall (n=132)	732.42 (32.73)
	Spring (n=142)	717.13 (38.60)
	Difference	15.29**

* Significant at the .05 level ** Significant at the .01 level

Interestingly, on the ASA, the difference between cohorts was only significant in the vocabulary sub-test (p=.05). Just as the year two report found that the ASA was only moderately related to the CAT/5 in mathematics, it is possible that in reading, the ASA is a less accurate reflection of the learning taking place through program participation. ASA mean scores for the pre- and mid-test are shown in table 27, below.

Table 27: ASA Scale Scores for Fall and Spring Cohorts at Pretest and Mid-test

	Cohort	**Mean (Standard Deviation)**
Vocabulary Pretest	Fall (n=179)	749.65 (80.93)
	Spring (n=185)	756.66 (86.17)
	Difference	-7.01
Vocabulary Mid-test	Fall (n=142)	787.56 (79.38)
	Spring (n=169)	767.73 (82.46)
	Difference	19.83*
Reading Comprehension Pretest	Fall (n=179)	747.80 (149.97)
	Spring (n=185)	758.05 (122.47)
	Difference	-10.24
Reading Comprehension Mid-test	Fall (n=142)	911.83 (177.72)
	Spring (n=169)	883.14 (179.52)
	Difference	28.69
Overall Pretest	Fall (n=179)	748.73 (99.54)
	Spring (n=185)	757.36 (88.77)
	Difference	-8.63
Overall Mid-test	Fall (n=142)	849.69 (117.09)
	Spring (n=169)	825.43 (121.68)
	Difference	24.26

* Significant at the .05 level

Another way to examine academic growth is to use change in grade equivalent scores on the CAT/5. Analysis of grade equivalence scores requires the same pool of students across assessments so as to not conflate academic growth with changes in the participant pool. By looking at growth at the mid-test, we therefore include only those students who took both the pre- and mid-tests. This approach is illustrated in table 28, below.

Table 28: Grade Equivalent Growth (Years) at Mid-test CAT/5, by Cohort

Section	Cohort	Mean (Standard Deviation)
Vocabulary	Fall (n=132)	1.27 (1.73)
	Spring (n=142)	0.67 (1.31)
	Difference	0.60**
Reading Comprehension	Fall (n=132)	1.97 (2.76)
	Spring (n=142)	1.23 (2.06)
	Difference	0.74**
Overall	Fall (n=132)	1.66 (2.13)
	Spring (n=142)	0.95 (1.64)
	Difference	0.71**

** Significant at the .01 level

These findings are particularly encouraging. In approximately one half of a school year, the fall cohort (as the treatment group) experienced 1¼ years grade equivalent growth in vocabulary and nearly 2 years in reading comprehension. The control group, or spring cohort, experienced 2/3 of a year growth in vocabulary and nearly 1¼ years growth in reading comprehension. Overall, fall students outperformed spring students by nearly 3/4s of a grade. In both subtests as well as the overall score, these differences are highly significant, $p < .01$.

Comparison of Achievement Gain at the Posttest

Unfortunately, the posttest data was not a reliable indicator of achievement gain. There was difficulty in securing students to take the posttest. For the CAT/5, most of the students in the fall cohort had already received codes to unlock their computers. Despite offering students gift cards as an incentive, only 41 students in the fall cohort took the third CAT/5, a mere 21% of the 194 students that took the first CAT/5. The spring cohort showed higher turnout, with 120 of the initial 197 taking the posttest.

Because the ASA was administered in school, the testing rate was higher. 273 students out of the initial 364 took the ASA posttest. For the ASA posttest, the difficulty in obtaining greater turnout was not related to student factors, but to state policies and school administrators. Because students were often taking state assessments and were busy preparing for those assessments, or finishing up other work at the end of the year, administrators were often hesitant to have students take the posttest. As a result, we did not receive ASA posttest data from Elmwood, Mitchell, or Platte-Geddes.

To make matters worse, the posttest data suggests that many of the students that did take the third CAT/5 and ASA did not give the assessments their best effort. On

average, scale scores at the posttest were actually lower than mid-test scale scores. This would be not be highly unusual for interventions that are independent of other activities or for outcomes that are not cumulative in nature. For example, a medication designed to lower blood pressure might work in the short term but then raise blood pressure over the long term. In this instance, however, where we are examining students who are enrolled in school and receiving SES, it is unreasonable to think that students can "lose" reading ability towards the end of the school year.

There are two explanations that are far more reasonable: either there was a problem with the assessments themselves or students did not demonstrate their actual learning when taking the assessments. Because both the CAT/5 and ASA are valid and reliable instruments, we have reason to believe that students did not take the posttests seriously. School officials who described the students as highly busy by the year's end and "in summer mode" supported this belief. One way to control for this outcome would be to remove students with lower scores from analyses. Because the tendency was common and because fewer students took the posttests, this course of action was not possible. If we removed those students from analyses, the sample sizes would be too small to be meaningful. Tables 29 and 30 below compare post scores for the fall and spring cohorts on the CAT/5 and ASA.

Table 29: CAT/5 Scale Scores for Fall and Spring Cohorts at Posttest

	Cohort	**Mean (Standard Deviation)**
Vocabulary Posttest	Fall (n=41)	715.34 (45.99)
	Spring (n=120)	724.20 (53.64)
	Difference	-8.86
Reading Comprehension Posttest	Fall (n=41)	726.17 (27.08)
	Spring (n=120)	728.45 (31.22)
	Difference	-2.28
Overall Posttest	Fall (n=41)	720.95 (34.10)
	Spring (n=120)	726.58 (38.39)
	Difference	-5.62

Table 30: ASA Posttest Scale Scores for Fall and Spring Cohorts

	Cohort	Mean (Standard Deviation)
Vocabulary Posttest	Fall (n=136)	813.81 (106.79)
	Spring (n=137)	804.46 (111.32)
	Difference	9.35
Reading Comprehension Posttest	Fall (n=136)	813.28 (144.36)
	Spring (n=137)	810.64 (156.44)
	Difference	2.64
Overall Posttest	Fall (n=136)	813.54 110.39)
	Spring (n=137)	807.55 (119.52)
	Difference	5.99

The three figures below show ASA overall, vocabulary, and reading comprehension scale scores for both cohorts at the three testing times. For all figures in this section, we excluded students that did not take all three assessments. While this approach decreases the statistical power, it emphasizes the progression of a group of students over time, so that differences are not related to changes in the pool of test-takers.

Figure 3: ASA Total Scaled Scores, All Schools

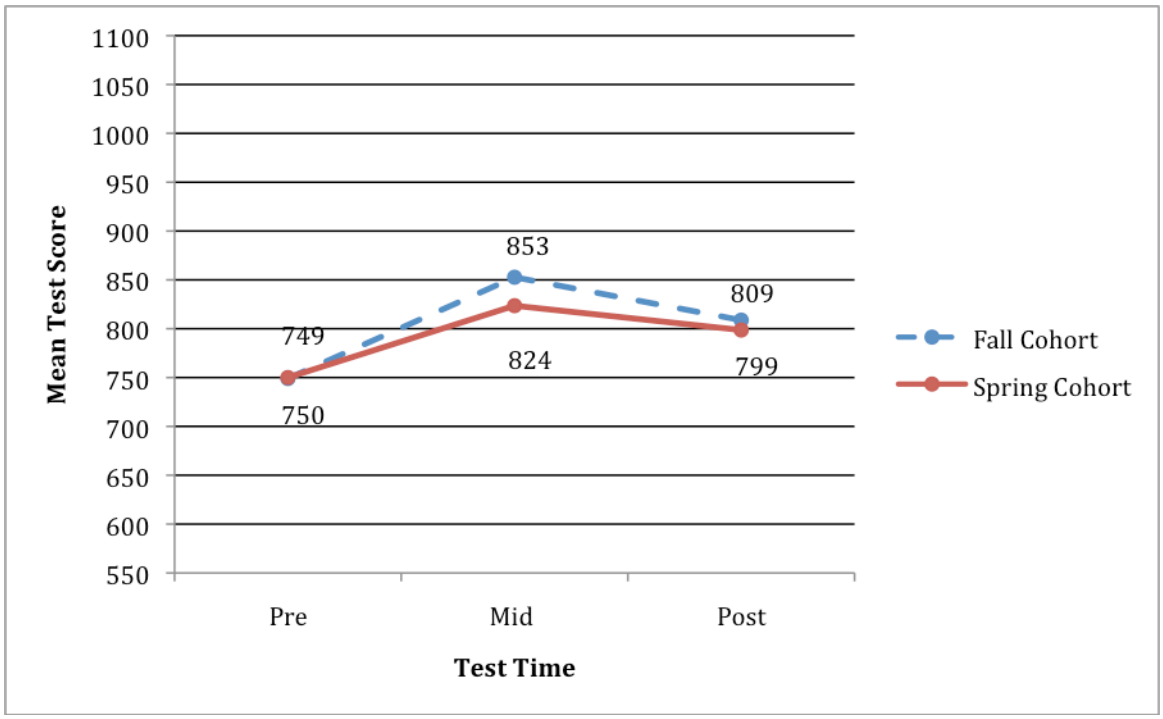


Figure 4: ASA Total Vocabulary Scores, All Schools

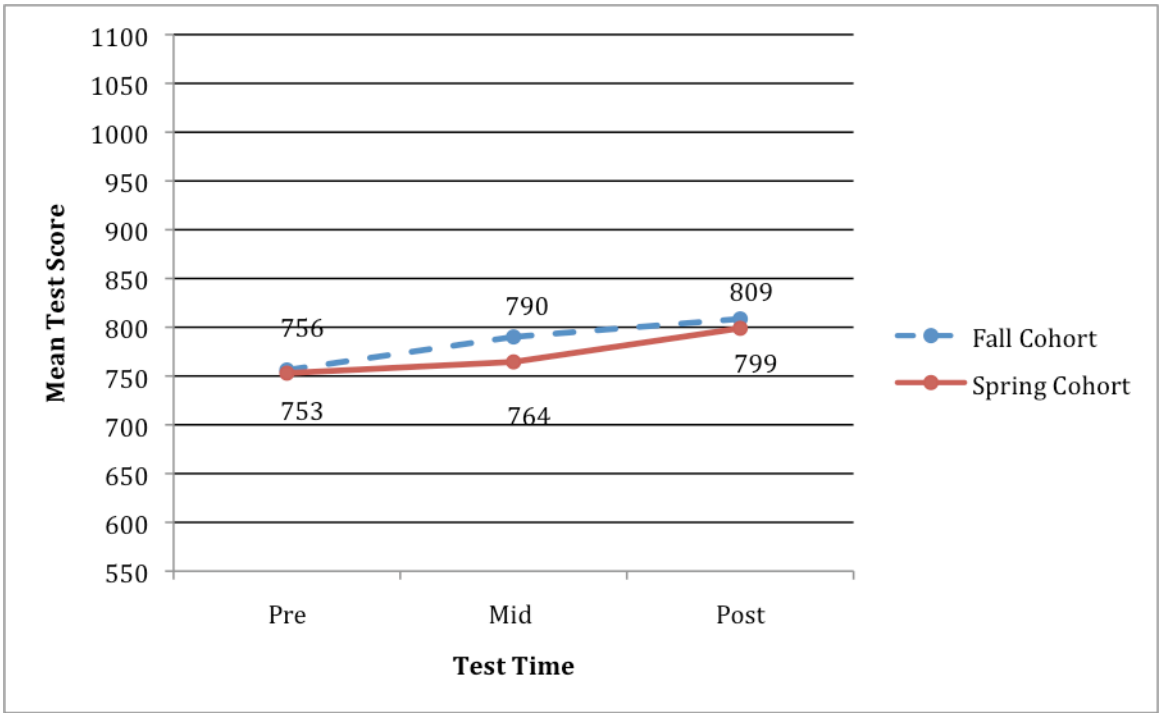
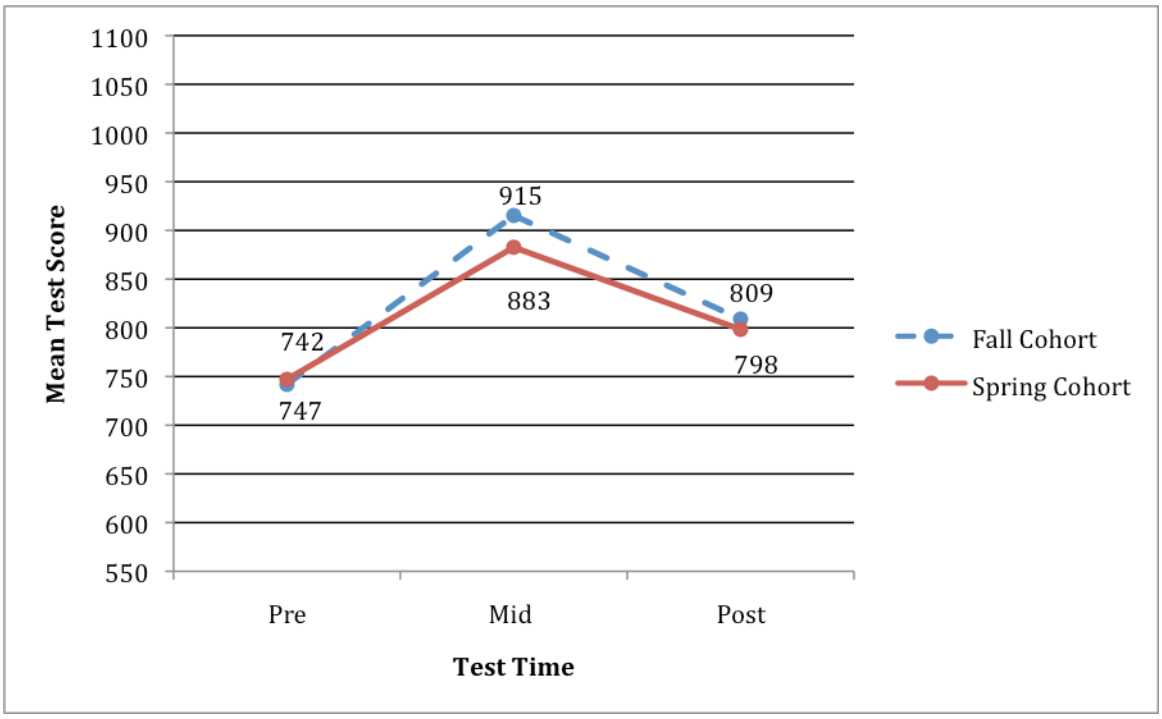


Figure 5: ASA Total Reading Comprehension Scores, All Schools



Using this method of excluding students that did not take all three assessments yields similar, but not identical, mean scores to including everyone. At the pretest, the fall and spring cohorts are approximately equivalent. At the mid-test, the fall students (who have received EO SES) tended to outperform students in the spring cohort. The difference between the fall and spring cohorts is significant at the .01 level in the vocabulary subtest. The overall scale score difference is nearly significant, $p = .06$.

While the mid-test scale score data offer strong support for the effectiveness of EO SES, the posttest data are ambiguous. To adequately examine academic growth in the spring, we therefore needed to rely on other indicators, such as reading strategies and teacher and student interview, which are discussed in later sections. The remainder of this chapter explores potential mediators of student achievement, including school site, preprogram achievement, session hours, and ELL status. Because the mid-test data were more valid than the posttest and provided a clear distinction between the treatment (fall) and control (spring) groups, we use the growth between pretest and mid-test to examine these factors.

Examining Differences Across Sites

Notably, the effectiveness of the program varied across the schools. Examination of pretest scores suggested that there was also variation between schools' starting achievement. In the year two report, we examined the relationship between academic growth and pretest score at the school level. Just as we saw an effect in preprogram differences at the individual level in the year two report, we expected to see a negative correlation between a school's stating mean score and academic growth at the mid-test. In other words, we thought that schools that start with lower mean scores might exhibit more growth as a result of participation in EO. Correlating pretest scores on the CAT/5 with growth at the mid-test at the school level showed just a slight negative slope for the fall and spring cohorts, but the relationship was not significant. As the figures below demonstrate, the relationship is unclear at the school level.

Figure 6: Pretest CAT/5 Score and Gain at Mid-test for Fall Cohort, by School

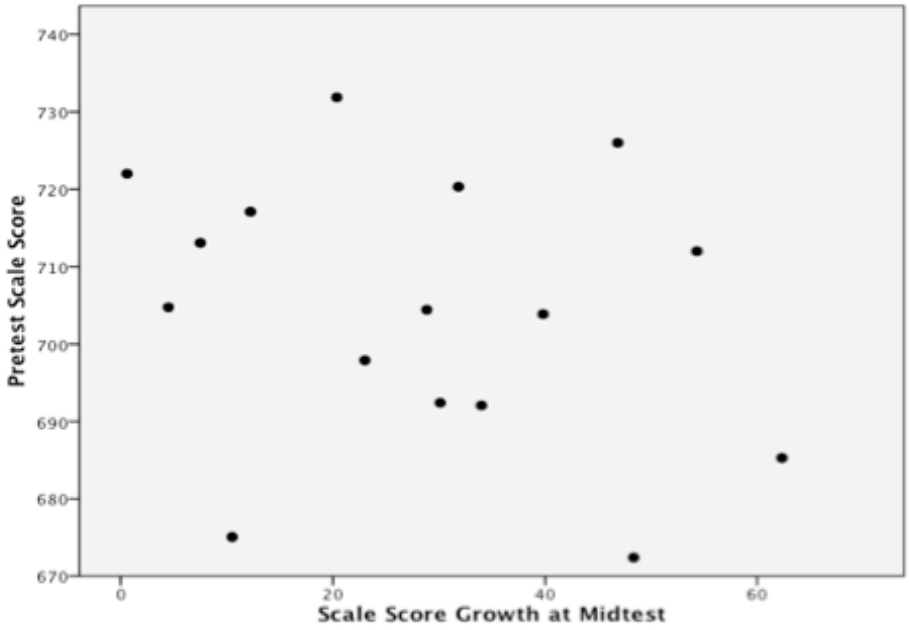
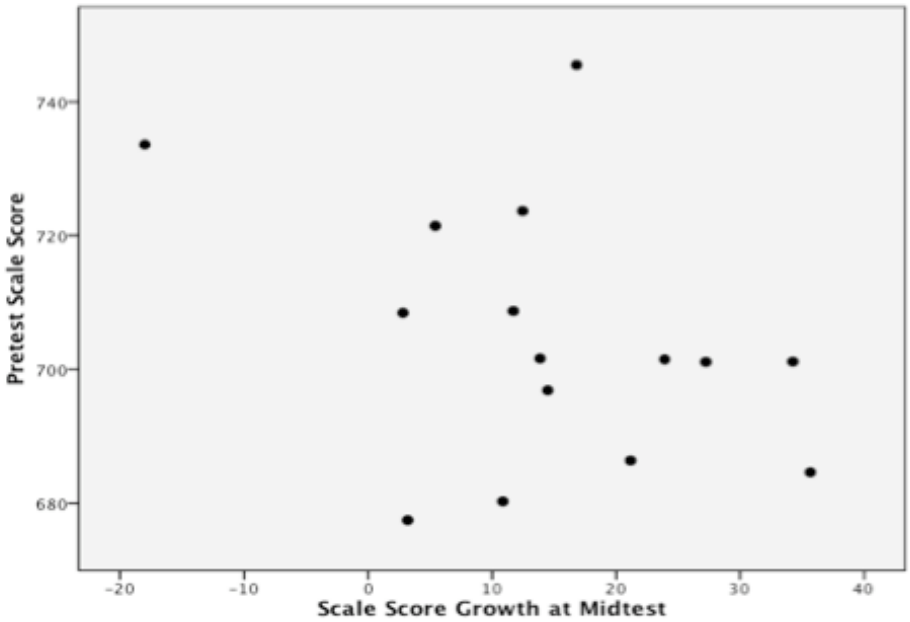


Figure 7: Pretest CAT/5 Score and Gain at Mid-test for Spring Cohort, by School



As mentioned earlier, the substantial drop-off in the number of fall cohort students taking the posttest CAT/5 inhibits analysis of the CAT/5 posttest. Although a greater number of students took the ASA in the spring, the posttest results were

still problematic, as described earlier in this chapter. For that reason, the difference between the fall and spring cohorts at the mid-test is the most valid indicator of achievement. At the mid-test, only the fall cohort had received SES; therefore one would expect to see higher scores among the fall cohort. While this occurred in the aggregate, there was great variation between schools, as table 31 summarizes below.

Table 31: Mean Cohort ASA Scores at Mid-test, by School

School		Fall		Spring		D
		Mean	SD	Mean	SD	
Axtell Park	Vocabulary	707.00	83.57	719.58	106.05	-12.58
	Comprehension	825.30	102.13	859.83	129.74	-34.53
	Total	766.15	80.19	789.71	106.93	-23.56
Bowling Green	Vocabulary	760.45	72.88	754.83	80.29	5.62
	Comprehension	796.27	131.94	817.92	161.04	-21.64
	Total	778.36	90.15	786.38	108.01	-8.01
Chamberlain	Vocabulary	827.00	44.16	825.18	55.71	1.82
	Comprehension	1058.54	126.29	1016.36	165.70	42.17
	Total	942.77	58.52	920.77	108.80	22.00
Eastwood	Vocabulary	870.83	24.90	x	x	N/A
	Comprehension	1021.67	169.98	x	x	N/A
	Total	946.25	87.12	x	x	N/A
El Sereno	Vocabulary	811.67	58.27	771.39	43.32	40.28**
	Comprehension	991.10	131.79	914.61	134.17	76.49
	Total	901.38	83.75	843.00	77.17	58.38*
Elmwood	Vocabulary	780.33	93.88	737.50	64.96	42.83
	Comprehension	885.53	157.28	782.00	130.56	103.53
	Total	832.93	114.24	759.75	85.62	73.18
Glenwood	Vocabulary	783.10	64.79	744.40	99.45	38.70
	Comprehension	893.70	218.12	775.60	229.19	118.10
	Total	838.40	137.13	760.00	159.20	78.40
Little Wound	Vocabulary	739.88	54.20	787.07	73.55	-47.20
	Comprehension	880.13	200.10	909.50	172.71	-29.38
	Total	810.00	115.33	848.29	114.56	-38.29
Mitchell	Vocabulary	x	x	799.86	51.25	N/A
	Comprehension	x	x	839.00	196.50	N/A
	Total	x	x	819.43	117.73	N/A
Mount Vernon	Vocabulary	x	x	x	x	N/A
	Comprehension	x	x	x	x	N/A
	Total	x	x	x	x	N/A
North Baltimore	Vocabulary	808.80	67.94	730.30	92.99	78.50*
	Comprehension	910.90	177.39	851.50	139.71	59.40
	Total	859.85	114.98	790.90	106.96	68.95
Platte-Geddes	Vocabulary	767.14	88.61	803.25	67.96	-36.11
	Comprehension	796.43	94.50	956.50	150.06	-160.07*
	Total	781.79	85.45	879.88	95.21	-98.09
Rossford	Vocabulary	825.28	81.85	799.95	77.16	25.33

	Comprehension	801.20	238.82	939.85	226.62	-138.65
	Total	783.00	144.98	867.92	156.27	-84.92
Whittier	Vocabulary	723.13	78.77	718.07	90.89	5.06
	Comprehension	827.00	220.89	860.47	237.26	-33.47
	Total	775.06	139.52	789.27	158.77	-14.20

[x] Test not taken.

As the table shows, a few schools neglected to test some students. Because individual schools had small numbers of participants (often around 20), obtaining significant differences between groups within schools is difficult. One or two outlier students can substantively affect the mean or standard deviation of such a small group. Despite this, there were significant differences between cohorts within a few individual schools: El Sereno, North Baltimore, and Platte-Geddes. In the first two schools, the fall cohort outperformed the spring cohort as expected. At Platte-Geddes, the spring cohort surprisingly outperformed the fall cohort in reading comprehension. Interestingly, there were different schools with significant differences between cohorts on the mid-test CAT/5. These results are summarized below.

Table 32: Mean Cohort CAT/5 Scores at Mid-test, by School

		Fall		Spring		Difference
		Mean	**SD**	**Mean**	**SD**	
Axtell Park	Comprehension	631.00	18.38	666.71	60.74	-35.71
	Vocabulary	713.00	36.77	721.14	17.80	-8.14
	Total	672.50	27.58	694.14	36.57	-21.64
Bowling Green	Comprehension	721.50	47.14	736.92	39.61	-15.42
	Vocabulary	720.50	29.77	733.33	17.56	-12.83
	Total	721.25	35.79	735.42	24.04	-14.17
Chamberlain	Comprehension	757.14	43.02	728.82	59.81	28.32
	Vocabulary	745.57	20.28	739.73	30.08	5.84
	Total	751.57	29.77	734.45	42.75	17.12
Eastwood	Comprehension	721.80	31.10	748.33	10.50	-26.53
	Vocabulary	724.00	25.63	735.67	9.87	-11.67
	Total	723.20	27.03	742.33	7.37	-19.13
El Sereno	Comprehension	715.95	33.85	695.30	34.74	20.65
	Vocabulary	729.29	23.66	717.57	25.16	11.72
	Total	722.90	24.35	706.65	26.86	16.25*

Elmwood	Comprehension	723.54	49.68	727.00	27.76	-3.46
	Vocabulary	722.77	30.44	715.33	40.58	7.44
	Total	723.38	37.51	721.42	30.76	1.97
Glenwood	Comprehension	744.22	47.38	730.91	48.14	13.31
	Vocabulary	725.78	28.49	714.73	32.04	11.05
	Total	735.11	33.91	723.09	37.96	12.02
Little Wound	Comprehension	759.00	30.35	660.60	57.82	98.40*
	Vocabulary	757.33	9.29	713.60	6.15	43.73**
	Total	758.33	17.47	687.20	29.76	71.13**
Mitchell	Comprehension	695.14	49.24	694.57	89.63	0.57
	Vocabulary	728.29	23.01	720.00	22.53	8.29
	Total	712.00	35.01	707.57	53.28	4.43
Mt. Vernon	Comprehension	786.67	22.05	773.60	31.50	13.07
	Vocabulary	758.33	18.65	760.00	10.51	-1.67
	Total	772.83	15.24	767.20	17.46	5.63
North Baltimore	Comprehension	731.00	26.16	690.71	51.94	40.29
	Vocabulary	725.40	37.58	729.43	12.97	-4.03
	Total	728.40	25.39	710.29	29.57	18.11
Platte-Geddes	Comprehension	707.13	29.78	724.75	67.34	-17.63
	Vocabulary	710.50	38.05	731.63	24.34	-21.13
	Total	709.25	27.26	728.38	44.74	-19.13
Rossford	Comprehension	757.25	27.40	722.71	44.66	34.54*
	Vocabulary	741.19	25.11	726.24	25.70	14.95
	Total	749.38	22.59	724.71	33.16	24.67*
Wagner	Comprehension	718.67	26.13	724.20	40.04	-5.53
	Vocabulary	722.00	28.59	712.40	23.33	9.60
	Total	720.67	25.85	718.60	29.55	2.07
Whittier	Comprehension	733.50	31.30	659.55	64.01	73.95*
	Vocabulary	732.83	18.56	710.09	49.49	22.74
	Total	733.50	20.11	685.00	53.65	48.50

Using the CAT/5 mid-test as an indicator, we see significant differences between the fall and spring cohorts at more schools, specifically El Sereno, Little Wound, Rossford, and Whittier. At each of these schools, the fall cohort scored significantly higher on sections of the CAT/5 mid-test. At a few schools, the spring cohort did outperform the fall in a section of the test, but none of those differences were statistically significant. Again, because it is difficult to achieve statistical significance

in small samples, the relatively small number of schools with significant differences between cohorts belies the differences seen in the aggregate. We therefore describe our individual school-based findings qualitatively in greater length in the case studies chapter.

Accounting for Individual Pre-program Differences

The year two report illustrated that EO SES in math was most helpful to those students who were the farthest behind. For this year's report, we would like to determine if this tendency holds true in reading. There are two ways to explore the potential relationship between achievement gain and pre-program achievement: determine the correlation between the two variables and model this potential relationship in a linear regression. Pre-program achievement refers to performance on the subtests and overall pretest. Based on last year's analyses, we expect a negative correlation between pre-program achievement and achievement growth between the pretest and mid-test. We would also expect to that including pretest scores in a linear model would improve the model's ability to predict academic growth.

As expected scale score gain between the pre- and mid-test was negatively correlated with vocabulary pretest score (ρ = -0.30), reading comprehension pretest score (ρ = -0.48), and overall reading score (ρ = -0.46). Each correlation was significant at the .01 level. This suggests that the program may be more effective for lower achieving students than for high achievers (as is the intent of SES).

Determining Relevance of Session Hours

We also wanted to consider the possibility that the number of session hours was related to academic growth at the mid-test. As described earlier, students in the study participated up to 31 session hours. Unlike pre-program achievement, we would expect a positive correlation—students who participate for a longer period should experience greater academic growth on average. In fact, the number of session hours was positively correlated with academic growth (ρ = .091). This correlation was not significant however.

Examining the Relevance of ELL Status

The mid-test data suggest that EO was particularly helpful for ELL students, who experienced greater academic growth. CAT/5 mean score growth, for example, illustrate that the difference between fall (treatment) and spring (control) ELL student achievement growth was highly significant. Among non-ELL students, the fall cohort outperformed the spring cohort, but the difference was not significant. The table below summarizes this comparison.

Table 33: Mean Scale Score Growth at Mid-test by ELL Status and Cohort

ELL Status	Cohort	Mean	Difference Fall - Spring
Non-ELL schools (13 schools)	Spring (n=101)	19.88(30.43)	5.45
	Fall (n=103)	25.33(32.20)	
ELL Schools (3 schools)	Spring (n=41)	10.83(20.39)	21.69**
	Fall (n=29)	32.52(30.28)	

** Difference is significant at the .01 level

The table emphasizes the difference between ELL students and non-ELLs. ELL fall students benefited more from the program than non-ELLs in that they experienced 7 points more growth on average. The table also illustrates the stark contrast between ELL students and non-ELL students during "business as usual." Looking at the spring (control) ELL and non-ELL cohorts, one can see that the non-ELL group experienced nearly twice the gain of the ELL students. The data support that EO benefits the students who need it most—in this case, English language learners.

Explaining Student Achievement Growth: Towards A Model

The previous sections explored potential mediators of academic achievement, as indicated by growth on the mid-test CAT/5. Considering these variables together, how well do we understand the relationship between the EO SES and academic growth? To pursue this question, we created ordinary least squares (OLS) regression models to see how well we can capture variation in academic growth. In addition to providing a parameter of goodness of fit (r^2), we are able to identify meaningful determinants of achievement by identify the variables with significant coefficients.

Below we tested a few different models for capturing variation in academic growth. With regressions, you are trying to make a line that best fits variation in the dependent variable, in this case, growth in total scale score between the pre- and mid-test ASA administrations. To create the different models, we used variables that were shown previously in this chapter to relate to academic growth in some way.

Table 34: OLS Regressions for Mid-test ASA Growth

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	17.17***	17.72***	238.38***	230.88***	244.35***
Cohort * Session Hours	.37**	.37**		.45***	.44***
ELL Status		-1.91			-9.27*
Pretest Reading Comp.			-.16***	-.19***	-.22***
Pretest Vocabulary			-.14	-.11	-.10
r^2	**.023**	**.027**	**.125**	**.154**	**.180**

* Significant at the .05 level ** Significant at the .01 level *** Significant at the .001 level

Because the r^2 value in each model is considerably closer to zero than to one, even the most involved model (5) does not accurately predict student achievement growth in EO SES. On the other hand, for the inclusion of only four variables, this is a promising start. All of the variables except vocabulary scale score on the pretest had a significant relationship with scale score growth. Future models could include student demographic information, school support differences, and differences in treatment (such as different EO instructors).

The pre- and mid-test achievement data offer strong support for the effectiveness of the EO SES. Although we did determine that some factors had a relationship to achievement growth, we were unable to adequately explain how growth occurs through quantitative means. To explore the effectiveness further, the next chapter incorporates qualitative data into case studies of individual schools.

We have conducted an analysis of each of the fifteen participating schools in the year three study. While no clear patterns emerged in regards to the effectiveness of EO, the case studies highlight the range of responses to SES and the range of contexts in which the study took place. The data in this chapter have provided both depth and highlights of the aggregated academic performance findings and presented some of the school-by-school data, but there is substantial detail that helps explain the variations in outcomes. Many readers may find these variations in context, application, and outcomes of great interest, and the case study detail can be found in Appendix A. We recommend reviewing it for a deeper understanding of the findings.

Use of Reading Strategies

Among the survey questions asked of participating students were some that explored students' reading strategies. Research shows that more successful readers use more reading strategies than less successful readers and that they use a wider range of strategies while reading (e.g., Smith, 1991). Readers engaged in a text tend to read actively, while less engaged readers tend to view reading as a decoding process rather than a "creative and personally meaningful pursuit" (Wilhelm, 1997). Several of the student survey items target the range of strategies readers use when they encounter difficult texts and in their reading more generally. Emphasizing actual behavior and not attitudes, this set of items began with the prompt, "When I read something…"

To analyze these items, we first compare the fall and spring cohorts at the midsurvey to examine if there are differences between the treatment and control group. In general, we did see improved reading behaviors in the treatment group when compared with the spring cohort. Because ELL students experienced significantly greater academic growth on the assessments, we use the postsurvey to explore any longer term effects with consideration to ELL status.

Please note that in the data presented below, the narrative presents percentages of respondents in response categories by cohort. The accompanying figures present the data by numbers of respondents in each category by cohort.

Careful re-readings of texts yield insights often missed during an initial reading; close readings often require several readings of the text. On the midsurvey, an equal percentage of fall and spring respondents—nearly one-third (32%)—said they often re-read passages when a first reading has not been sufficient to make sense of them. On the postsurvey, about one-third (33.3%) of ELLs (and 29.3% of non-ELLs) responding to the survey said they often go back and re-read what they don't understand.

Figure 8: Midsurvey Responses to “I go back and re-read what I don't understand,” by Cohort

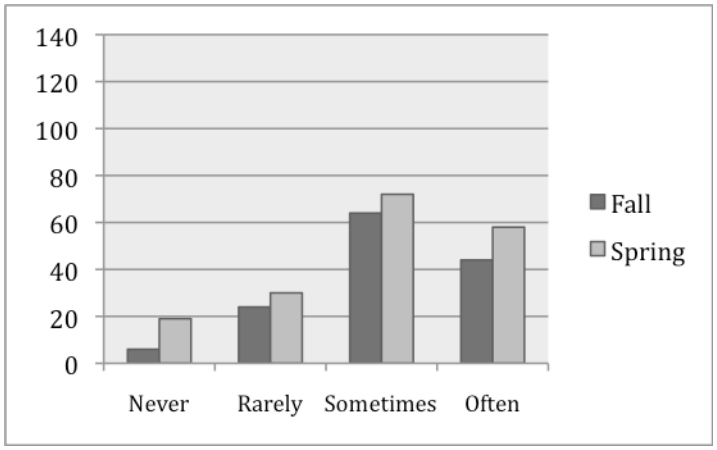
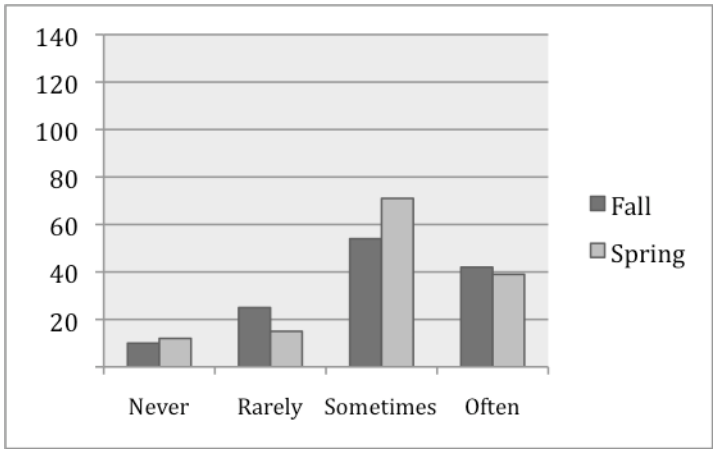


Figure 9: Postsurvey Responses to “I go back and re-read what I don't understand,” by Cohort



The next item relates to reading slowly to improve comprehension. Nearly a third (32%) of all the students on the midsurvey said they often slow down when they encounter difficult reading material, with a slightly higher percentage of fall respondents (34%, or 47 out of 140 students) than spring (31%, or 55 out of 178 students) saying this was often true for them. On the postsurvey, more than a third of all the students (36.7%) said they often read more slowly when they don’t understand their reading. Almost half (47.4%) of ELLs reported this often being the case; just about a third (32.3%) of non-ELLs said this was often true for them. While increased reading fluency is always a goal, encouraging readers to slow down to make sense of a dense or confusing passage can make reading a more gratifying—and less frustrating—process.

Figure 10: Midsurvey Responses to “I read more slowly when I don’t understand,” by Cohort

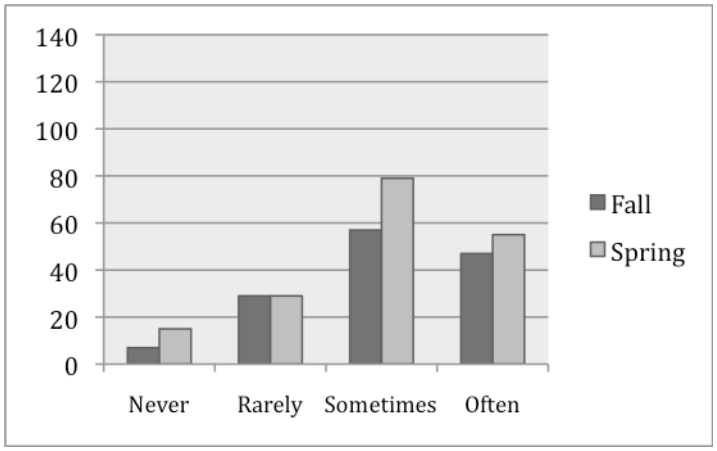
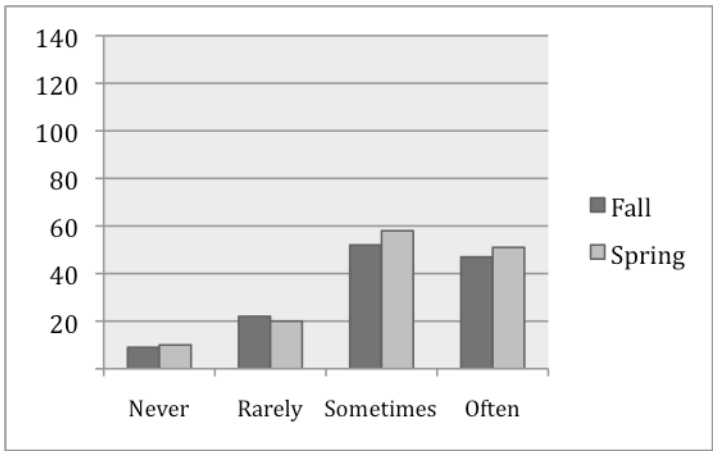


Figure 11: Postsurvey Responses to “I read more slowly when I don’t understand,” by Cohort



Skimming is a strategy that enables students to identify the main ideas in a chapter before reading it. Effective readers know that texts are organized around the main ideas (e.g., headings and sub-headings, words in bold) and use these cues to direct their attention to what is of most importance. On the midsurvey, roughly equal percentages of fall and spring students (19% vs. 18%) said they often skim for main ideas and key phrases when starting a new textbook chapter. On the postsurvey, about a fifth of all students (20.8%) said they often skimmed a chapter to identify its main ideas before reading; more than a quarter (27.3%) of ELLs said they often do.

Figure 12: Midsurvey Responses to “I skim for main ideas and key phrases when I start a new chapter in a textbook,” by Cohort

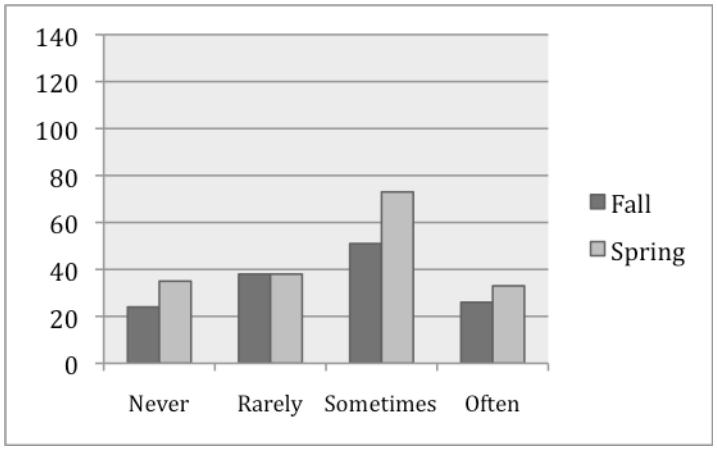
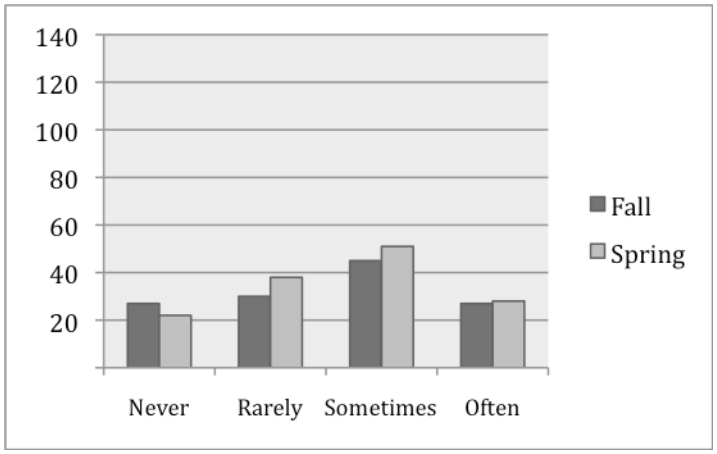


Figure 13: Postsurvey Responses to “I skim for main ideas and key phrases when I start a new chapter in a textbook,” by Cohort



Reading for the main idea occurs at several levels in a text, as readers make sense of sentences, understand how the sentences work together to communicate an idea through a paragraph, and how several paragraphs function to convey the ideas important in a larger text. As readers and writers, the structure of a paragraph is a significant key to understanding (or designing) meaning—something that a little less than one-quarter of all students said they did often on the midsurvey (21.8%) and postsurvey (22.6%). On the postsurvey, slightly more ELLs (28%) said they often recognize the topic sentence of paragraphs. On the midsurvey, a noticeably higher percentage of fall students (78%) than spring students (68%) said that they sometimes or often recognize topic sentences.

Figure 14: Midsurvey Responses to “I recognize the topic sentence of paragraphs,” by Cohort

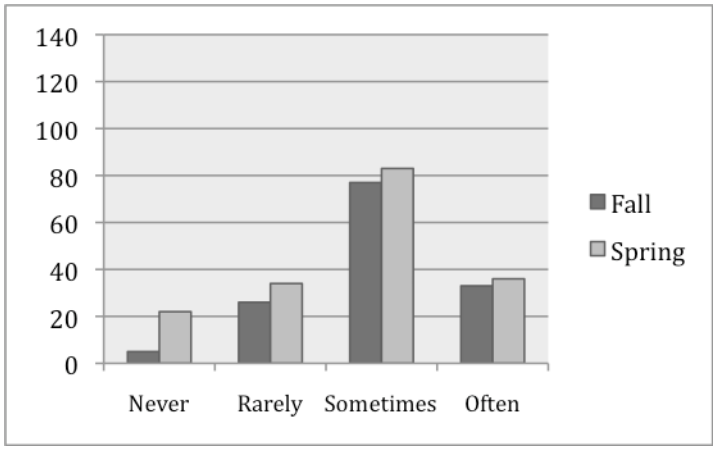
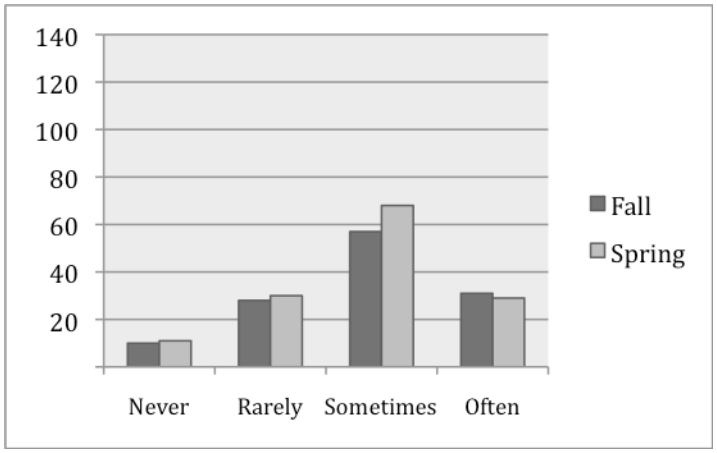


Figure 15: Postsurvey Responses to “I recognize the topic sentence of paragraphs,” by Cohort



Though not always feasible in a classroom when students are reading independently, reading aloud can assist readers in hearing the construction of a phrase or sentence. Reading aloud can also cue a teacher, partner, or tutor to vocabulary that may be new or unfamiliar to a student. A little less than one-fifth (18%) of fall and spring respondents on the midsurvey said that they often read confusing phrases and sentences out loud. In our observations of ESL teachers working with ELLs, we frequently saw this strategy applied. About one-fifth (20.4%) of all students on the postsurvey said they often read aloud when they approach a difficult phrase or sentence; the percentage was only slightly different for non-ELLs (20.9%) as ELLs (19.2%).

Figure 16: Midsurvey Responses to “I read confusing phrases and sentences out loud,” by Cohort

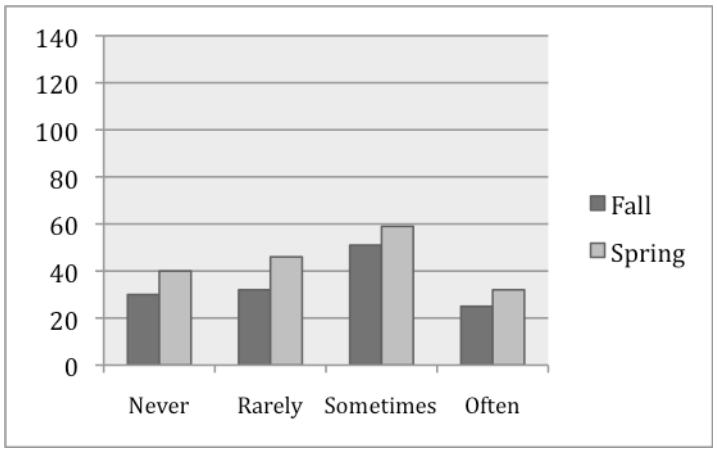
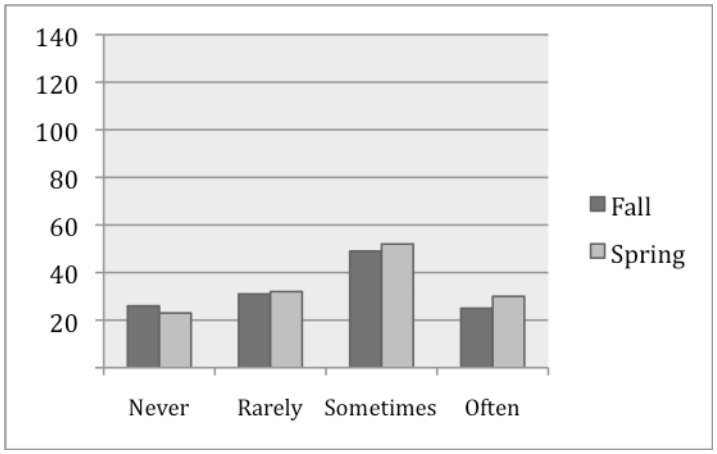


Figure 17: Postsurvey Responses to “I read confusing phrases and sentences out loud,” by Cohort



Identifying the author’s intent in a text typically provides a reader with a framework for understanding other decisions an author has made (e.g., organization, tone). On the midsurvey, 60% of fall students compared to only half (50%) of spring students said that they sometimes or often try to figure out the author’s purpose. This suggests improved reading skills in the fall group. Examining the postsurvey broadly, more than a quarter (26.9%) of ELLs said they often try to identify the author’s purpose, while just under a fifth (19.3%) of non-ELLs said they often do.

Figure 18: Midsurvey Responses to “I try to figure out the author's purpose (for example, to entertain, persuade, inform),” by Cohort

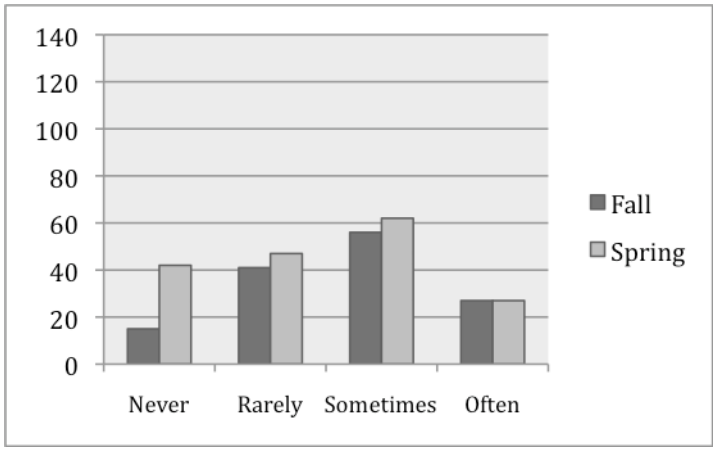
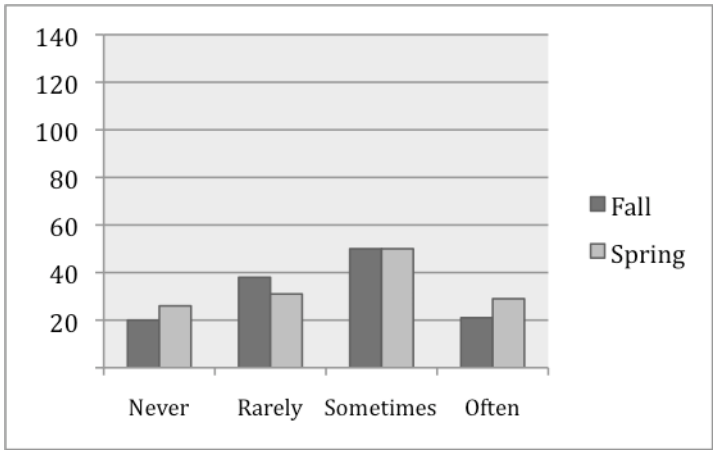


Figure 19: Postsurvey Responses to “I try to figure out the author's purpose (for example, to entertain, persuade, inform),” by Cohort



Whether reading a biography, mystery novel, or science lab report, making predictions situates the reader as an active participant in the reading process. When predictions are justified with clues from the text, connections to real life experience, or perhaps some prior knowledge, predicting draws on several reading processes at once. Over a fourth of midsurvey respondents (27%) said that they often make predictions while reading. The fall cohort was more likely to do this than the spring cohort, with 71% of fall respondents sometimes or often making predictions compared to 63% of spring respondents. On the postsurvey, about 30% of students (29.3% of non-ELLs and 32% of ELLs) who completed the survey said they often make predictions while reading.

Figure 20: Midsurvey Responses to “I make predictions about what may come next,” by Cohort

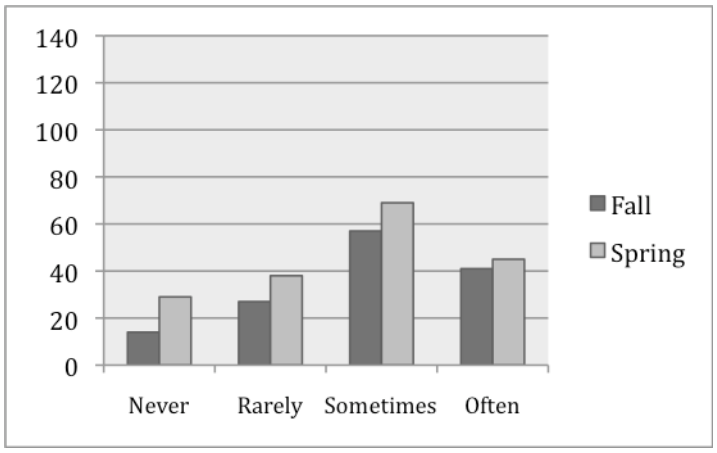
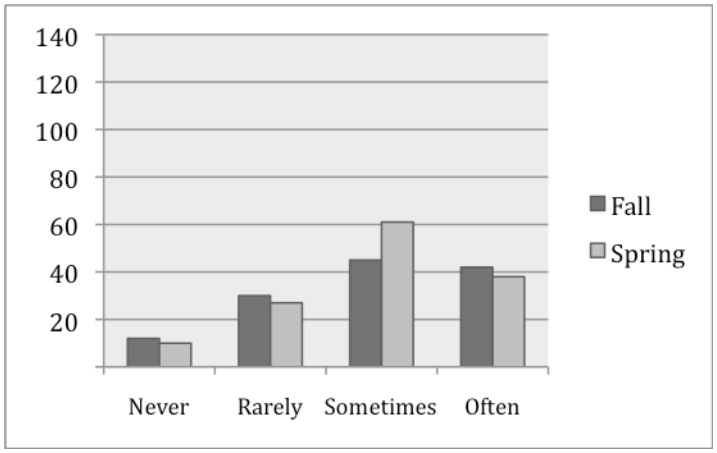


Figure 21: Postsurvey Responses to “I make predictions about what may come next,” by Cohort



Similar to other strategies targeted at identifying the main idea, the process of looking for the author’s main point emphasizes the role of the author. Often “hidden” behind the text, the author is understood as communicating an idea through the text to an audience. On the midsurvey, the percentage of fall respondents (17%) who said they often look for the author’s main point while reading was slightly higher than that of spring respondents (15%). About one-fifth of all students (21%) and one-quarter of ELLs (25.3%) on the postsurvey said they often look for the author’s main point or idea while reading.

Figure 22: Midsurvey Responses to “I look for the author's main point or idea,” by Cohort

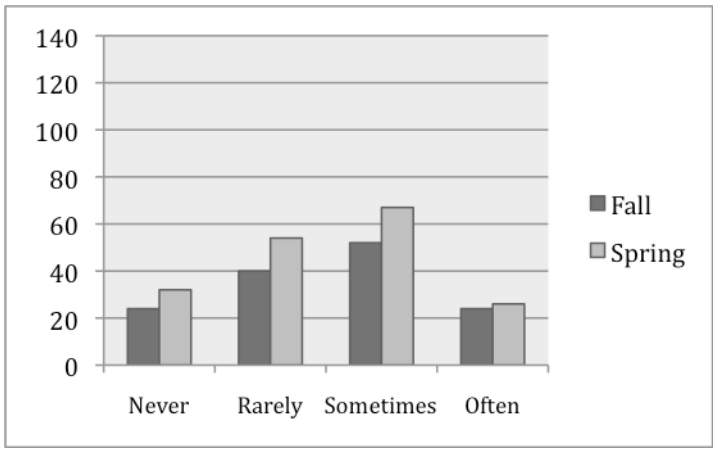
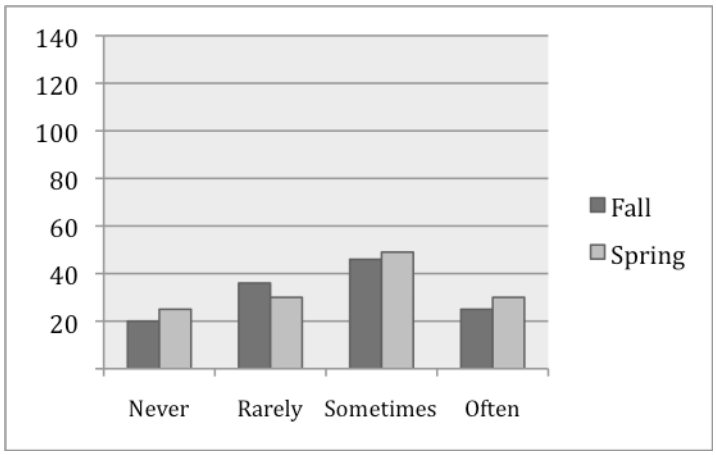


Figure 23: Postsurvey Responses to “I look for the author's main point or idea,” by Cohort



Often included as a broader strategy known as K-W-L (Ogle, 1986), having students learn to ask themselves what they already know is a way for them to activate their prior knowledge (what I know, what I want to know, what I learned). On the midsurvey, 15% of fall students and 13% of spring students indicated that they often ask themselves what they already know about the reading topic. Less than one-fifth of the students surveyed at the end of the school year said they do this often; the percentage was higher for ELLs (26%) than non-ELLs (14.1%), perhaps because of the strategy’s inclusion in current instructional approaches for language learners. We regularly observed EO teachers activating and making connections to prior knowledge at the beginning of a lesson.

Figure 24: Midsurvey Responses to “I ask myself 'what do I already know?” about the topic,” by Cohort

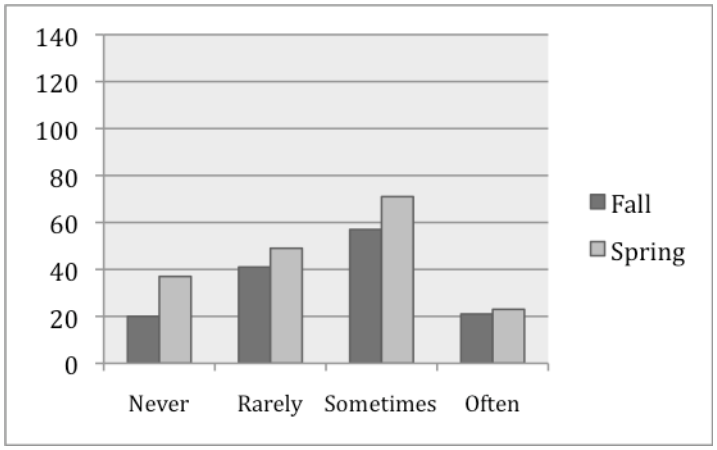
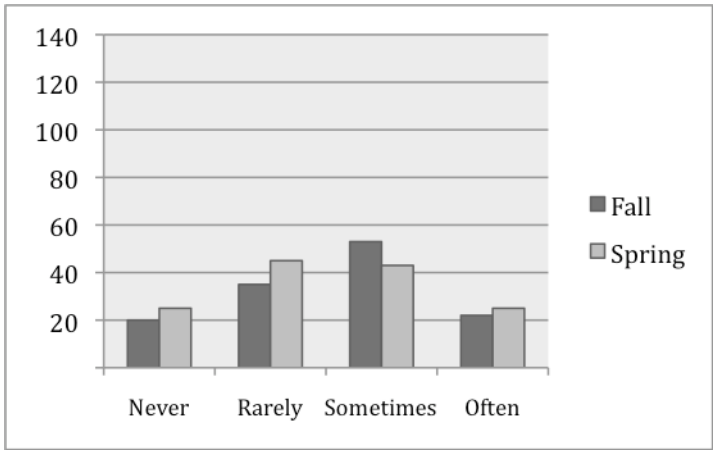


Figure 25: Postsurvey Responses to “I ask myself 'what do I already know?” about the topic,” by Cohort



Effective readers often relate what they’re reading to their own experiences—even if they are not altogether similar. It is the process of making connections that allows readers to relate to the text in various ways. On the midsurvey, a higher percentage of fall students (65%) than spring students (57%) said that they sometimes or often make connections with their own experiences when reading. Making connections was a reading strategy we observed in the sessions with ELLs—and nearly a quarter (24.4%) of those who responded to the postsurvey say it is a strategy they use often. (Almost eighteen percent--17.8%--of all students regularly made such connections.)

Figure 26: Midsurvey Responses to “I make connections with my own experiences,” by Cohort

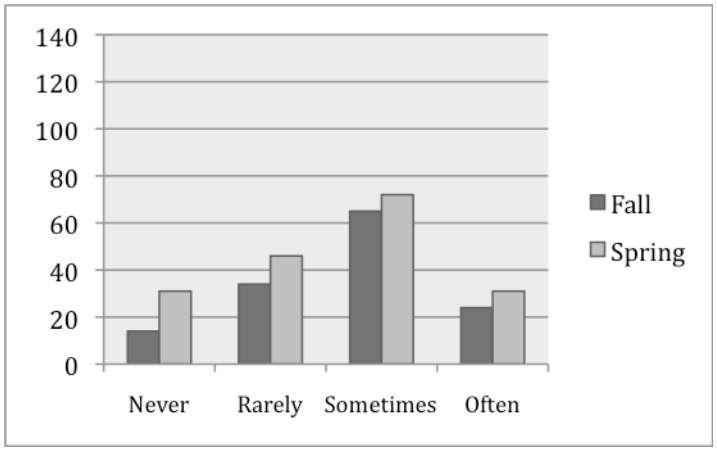
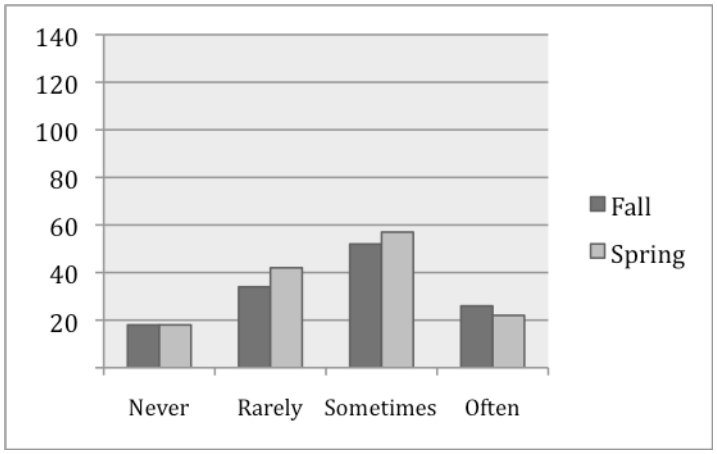


Figure 27: Postsurvey Responses to “I make connections with my own experiences,” by Cohort



The statement, “I talk with others about what I’m reading,” recognizes the social aspects of reading—evident in school literature circles, library book clubs, even online fan communities. On the midsurvey, the percentage of fall respondents (17%) who said they often talk with others about what they are reading was slightly higher than that of spring respondents (15%). On the postsurvey, an average of 17.5% of all students said they often talk with others about what they’re reading, including 22.1% of ELLs, and 15.6% of non-ELLs.

Figure 28: Midsurvey Responses to “I talk with others about what I'm reading,” by Cohort

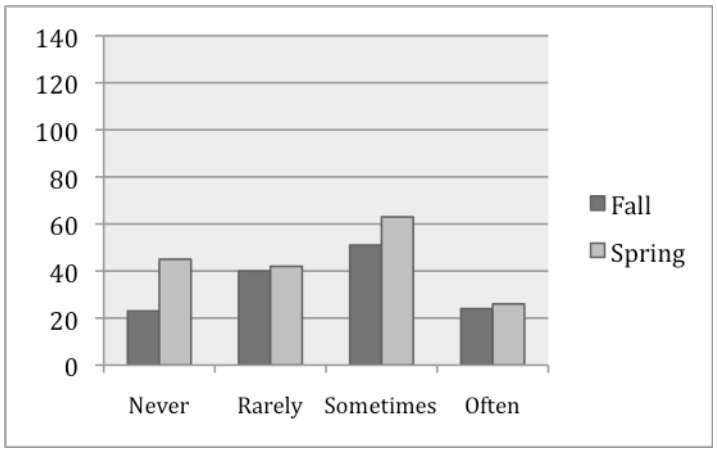
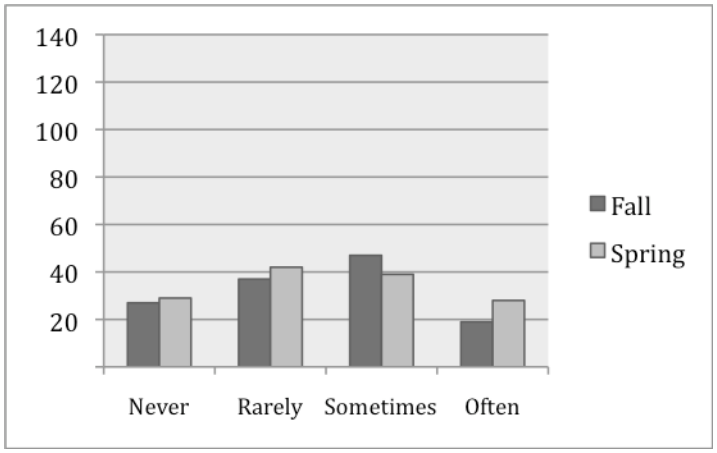


Figure 29: Postsurvey Responses to “I talk with others about what I'm reading,” by Cohort



Students admit they do not summarize during or after reading often. On the midsurvey, only 14% of all respondents said they often summarize reading, with roughly equal percentages of fall and spring students (15% vs. 14%) doing this often. On the postsurvey, students admit they don’t do this often (only 18% said they do summarize often), though more than one in five (27.3%) of ELLs said they frequently summarize while and/or after they read. Summarizing is another literacy practice that is often identified in standards but is difficult to teach and learn.

Figure 30: Midsurvey Responses to “I summarize during and/or after reading,” by Cohort

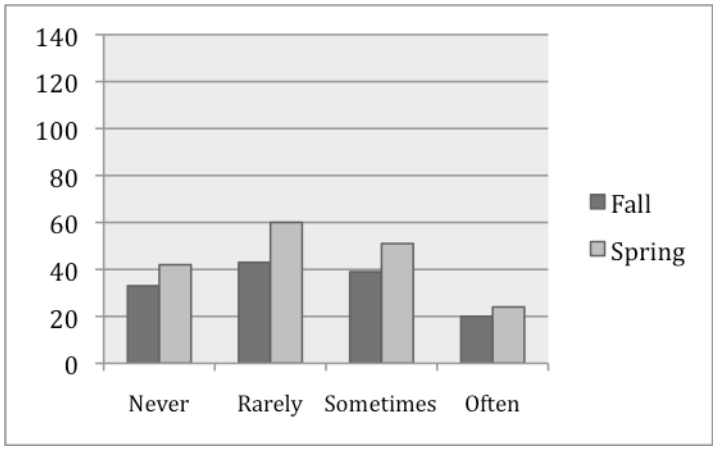
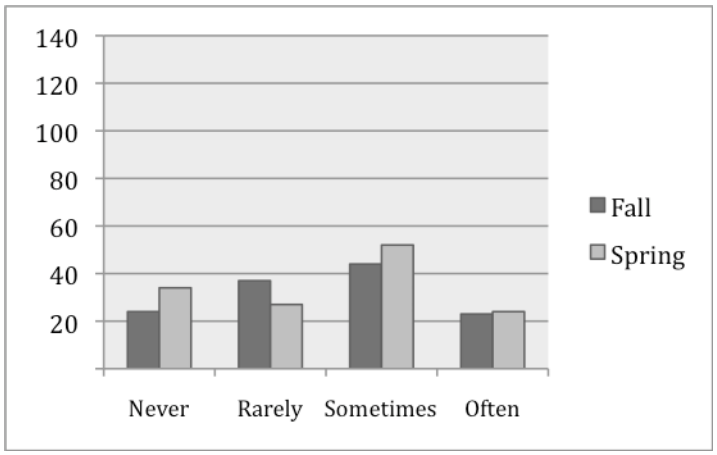


Figure 31: Postsurvey Responses to “I summarize during and/or after reading,” by Cohort



Only 15% of fall students and 13% of spring students on the midsurvey indicated that they often look for signal words to figure out how the text is organized. Similar to other cues (e.g., author’s purpose, skimming for main idea), this strategy was used often by less than one-fifth (18.7%) of ELLs and only 16% of all the students surveyed in May, even though there were lessons in the program that specifically taught students that identifying signal words (e.g., comparisons) were a way for students to understand the meaning of a text.

Figure 32: Midsurvey Responses to “I try to figure out how the text is organized by looking for signal words,” by Cohort

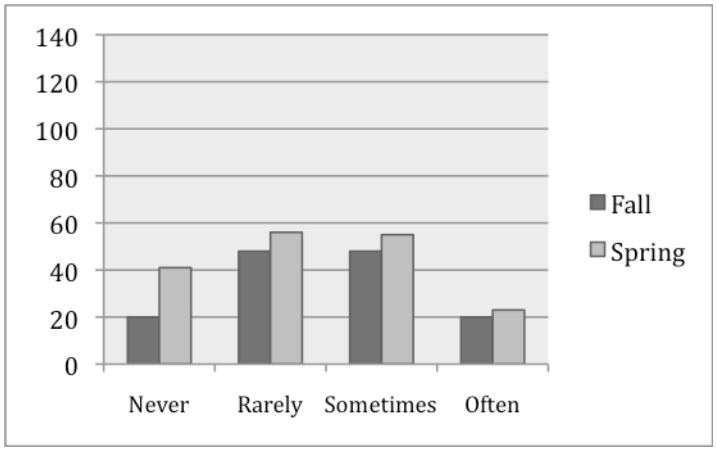
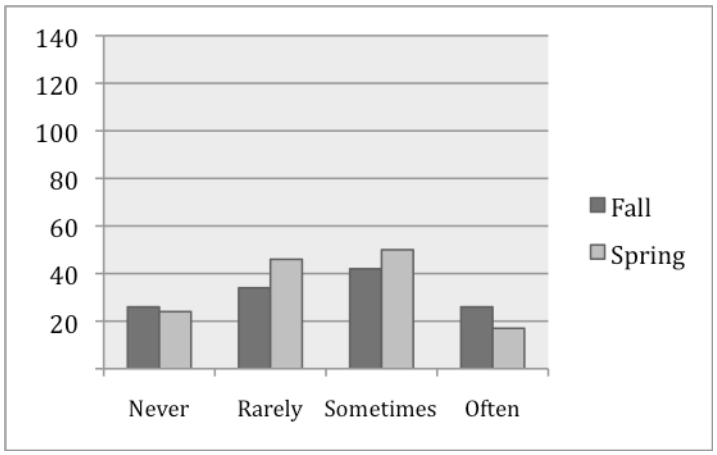


Figure 33: Postsurvey Responses to “I try to figure out how the text is organized by looking for signal words,” by Cohort



Annotating a text with notes or a highlighter is likely only if students own their textbooks. Since most schools adopt texts to be used for multi-year cycles, the books middle school students are typically assigned to read belong to the school, not to them. However, in the EO lessons we observed online, students were frequently encouraged to highlight the text, learning to use a highlighter to identify main ideas, divide a word into syllables, or mark the suffix of a word, for example. Even so, on the midsurvey only 15% of fall respondents and 17% of spring respondents said that they often take notes and/or highlight while they read. On the postsurvey, only 12% of all students and 14.3% of ELLs indicated that they often use this strategy.

Figure 34: Midsurvey Responses to “I take notes and/or highlight,” by Cohort

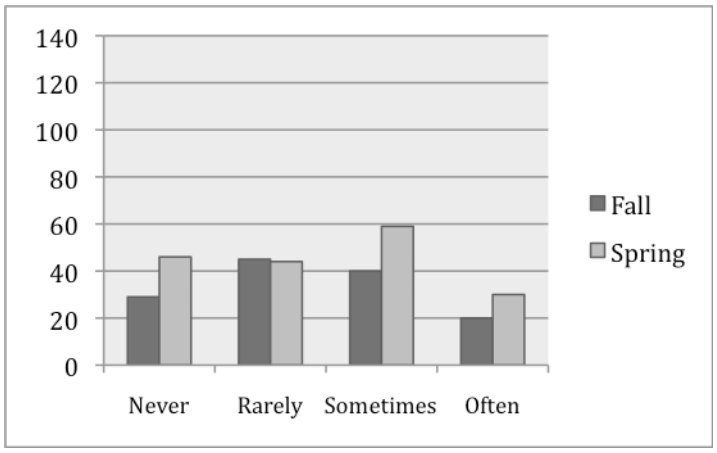
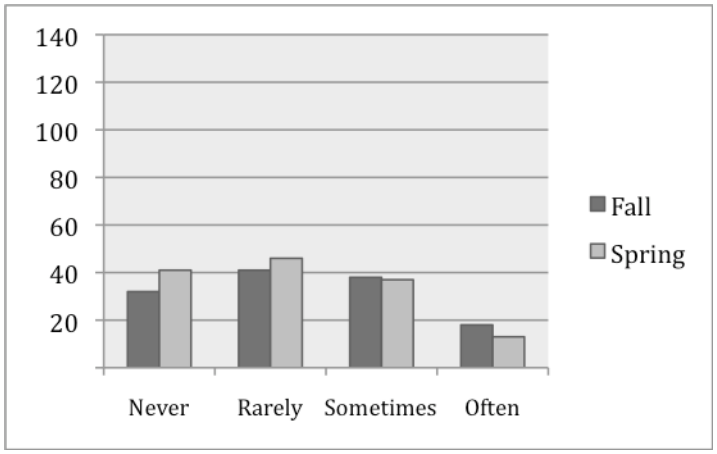


Figure 35: Postsurvey Responses to “I take notes and/or highlight,” by Cohort



Readers of all levels benefit from strategies that engage their imaginations in reading. Visualizing a scene, mapping a problem, or role-playing different perspectives help students make connections with texts and develop understandings of new concepts. Nearly a third (32%) of all the students on the midsurvey said they often use their imagination to help them understand reading material, with a higher percentage of spring students (34%) than fall (29%) saying this was often true for them. The ESL-certified teachers observed in our study encouraged students to make connections to real life; in addition, prompting students to draw a sketch that portrays key ideas and details, to make a picture in their mind, or to imagine themselves in a particular context or situation can show students how they can tap their imaginations to comprehend what they are reading.

Almost a third (31.6%) of all students surveyed for the postsurvey said they often use their imaginations to help them understand what they are reading; for ELLs, the percentage was even higher (41.6%).

Figure 36: Midsurvey Responses to "I use my imagination to help me understand," by Cohort

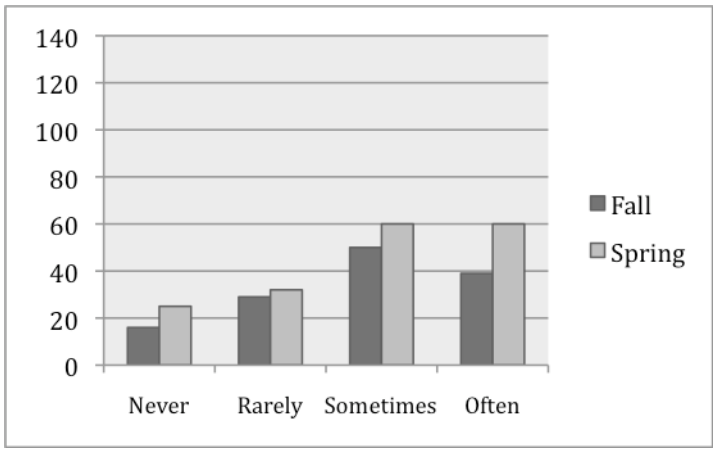
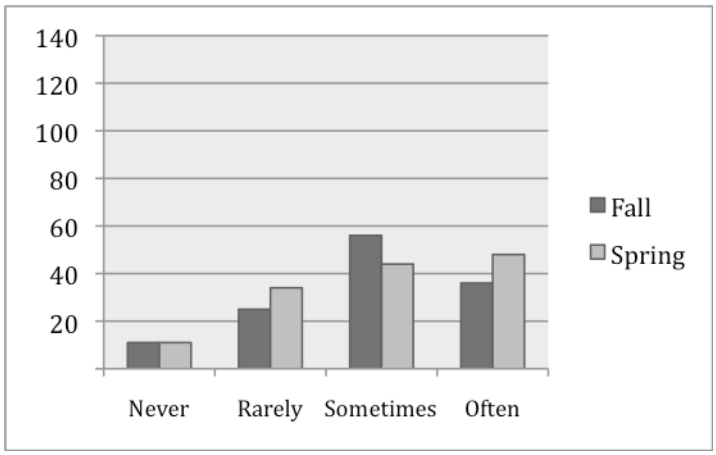


Figure 37: Postsurvey Responses to "I use my imagination to help me understand," by Cohort



Good readers know that they can often deduce the meaning of a new word if they understand its context well enough. Encouraging students to guess the meaning of new or unfamiliar vocabulary (e.g., "What do you think that might mean?") demonstrates to readers that reading is, to some extent, a guessing game in which cues and clues are utilized to make meaning. Through a process of identifying a few likely meanings and then strategizing how to select the best meaning (e.g., by looking the word up in a dictionary) readers are positioned as active meaning

makers. Slightly over one in five (or 21%) of all students surveyed on the midsurvey said that they often guess the meaning of a word by using its context. A higher percentage of the fall cohort (24%) said this was often true for them as compared to the spring cohort (18%). On the postsurvey, almost a quarter (23.7%) of all students surveyed said they often guess the meaning of a word by using its context—20.8% of non-ELLs, and 30.8% of ELLs.

Figure 38: Midsurvey Responses to "I guess the meaning of a word I don't know by re-reading the sentence it's in and the sentences before and after it," by Cohort

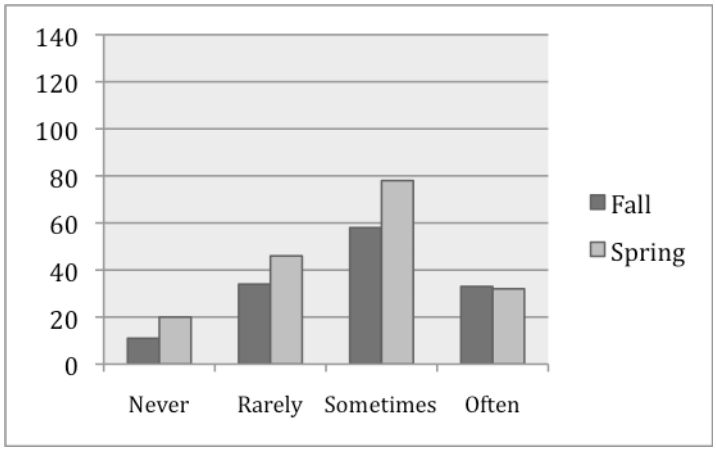
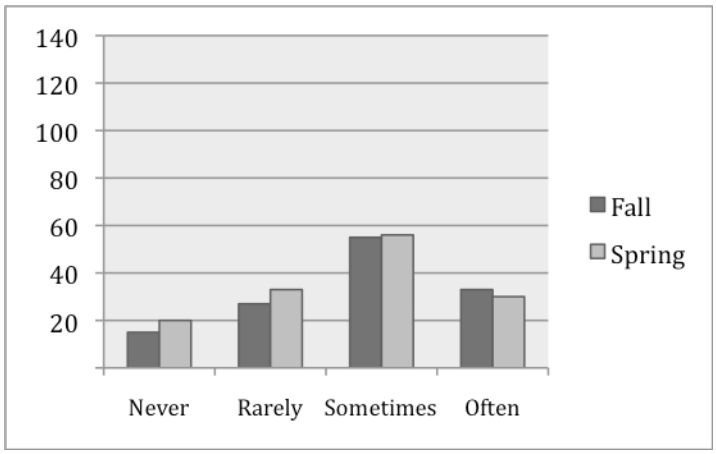


Figure 39: Postsurvey Responses to "I guess the meaning of a word I don't know by re-reading the sentence it's in and the sentences before and after it," by Cohort



Determining an author's intent or the main idea in a text can be difficult. The EO Academic Reading program includes a series of lessons on "reading for patterns" with specific lessons on signal/question words, facts and details, sequence, compare/contrast, and cause/effect. In the sessions we observed with ELLs,

identifying the relationships of ideas seemed to be a more difficult concept, particularly in the case of cause/effect. These particular lessons often included a box of signal words for students to look for in a text—a strategy that could help students remember and recognize them in their broader reading. On the postsurvey, 14.9% of all students, and about one-fifth of ELLs (19.5%) said they often look for patterns in the text when reading, while on the midsurvey, 14% of fall students and 11% of spring students said they often did this.

Figure 40: Midsurvey Responses to "I look for patterns in the text (words that are repeated or ideas that are similar or different)," by Cohort

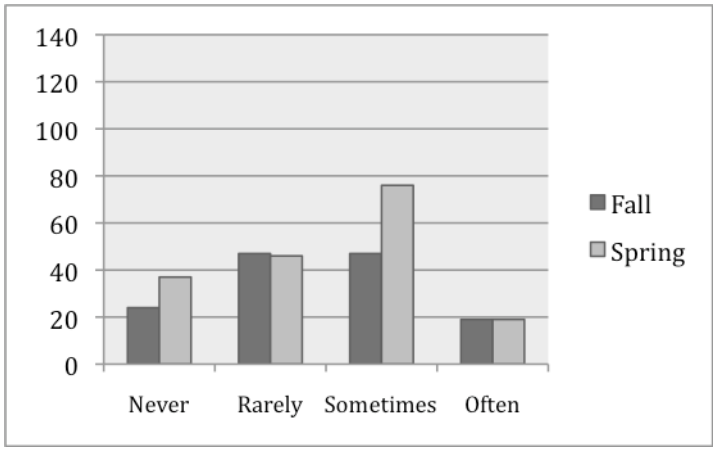
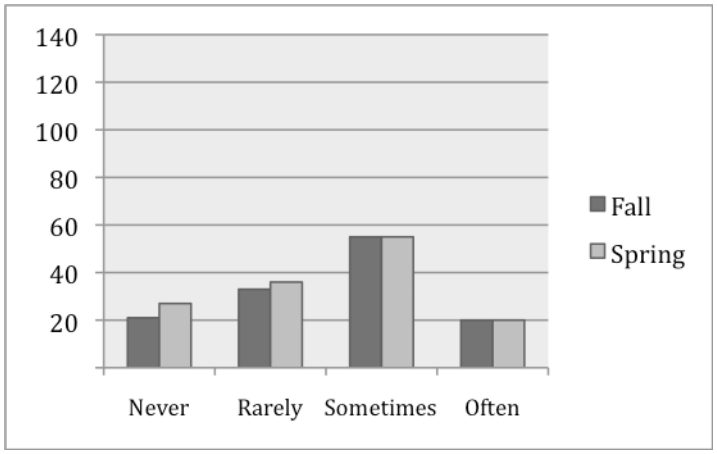


Figure 41: Postsurvey Responses to "I look for patterns in the text (words that are repeated or ideas that are similar or different)," by Cohort



Identifying the main idea is a comprehension skill included in the scope of the Academic Reading program for all grades. It is targeted in reading achievement tests that measure whether students can efficiently and effectively distinguish the main idea from supporting (and sometimes contradictory) ideas and details. On the midsurvey, roughly equal percentages of fall and spring students (19% vs. 18%) said they often ask themselves what the text is about while reading. On the postsurvey, almost one-fifth (19.3%) of all students, and more than one-quarter of ELLs (26.9%) in the program said they often ask themselves what the text is about.

Figure 42: Midsurvey Responses to "I ask myself what the text is about," by Cohort

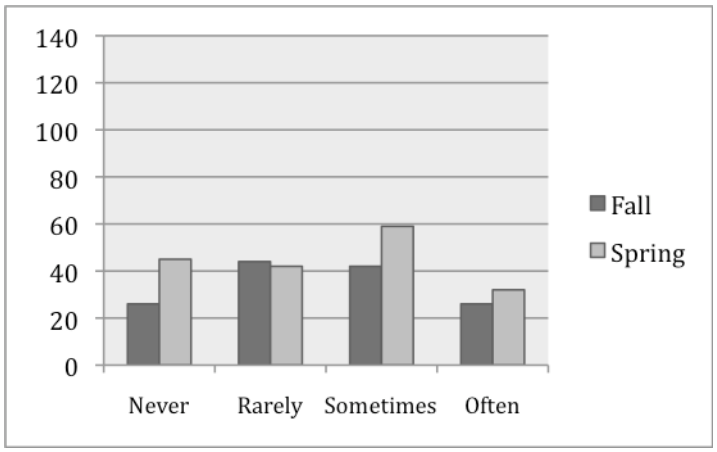
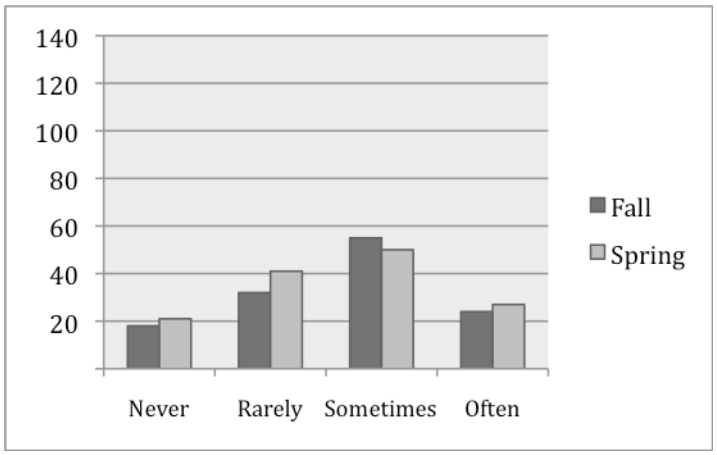


Figure 43: Postsurvey Responses to "I ask myself what the text is about," by Cohort



Another strategy for identifying the main idea in a text, readers are encouraged to look for details or facts and how they relate to the main idea of a passage, and almost a fourth of midsurvey respondents (24%) said that they often did this. The fall cohort was more likely to look for details or facts to understand their reading than the spring cohort, with 27% of fall respondents often using this strategy compared to 22% of spring respondents. This strategy was utilized often by 23.1% of all students surveyed on the postsurvey—slightly less (17.9%) of non-ELLs, and more (35.9%) of ELLs.

Figure 44: Midsurvey Responses to "I look for details or facts to understand what the text is about," by Cohort

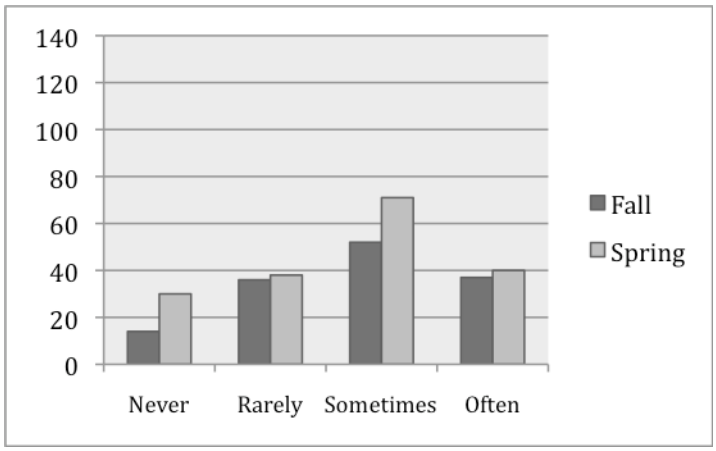
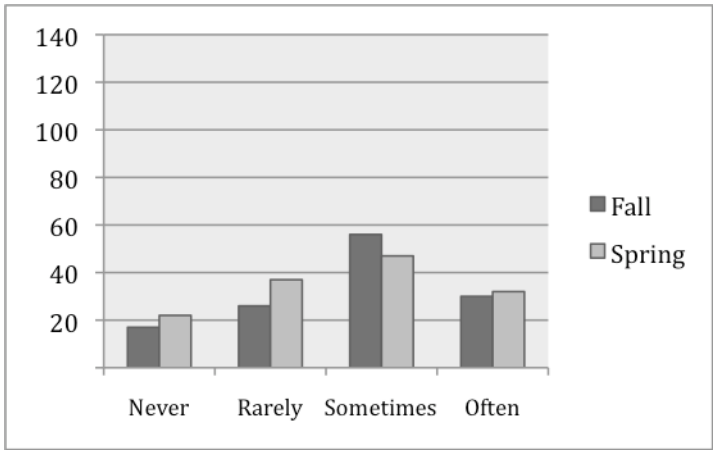


Figure 45: Postsurvey Responses to "I look for details or facts to understand what the text is about," by Cohort



Behavioral and Attitudinal Changes

Attitudes Toward Reading

Understanding students' attitudes about reading was critical to learning about the impact of the EO reading program on participants' attitudes toward reading. According to the literature, attitudes toward reading can affect students' engagement, decisions to read, reading performance (Lipson & Wixson (1992) achievement (Lazarus & Callahan, 2000) and school performance in general (Garrett, 2002; McKenna, 2001). This section contains the analyses of items related to students' self-confidence in reading, importance and enjoyment of reading, self-reported engagement in reading, and importance of school.

Self-confidence in Reading

We asked participating students to respond to questions about their reading capabilities and performance. For example, students rated how difficult reading is, how good they are at reading, how much they like to read, how well they do in reading, how much they know about reading, and whether or not they need extra help in reading. To facilitate analysis, we quantitatively coded responses. We coded a response of "Strongly Disagree" as -2, "Disagree" as -1, "Agree" as 1, and "Strongly Agree" as 2. This allows for easy reduction to group means and analysis of variance.

We compared the fall and spring group responses for survey items relating to students' self-confidence. The range of responses for pre-, mid-, and postsurvey items is summarized through a series of figures. In many cases, there were little differences between groups. In some items, however, we saw a divergence in scoring at the midsurvey (when only the fall group had received EO SES), followed by a convergence by the postsurvey. There is also a tendency for mean ratings to increase over the course of the school year; when this occurs within both groups at a fairly constant rate, it is difficult to connect such changes with program effects.

Please note that in the data presented below, the narrative presents means of the responses on the attitude scales by cohort. The accompanying figures present the data by numbers of respondents in each category by cohort.

Figure 46: Presurvey Responses to “Reading is hard for me,” by Cohort

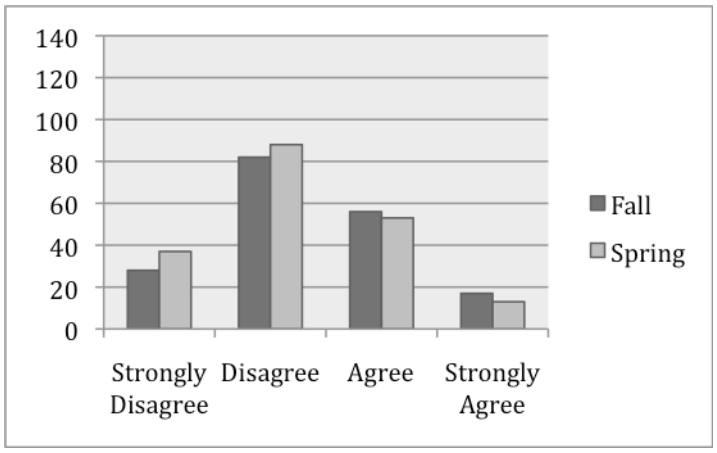


Figure 47: Midsurvey Responses to “Reading is hard for me,” by Cohort

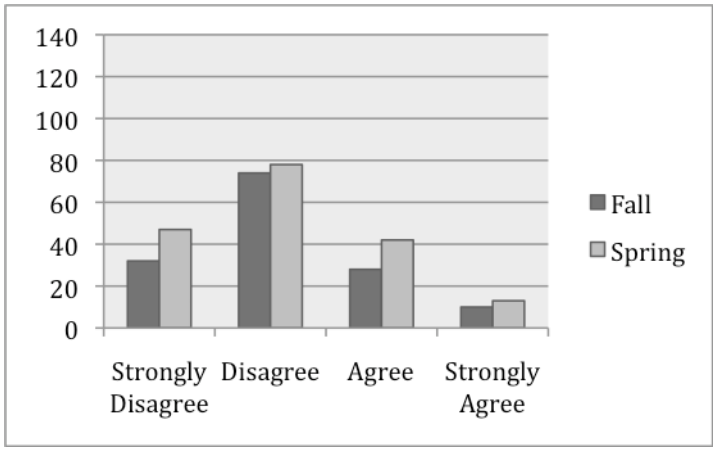
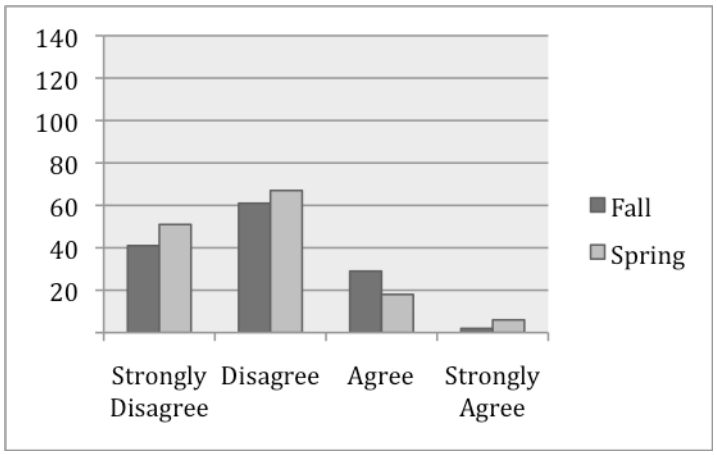


Figure 48: Postsurvey Responses to “Reading is hard for me,” by Cohort



Looking across time, one can see movement from agreement with the statement, “Reading is hard for me,” to disagreement at the end of the year. At each survey administration, the difference between cohorts is less immediately clear. Using the coding scheme described above, the fall cohort had a mean of -0.26 and the spring cohort had a mean of -0.43 at the presurvey. At the midsurvey, the means were -0.63 and -0.58 and at the postsurvey the means were -0.83 and -0.98 for the fall and spring groups respectively. The difference between cohorts was not significant at any of the three surveys. However, we can observe a decrease in “Reading is hard for me” among the fall group after their participation in the EO program.

Below are the survey responses to the prompt, “I am good at reading.” A positive mean score signifies a more positive view of reading ability. Over time, study participants were also more likely to see themselves as good readers. The figures below illustrate changes in the distribution of self-ratings over time for both cohorts.

Figure 49: Presurvey Responses to “I am good at reading,” by Cohort

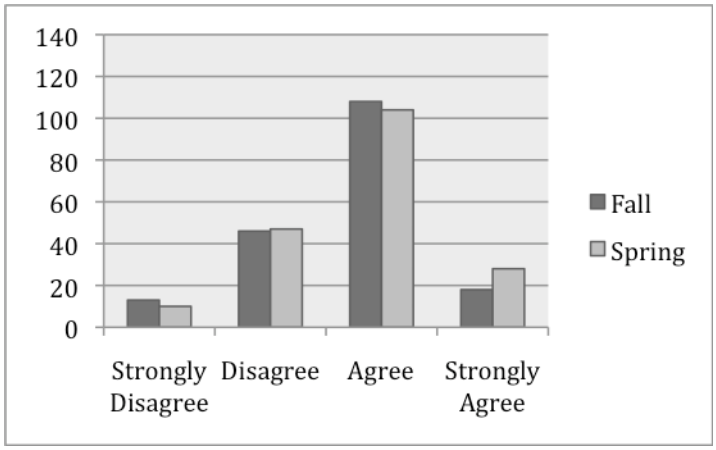


Figure 50: Midsurvey Responses to “I am good at reading,” by Cohort

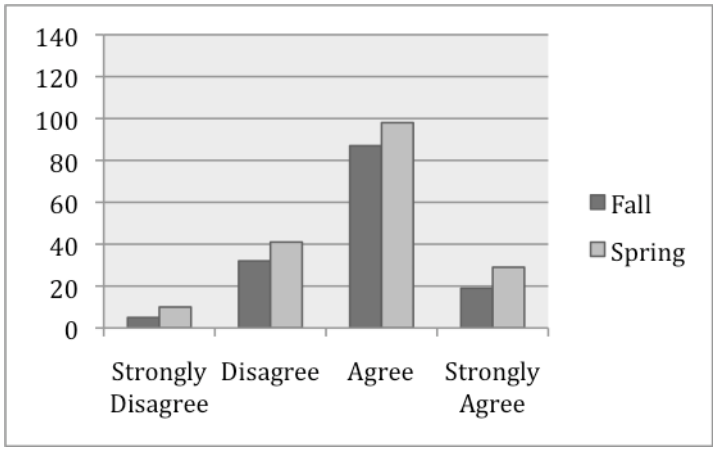
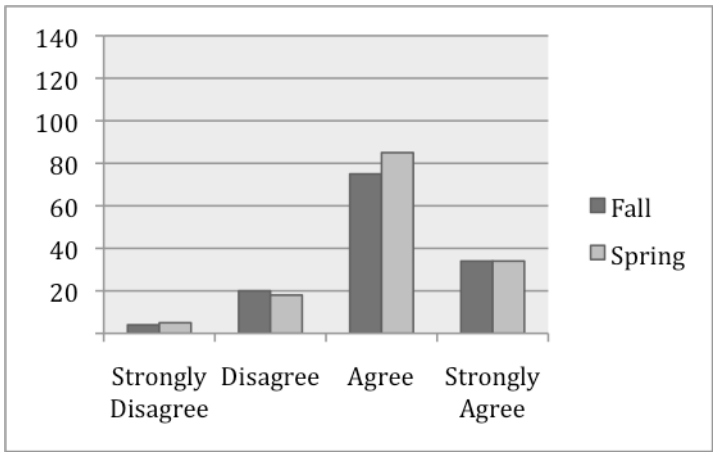


Figure 51: Postsurvey Responses to “I am good at reading,” by Cohort



The average ratings for the fall cohort were 0.39, 0.58, and 0.86 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 0.49, 0.53, and 0.88. Both groups show movement towards agreement with the statement, “I am good at reading,” but the differences between groups were not significant at any administration of the survey. The midsurvey increase in the fall cohort’s mean score was slightly larger than the increase in the spring cohort. This makes sense because at the midsurvey, only the fall cohort had received EO SES.

Survey responses to the prompt, “I do well in my English/Language Arts class(es),” were highly positive throughout the study for both the fall and spring cohorts. These responses are summarized below.

Figure 52: Presurvey Responses to “I do well in my English/Language Arts class(es),” by Cohort

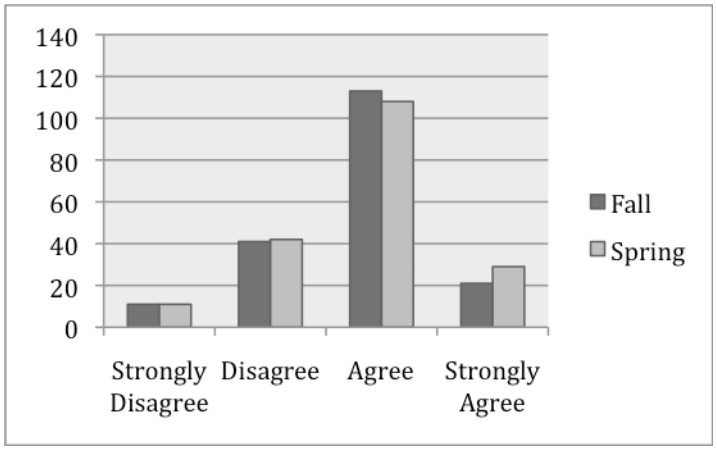


Figure 53: Midsurvey Responses to "I do well in my English/Language Arts class(es)," by Cohort

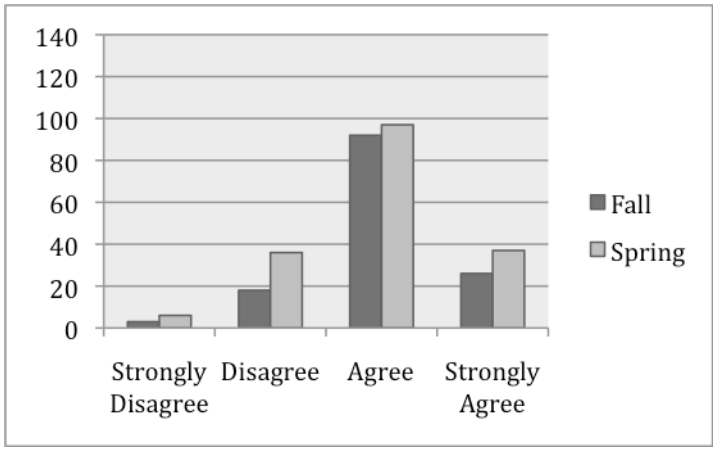
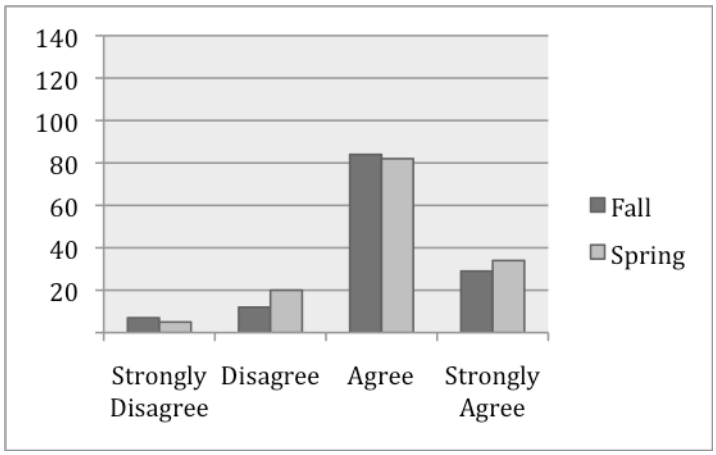


Figure 54: Postsurvey Responses to "I do well in my English/Language Arts class(es)," by Cohort



The average ratings for the fall cohort were 0.49, 0.86, and 0.88 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 0.54, 0.70, and 0.85. Both groups show movement towards agreement but the differences between groups were not significant at any administration of the survey. The fall cohort did experience the greatest growth between the presurvey and the midsurvey, which brackets students' experience with EO.

Not surprisingly, there tended to be disagreement with the statement, "I need extra help in English/Language Arts." Although the study participants qualified for SES, they viewed themselves as doing well in class and not needing extra help. Responses to the prompt about needing extra help are summarized below.

Figure 55: Presurvey Responses to “I need extra help in English/Language Arts,” by Cohort

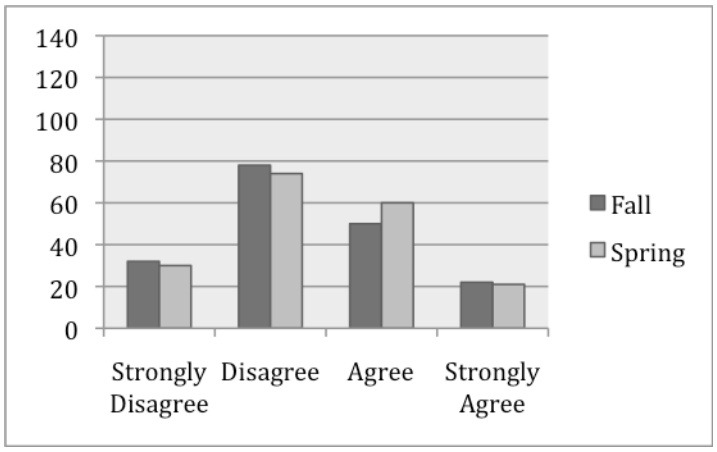


Figure 56: Midsurvey Responses to “I need extra help in English/Language Arts,” by Cohort

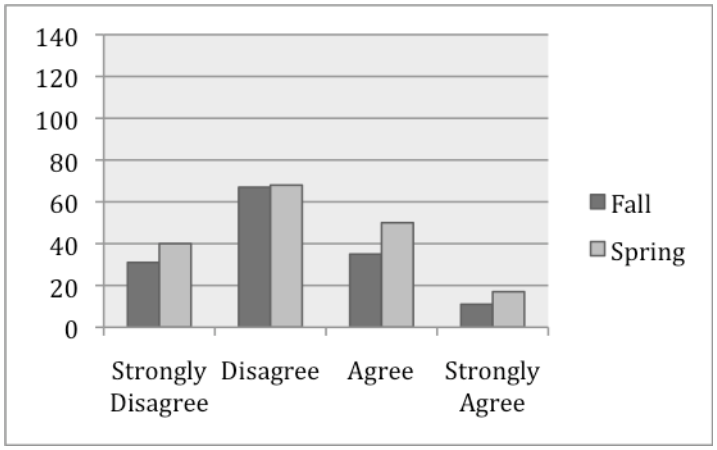
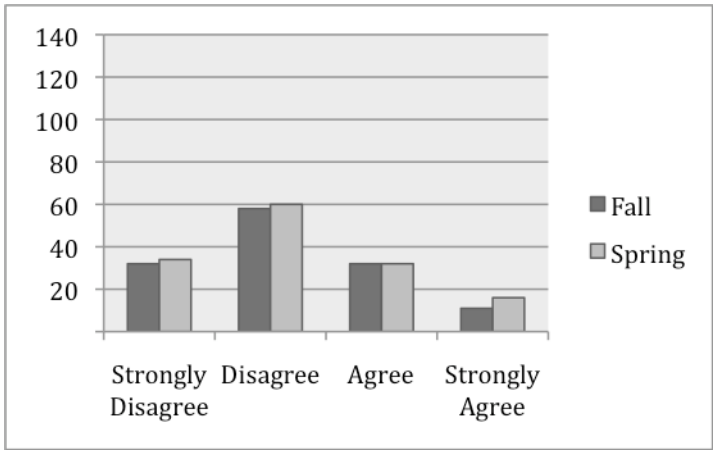


Figure 57: Postsurvey Responses to “I need extra help in English/Language Arts,” by Cohort



The average ratings for the fall cohort were -0.26, -0.50, and -0.51 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged -0.17, -0.37, and -0.45. Both groups show movement towards strong disagreement with the idea of needing extra help but the differences between groups were not significant at any administration of the survey.

Below are student responses to the prompt, “I know more than my English/Language Arts grades show.” Over time, students moved towards the belief that their grades did not reflect how much they had learned.

Figure 58: Presurvey Responses to “I know more than my English/Language Arts grades show,” by Cohort

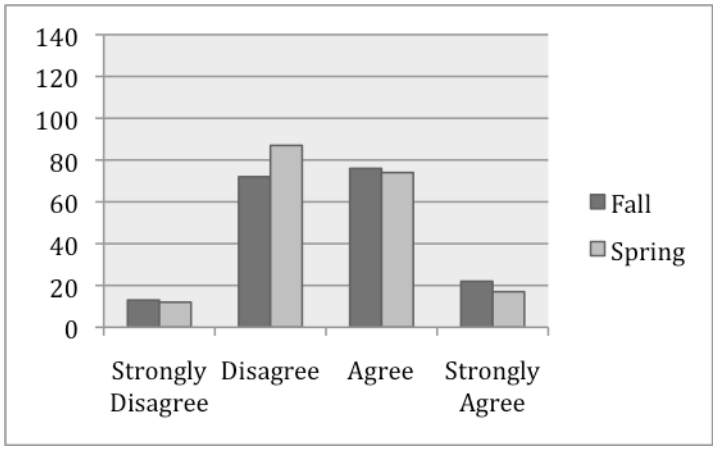


Figure 59: Midsurvey Responses to “I know more than my English/Language Arts grades show,” by Cohort

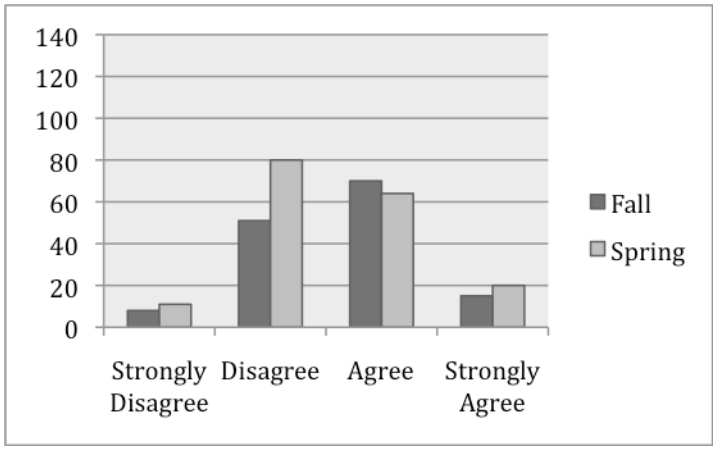
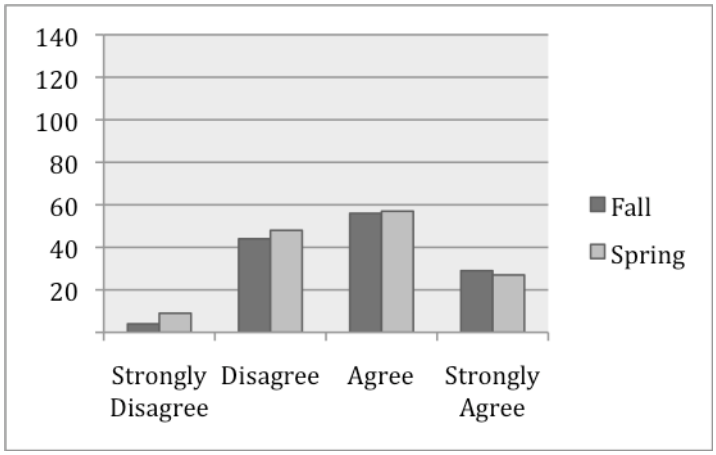


Figure 60: Postsurvey Responses to "I know more than my English/Language Arts grades show," by Cohort



At the presurvey, the fall cohort and spring cohort averaged 0.12 and -0.02, respectively. At the midsurvey, the fall cohort mean was 0.23 and the spring cohort mean was 0.01. Postsurvey means were 0.47 for the fall cohort and 0.32 for the spring cohort. Toward the end of the school year, both groups considered their performance in English/Language Arts higher than what their grades showed. Although students' grades tended to rise after participation in EO, it appears that students believed their knowledge was not accurately reflected in their grades. This possibility is quite tentative, given the mean ratings remained close to neutral (zero); many students also believed that their knowledge was mirrored in their grades.

Importance and Enjoyment of Reading

The next item relates to belief about the importance of reading. There was little movement in that students tended to think at all points that reading is important.

Figure 61: Presurvey Responses to "Reading is important in everyday life," by Cohort

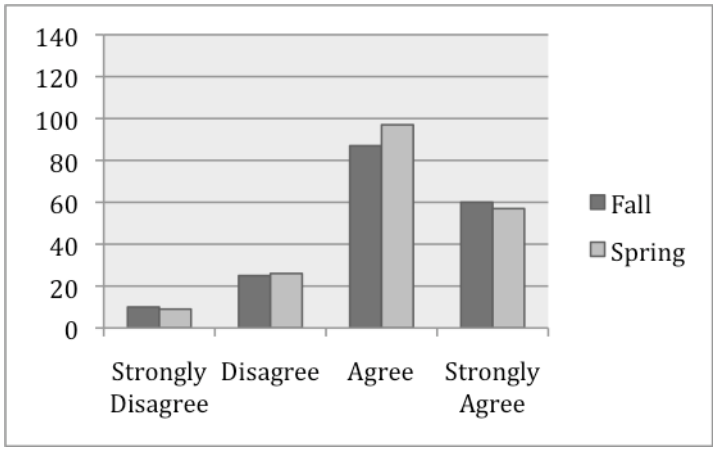


Figure 62: Midsurvey Responses to “Reading is important in everyday life,” by Cohort

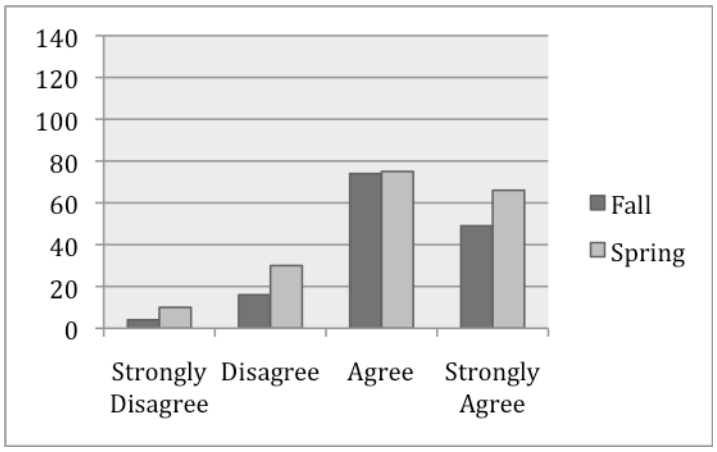
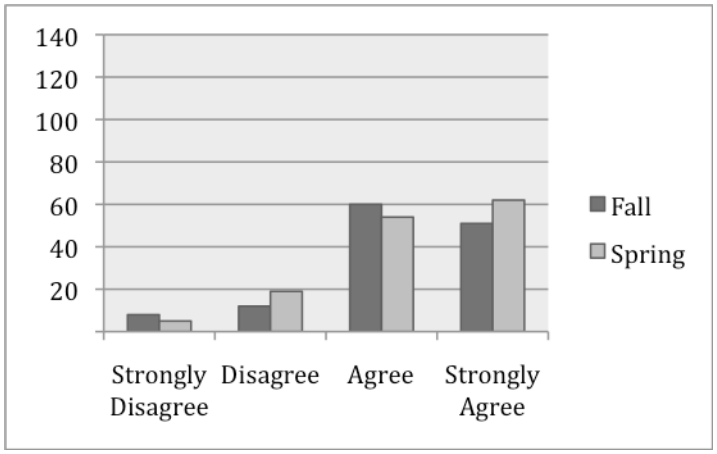


Figure 63: Postsurvey Responses to “Reading is important in everyday life,” by Cohort



The average ratings for the fall cohort were 0.89, 1.03, and 1.02 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 0.88, 0.87, and 1.06. Both groups show some movement towards agreement with the statement, “Reading in important in everyday life,” but the differences between groups were not significant. However, this consistent growth may show a change in students’ attitude toward reading. There was less consensus on the next item, in which students agreed or disagreed with the statement, “Reading is boring.”

Figure 64: Presurvey Responses to “Reading is boring,” by Cohort

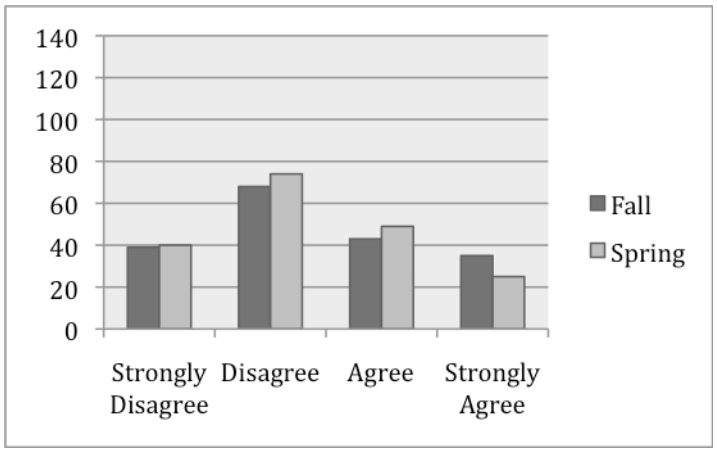


Figure 65: Midsurvey Responses to “Reading is boring,” by Cohort

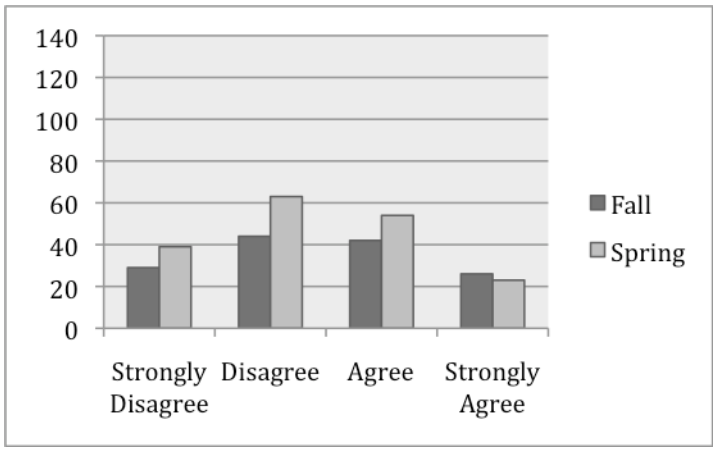
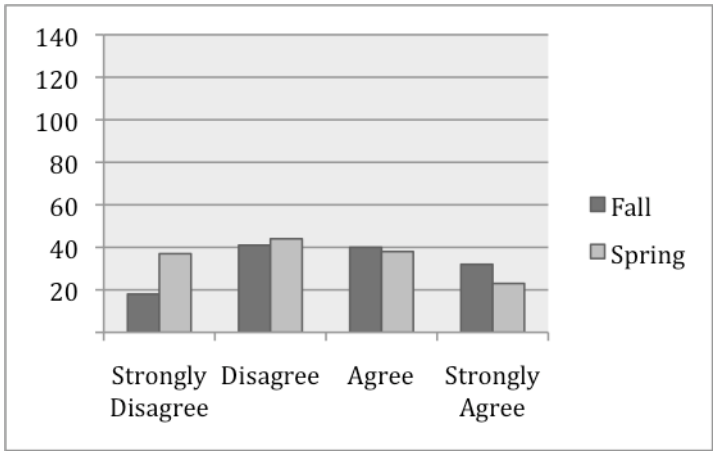


Figure 66: Postsurvey Responses to “Reading is boring,” by Cohort



At the presurvey, the fall cohort and spring cohort averaged -0.18 and -0.29, respectively. At the midsurvey, the fall cohort mean was -0.06 and the spring cohort mean was -0.23. Postsurvey means were 0.20 for the fall cohort and -0.24 for the spring cohort; this is one of the few items with a notable difference between groups. Because this difference occurred after both groups received EO SES, interpretation is difficult. We are not sure why the fall cohort moved towards agreement that reading is boring at the year's end. Middle school literature suggests social/maturation effects could engender such an attitude, but if this were the case, we would expect movement towards agreement in the spring cohort as well.

Below are the survey responses to the prompt, "I like to read." Both cohorts received decreased mean ratings at the mid-test and higher ratings at the posttest, but there were no significant differences between cohorts.

Figure 67: Presurvey Responses to "I like to read," by Cohort

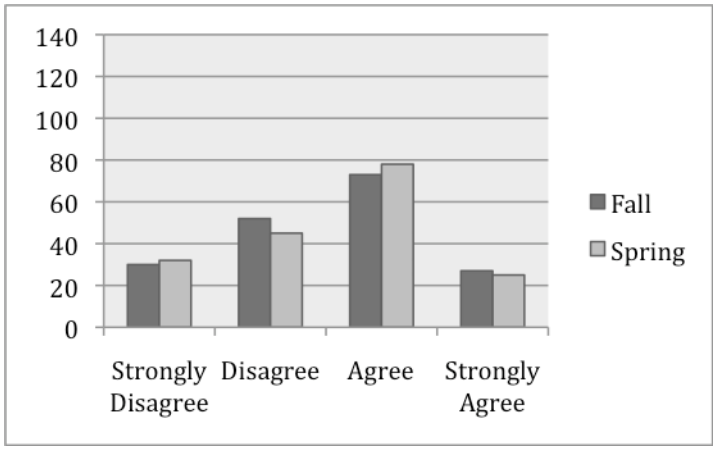


Figure 68: Midsurvey Responses to "I like to read," by Cohort

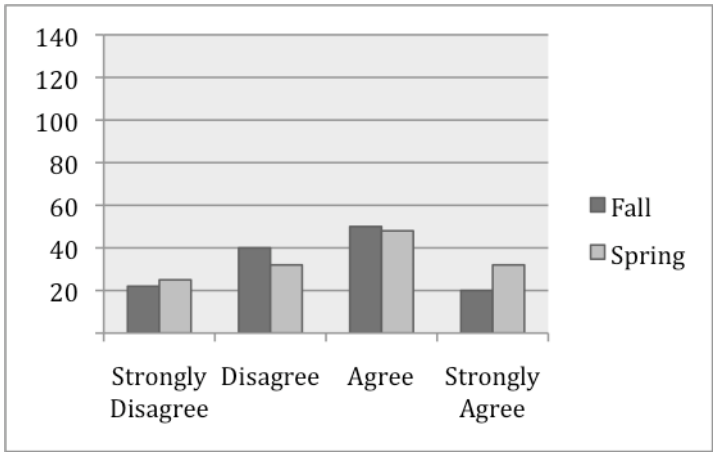
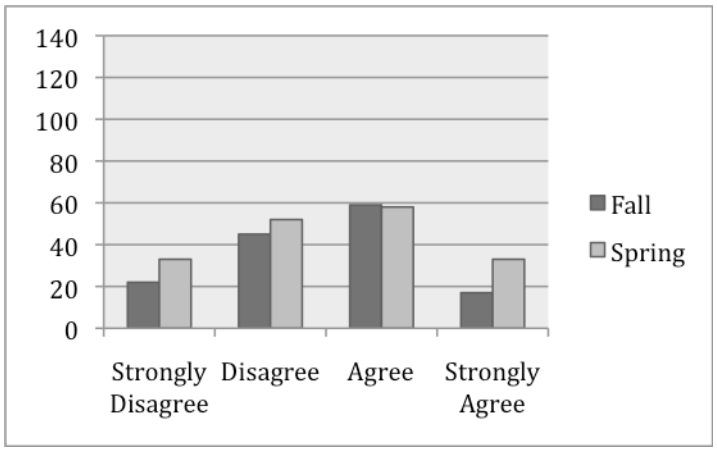


Figure 69: Postsurvey Responses to "I like to read," by Cohort



At the presurvey, the fall cohort and spring cohort averaged 0.08 and 0.11, respectively. At the midsurvey, the fall cohort mean was 0.03 and the spring cohort mean was 0.03. Postsurvey means were 0.05 for the fall cohort and 0.22 for the spring cohort. Like the previous item, interpretation of these mean scores is difficult. The movement is only slight. While one might conclude that participation in EO caused lower mean scores at the mid-test, the data do not support such a conclusion because the spring cohort experienced lower scores at that time as well. School or maturation effects are therefore better tentative explanations.

Self-reported Engagement (Perceptions of Scholastic Behavior)

For the next several items, which relate to perceptions of scholastic behavior, we coded a response of "Never" as -2, "Rarely" as -1, "Sometimes" as 1, and "Often" as 2. The item below relates to seeing oneself as attentive in class. Across the board, students tended to see themselves as often paying attention in their language arts classes.

Figure 70: Presurvey Responses to "I pay attention in my English/Language Arts class(es)," by Cohort

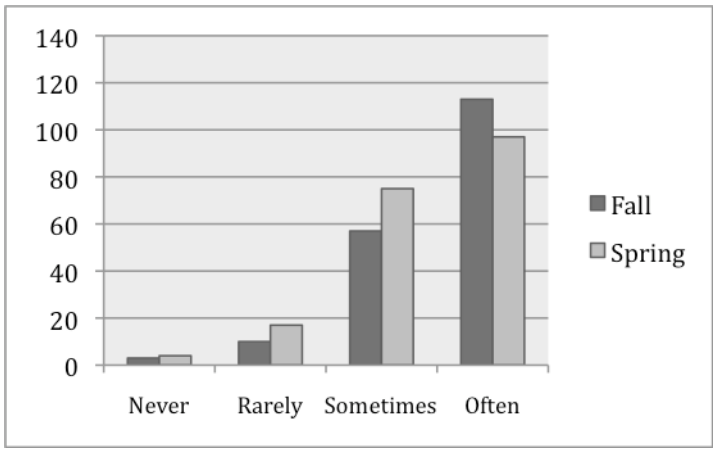


Figure 71: Midsurvey Responses to “I pay attention in my English/Language Arts class(es),” by Cohort

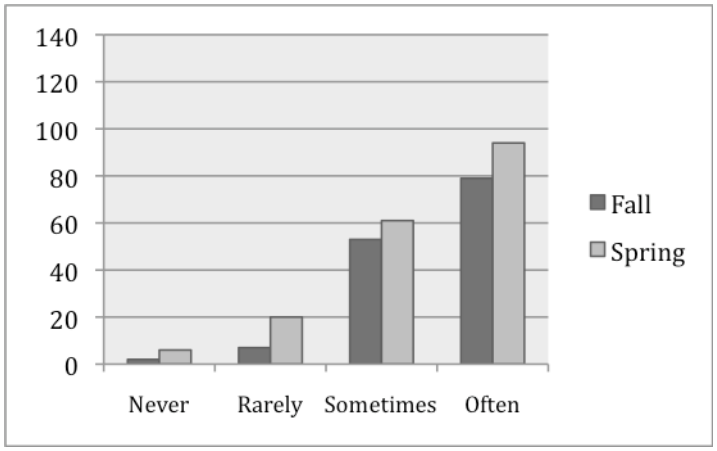
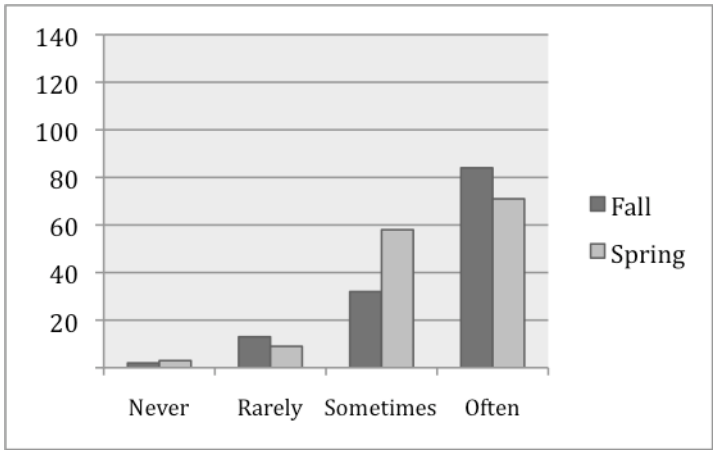


Figure 72: Postsurvey Responses to “I pay attention in my English/Language Arts class(es),” by Cohort



The average ratings for the fall cohort were 1.46, 1.42, and 1.40 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 1.26, 1.20, and 1.31. The movement was too slight to consider any changes meaningful. Additionally, the differences between groups were not significant at any administration of the survey.

The next set of figures illustrate that study participants saw themselves as hardworking in their language arts classes at all administrations of the survey. Responses were overwhelmingly positive with little movement from the pre- to postsurvey.

Figure 73: Presurvey Responses to “I work hard in my English/Language Arts classes,” by Cohort

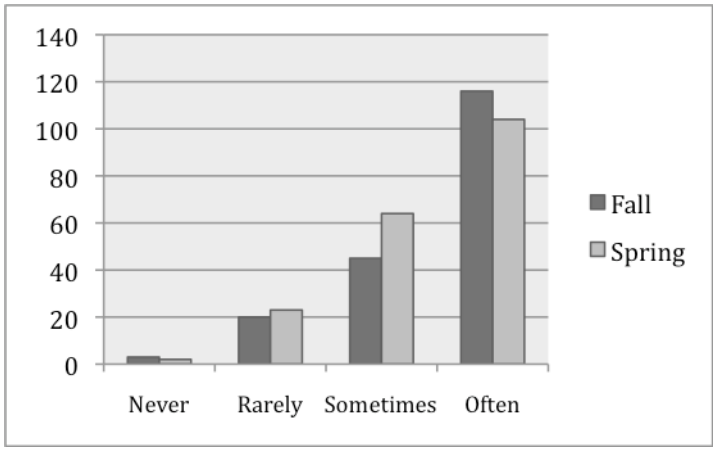


Figure 74: Midsurvey Responses to “I work hard in my English/Language Arts class(es),” by Cohort

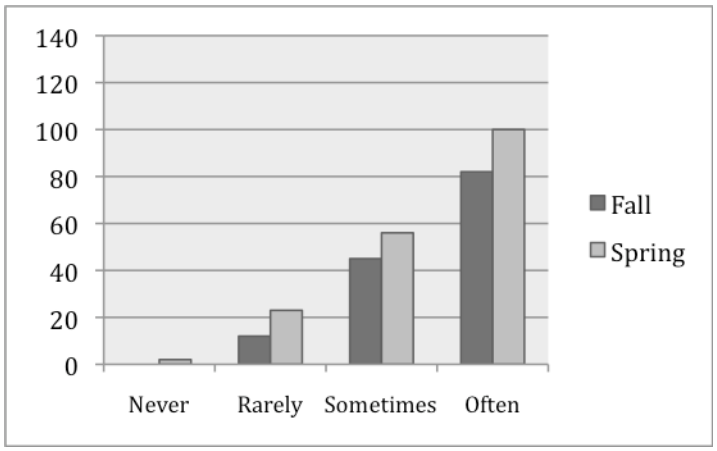
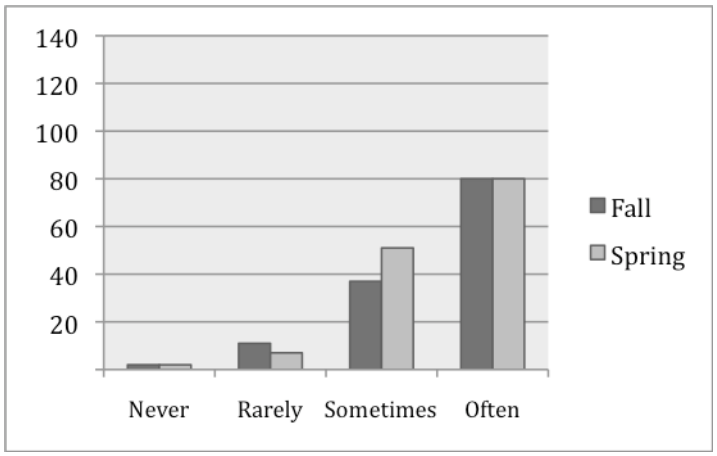


Figure 75: Postsurvey Responses to “I work hard in my English/Language Arts class(es),” by Cohort



At the presurvey, the fall cohort and spring cohort averaged 1.36 and 1.27, respectively. At the midsurvey, the fall cohort mean was 1.42 and the spring cohort mean was 1.27. Postsurvey means were 1.40 for the fall cohort and 1.43 for the spring cohort. Both cohorts—particularly the spring cohort—experienced a higher mean score after participation in EO. Overall, the scores are highly positive throughout the year, however. Just as students saw themselves as hardworking in class, they also responded that they tended to do their language arts homework. This finding is illustrated in the figures below.

Figure 76: Presurvey Responses to "I do my English/Language Arts homework," by Cohort

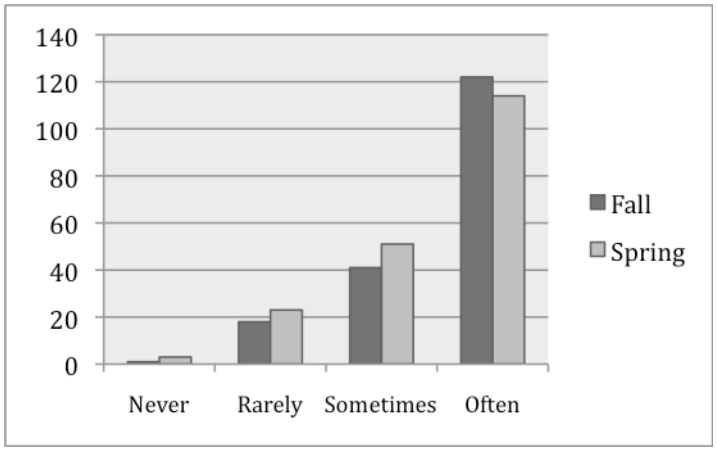


Figure 77: Midsurvey Responses to "I do my English/Language Arts homework," by Cohort

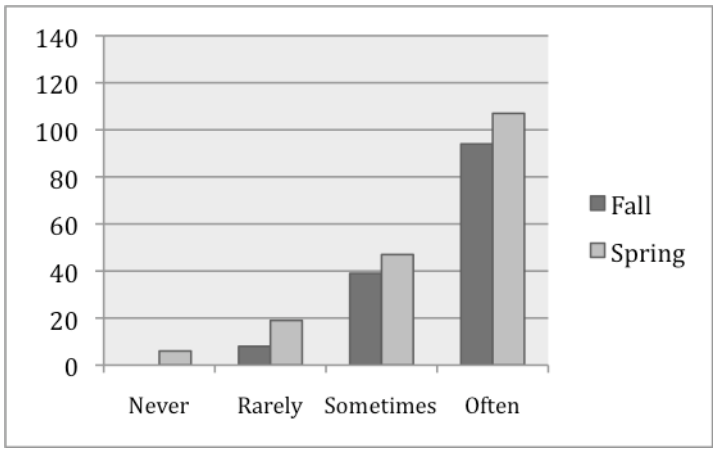
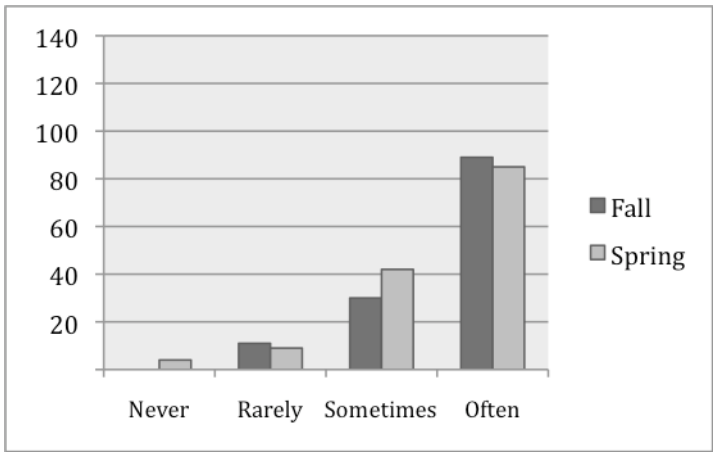


Figure 78: Postsurvey Responses to “I do my English/Language Arts homework,” by Cohort



The average ratings for the fall cohort were 1.46, 1.55, and 1.52 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 1.31, 1.28, and 1.39. Both groups show movement towards agreement but the differences between groups were not significant at any administration of the survey. Once again, the ratings are highly positive throughout the year. The figures below illustrate that students also tended to ask questions in class. One might expect students to ask fewer questions after enrollment in EO, but a few teachers commented that after participation, students were more comfortable in class and asked more questions.

Figure 79: Presurvey Responses to “I ask questions in my English/Language Arts class(es),” by Cohort

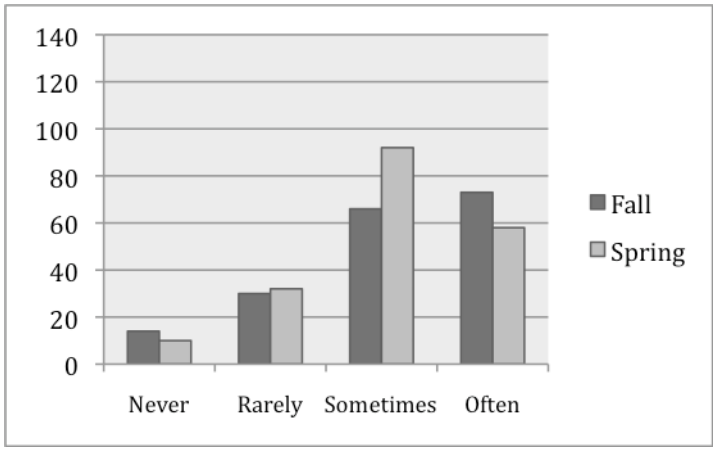


Figure 80: Midsurvey Responses to "I ask questions in my English/Language Arts class(es)," by Cohort

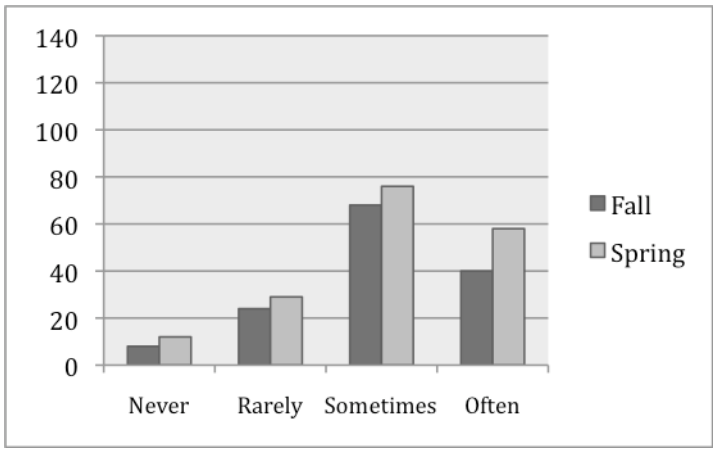
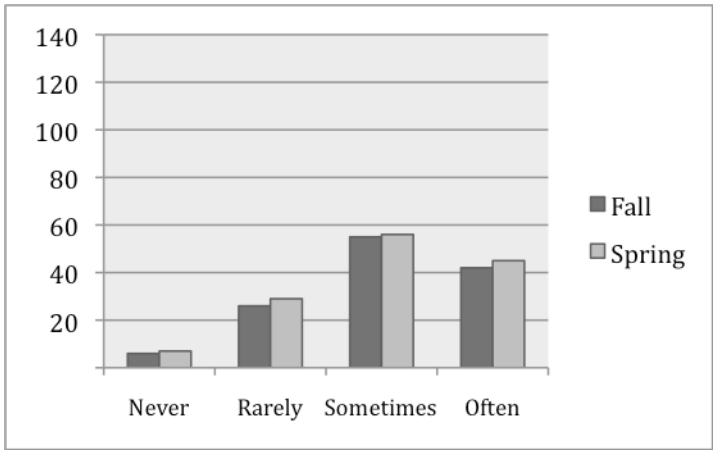


Figure 81: Postsurvey Responses to "I ask questions in my English/Language Arts class(es)," by Cohort



At the presurvey, the fall cohort and spring cohort averaged 0.84 and 0.81, respectively. At the midsurvey, the fall cohort mean was 0.77 and the spring cohort mean was 0.79. Postsurvey means were 0.78 for the fall cohort and 0.75 for the spring cohort. While these scores were not as high as the previous ones relating to scholastic behavior, the cohort scores similarly exhibit little movement over the year.

Importance of School

The next group of items relate to feelings about school overall. One might not expect involvement in EO to affect feelings about school globally, and in general it was the case that we saw little movement or difference between cohorts. Like other sections of the surveys, we coded a response of "Strongly Disagree" as -2, "Disagree" as -1, "Agree" as 1, and "Strongly Agree" as 2. As shown in the figures below, students in both cohorts on average agreed with the statement, "I like school."

Figure 82: Presurvey Responses to “I like school,” by Cohort

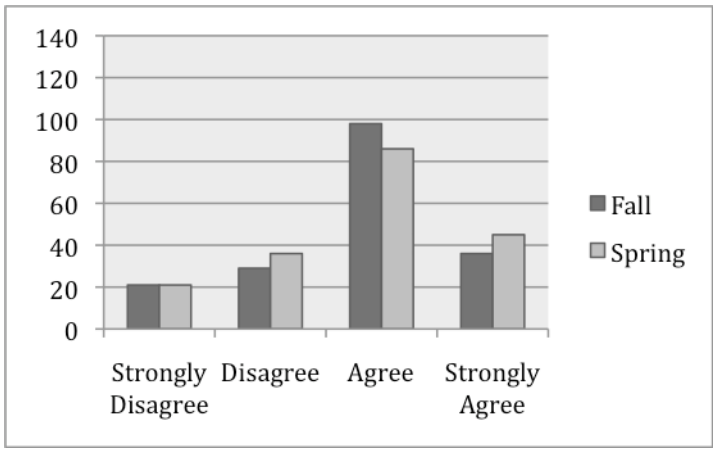


Figure 83: Midsurvey Responses to “I like school,” by Cohort

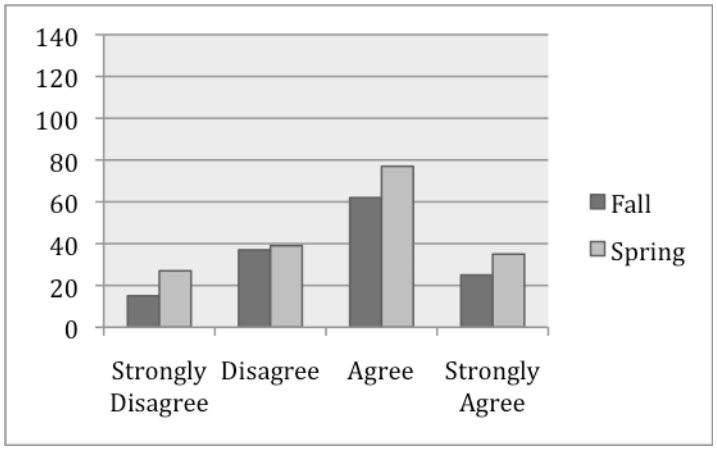
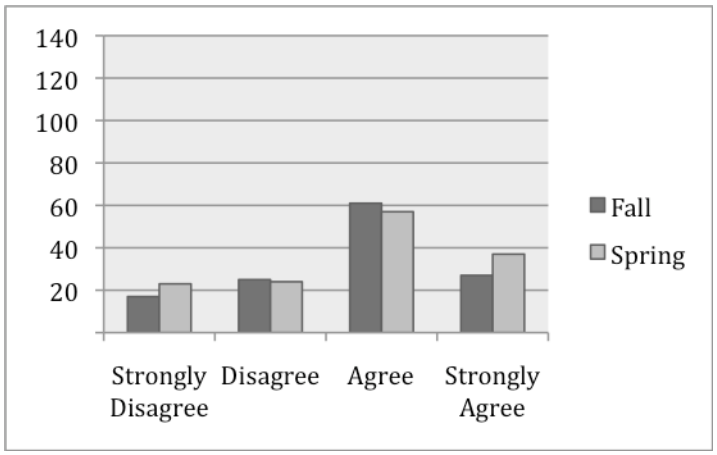


Figure 84: Postsurvey Responses to “I like school,” by Cohort



The cohort mean scores were nearly equal at all three administrations of the survey. The average ratings for the fall cohort were 0.54, 0.32, and 0.42 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 0.52, 0.30, and 0.43. Due to the parallel movement in cohort mean scores, we cannot attribute changes to a program effect.

Figure 85: Presurvey Responses to “I am rarely absent from school,” by Cohort

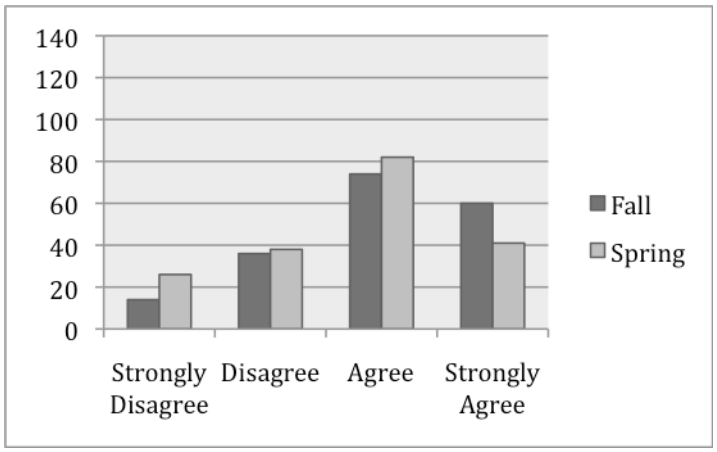


Figure 86: Midsurvey Responses to “I'm rarely absent from school,” by Cohort

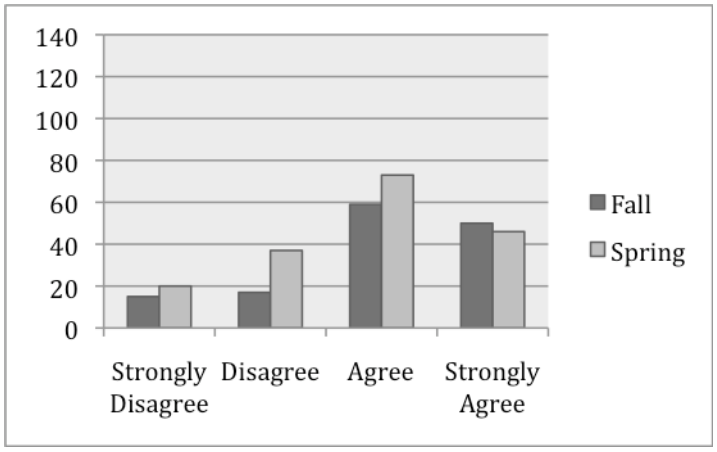
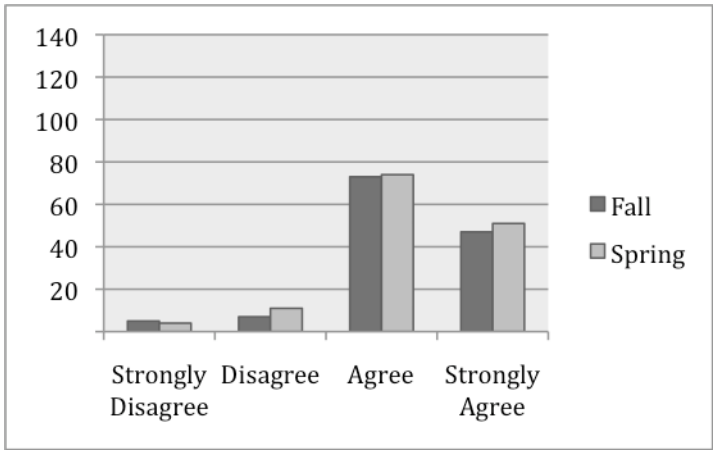


Figure 87: Postsurvey Responses to “I'm rarely absent from school,” by Cohort



Because school attendance tends to be very high in middle school, we expected to see little movement on this item. This expectation was reflected in our actual data. At the presurvey, the fall cohort and spring cohort averaged 0.71 and 0.40, respectively. At the midsurvey, the fall cohort mean was 0.79 and the spring cohort mean was 0.50. Postsurvey means were 0.83 for the fall cohort and 0.49 for the spring cohort. It is unclear why the fall cohort tended to have higher ratings than the spring cohort in all three administrations.

Figure 88: Presurvey Responses to “School is hard for me,” by Cohort

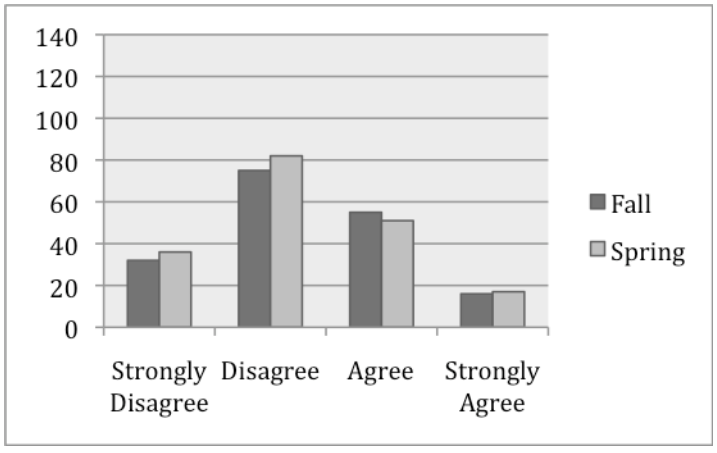


Figure 89: Midsurvey Responses to “School is hard for me,” by Cohort

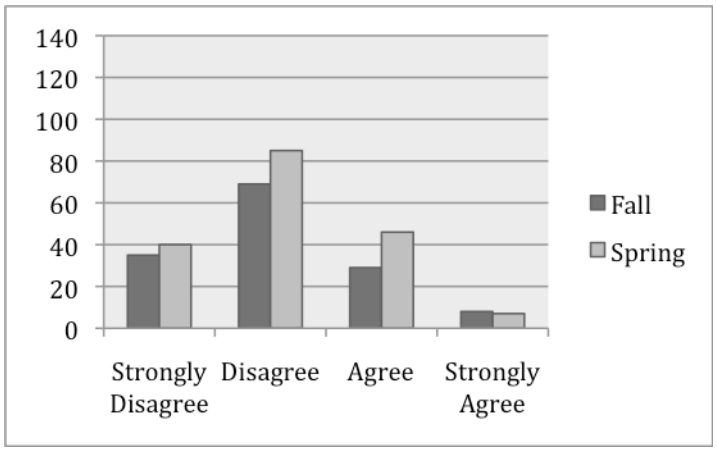
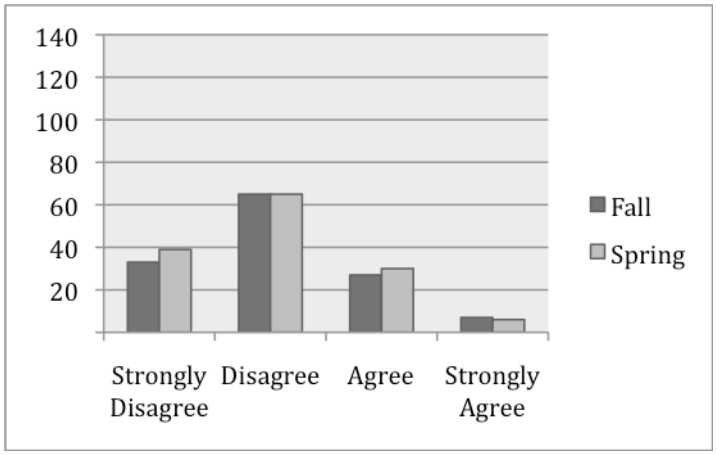


Figure 90: Postsurvey Responses to “School is hard for me,” by Cohort



Over time, both cohorts exhibited movement towards disagreement. At the presurvey, the fall cohort and spring cohort averaged -0.29 and -0.38, respectively. At the midsurvey, the fall cohort mean was -0.66 and the spring cohort mean was -0.59. Postsurvey means were -0.68 for the fall cohort and -0.72 for the spring cohort. The next item is similarly wide in scope and examines how much importance students place on performing well in school.

Figure 91: Presurvey Responses to “It is important for me to do well in school,” by Cohort

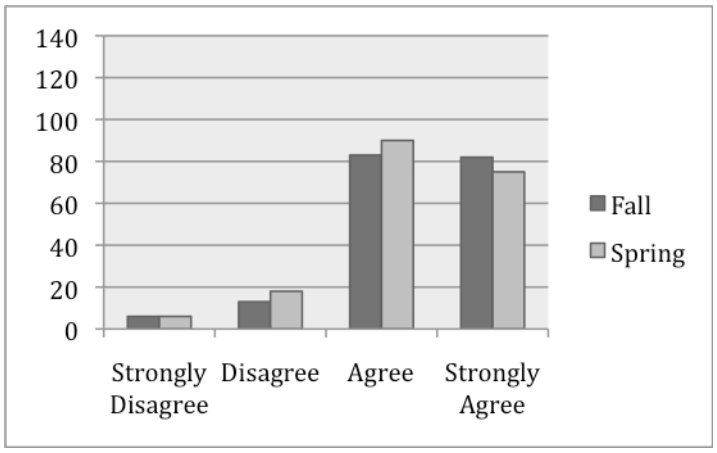


Figure 92: Midsurvey Responses to “It is important for me to do well in school,” by Cohort

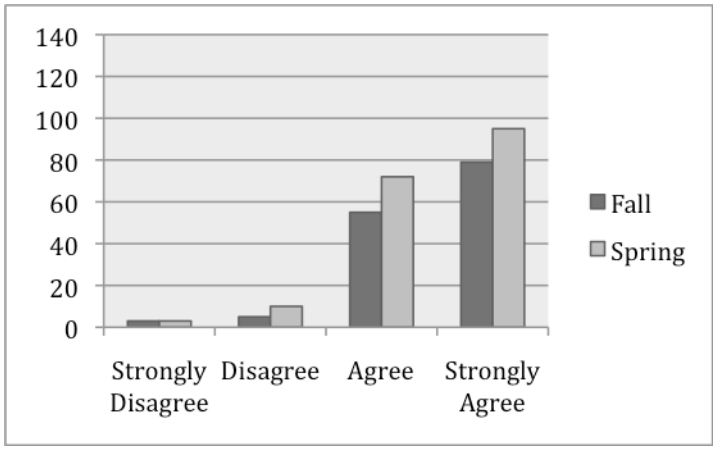
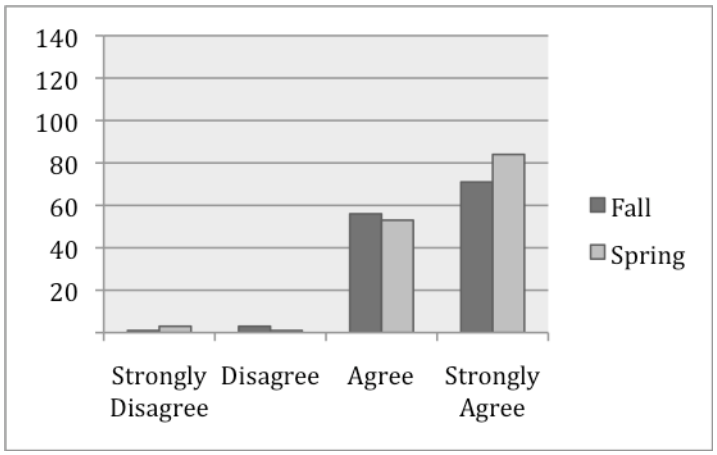


Figure 93: Postsurvey Responses to “It is important for me to do well in school,” by Cohort



The scores for both the fall and spring cohorts remained fairly stable over the course of the year. The average ratings for the fall cohort were 1.47, 1.42, and 1.47 for the pre-, mid-, and postsurvey respectively. The spring cohort averaged 1.44, 1.37, and 1.52. It is not surprising that the scores did not dramatically change as a result of EO, in that the item relates to a global belief in the importance of school, which can be completely separate from a hypothesized direct effect, such as self-confidence in language arts.

Perceptions of Educate Online

We wanted to capture students' perceptions of their experiences with the EO program and how it related to school and classroom work. The survey we administered contained questions about engagement in school, attitudes toward reading, supports at home and school for their learning, and their perceived competence in being successful at school. Both cohorts answered the survey questions soon after their treatment. In other words, the fall students responded to these items at the midsurvey, and the spring cohort responded at the postsurvey. We first present an examination of close-ended items, in which students agree or disagree to statements about EO. Then, we summarize open-ended responses relating to EO.

In reporting students' perceptions of EO, we clustered item responses around the most important aspects found in the analysis (e.g., how helpful the program was, what students have learned from EO, etc.) The figures below summarize responses from both the mid- and postsurvey. The figures show the number of respondents for each category; in explanations we describe the percentage of students expressing agreement with statements relating to EO. Students highly praised EO for in its ease of use, academic benefit, and enjoyable environment.

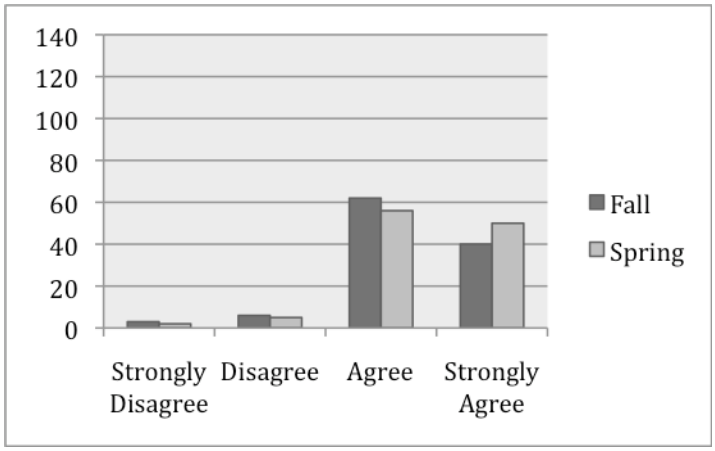
Perception of Helpfulness

The results strongly support the perception that participating in EO helps students perform better in school. The students reported they are reading better as a result of their work in the program and more importantly they understand better what they read. Consequently, according to the survey data, students had improved not only in reading comprehension but also their grades in English Language Arts rose.

Please note that in the data presented below, the narrative presents percentages of respondents in response categories by cohort. The accompanying figures present the data by numbers of respondents in each category by cohort.

The figure below illustrates students' agreement with the statement, "The work I do on Educate Online helps me do better in school."

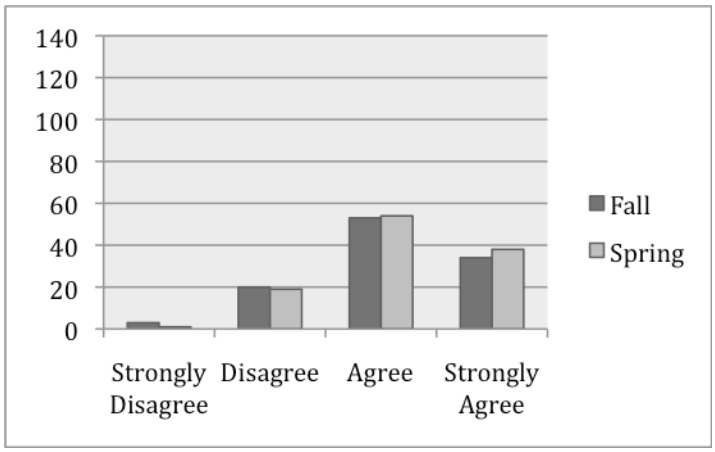
Figure 94: Survey Responses to "The work I do on Educate Online helps me do better in school," by Cohort



Responses were overwhelmingly in agreement with the statement. 92% of fall and 94% of spring student respondents (or 93% of total student survey respondents) agreed or strongly agreed that work they do on EO helps them do better in school, with 40% of all students strongly agreeing.

The next figure shows responses for an item about students reading better since participating in SES with EO.

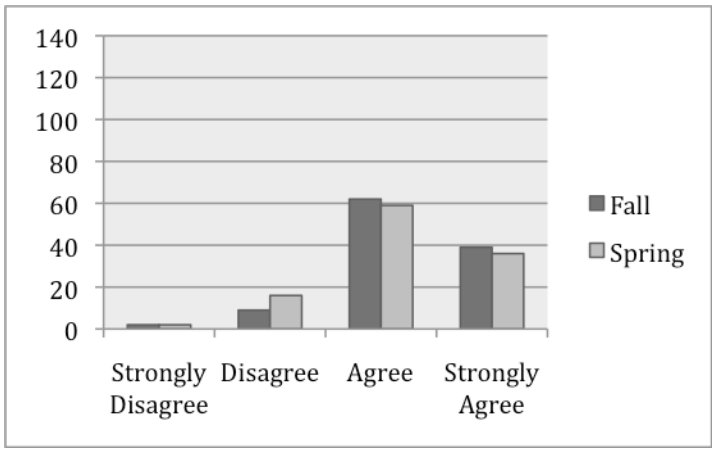
Figure 95: Survey Responses to "Since I have been working on Educate Online, I read better," by Cohort



For the survey item, "Since I have been working on Educate Online, I read better," 81% of all respondents expressed agreement, with 79% of fall vs. 82% of spring respondents either agreeing or strongly agreeing. Out of the 43 respondents from both cohorts who disagreed with this item, only 4 strongly disagreed.

The next figure shows survey responses for the survey item about improvement of student reading comprehension since working on EO.

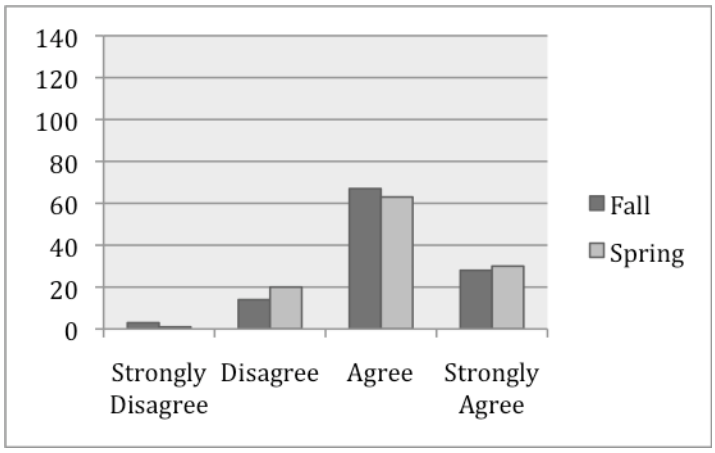
Figure 96: Survey Responses to "Since I have been working on Educate Online, I understand what I read better," by Cohort



Ninety percent of fall and 84% of spring student respondents (or 87% of total student survey respondents) agreed or strongly agreed that since working on EO, they understand what they read better, with 33% of all students strongly agreeing.

Regarding improvement in English/Language Arts, the figure below depicts survey responses for the item "Since I have been working on Educate Online, my English/Language Arts grades have improved."

Figure 97: Survey responses to "Since I have been working on Educate Online, my English/Language Arts grades have improved," by Cohort

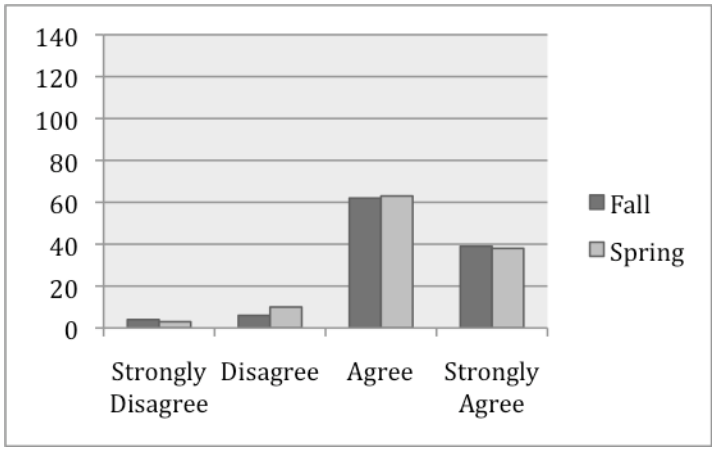


Out of 226 total respondents, 95 fall students and 93 spring students expressed agreement with the item, “Since I have been working on Catapult Online, my English/Language Arts grades have improved.” 83% of both cohorts expressed agreement with this item and 26% (or 58 students) strongly agreed.

Perception of Usefulness

We wanted to learn from participating students if they had used what they had learned in the online program. For instance, students overwhelmingly reported that EO had taught new ways to understand what they were reading. We can assume that the students had learned and apply reading comprehension strategies learned in EO. The figure below depicts survey responses by cohort to the item, “Educate Online taught me new ways to understand what I am reading.”

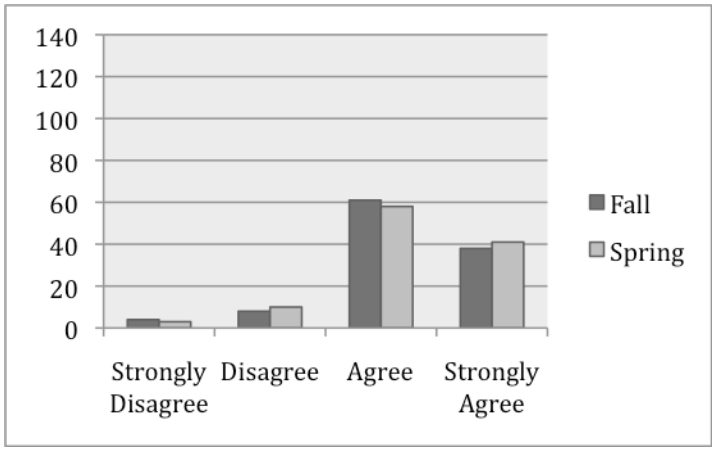
Figure 98: Survey Responses to “Educate Online taught me new ways to understand what I am reading,” by Cohort



Responses to this item strongly suggest that students see EO as providing skills not gained during the school day. Only 10 students for the fall cohort and 13 students from the spring cohort disagreed or strongly disagreed with the statement that “Educate Online taught me new ways to understand what I am reading.” 90% of students from both cohorts agreed or strongly agreed with this statement.

The survey responses for the statement, “I use what I learned from Educate Online to help me in my English/Language Arts class(es),” are depicted below.

Figure 99: Survey responses to "I use what I learned from Educate Online to help me in my English/Language Arts class(es)," by Cohort

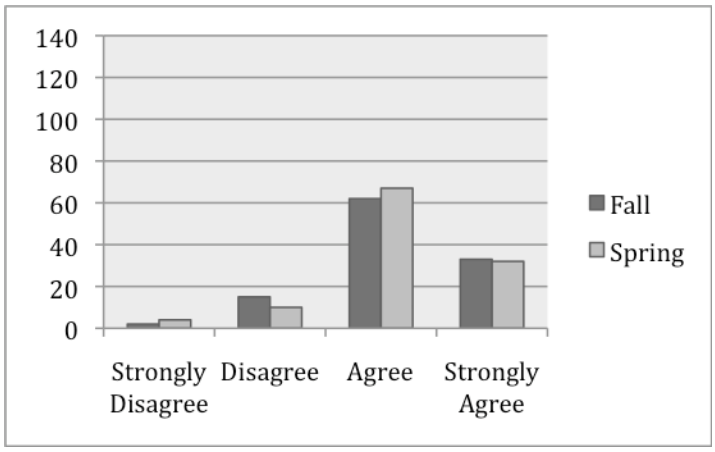


When ask to indicate agreement level with the survey item, "I use what I learned from Educate Online to help me in my English/Language Arts class(es)," the majority of respondents from both fall and spring cohorts agreed or strongly agreed with this item. In the fall cohort, 89% of respondents agreed or strongly agreed, which was almost exactly the same percentage as that of spring respondents (88%). Out of all of the 223 respondents, 79 strongly agreed.

Advantageous Aspects of EO

In exploring what aspects of EO had been beneficial, students agreed that getting immediate feedback from the teachers had helped them figure out their weaknesses (mistakes in reading). In addition, the great majority of the students mentioned "getting help from the online instructor" as another beneficial aspects of EO. In this regard, the students were overwhelmingly positive about the quality of the online teachers. The figures below show the level of students' responses.

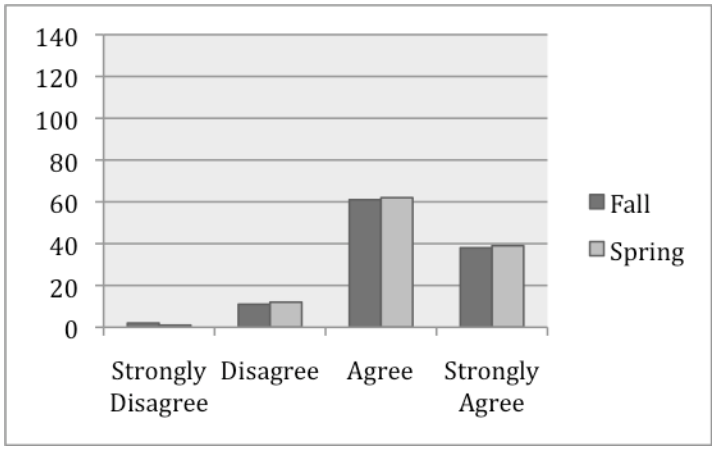
Figure 100: Survey Responses to "I get feedback from Educate Online that helps me learn," by Cohort



The figure above describes student agreement with the statement, "I get feedback from Educate Online that helps me learn." 85% of fall, 88% of spring, and 86% of total respondents agreed or strongly agreed that Educate Online gives them feedback that helps them learn. 29% of all students (or 65 out of 225) strongly agreed.

The figure below depicts survey responses by cohort for the item, "Educate Online helps me figure out my mistakes in reading."

Figure 101: Survey Responses to "Educate Online helps me figure out my mistakes in reading," by Cohort

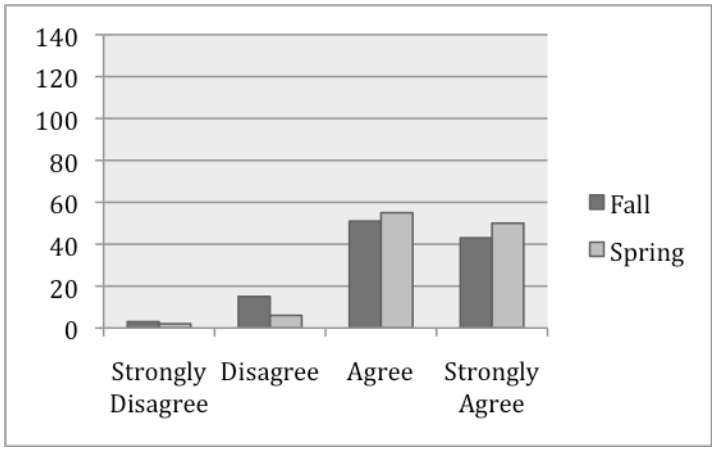


When asked to indicate agreement with the survey item, “Educate Online helps me figure out my mistakes in reading,” the majority of respondents from both fall and spring cohorts agreed or strongly agreed with this item. In the fall cohort, 88% of respondents agreed or strongly agreed, which was almost exactly the same percentage as that of spring respondents (89%). Out of all of the 226 respondents, only 26 (or 12%) disagreed or strongly disagreed.

In addition to asserting that EO helped them to figure out their mistakes in reading, the students were highly positive when answering a more specific item about getting help.

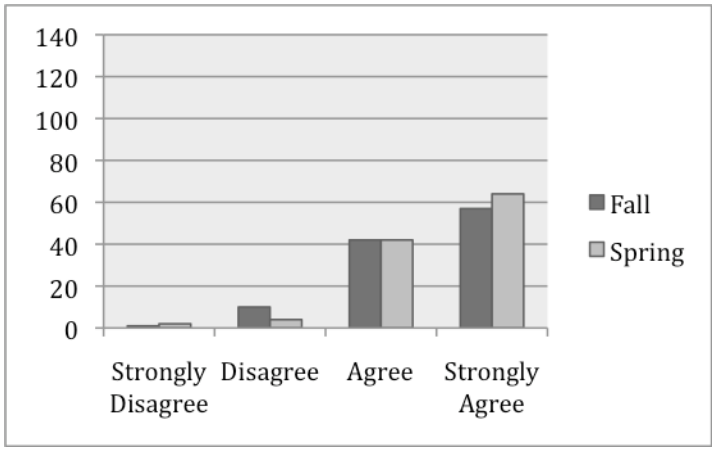
The following figure shows their responses to the item, “I like getting help from my online instructor.”

Figure 102: Survey Responses to “I like getting help from my online instructor,” by Cohort



Out of the 225 total respondents from both cohorts, 199 (or 88%) agreed or strongly agreed that they liked getting help from their online instructor, with 93 (or 41%) of all respondents strongly agreeing. Fall and spring student cohorts differed somewhat in their agreement with the statement, “I like getting help from my online instructor,” with 84% of fall vs. 93% of spring respondents either agreeing or strongly agreeing. The figure below depicts survey responses for the item about the quality of EO teachers.

Figure 103: Survey Responses to "The Educate Online teachers are good teachers," by Cohort

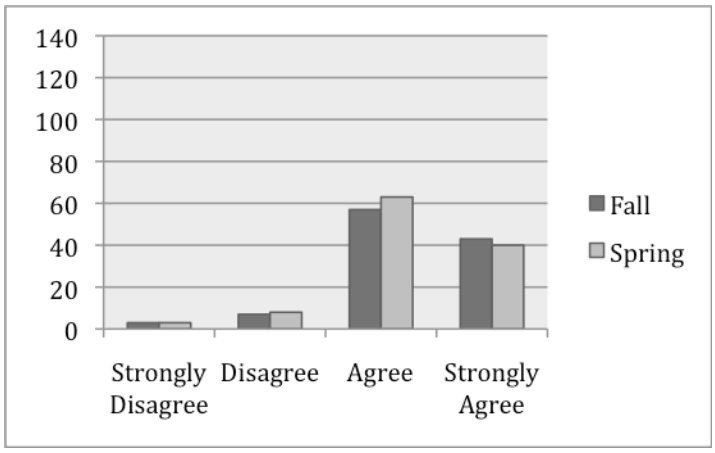


The vast majority (92%) of all students agreed or strongly agreed that EO teachers are good teachers, with over half (55%) of all students strongly agreeing. Only 10% of fall and 5% spring students disagreed or strongly disagreed with this statement.

Perception of the Content

The majority of the students found the lessons in the online program to be easy. Similarly, they agreed that "getting around the Educate Online website" was easy. According to the survey data, the EO website provided an easy way for the students to navigate through it. Regarding features of the interface, the respondents also found the online program to be user-friendly. However, as shown in the last figure of this subsection, the students reported that sometimes they did not understand the lessons. While at first glance, this might suggest that students found the lessons confusing, what we found through interviews, however, is that students found certain lessons particularly challenging—hardly a negative result. From our analysis, we can assert that when the students were exposed to already-known content they found the lessons easy to do; in contrast, when exposed to new content they found the work to be challenging.

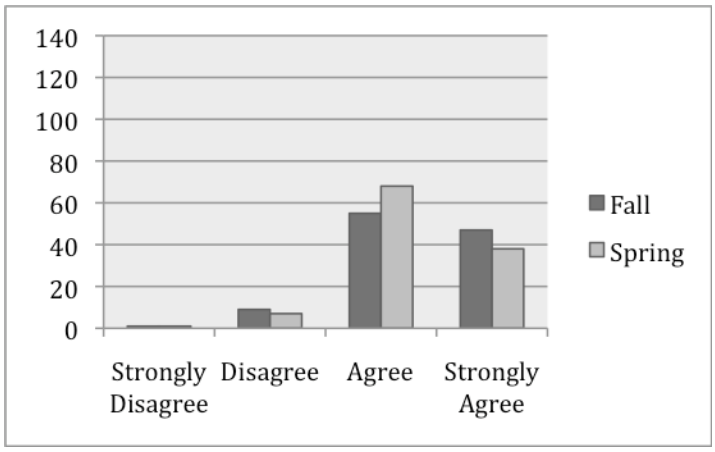
Figure 104: Survey Responses to “The lessons in Educate Online are easy,” by Cohort



The great majority of the respondents (specifically 91% of fall, 90% of spring, and 91% of all respondents) agreed or strongly agreed that EO lessons are easy.

The figure below describes student survey responses regarding the ease of EO website navigation.

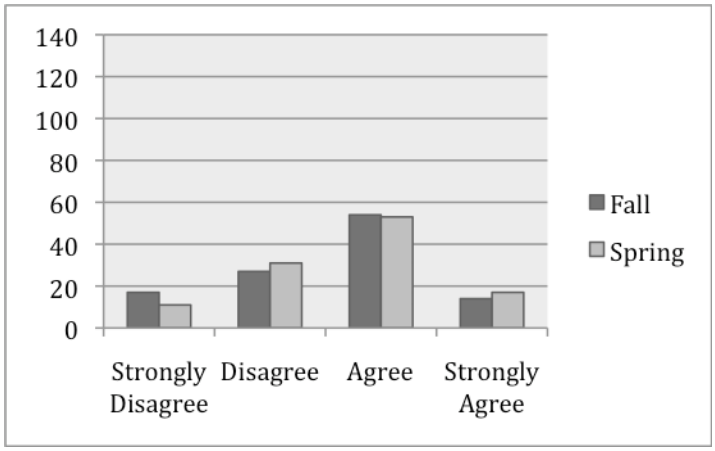
Figure 105: Survey Responses to “Getting around the Educate Online website is easy,” by Cohort



Only 10 students for the fall cohort and 8 students from the spring cohort disagreed or strongly disagreed with the statement that “Getting around the Educate Online website is easy.” 92% of students from both cohorts agreed or strongly agreed that the EO website was easy to get around.

Although the majority of the students found the program and content easy to use, they reported that sometimes it was not that easy to understand the lessons. The next figure describes student agreement with the statement, “Sometimes I don’t understand the lessons on Educate Online.”

Figure 106: Survey Responses to "Sometimes I don't understand the lessons on Educate Online," by Cohort

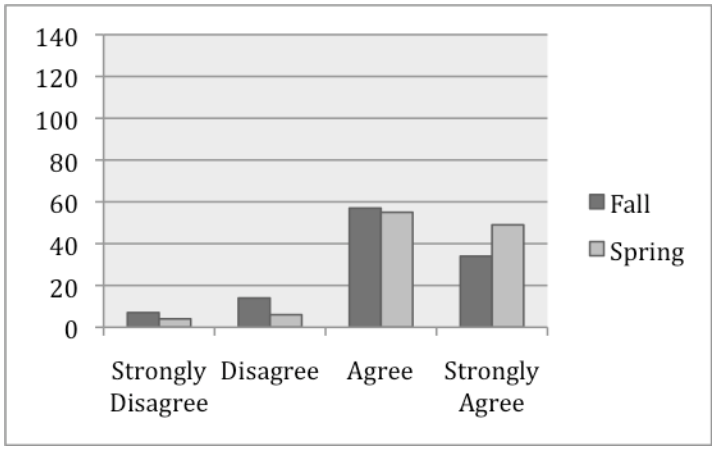


Almost four in ten (39%) of fall, 37% of spring, and 38% of total respondents disagreed or strongly disagreed with the statement, "Sometimes I don't understand the lessons on Educate Online." Only 14% of all students (or 31 students out of 224) strongly agreed. Overall, student agreement with this survey item was fairly low compared to other survey items, with 62% of all respondents agreeing or strongly agreeing.

Satisfaction and Enjoyment

The survey data suggest that students enjoyed working in the EO environment. They liked working on the problems and exercises. We can speculate that the students had a sense of independence working on their own as confirmed by their responses to the following items. Finally, the students liked getting rewards for their good work at the end of each session.

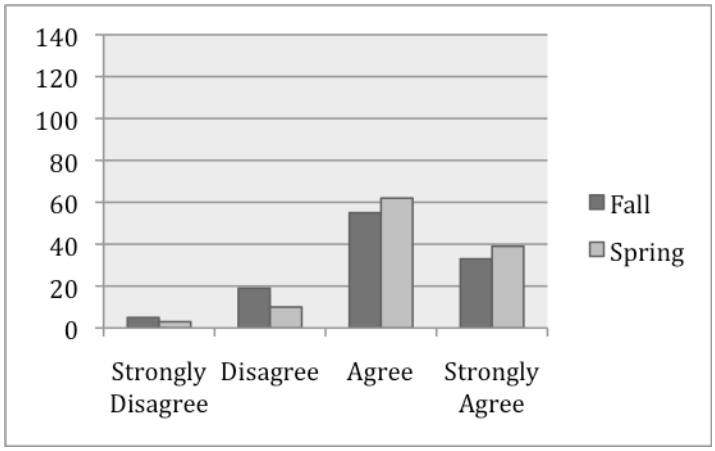
Figure 107: Survey Responses to "I enjoy the lessons on Educate Online," by Cohort



The figure above shows survey responses for the survey item about student enjoyment of lessons on EO. Out of the 226 total respondents from both cohorts, 195 (or 86%) agreed or strongly agreed with this item. Fall and spring student cohorts differed somewhat in agreement with the statement, "I enjoy the lessons on Educate Online," with 81% of fall vs. 91% of spring respondents either agreeing or strongly agreeing.

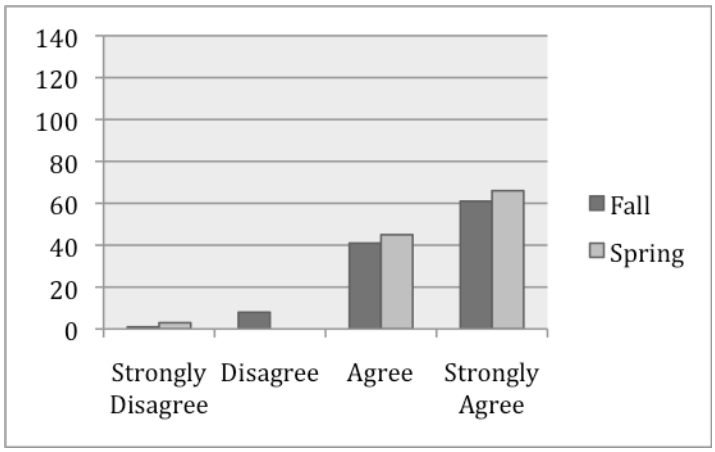
The item below relates to working independently in the EO learning environment.

Figure 108: Survey Responses to "I like working through Educate Online problems or exercises on my own," by Cohort



Most (84%) of the student respondents agreed or strongly agreed that they liked working through the problems and exercises posed by the program on their own. While 89% of the spring cohort (101 students) agreed or strongly agreed, compared to only 79% of the fall cohort (88 students). The figure below describes student enjoyment of tokens after doing work in EO.

Figure 109: Survey Responses to "I like getting Educate Online tokens when I do good work," by Cohort



Student responses were overwhelming positive for the statement, "I like getting Educate Online tokens when I do good work." The vast majority (95%) of all students agreed or strongly agreed with this statement, with over half (56%) of all students strongly agreeing. Only 9 fall and 3 spring students disagreed or strongly disagreed.

In addition to the closed-ended survey questions, we wanted to give participating students the opportunity to express their thoughts about the program in their own words. In this sense, the survey included open-ended questions regarding what they liked most and least about the program. The following summary shows the students' responses.

Favorite Aspects of the Program

The question "what do you like most about Educate Online?" was answered by 205 students (106 from the fall group and 99 from the spring group). According to the survey data, 29.7% of the students liked the *real teachers online* because they *treated them nicely and were helpful*.

Regarding the program generally, almost 20% of the students liked the *tokens* they received after completing the activities, the *e-store*, and the *games* they got to play at the end of the online sessions. According to some students (10%), *the program was fun*; they *learned and had fun at the same time*. Fifteen percent of the students said that EO was *very helpful and they liked getting help with reading and English*. They (18 students) also liked working on computers. Some students liked the program because "it is *easy* (10 students), it *makes learning fun* (8 students), and they *meet new teachers* (7 students)." Thirteen students liked *getting a free computer* and *working online* (10).

Least Favorite Aspects of the Program

The question "what do you like least about Educate Online?" was answered by 203 students (104 from the fall group and 99 from the spring group). Thirteen percent of the students responded that there was nothing they did not like about EO. For the others, the issues ranged from teacher concerns, to curriculum content, to technology, to when they completed the lessons.

Of the students that answered the question, 10% said they did not like that *the program was too long*. Less than 10% of the respondents did not like the *waiting time for teachers to respond* (7 students) or *having different teachers. A* few students (12) mentioned that some *teachers were not nice or even rude and not helpful*. Almost 10% of the students did not like that the lessons were about

contents they already knew and some of them said they had to *repeat lessons* already completed *over and over*. A few students (9%) said they did not like *evening and weekend sessions*. Some of them (12) mentioned they did not like the *after-school work* (11) because it took *their free time* (5). *Slow connection and non-working microphones and headsets,* were technology issues mentioned by 9% of the students.

Parental Involvement

As mentioned earlier in the report, we interviewed 60 parents at the conclusion of the study to gain insight on their views of the program and its effectiveness. Below, we summarize the responses relating to EO. Interview data was aggregated by type of student, ELL and non-ELL. Findings are presented by theme and type of respondent.

Parents' Knowledge of the Online Program

Almost all parents (99%) of non-ELL students were familiar with the online program. Some of them reported sitting down with their children to help them and monitor what they were doing. Although all of the parents of the students selected to participate in EO attended an introductory meeting where REA and Educate Online introduced the program at the beginning of the school year, 100% of parents of ELLs reported not being familiar with the program.

Parent-student Communication about the Program

According to data from parents of non-ELL students, half of them said their children would mention the program but would not give them details. The other half said their children do not talk about school at all. Ninety-eight percent of the parents of ELL students reported that their children would tell them what they were doing and the points and tokens they get from the program.

Parents' Monitoring of their Children's Progress with the Online Program

Monitoring children's schoolwork has been demonstrated to have a positive effect on students' success. We wanted to explore whether parents of EO students monitored their children's work in the online program. Half of the parents of non-ELL students monitored their children's participation in the online program, 20% of them did monitor their children twice a week, 20% once a week, and 10% never did. Parents who monitored their children's progress reported checking the parent's section online to monitor their child's progress at least twice a week. A few parents said they sat with their children and looked over the monitor to see what they were working on; 78% of them checked the parent section online at least twice a week.

Parents of ELL students did not often monitor participation in the online program. Instead, they asked their children how they were doing and checked their grades but did not get involved in the everyday work.

Technical Problems with Computers

Only 10% of the ELL students' parents reported having technical problems with computer set up and logging on at the beginning of the program. Surprisingly, 85% of parents of non-ELL students reported having technical problems. The problems they mentioned were: getting the computer late, logging on issues, unsuccessful troubleshooting, broken headphones, and inefficient tech support "but these issues were always resolved."

Parents' Expectations and Satisfaction with the EO Program

According to the data, 85% of parents of non-ELL students and 100% of parents of ELL students pointed out that the program had met their expectations. "The program superseded what I expected out of it," said the parent of one of the non-ELL students. A high level of program satisfaction was reported by 100% of both parents of ELL and non-ELL students.

What Parents Liked Most and Least about the EO Program

Parents of non-ELL students mentioned the child's ability to work independently and feeling more in control, having extra help at home where they could monitor their child, and getting a free computer, as some of the aspects they liked most about EO. Six parents mentioned "one-on-one tutors," three parents referred to scheduling flexibility, two parents referred to immediate positive feedback and nice teachers, as the most liked characteristics of the program.

Parents of ELL students were thankful. What they liked the most about the program was that they got to keep computers that otherwise they would not have been able to purchase. They also liked the extra help that their children received from EO.

Aspects that both parents of ELL and non-ELL students liked least were: broken headphones, dialup connection, not enough information about how to use the tokens, and the hassle of getting started.

What Students Enjoy Most and Least about the EO Program, According to Parents

Most parents of ELL students (75%) reported that what their children liked the most was getting a free computer; but the children were not happy about doing extra work after school. The other 25% liked having extra help in reading and being able to understand their work better. What the ELL students enjoyed the least was the after school extra work. They wanted to enjoy outdoor activities with friends. They

did not like the technology or connectivity problems they encountered when the program started.

Among the things that non-ELL students liked, according to most parents (85%), were: interactions with online teachers, one-on-one attention, playing games at the end of the class, the convenience of an at-home program, the flexibility to modify their schedule, and "the easiness and friendly relationship with a tutor."

Parents of both ELLs and non-ELLs reported that their children did not like that "sometimes there was too much talking or noise in the background; it seemed like there were kids playing at the teachers' house."

Technology to Deliver Supplemental Educational Services

Technology was regarded as an efficient way to provide SES by both parents of both groups.

Use of the Computers after Completing EO

Most parents of non-ELL students (85%) reported that their children are using their EO computers almost daily since they finished the program. They reportedly use the computers for school homework, games, music, internet, and PowerPoint presentations. All of the parents of ELL students said their children use the computers 5-6 times a week for schoolwork, videos, games, internet, chat, and music.

Suggestions for Program Improvement

Parents of ELL students suggested making the program available for other subject areas and older children, especially at the high school level. Parents of non-ELL students suggested that EO provide more information to the parents on what the children are struggling with, more efficient technical support, and communication with the company providing the service.

VI. Conclusions of Year Three Research

This report covers the third and final year in a national evaluation of an online, at-home, 1:1 SES program aimed at improving middle school academic achievement. The third year evaluation consisted of three sub-studies: a randomized control trial (RCT) of the relationship between student academic achievement and involvement in the SES program; a study of how student SES participation related to behavioral and attitudinal changes in school and a mixed-methods analysis of how ELL students and certified ELL teachers interacted during the online tutoring sessions and the potential relationship of those interactions to academic outcomes.

Despite testing and compliance problems in the spring, we found strong support for the effectiveness of EO. Both the ASA and the CAT/5 results demonstrate that students who participate in EO will exhibit achievement gain compared to peers who are not enrolled in SES.

In approximately one half of a school year, the fall cohort (as the treatment group) experienced 1¼ years grade equivalent growth in vocabulary and nearly 2 years in reading comprehension as indicated by the CAT/5. The control group, or spring cohort, experienced 2/3 of a year growth in vocabulary and nearly 1¼ years growth in reading comprehension. Overall, fall students outperformed spring students by nearly ¾ of a grade. In both subtests as well as the overall score, these differences are highly significant at the .01 level. While we could not explain the variation between schools quantitatively, we did note that EO was most helpful to the participants with the lowest pretest scores.

Student ratings of EO were very high in both the fall and spring cohorts, as were the ratings of the program by parents, teachers, and administrators. In general, there was some improvement in students' academic attitudes over the course of the year, but we did not see a significant difference between cohorts. Site visits illustrated that even in contexts where we did not see significant gains on the ASA or CAT/5, teachers and administrators valued the program and believed that it improved student engagement in reading instruction and attitude toward reading. To consider the potential implications of the evaluation, it is useful to consider the current context of SES research.

Within the current political and economic environment, it is imperative for policy makers and SES providers that research contributes to an understanding, over time, whether such investments are effective, how they can be improved, and whether their services should be expanded (Harvard Family Research Project, 2002). As with other educational initiatives, "After-school leaders know that to attract and keep donors, they must prove, conclusively and quantitatively, that

programs improve school attendance and enhance student learning and performance on standardized assessment tests" (Frerking, B. 2007).

> *Along with the greater access to public resources comes the demand to be accountable for achieving measurable effectiveness consistent with the objectives of the funding streams. If after-school programs can meet these objectives, then access to these funding streams will be more supportable. (Bodilly & Beckett, 2005, p. 41)*

The body of research regarding SES programs has not painted a cohesive picture. For example, researchers note,

> *Some studies of after-school programs have found that these programs increase academic achievement and student safety, as well as reduce negative behaviors such as drug and alcohol use. However, other studies have found that after-school programs have no effect on—and even worsen—certain outcomes, leading to debate over whether the evidence supports increased investment in after-school programs. (Dynarski et al, 2004, p. xv)*

One such study is the recent report by Mathematica Policy Research that is heavily debated among service providers and others in the educational community. The report concluded that "after-school programs have few positive impacts on participants' academic performance" (Frerking, 2007). However, others have countered that there may be more appropriate measures than standardized tests to show academic gains that result from SES (e.g., participation, engagement and grades). Additionally, Priscilla Little, associate director of the Harvard Family Research Project, suggests that "there's already a wealth of research and evaluation on after-school programs that suggests the programs do improve participants' academic development" (Frerking, 2007). Such studies have demonstrated that by spending additional time after school and in the summer engaged in reading and reading instruction, students who are behind can catch up (Schuch, 2003 p.8). In fact, several studies have concluded that for children who spend 20-35 hours in "constructive learning activities do better in school," becoming more interested in reading and earning better grades and higher test scores, (Schuch, 2003 p.8).

The debate over the results of SES programs is further fueled by the difficulty of determining the relationship between SES programs and measurable outcomes. "A lack of scientifically based research and limited longitudinal data make it difficult to unequivocally state that after-school programs result in raising student achievement" (Schuch, 2003, p. 11). Evaluations of many SES programs have been

criticized for failing to establish the extent to which the programs contributed to observed outcomes (Fasholoa, 1998).

> *Policymakers, program designers, and providers should be interested in whether the program produces an effect over and above what would have occurred without the program—not whether the outcome measure itself changed. (Bodilly & Beckett, 2005, p 42)*

In some cases this is due to limitations inherent in the programs themselves, most notably in selection bias and varying degrees, lengths, and frequency of treatment (Bodilly & Beckett, 2005).

We are pleased that this evaluation study was able to address such concerns by employing an experimental design to limit selection bias, accounting for varying levels of participation in the analysis, and including qualitative examinations of both the treatment itself and the context within which the treatment took place. The review of the literature surrounding SES evaluation illustrated that the study is interesting in several other ways. First, the treatment is unique for this population—an individualized tutoring service that connects certified teachers with students (in real time) using computers, dial-up or broadband connections, and VOIP technology. Secondly, the study provides breadth, in that it encompasses a year-long examination of programs in three states, and depth, in that in incorporated student standardized achievement data, student surveys, student interviews, teacher and administrator interviews, and classroom and tutoring session observations. Lastly, the design of the study is uncommon for SES studies—a mixed-methods approach incorporating both a randomized control trial (RCT) quantitative outcome study and qualitative analyses of both the intervention and the supporting school context. Despite these unique aspects, the researchers found methodological implications for future evaluations of SES.

- There is a possibility that the delayed treatment model is not a fair one within the context of SES studies. The relative benefit of SES might not be consistent over the course of the year, so requiring a group of students to receive no SES for part of the year might raise ethical considerations.
- Future work should also give serious consideration to the assessment burdens placed upon children, particularly in the current climate of accountability. Evaluators should try to use assessments already being administered in schools, such as state-based standardized tests. Discussions with teachers and administrators suggest that such an indicator would be of greater use to the study population.

- We encourage future research to include as many nonreactive forms of data collection as possible to capture student and teacher behavior without affecting participants. In this year's evaluation, we asked teachers about participants' behavior. In doing this, we informed teachers of what students were participating, potentially influencing their behavior toward participants. This concern is mitigated, however, by our finding that schools appreciate information surrounding student growth in the SES. Tightening the connection between the school day and SES would remove any potential dilemmas to discussing student participation with teachers.
- Another consideration for future evaluations relates to the use of incentives. It is possible that providing students with free computers decreased the external validity of the study in that students could have higher rates of participation than they would otherwise. We wonder if the drop off in the testing rate and mean scores of students at the posttest was due to students participating to receive the computer, rather than participating to improve in reading.

Based on our experiences this past year, we hope that future research examines the *relative* contributions that online instruction, mechanisms of collecting and disseminating student progress, parental support, classroom teacher support, and district/school support all have upon student academic growth, behavior, and attitudinal change. To pursue such work would require variation in each of these mediators of academic growth and the creation of reliable, quantifiable indicators. Although clearly a tall order, we believe that such research would build upon our current work and prove invaluable to SES providers, consumers, and policymakers.

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Appendix A: School Case Studies

In this Appendix, we examine the fifteen participating schools in the year three study. While no clear patterns emerged in regards to the effectiveness of EO, the case studies highlight the range of responses to SES and the range of contexts in which the study took place.

Axtell Park Middle School
Sioux Falls, SD

Axtell Park Middle School (Axtell Park) is a public school located in Sioux Falls, Minnehaha County, SD. The student body was comprised of 70% White, 11% Latino, 9% African American, 9% American Indian or Alaskan Native, and 1% Asian/Pacific Islander. In the school year 2007-2008, Axtell Park Middle School had an enrollment of 741 students, of which 65 were English Language Learners.

Data from the school year 2007-2008 show that 69.4 % of Axtell Park students participate in free or reduced-priced lunch program, compared to the state average of 29%. Axtell Park Middle School has not met Adequate Yearly Progress (AYP) during the last four school years. The student-teacher ratio in 2007 was 12 students per full-time equivalent (FTE) teacher, close to the state average of 13 students per FTE teacher.

In 2007, 72% of Axtell Park students scored at or above proficient reading level as measured by the Dakota State Test of Educational Progress (Dakota STEP). The state average for reading was 81%. Axtell Park students that participated in the EO reading program in 2007-2008 were English Language Learners (ELLs).

Results from the state assessment show that at Axtell Park 66% of the students in 6th grade, 72 % of students in 7th grade, and 67% of students in 8th grade scored at or above proficient level. However, according to the same test results, 83% of the ELLs in 6th grade, 72% of the ELLS in 7th grade, and 91% of the ELLs in 8th grade scored below proficient level in reading.

During a school visit in the fall of 2007, we observed the English as a Second Language class and interviewed the ESL teacher, the EO program coordinator/home-school liaison, and the school principal. At Axtell Park, an immersion program is offered to English Language Learners. The EO students spoke different languages at home (e.g., Swahili, Krahn, Albanian, Chinese, Russian, and Spanish). Since this ESL class is inclusive, we observed students from 6th, 7th, and 8th grades during the same period. The teacher teamed them up by level of proficiency. These students were at different levels of English

proficiency from intermediate to high intermediate as measured by the Dakota English Language Proficiency test (DELP). Teachers mentioned reading comprehension, writing, and difficulties expressing ideas as the main learning challenges the ELLs experience.

ELLs are assessed at the beginning of the school year and placed in one of the three levels of English proficiency (beginning, intermediate, and advanced). The ESL/Reading teacher reported that reading comprehension, writing, and difficulties expressing ideas were the main learning challenges that EO students faced in her reading class. The teacher made instruction modifications to address individual levels and learning styles. She increased the use of visuals and cultural artifacts, checked for prior knowledge, and used online resources to support ELLs English and reading instruction.

Different sources of data present a complex picture of EO's effectiveness at Axtell Park. On the mid-test ASA and CAT/5, the spring cohort outperformed the fall cohort; the difference between groups was not significant. On the other hand, teacher feedback of EO participants and changes in student grades suggest that student engagement in the classroom was improved through participation in the program. Mean achievement on the ASA for all three administrations is summarized below. Again, the dropoff at the end of the year relates to testing error (specifically, students exhibiting testing fatigue or not giving the test their best effort) rather than program effects.

Figure 1: ASA Total Scaled Scores, Axtell Park

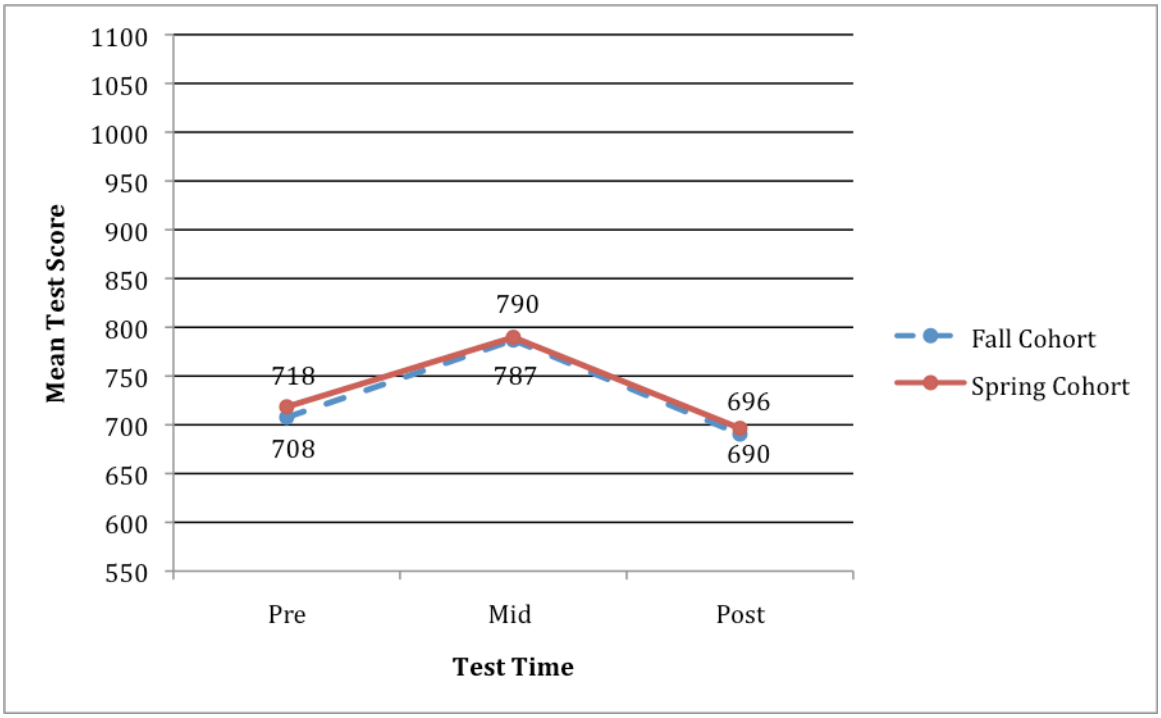


Figure 2: ASA Vocabulary Scaled Scores, Axtell Park

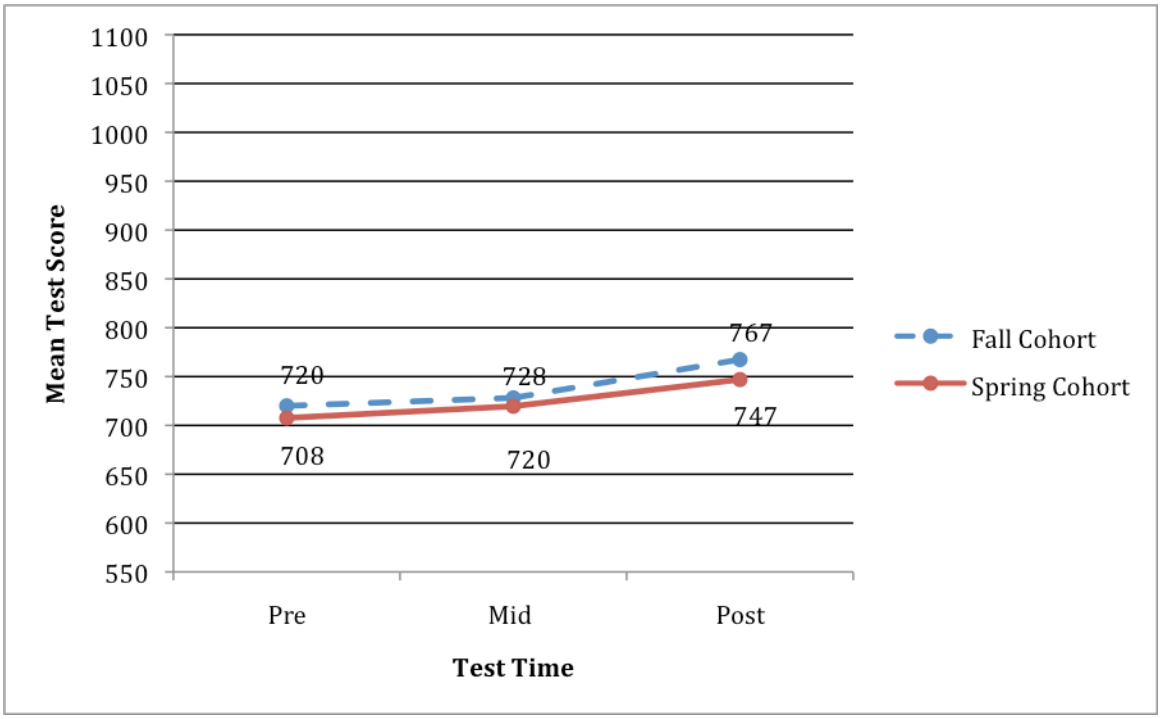
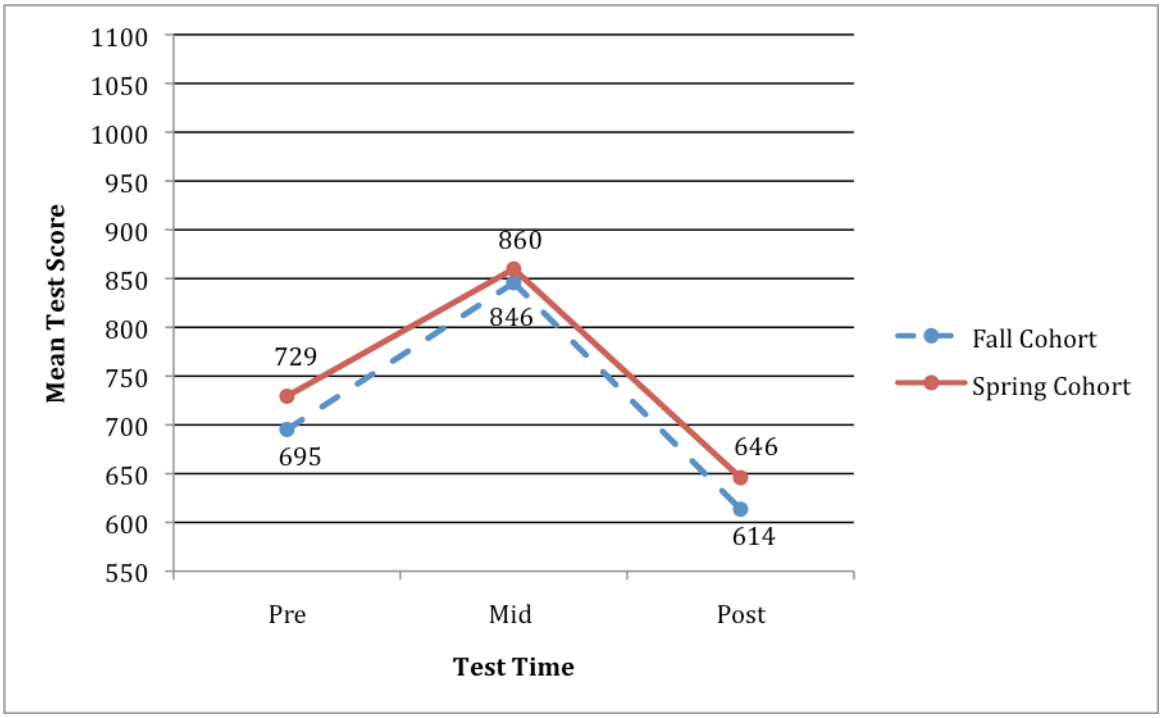


Figure 3: ASA Reading Comprehension Scaled Scores, Axtell Park



The EO students did not share their experiences in the online program with the ESL teacher. The ESL teacher was therefore not familiar with the EO program but thought the idea of an online program was wonderful. During an interview in May 2008, however, the ESL teacher asserted, "*As far as reading comprehension, I've noticed huge growth*." Although no major changes in students' attitudes toward reading or school had been observed, the teacher pointed out that some of the EO students participated more in class and one of them had improved her writing. The EO program coordinator/Home-school Liaison reported a high level of program satisfaction. CO students and their parents liked the program because it was working well for them; some of the students said the program had helped them identify and understand main ideas; they grades went up from D to C and from C to B. Overall, ELLs were engaged and participated in class activities.

Bowling Green Junior High
Bowling Green, OH

Bowling Green Junior High (Bowling Green), located in Bowling Green, Wood County, OH is a public school with an enrollment of 517 students in 7th, and 8th grades. In 2007, the estimated town's population was 29,636 (91.84% white, 2.82% African American, 0.21 Native American, 1.83% Asian, 0.02% Pacific Islander, 1.81% from other races, and 1.46% from two or more races). Hispanic or Latino of any race were 3.48% of the population. At Bowling Green, the student body is 83% white, 10% multiracial, 3% Hispanic and 4% unspecified.

Data from the school year 2007-2008 show that 87.2% (87.1% of the students in 7th grade and 87.3% of students in 8th grade) at Bowling Green scored at or above the proficient level in reading; the state average was 77.5% for 7th graders and 80.2% for 8th graders, in contrast to the higher district average of 87.1% for 7th graders and 87.3% for eighth graders. Bowling Green did not make adequate yearly progress (AYP) in reading in 2007-2008. The student-teacher ratio in 2007 was 12 students per FTE teacher, considerably lower than the state average of 16 students per FTE teacher.

EO students at Bowling Green did not participate in any other in-school or afterschool program that supported reading. Students in EO were two grade levels below in reading. Some were special education and/or at risk. In the reading class they are teamed up according to reading level. Bowling Green did not have in any other program that supported reading instruction for Special Ed students.

From teachers' data we learned that immediate feedback provided by the online teachers was the best feature of the program. The EO participants made more progress in the reading class than non-EO participants. They were more engaged in reading activities but it was difficult to say that it was because of EO. Student achievement gain on the ASA did not mirror the positive teacher feedback, however. As the figures below illustrate, the

fall cohort exhibited less gain than the spring cohort at the mid-test. This suggests that the program was less effective at Bowling Green.

Figure 4: ASA Total Scaled Scores, Bowling Green

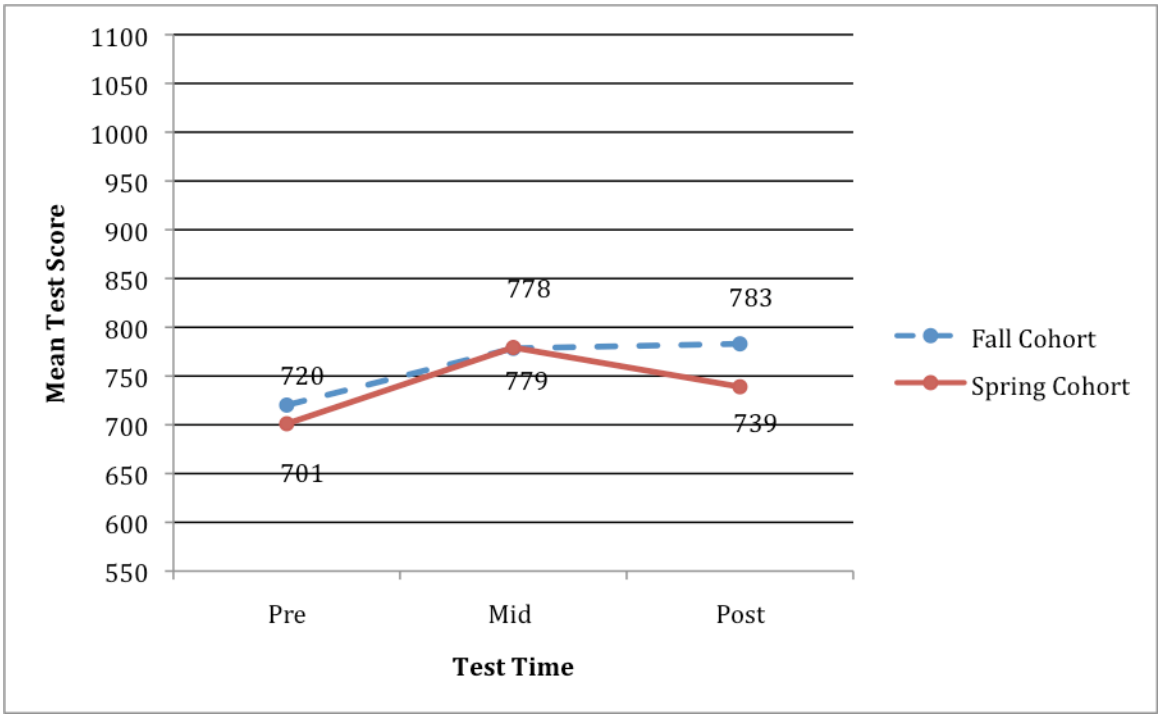


Figure 5: ASA Vocabulary Scaled Scores, Bowling Green

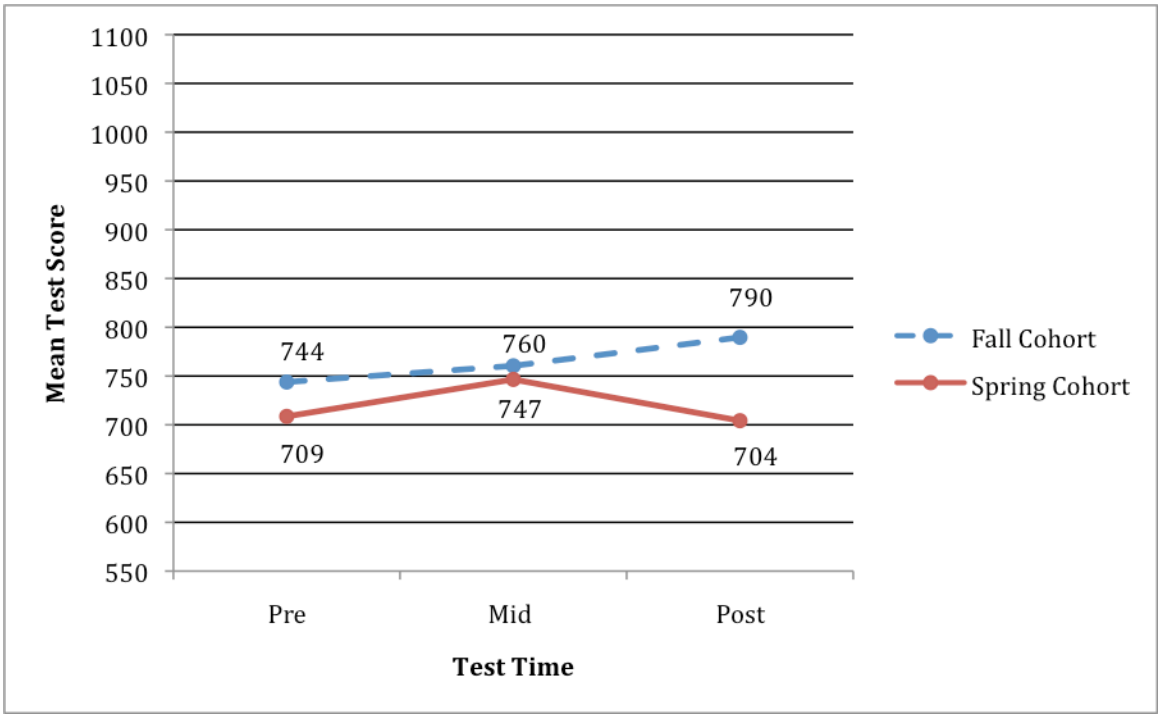
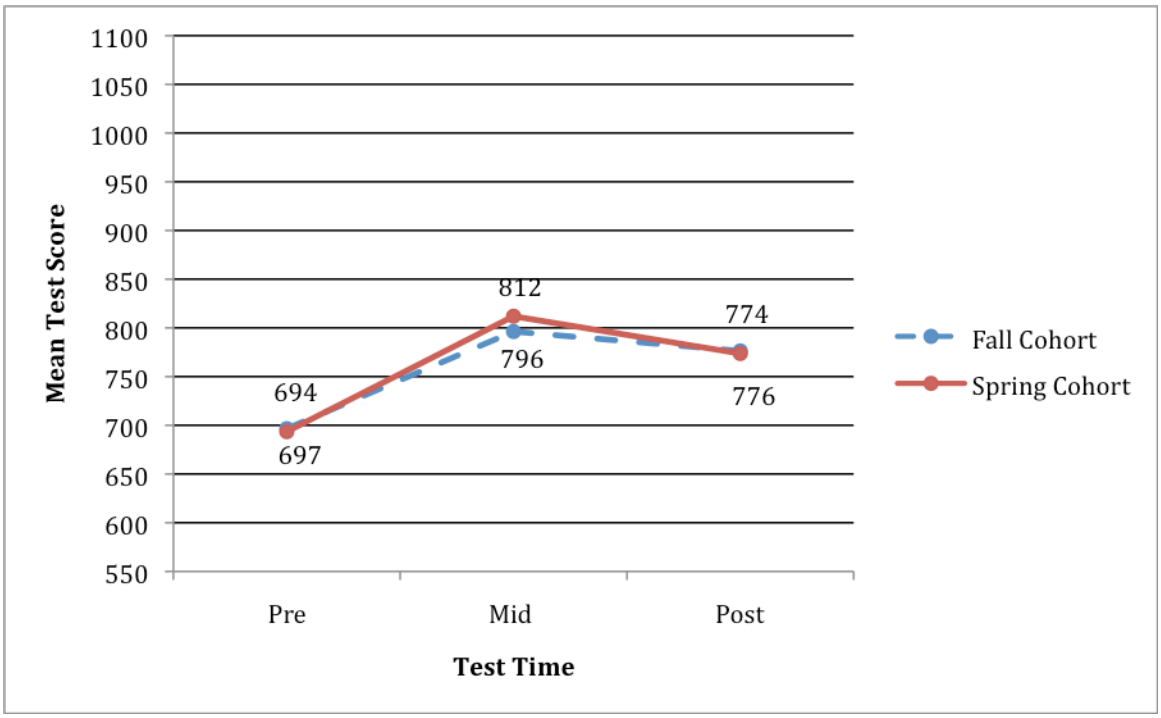


Figure 6: ASA Reading Comprehension Scaled Scores, Bowling Green



Despite the ASA results, the EO participants made more progress in the reading class than non-EO participants. They were more engaged in reading activities but it was difficult to say that it was because of their participation in EO. The students agreed that the program had helped them in reading. Reading faster, understanding more words, spelling, and main ideas were mentioned as indicators of improvement. Students' grades went up from B- to B+ and in some cases from D to B. Overall EO students in this school had a positive experience with the program. According to interview data, immediate feedback provided by the online teachers was the best feature of the program. Overall, it appears that EO students in this school had a positive experience with the program, to the extent that almost all of them would like to have online teachers vs. face-to-face in the future.

Chamberlain Middle School
Chamberlain, SD

Chamberlain Middle School (Chamberlain) is a public school located in Chamberlain in Brule County, SD. In 2007, the estimated town's population was 2,258 (86.4% white, 11.6% Indian American, 0.7% Hispanic, and 0.6% Black). Ethnicity of the student body includes 68% White, 30% American Indian/Alaskan native, 2% Asian/Pacific Islander,

and <1% Black. At Chamberlain Junior High, 38% of the students qualified for free-reduced lunch; the state average was 29% per school.

In 2007, Chamberlain reported an enrollment of 133 students in 7th and 8th grades. Data from the school year 2007-2008 show that 77% of the students in 7th grade and 79% of students in 8th grade at Chamberlain JH scored at or above the proficient level on the Dakota State Test of Educational Progress (Dakota STEP) in reading; the state average was 84% and the district average was 77%. The student-teacher ratio in 2007 was 9 students per FTE teacher, considerably lower than the state average of 13 students per FTE teacher. Chamberlain made adequate yearly progress (AYP) in 2007-2008. The graduation rate in 2008 was 95.33%, almost identical to the state rate of 95.21%.

In the fall of 2007, we visited Chamberlain to conduct classroom observations, interviews with the reading and English teachers, and group interviews with the students that were in the fall group. We observed three classes, talked to three teachers, and met with eight students. In the spring of 2008, we went back to the school to conduct a second round of data collection with students participating in the spring group. At this time, we observed three classes, talked to three teachers, and met with ten students.

Twenty-eight seventh and eighth graders at Chamberlain participated in EO. Enrolled students tended to describe EO positively from the standpoint of educational effectiveness and enjoyment. Two students complained of technical problems, including one student who ended up dialing into a long distance number to participate. Teachers we interviewed echoed students' praise of the program, but did not demonstrate an understanding of what students were actually doing. The student achievement data from Chamberlain support the effectiveness of the program; fall students experienced greater growth at the mid-test. The figures below summarize scores on the ASA.

Figure 7: ASA Total Scaled Scores, Chamberlain

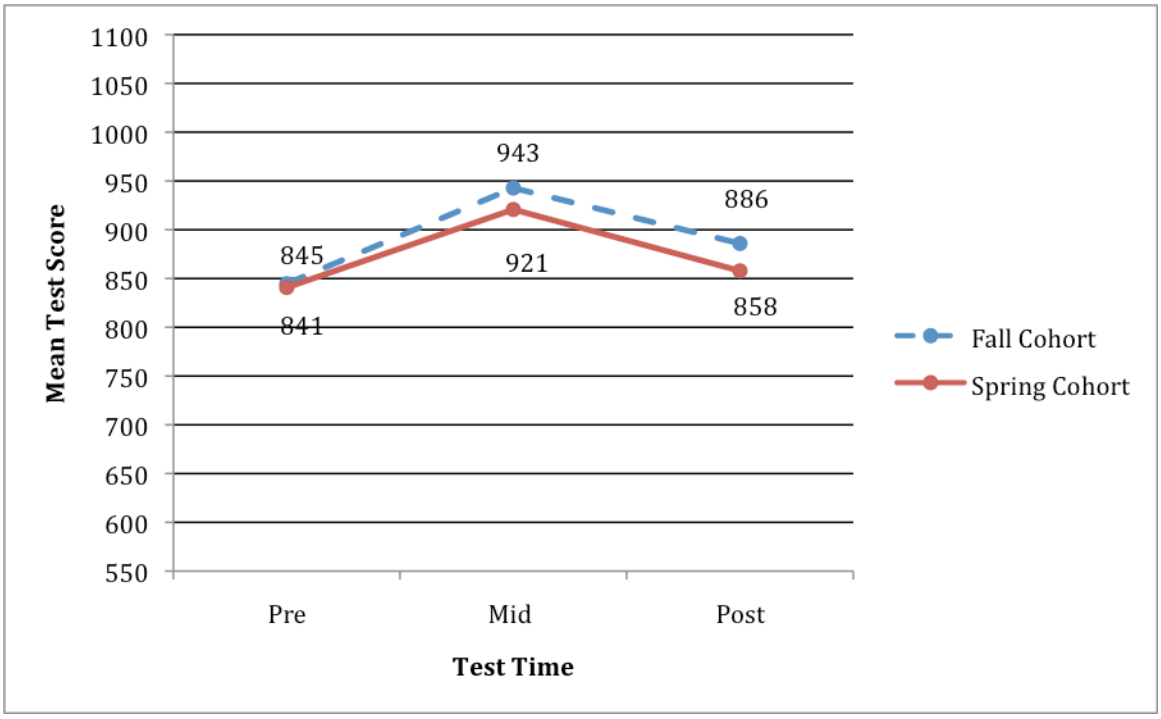


Figure 8: ASA Vocabulary Scaled Scores, Chamberlain

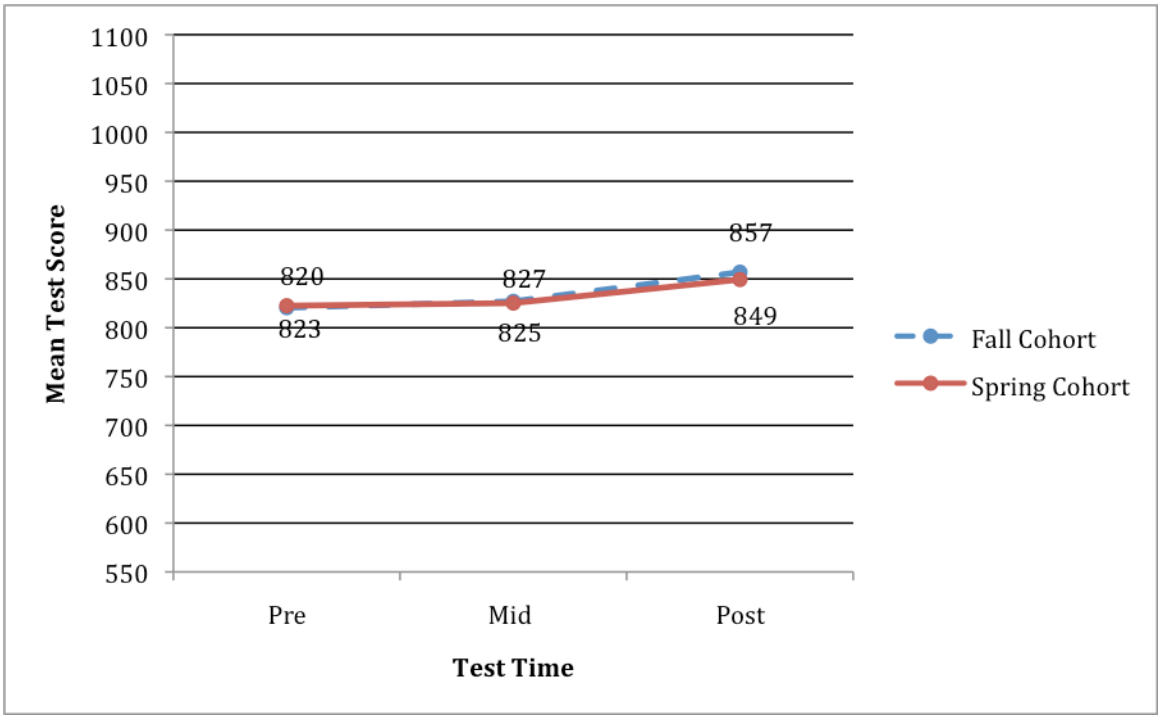
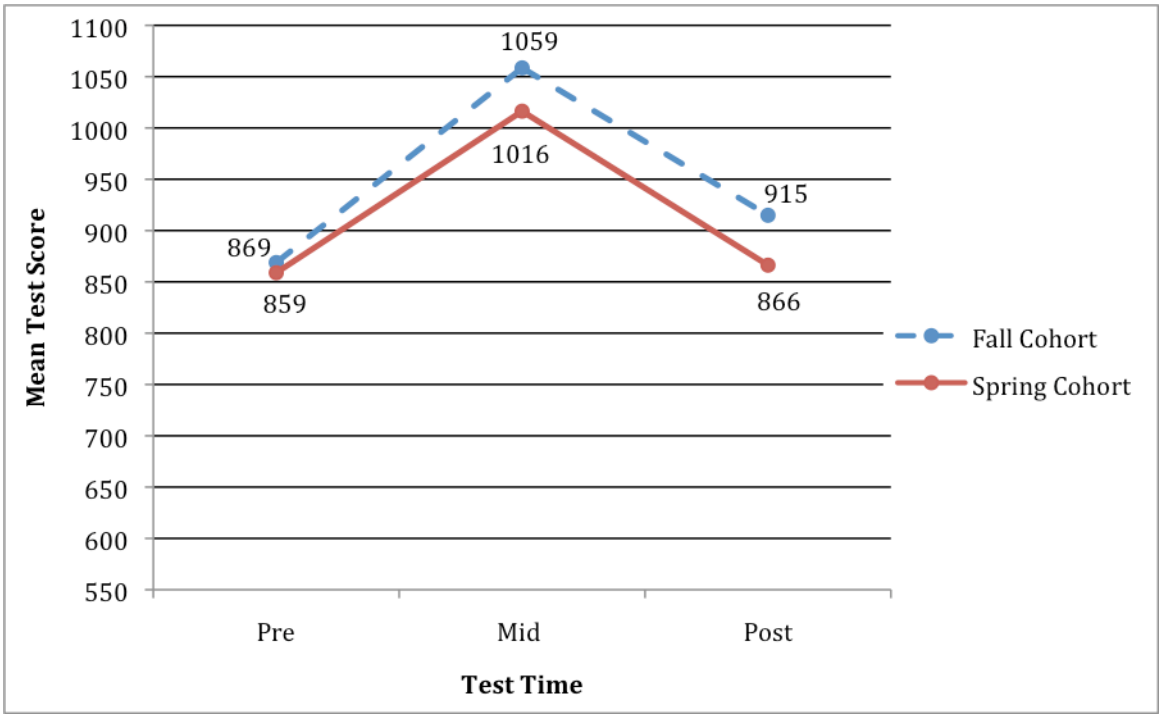


Figure 9: ASA Reading Comprehension Scaled Scores, Chamberlain



The site visits suggest the school poured a relatively large amount of resources into remedial education. We were concerned that the proliferation of other programs at the school, as well as extra class time and smaller classes for students struggling in language arts, might have rendered the spring cohort a false control group. Participating students tended to be in classrooms of approximately ten students who were having trouble with reading comprehension. Students participated in other online programs, including program affiliated with Scholastic, and another called "Teen Biz." In fact, two teachers independently confused EO with other programs taking place in school. We observed a relatively high proportion of classroom time was spent on instruction and independent study, as compared with schools with larger classes. Other schools tended to have more time devoted to classroom management and administrative actions, such as roll call or collecting student work. Additionally, Chamberlain had an extensive computer lab in which students tended to use educational software. Through discussion with teachers, we learned that the students *not* currently participating in EO tended to have more time on the computers in school. Participating students tended to work on homework during the same class time. While this practice likely enhanced students' learning, it likely diluted the comparative effects of EO SES. Despite this expectation, fall students outperformed the spring cohort at the mid-test. This suggests that Chamberlain's additional activities during the school day might have reinforced the effectiveness of the EO SES.

Eastwood Middle School
Pemberville, OH

Eastwood Middle School (Eastwood), located in Eastwood, Wood County, OH is a public school with an enrollment of 457 students in 6th through 8th grades, of which 18% were classified as economically disadvantage students. At Eastwood, ethnicity of the student body was 92% white, 4% multiracial, and 4% Hispanic.

Data from the school year 2007-2008 show that 88% of the students in 6th grade, 90% of the students in 7th grade, and 85% of students in 8th grade at Eastwood scored at or above the proficient level in reading; the state average was 80% for 6th grades, 77.5% for 7th graders and 80.2% for 8th graders. Eastwood made adequate yearly progress (AYP) in reading in 2007-2008. The student-teacher ratio in 2007 was 18 students FTE teacher, higher than the state average of 16 students per FTE teacher.

At Eastwood, the sample size was quite small. For example, only eleven students took the CAT/5 pretest and only three took the posttest. Because so few students participated in the study, examining within-school achievement at Eastwood is not meaningful.

El Sereno Middle School
Los Angeles, CA

El Sereno Middle School (El Sereno) is a large public school located in northeastern Los Angeles, CA. In the school year 2007-2008, El Sereno had an enrollment of 2,139 students, with 533 in 6th, 818 in7th, and 788 in 8th grade, of which 57% were English Language Learners. The student body was comprised of 94.5% Latino, 3.1% Asian, 0.9% African American, 0.6% White, 0.5% Filipino, and 0.4% American Indian or Alaskan Native. In 2007, the estimate population in El Sereno was 48,841. The school population ethnicity mirrors the district population.

Data from the school year 2007-20081 show that 90% of El Sereno students participate in free or reduced-price lunch program. In 2007, only 29% of El Sereno students in 7th grade scored at or above the 50th percentile in Reading, as measured by the California Achievement Test, 6th edition (CAT/6)2, which tests students in grades 3 and 7 in reading, language, spelling, and math. The goal is for all students to score at or above the 50th percentile (the national average) on the test. The average in the state of California was 49% in 2007. According to the School Accountability Report Card (SARC) the percent proficiency (meeting or exceeding the state standards) and above in English

1 Source: CA Department of Education, 2007-2008.
2 The CAT/6 is a norm-referenced test, which means it measures how well students in California scored in comparison to their peers across the country.

Language Arts was 25% in the school year 2007-2008. The average class size was 23.3 students in an English class, the lowest in the school. The school did not make Adequate Yearly Progress (AYP) in 2007-2008.

In this troubling context, achievement data of EO participants support the program's effectiveness. On both the ASA and CAT/5, the fall group significantly outperformed the comparison spring cohort. ASA scores are summarized in the figures below.

Figure 10: ASA Total Scaled Scores, El Sereno

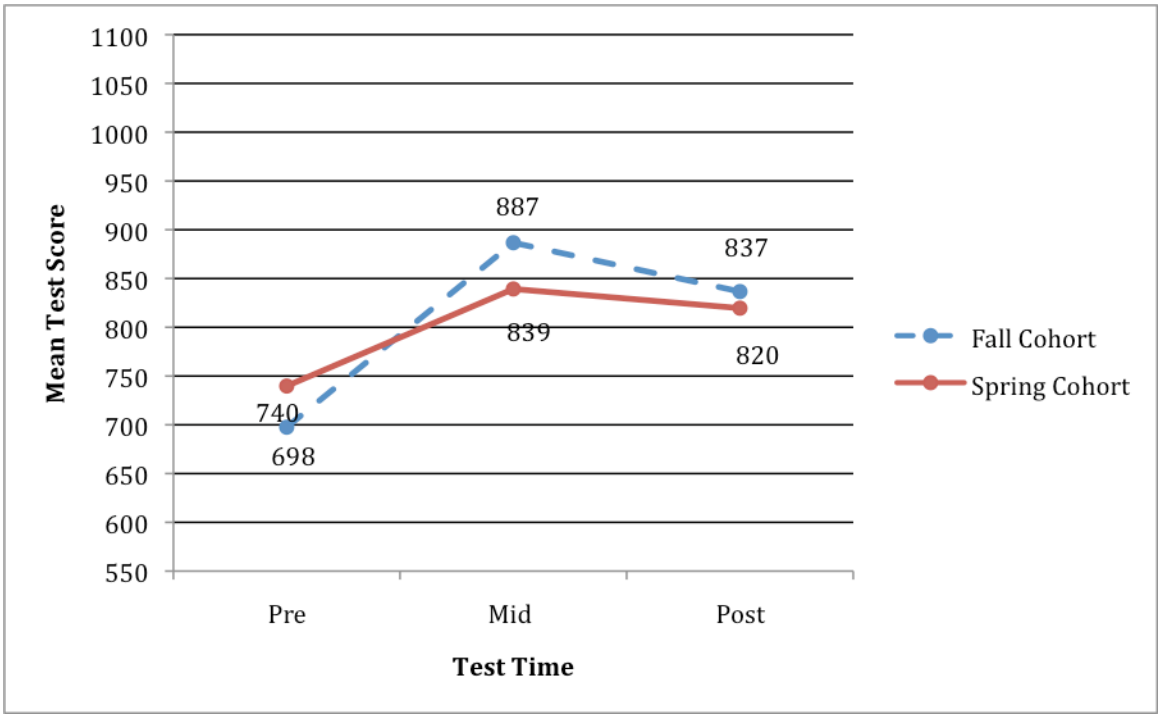


Figure 11: ASA Vocabulary Scaled Scores, El Sereno

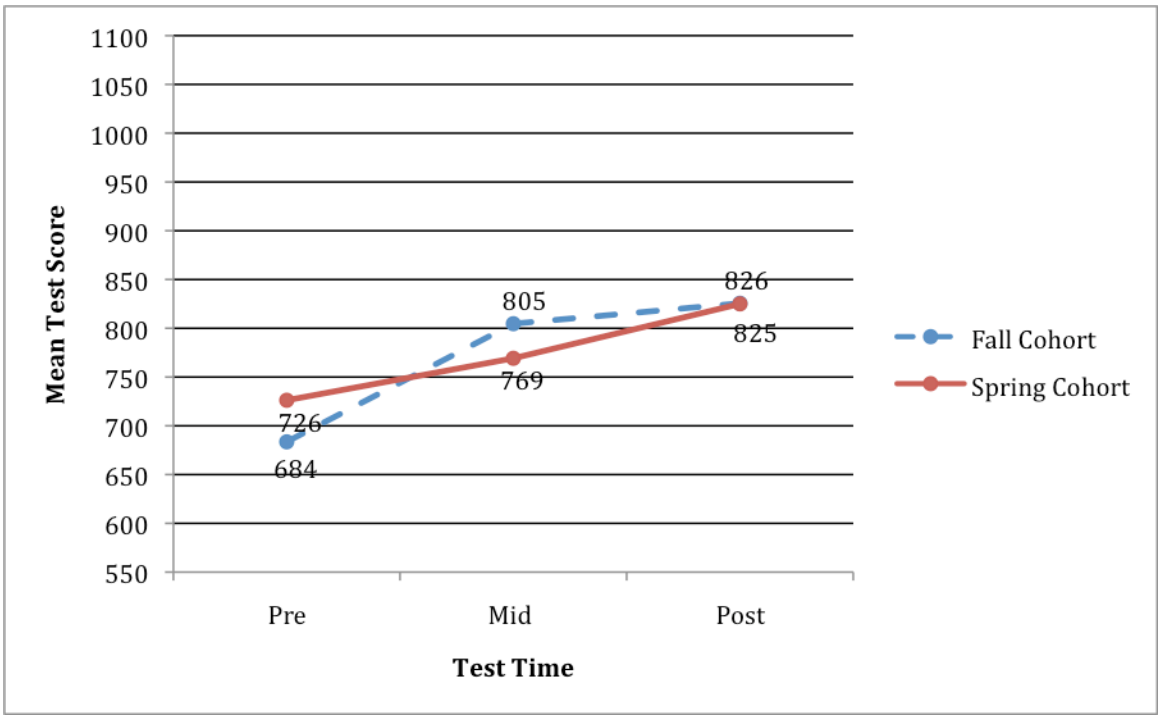
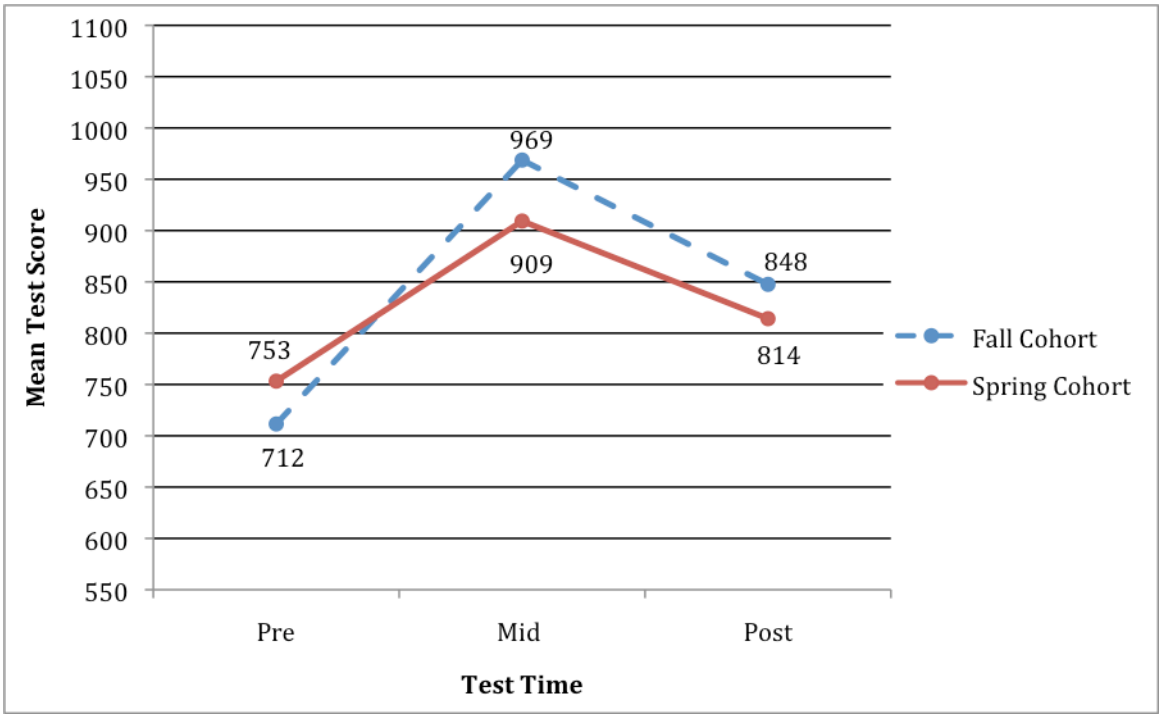


Figure 12: ASA Reading Comprehension Scaled Scores, El Sereno



This finding is even more impressive because the fall cohort's pretest scores were lower than those of the spring cohort, despite the random assignment into cohorts. Teacher and student observations and interview data suggest that, while the effects of the program did not positively affect the day-to-day operation of the school, the program did improve the educational trajectory of the participating students.

During school visits, we observed 18 English/reading classes. Classrooms management and discipline issues made the instructional time a real challenge for teachers. In fact, according to the SARC there were 52,432 suspensions and 418 expulsions in the school year 2007-2008. The teachers mentioned parents' involvement as one of the main challenges they face on a daily basis.

The EO students at El Sereno were three or four levels below in reading. According to the English and ESL teachers, reading comprehension and vocabulary development were the main gaps in reading. El Sereno did not offer any kind of supplemental service or after school program to support reading instruction. English and reading teachers expressed their concerns about teaching reading with little support from content area teachers and parents. One of the teachers commented, "*If they [students] had extra help or support of any kind [in reading], it would be great. There is a lot of pressure to get the ELLs to a high grade reading level quickly that is not humanly possible."*

During classroom observations, we noticed that 6th graders were focused on classroom instruction, participated in reading activities, asked content-related questions, and had a positive attitude toward reading and school. In the 7th grade, we observed students working in groups on reading comprehension assignments. Most of the students were engaged. It was not the case in 8th grade. There was no instruction in the 8th grade classrooms that we visited due to constant disruption, discipline issues, and lack of classroom management.

In the interviews, teachers pointed out that some of the challenges in the reading classrooms were behavioral, which could have been due to students' lack of interest in reading and school, negative attitude toward reading and school, and disciplinary problems. They also mentioned time, attendance, scheduling, pressure, parental support, and students' motivation as barriers to teaching reading.

As reported by teachers, participating ELLs connected learning from the online program with reading or English class content. ELLs brought up their experiences in the online program when asking content-related questions during classroom activities. According to teachers' interview data, EO students' grades improved. In this regard, one of the teachers stated:

> *"Their [students'] grades have improved, and I don't know if that's just because of the program [EO] or because they have been with me for three or four months now. It could be either one. But their grades have gone up. I believe the program is helping them."*

We asked this teacher about the non-EO students' grades and she said that their grades were fine, *"not improvement but not worse."* We learned from teacher interviews and student group interviews that some EO students started off with a D or a C and after the program they were getting B's and even A's. According to interview data from El Sereno parents, 50% of them asserted that their children's grades either in English or Reading improved; one of the parents said, *"not only her grades have improved but also her work habits."* Another parent commented about her daughter "*when she completed the program [EO], her grade level in reading increased."*

> *"At the beginning his writing skills were very weak and then even his comprehension skills were weak. Now he has a better ability to explain what he's reading and to write a little bit better as far as spelling and developing his ideas. So I've noticed that in him."*

The EO students were overwhelmingly positive about the program, which had helped them with reading and vocabulary. Some students agreed that the program had helped them *"... read better, I don't get stuck with words. I have learned prefixes, using vocabulary and a lot of new words,"* one of them said.

The school principal reported an improvement in school performance during the last two school years. However, the challenges are large for a school with more than 2,000 students, and the resources are not sufficient to meet the needs of the school.

Elmwood Middle School
Bloomdale, OH

At Elmwood Middle School (Elmwood), we learned about the possibility that the effectiveness of EO could vary depending on the time at which students participate. Specifically, the fall students had notably better opinions of EO than the spring cohort. Achievement data was inconclusive in that the fall cohort outperformed the spring cohort at the mid-test, but the difference between groups was not significant.

Elmwood is located in Bloomdale, Wood County, OH; it is a public school with an enrollment of 384 students in grades 5th through 8th, of which 27% were economically disadvantaged. In 2007, the estimated town's population was 710 (96.8% White, 1.7% Hispanic, 0.6% Native American, and 1.4% from other races.). At Elmwood MS, ethnicity of the student body was 96% white and 4% unspecified.

Results from the state assessment (OAT)3 show that at Elmwood 82% of the students in 6th grade, 72 % of students in 7th grade, and 84% of students in 8th grade scored at or above reading proficient level. Elmwood MS made adequate yearly progress (AYP) in reading in 2007-2008. The student-teacher ratio in 2007 was 16 students per FTE teacher, identical to the state average.

We visited Elmwood twice during the school year. This school offers an inclusion (7th and 8th grade) reading class for struggling readers and special needs students. The EO students were described by one of the teachers as struggling readers, below grade level, who fall into the at-risk category. During the fall visit, we interviewed two teachers who agreed that the program was going well for the students. This assessment was confirmed by parents' data; one of the parents said her daughter's grades went from "*…c to b. She comprehends better to point out her faults when she read things… made her aware of where the problem was.*" According to the teachers the EO program helped the students not only with reading but also boost self-esteem, which was something this particular group of students needed. The students uniformly looked forward to the online activities.

We conducted another site visit during the spring semester. According to our data, this group of students did not find the program challenging or beneficial to them. Students asserted they knew the content of the program already. Some of the students had taken the EO math program in the school year 2006-2007 and had the same perception of the math program. These students would not take another EO program if offered. Some of the main issues mentioned were "a lot of repetition, boring, and mean teachers." Students agreed that the program did not help them at all. Of the 14 students interviewed (10 boys and 4 girls), just one said the program had helped her with verbs and adjectives.

Despite these perceptions, our quantitative findings at Elmwood provided support for program effectiveness for both the fall and spring cohorts. Both groups experienced the most achievement gain during the times at which they participated in EO. While the fall cohort started with slightly lower scores at the pretest, they outscored the spring cohort at the mid-test. By the posttest, the spring cohort caught up, presumably as a consequence of participation in the program. ASA mean scores are summarized below.

3 The OAT is a standard-based test, which means it measures specific skills defined for each grade by the state of Ohio.

Figure 13: ASA Total Scaled Scores, Elmwood

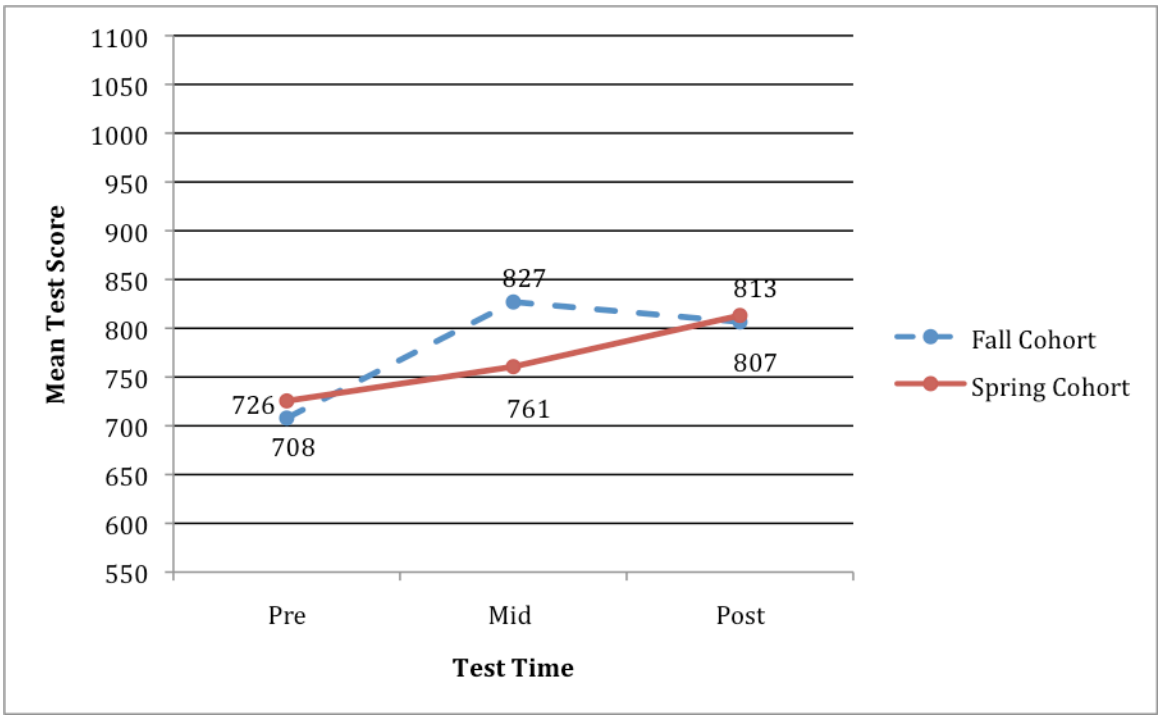


Figure 14: ASA Vocabulary Scaled Scores, Elmwood

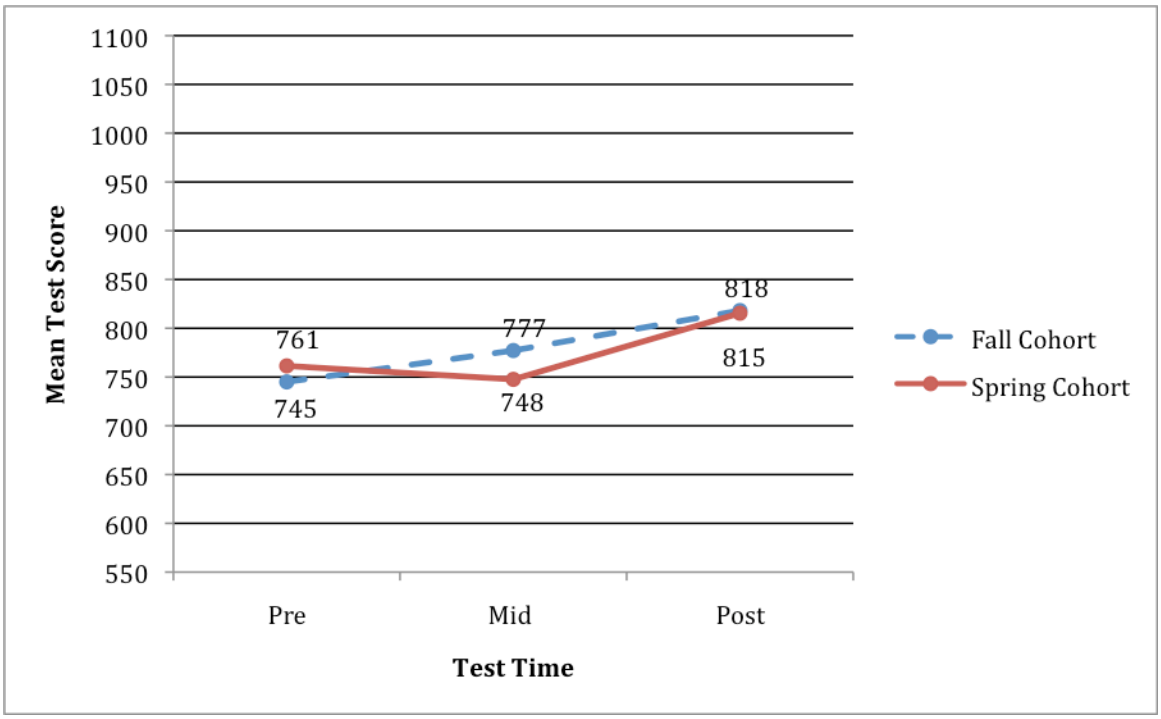
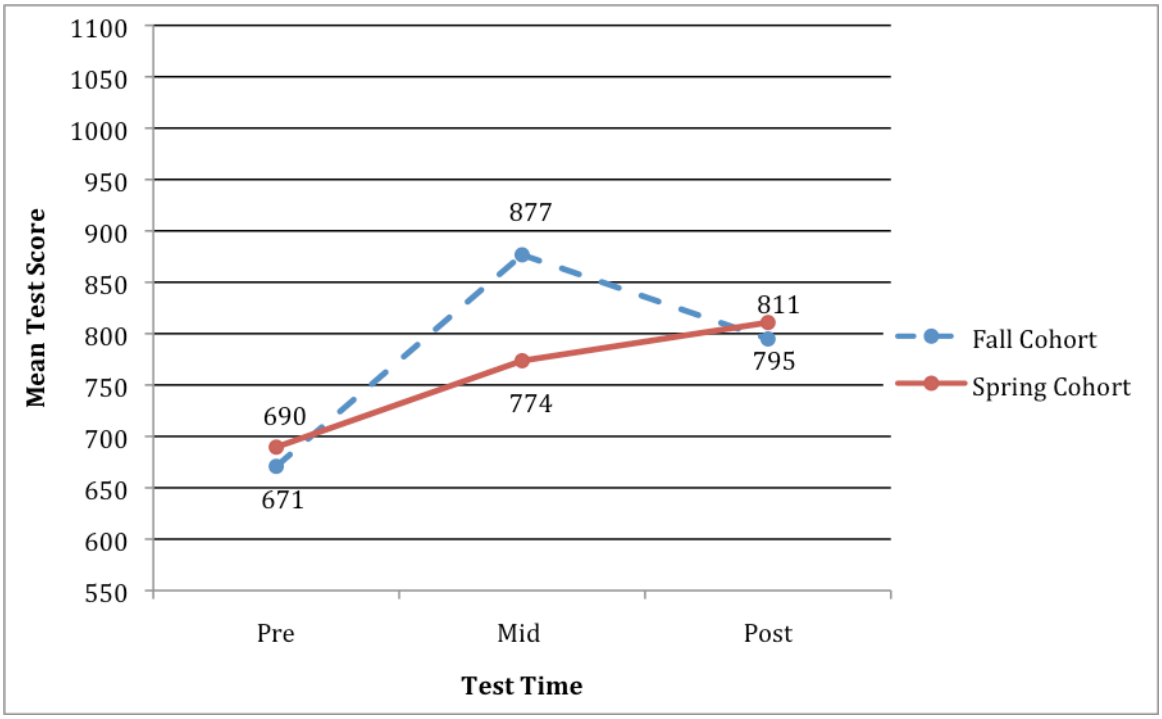


Figure 15: ASA Reading Comprehension Scaled Scores, Elmwood



Glenwood Elementary School
Perrysburg, OH

At Glenwood Elementary School (Glenwood), we saw signs of the EO program's effectiveness despite the existence of other enrichment activities for students below grade level. At the mid-test, the fall cohort scored higher than the spring cohort on both the ASA and CAT/5 despite starting out with slightly lower scores.

Glenwood is located in Perrysburg in Wood County, OH. It is a public school with an enrollment of 428 students in K through 6th grades. In 2007, the estimated town's population was 17,042 (95.34% White, 1.03% African-American, 0.10%Native American, 1.77% Asian, 0.02% Pacific Islander, 0.90% from other races, and 0.84% from two or more races. Hispanic or Latino of any race was 2.05% of the population.). At Glenwood Elementary School, ethnicity of the student body is 88% white, 5% multiracial, 4% Hispanic and 3% unspecified.

Data from the school year 2006-2007 show that 80.9% of the students in 6th grade at Glenwood Elementary School scored at or above the proficient level in reading; the state average was 75.8% for 6th graders. The school did not make AYP in reading in 2007-

2008. The student-teacher ratio in 2007 was 15 students per FTE teacher, close to the state average of 16 students per FTE teacher.

EO students at Glenwood were 6th graders, who seemed to be very excited about the online program. In addition to their regular English and reading classes, the students participate in a reading intervention program where each student works with a reading tutor. They are pulled out everyday for 30 minutes to work on reading. In the regular reading class there are two teachers to assist with individual needs and small groups.

According to the English and reading teachers, the EO students' main challenges were fluency, reading comprehension, and word recognition. They stated that the students have improved in reading but, due to the different interventions and extra support offered to the students, they could not say that improvement was due to participation in EO. ASA data support that the program was effective for students, in that the fall cohort saw the greatest gain at the mid-test, and the spring cohort saw greater gain at the posttest. Because there is a drop at mean scores at the mid-test, however, this finding is tentative and should be viewed in light of qualitative findings. ASA scores are summarized in the figures below.

Figure 16: ASA Total Scaled Scores, Glenwood

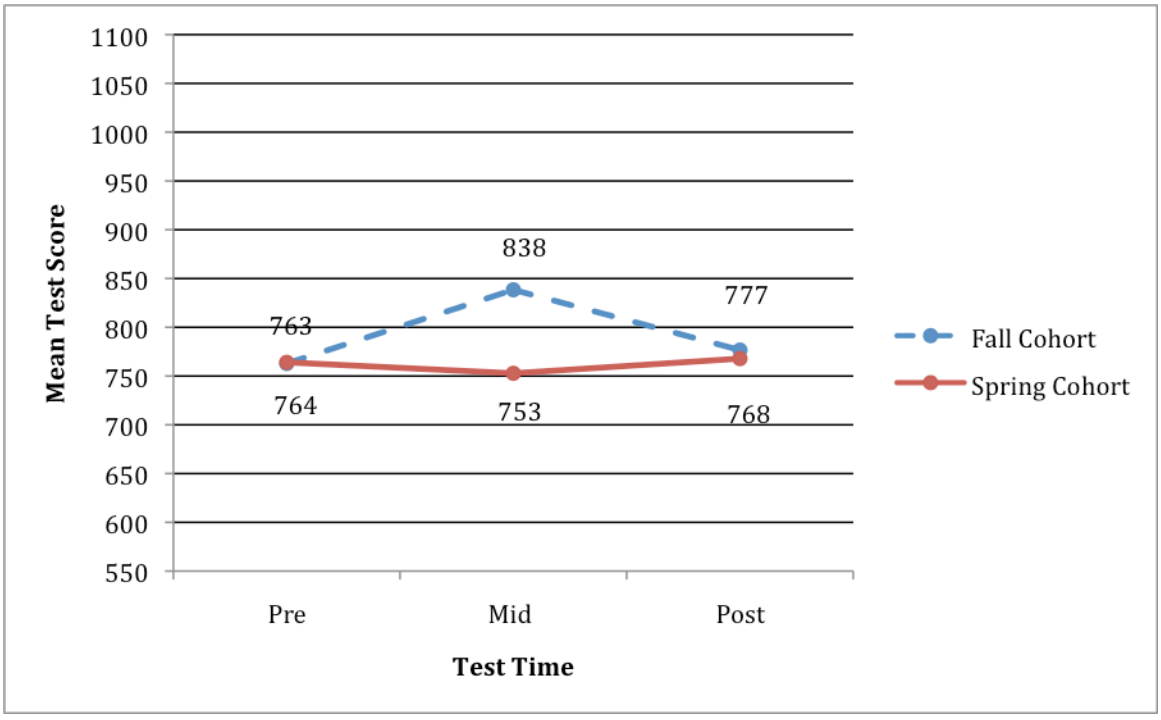


Figure 17: ASA Vocabulary Scaled Scores, Glenwood

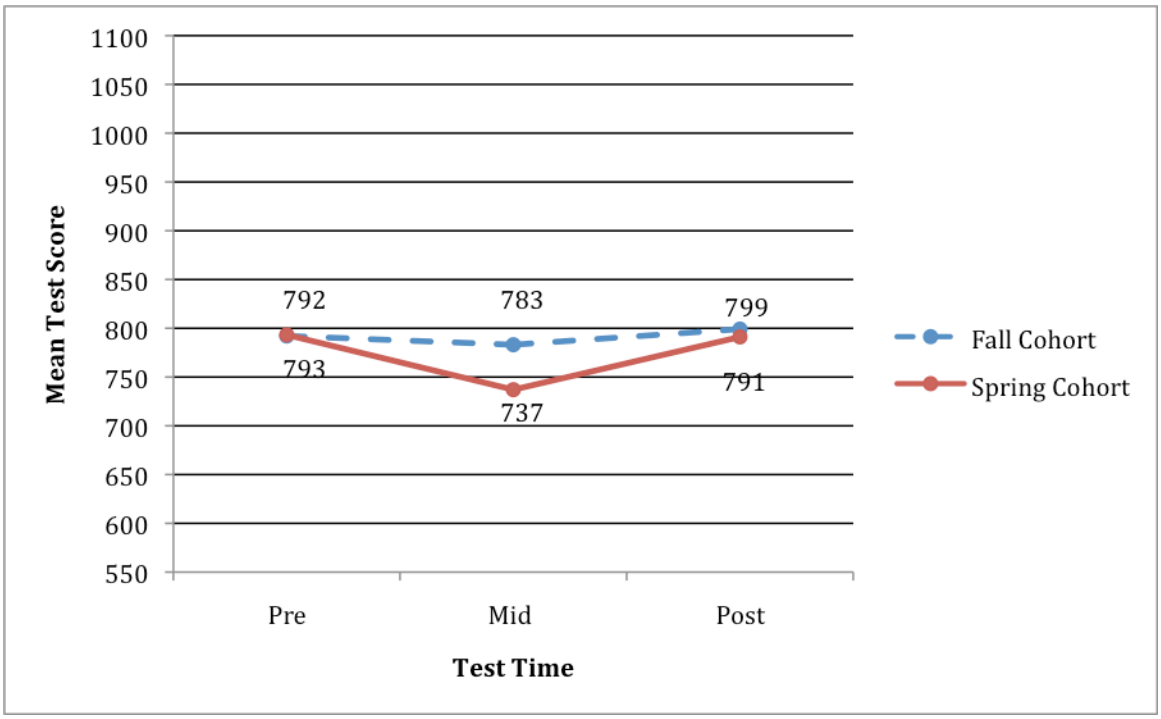
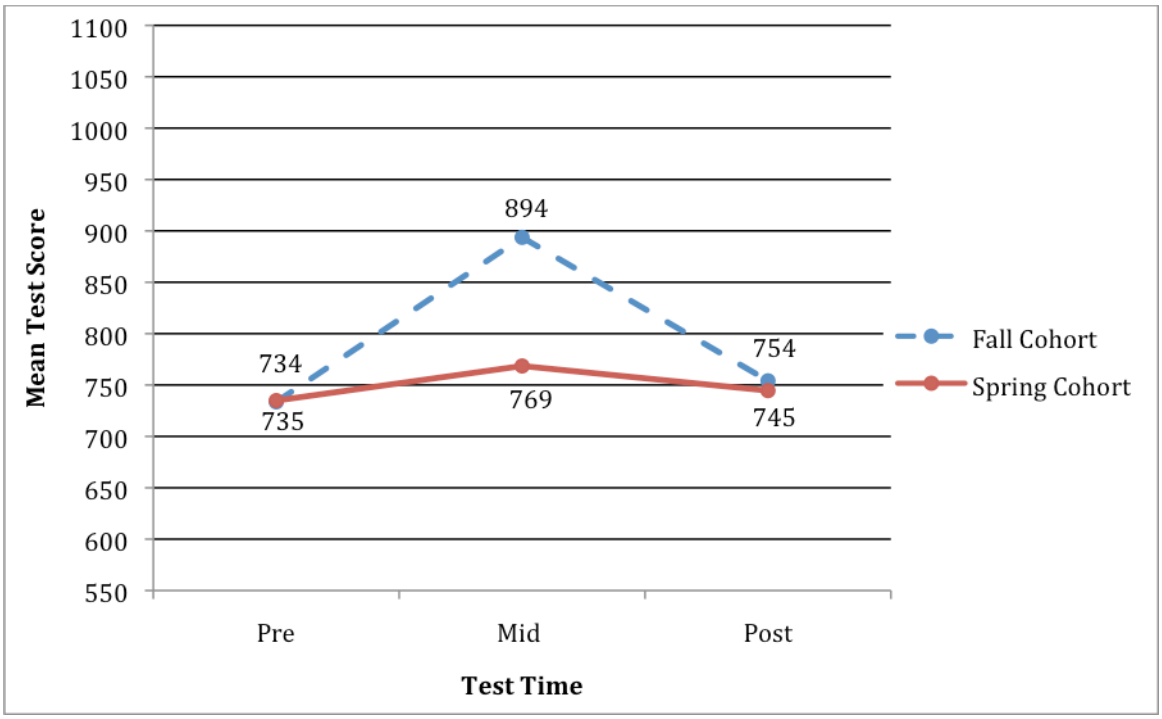


Figure 18: ASA Reading Comprehension Scaled Scores, Glenwood



During group discussions with students, the participants reported that they have learned a lot in the EO program: they felt they had improved in reading. Some of their comments were "I have learned about prefixes, now I understand the words," "I read more because I learned how to get the main ideas." The students pointed out that they were using at school what they had learned in EO.

Little Wound School
Kyle, SD

Little Wound School (Little Wound) is located in Kyle, SD and is one of 17 schools in Pine Ridge Education Line Office School District. It is a public school that serves students in grades K-12. Little Wound made AYP in 2007. It is a locally-controlled school located on the Pine Ridge Indian Reservation of South Dakota. The student population is approximately 950 students of predominantly Oglala Lakota descent.

Due to weather on one visit and scheduling conflicts (and granting access) on another, we were unable to visit Little Wound. While we are unable to conclusively explain the findings, we did note that the fall cohort significantly outperformed the spring cohort on the mid-test CAT/5. On the ASA however, the spring group had slightly higher scores, as shown in the figures below. Like some of the other schools, the small sample size prevents us from placing too much importance on these within-school trends.

Figure 19: ASA Total Scaled Scores, Little Wound

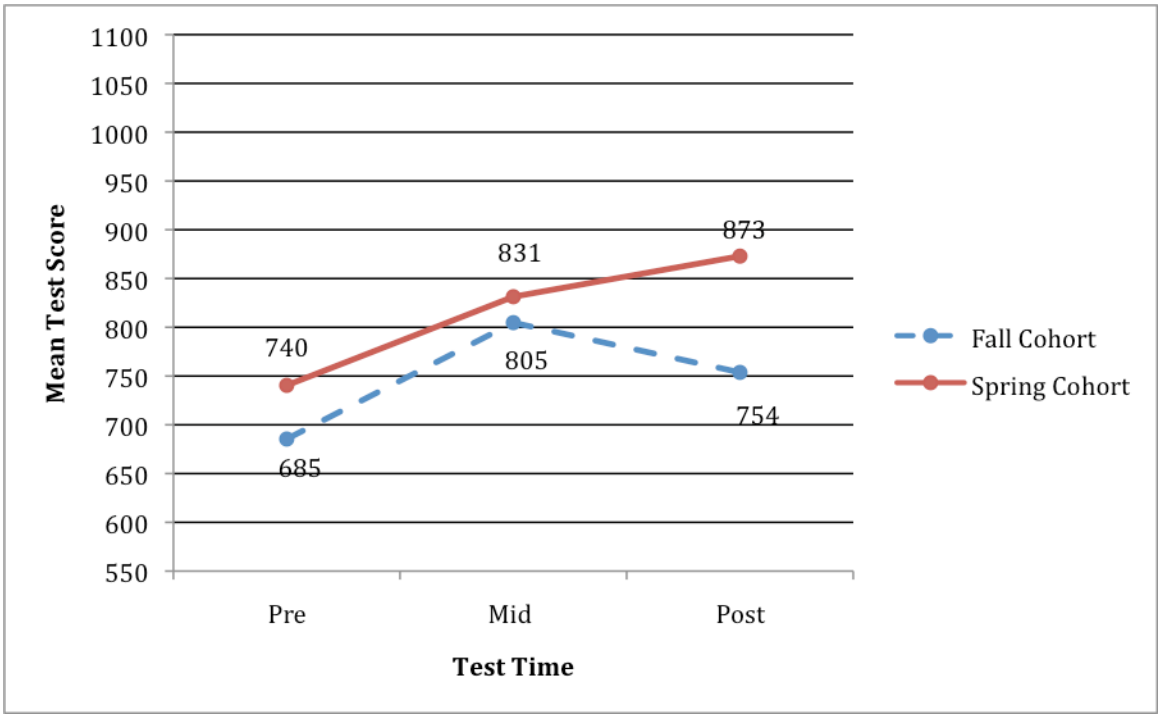


Figure 20: ASA Vocabulary Scaled Scores, Little Wound

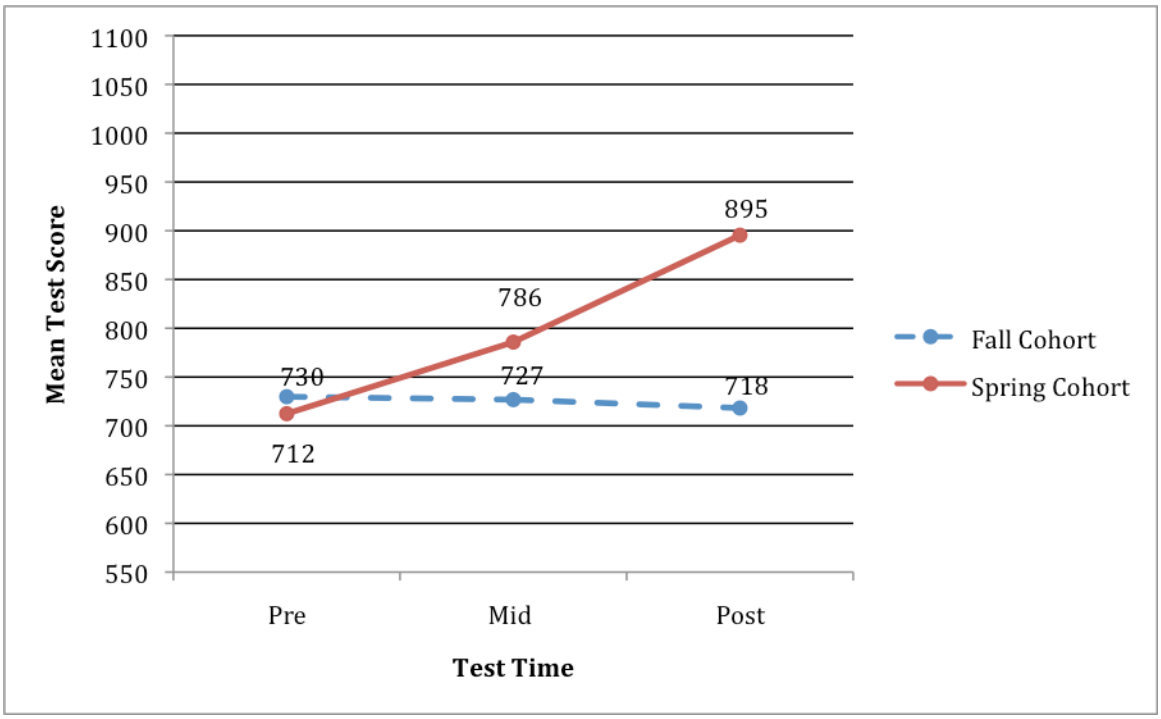
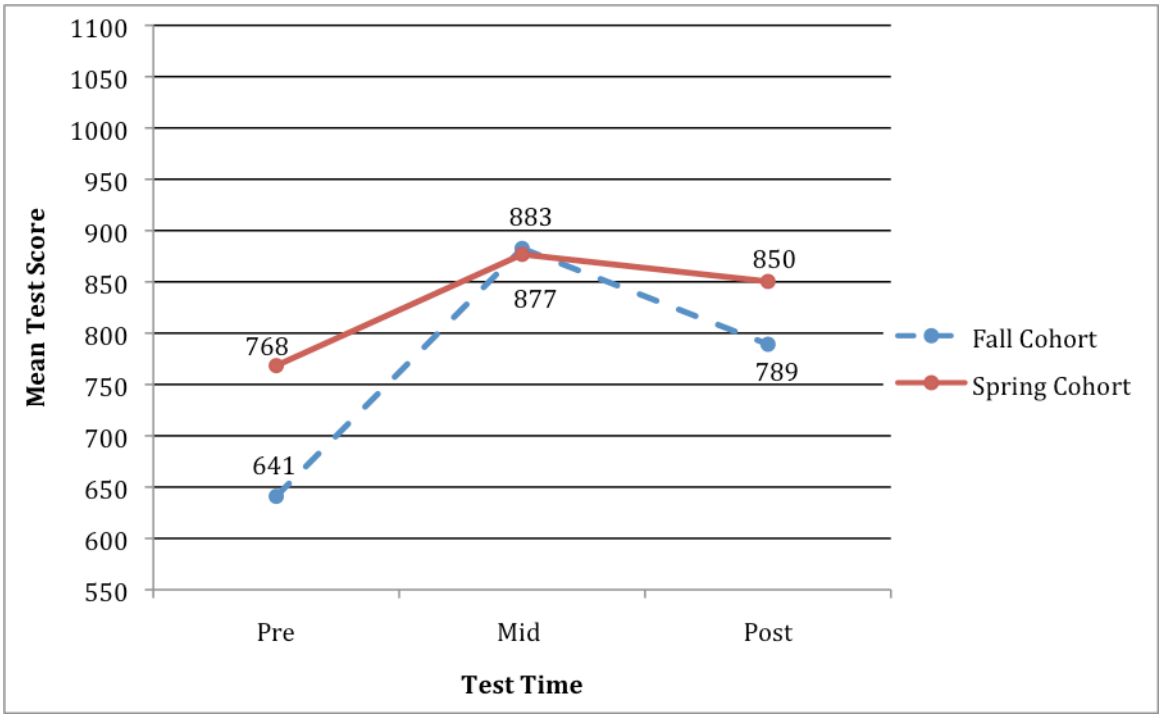


Figure 21: ASA Reading Comprehension Scaled Scores, Little Wound



Administrator and teacher interviews suggested that the school administration viewed the program as useful, in that teachers saw positive changes in student class participation and performance. One school administrator described students logging into the program at the school itself, although out of school hours. He implied that a schoolteacher was sometimes present when students interacted with EO instructors online. Because we were unable to actually see the daily operation of the school and believe that the program might have been implemented differently, Little Wound offers little insight onto the study as a whole.

Mitchell Middle School
Mitchell, SD

Mitchell Middle School (Mitchell), located in Mitchell, Davison County, SD is a public school with an enrollment of 559 students in 6th, 7th, and 8th grades. In 2007, the estimated town's population was 14,832 (95.3% White, Indian American 2.9%, Hispanic 0.8% and other races 0.9%). Ethnicity of the student body includes 89% White, 6% American Indian/Alaskan native, 3% Hispanic, less than 1% Black, and less than 1% Asian/Pacific Islander. At Mitchell, less than 1% of the students qualify for free-reduced lunch; the state average is 29%.

Data from the school year 2007-20084 show that 92% of the students in 7th grade and 88% of students in 8th grade at Mitchell scored at or above the proficient level on the Dakota State Test of Educational Progress (Dakota STEP)5 in reading; the state average was 84%, close to the district average of 88%. The student-teacher ratio in 2007 was 15 students per FTE teacher, higher than the state average of 13 students per FTE teacher. Mitchell made adequate yearly progress (AYP)6 in 2007-2008 in reading but not in math. The graduation rate in 2008 was 95.47%, practically identical to the state rate of 95.21%.

The school offers two different kinds of reading programs for struggling readers. One of the programs is a special reading class for a maximum of seven students and the other one is an on-site tutoring program. Regular English instruction is offered in blocks of 83 minutes everyday. Although the EO is an at-home program, at Mitchell, a group of participating students completed the program in a school computer lab during the study

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4 Source: SD Department of Education, 2007-2008.
5 5 The Dakota STEP is based on the Stanford 10, a national norm-referenced test. It is also standards-based, which means it is aligned to South Dakota's educational standards and measures specific skills defined for each grade by the state.
6 Under No Child Left Behind, a school makes Adequate Yearly Progress (AYP) if it achieves the minimum levels of improvement determined by the states in terms of student performance and other accountability measures.

hall period. The students were assisted by a schoolteacher, who also checked their successes and failures and kept track of how they were doing. The school wanted to make sure that this group of students did not miss any class time or content. The EO program became a pull-out program, three times a week, during the study hall.

Because Mitchell did not administer the ASA posttest, we summarize CAT/5 scores by cohort below. Because so few students took the tests, particularly the posttest, it is important not to place too much importance on these scores. At the mid-test, one can see that the fall cohort experienced more gain than the spring cohort. Bearing in mind the small sample, this provides some support for EO effects at Mitchell.

Table 1: CAT/5 scores at Mitchell, by cohort

Section	Administration	Fall	Spring	Difference
Reading Comprehension	Pretest	684.90	693.36	-8.46
	Mid-test	695.14	694.57	0.57
	Posttest	756.00	722.37	33.63
Vocabulary	Pretest	710.10	709.55	0.55
	Mid-test	728.29	720.00	8.29
	Posttest	758.00	730.00	28.00
Total	Pretest	697.90	701.64	-3.74
	Mid-test	712.00	707.57	4.43
	Posttest	757.00	726.50	30.50

In the spring of 2008, we visited Mitchell to conduct classroom observations, interview the reading and English teachers, and interview EO students that were participating in the fall group. We talked to five English and reading teachers in the 6^{th}, 7^{th}, and 8^{th} grades, and met with seven students. The teachers were not familiar with the online program although at the beginning of the school year they were asked to select some students to participate in the EO program. Data show that teachers looked at basic level in standardized tests, grades, and reading and writing skills to select EO students. Only two of the five teachers knew which students were finally selected to participate in EO.

The teachers we interviewed stated that reading comprehension was the main challenge students faced when reading, along with lack of exposure to reading, lack of practice, and a lack of interest. Inferring and writing skills seemed to be some of the weaknesses. In their English and reading classes, teachers addressed these problems through instructional strategies like reading out loud, thinking aloud and creating pictures, mental images, reading and rereading same paragraphs, questioning and synthesizing, asking questions, inferring, pre-reading during reading and post reading charts, class discussions, guided note-taking, notes over chapters, making connections, and predictions, among others.

During our classroom observations, the students were engaged in classroom activities and volunteered to read or answer teachers' questions. No classroom management issues were observed during our visit. In sum, the learning environment in the classroom where the EO participants received their English and reading instruction seemed to be conducive to learning.

Mount Vernon Middle School
Mount Vernon, SD

Mount Vernon Middle School (Mount Vernon), located in Mount Vernon in Davison County, SD, is a public school with an enrollment of 75 students in 5th, 6th, 7th and 8th grade. In 2007, the estimated town's population was 477 (98.11% White, 0.21% Native American, 1.68% from other races. Hispanic or Latino of any race was 1.68% of the population.). At Mount Vernon Middle School, the ethnicity of the student body is 96% white, 3% Hispanic and 1% Black, not Hispanic.

Data from 2007 show that 75% of the students at Mount Vernon scored at or above the proficient level in reading; the state average was 81%. The student-teacher ratio in 2007 was 12 students per FTE teacher; the state average was 13 students per FTE teacher. At Mount Vernon, 40% of the students were eligible for free or reduced-price lunch program, a third higher than the state average of 29%.

We visited Mount Vernon twice over the study period. In that time, we interviewed three teachers, observed two classes twice, and spoke with five students. We also interviewed the principal twice. Achievement data were inconclusive in that the cohorts were equivalent on the CAT/5 mid-test and did not take the ASA mid-test. Too few students took the posttests to consider the data useful for understanding within-school effects.

Classrooms at Mount Vernon were traditionally organized, with the teacher often at the front of the room leading class discussion. One day, the teacher picked students to identify and correct grammatical errors on an overhead. Another day, a teacher selected students to read a passage aloud (while classmates followed along) and occasionally interrupted to discuss vocabulary words or metaphors in a story's text. Signs around the classroom emphasized language arts skills, encouraging students to compare, support, predict, summarize, contrast, trace, analyze, evaluate, infer, formulate, and describe.

Both the classroom teachers and the principal believed that the program was effective. Teachers and the principal greatly appreciated the progress reports sent by EO in the spring and clamored for more information about students' skill-based proficiencies and growth in the program. The principal requested a closer relationship between progress reports and state standards and added, "Grade equivalency would also be good."

Interestingly, she was also interested in progress reports as an objective metric that could be presented to parents and support the Mount Vernon teacher's concerns adding, "It would have merit when the teacher can say, here is evidence this it what it did. Parents might be more likely to listen to a report." She also saw the progress reports as an aid for teachers in understanding students' learning styles. For example, she imagined that a teacher could have a student and wonder, "Could this student learn better one on one? Does she really have trouble understanding a certain skill, or is she pulling our leg?" Armed with additional information from EO, the principal believed she and teachers would benefit educationally, given the prescriptive nature and interim feedback of the progress report, and politically, due to the perceived objectivity of a standardized assessment. Because progress reports could be delivered regularly and not just once a year in the springtime, the principal believed it is a tool that could allow teachers to adapt their classroom practice while there is still time in the school year.

North Baltimore Junior High
North Baltimore, OH

North Baltimore Junior High (North Baltimore), located in North Baltimore in Wood County, OH is a public school with an enrollment of 131 students in 7th and 8th grades. In 2007, the estimated town's population was 3,361 (96.82% White, 3.33% Hispanic, and 3.19 from other races.). At North Baltimore, ethnicity of the student body is 96% white and 4% unspecified.

Data from the school year 2007-2008 show that 79.7% of the students in 7th grade and 74.1% of students in 8th grade at North Baltimore scored at or above the proficient level in reading7; the state average was 77.5% for 7th graders and 80.2% for 8th graders; the district average was 79.7% for 7th graders and 74.1% for eighth graders. North Baltimore Junior High made adequate yearly progress (AYP) in reading in 2007-2008. The student-teacher ratio in 2007 was 18 students per FTE teacher, higher than the state average of 16 students per FTE teacher.

We visited North Baltimore in fall 2007 and spring 2008. During the site visits, we interviewed the school principal, reading/English teachers, special education teacher, and EO students. Data from teachers show that students were very excited about their participation in the program and were more self-confident toward the end.

The EO students at North Baltimore were one grade level below in reading, struggling with reading comprehension and attending special education classes. The special

7 As measured by the Developmental Reading Assessment (DRA), a performance assessment that measures reading interests, use of strategies, comprehension, and attitudes. It is used in Kindergarten through fifth grade in the state of Ohio.

education teacher pointed out that the computer-based program was working really well for some special needs students. The students agreed that they have learned in the EO program; one of them said, "It's [EO is] helping me a lot… I have trouble with comprehension and I read too fast… I don't pay attention to what I am going through but the program is helping a lot with that"

According to interview data, at this school students learned about "main ideas, prefixes, suffixes, analogies, vocabulary and being able to decipher questions. The program helped the students not only with reading but also with writing, according to some teachers. One of the teachers said, "I do [believe that the program had helped] because it seems to captivate their attention and to make them more interested. It's very hard… I'm finding, for this age level to keep their interest… but the program is helping them." The EO teachers provided the kind of support that North Baltimore students needed, the school principal reported. ASA scores did not support these trends, however. Cohort means are shown in the figures below. These figures suggest that the treatment (fall) cohort did not experience greater academic growth than the spring cohort at the mid-test.

Figure 22: ASA Total Scaled Scores, North Baltimore

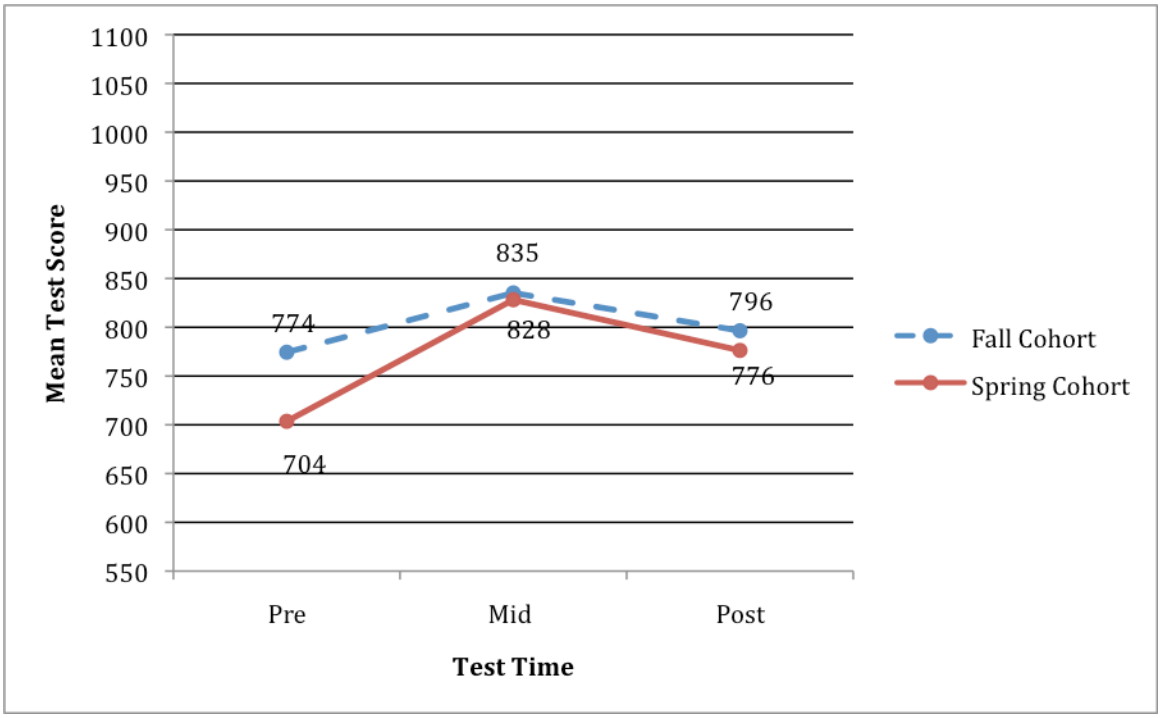


Figure 23: ASA Vocabulary Scaled Scores, North Baltimore

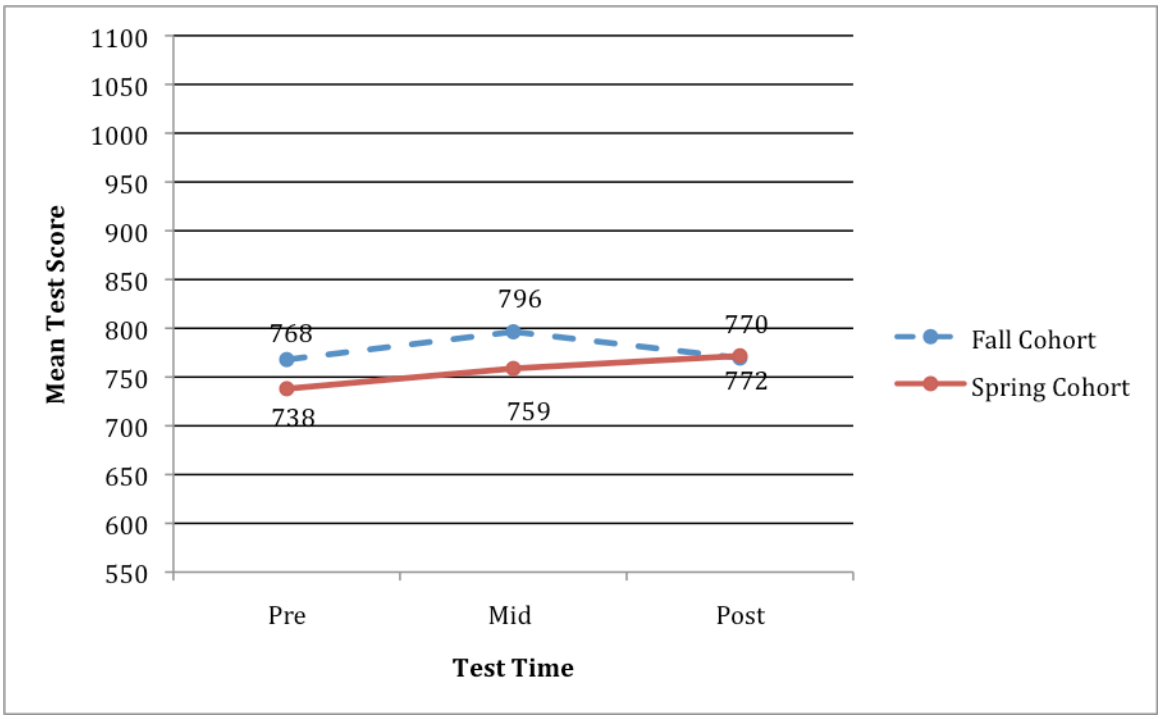
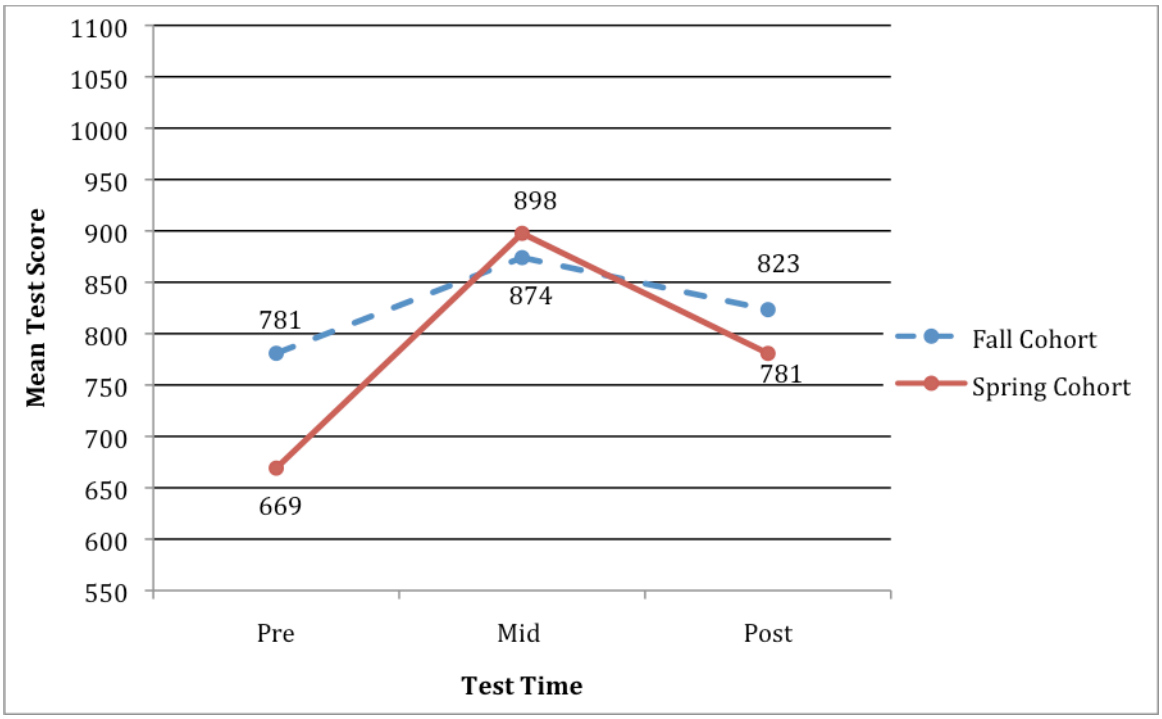


Figure 24: ASA Reading Comprehension Scaled Scores, North Baltimore



Platte-Geddes Junior High School
Platte, SD

Platte-Geddes Junior High (Platte), located in Platte, Charles Mix County, SD is a public magnet school with an enrollment of 139 students in 7th and 8th grades. In 2007, the estimated town's population was 1,367 (99.20% White and 0.80 % from other races). Ethnicity of the student body is 100% white. At Platte, 15% of the students qualify for free-reduced lunch; the state average is 27%.

Data from the school year 2007-2008 show that 87.5% of the students in 7th grade and 89.3% of students in 8th grade at Platte scored at or above the proficient level on the Dakota State Test of Educational Progress (Dakota STEP) in reading; the state average was 76.5% while the district average was a much higher 91.7%. The student-teacher ratio in 2007 was 14 students per FTE teacher, similar to the state average of 13.4 students per FTE teacher.

The standardized test data from Platte were incomplete. No participants took the ASA posttest, and no fall students took the CAT/5 posttest. Looking at the CAT/5 pretest and mid-test, the fall cohort did not outperform the spring cohort, but the small sample size (12) prevents us from placing much importance on these findings. Instead, the quantitative data is more useful aggregated with other schools.

Like most other schools, we visited Platte twice during the study. True to its name, the school had that atmosphere of a junior high school, as opposed to a middle school. Teachers were slightly more formal, and students had a busy, but slightly jaded, air. Observed classrooms were typically arranged with student desks in a semicircle. Teachers tended to lead a discussion that would be followed by independent work. For example, on one visit we saw a teacher select students to read part of a fictional story and then charge the students with making a prediction on what would happen next in the story.

Students were fairly positive in their assessment of the program. Although they believed the program to be effective, some did not have high opinions of the instructors. Nearly all students appreciated the tendency to have different EO teachers, even if that meant encountering one they did not like. A few students had favorites and tried to modify the timing of logging in to work with the same teacher. The majority of students rated the program as easy but very helpful. In the spring group interviews, nearly all students complained about repetition in the program, explaining that they often had to do the same lesson twice. Students were overwhelmingly happy about the computers and a majority appreciated the token disbursement.

Rossford Junior High
Rossford, OH

Rossford Junior High, located in Rossford, Wood County, OH is a public school with an enrollment of 309 students in 7th and 8th grade, of which 29% are economically disadvantaged students; 33% of the students qualified for free lunch and 6% for reduced price lunch. In 2007, the estimated town's population was 6,406 (95.3% White, 1.7% Hispanic, and <1% African American.). The ethnicity of the student body includes 90% White, 5% Hispanic, and 5% unspecified. In 2007, Rossford Junior High was classified as a School Identified for Improvement.

Data from the school year 2007-20088 show that 78.8% of the students in 7th grade and 79.7% of students in 8th grade at Rossford Junior High scored at or above the proficient level as measured by the Ohio Achievement Test (OAT)9, which assesses students in grades 3 through 8 in reading. The state average for reading was 77%. Rossford made adequate yearly progress (AYP) in reading in 2007-2008. The student-teacher ratio in 2007 was 14 students per FTE teacher, lower than the state average of 16 students per FTE teacher.

ASA data provided some support to the effectiveness of the program at Rossford. Compared to the spring cohort, the fall cohort exhibited greater growth between the pretest and mid-test in vocabulary. These gains were not replicated in reading comprehension, however. Looking at the test overall, the fall cohort only gained two more points than the spring cohort. These trends are illustrated below.

8 Rossford School District. 2007-2008 School Year Report Card.

Figure 25: ASA Total Scaled Scores, Rossford

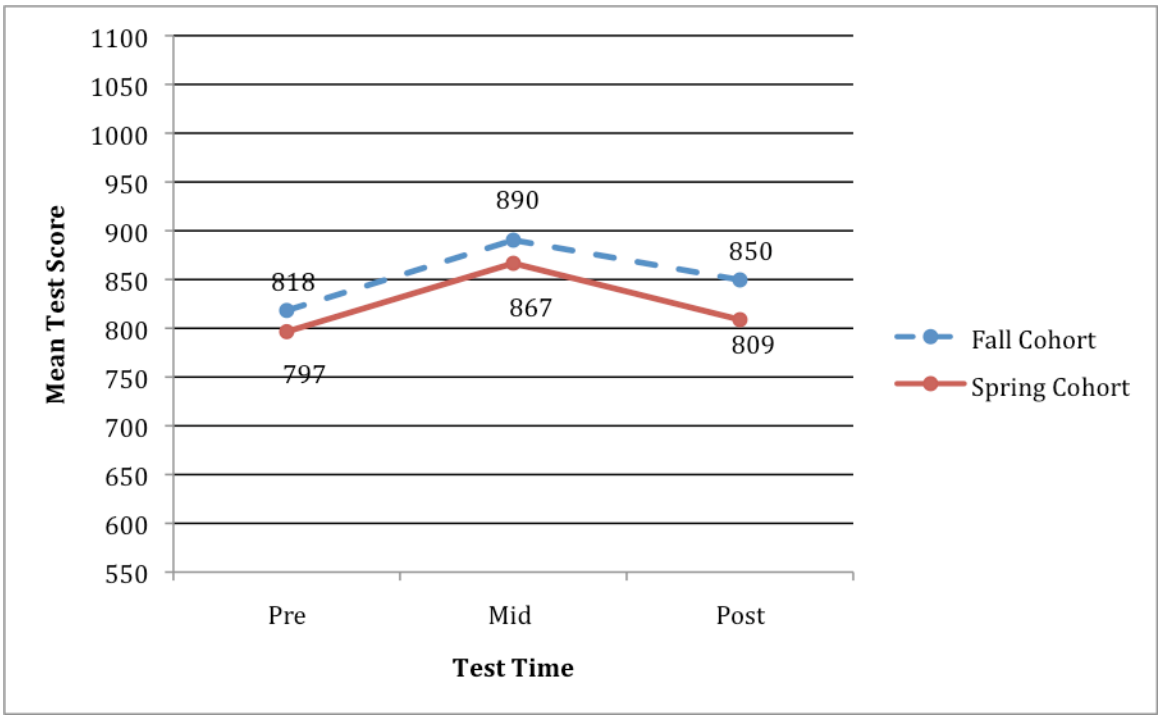


Figure 26: ASA Vocabulary Scaled Scores, Rossford

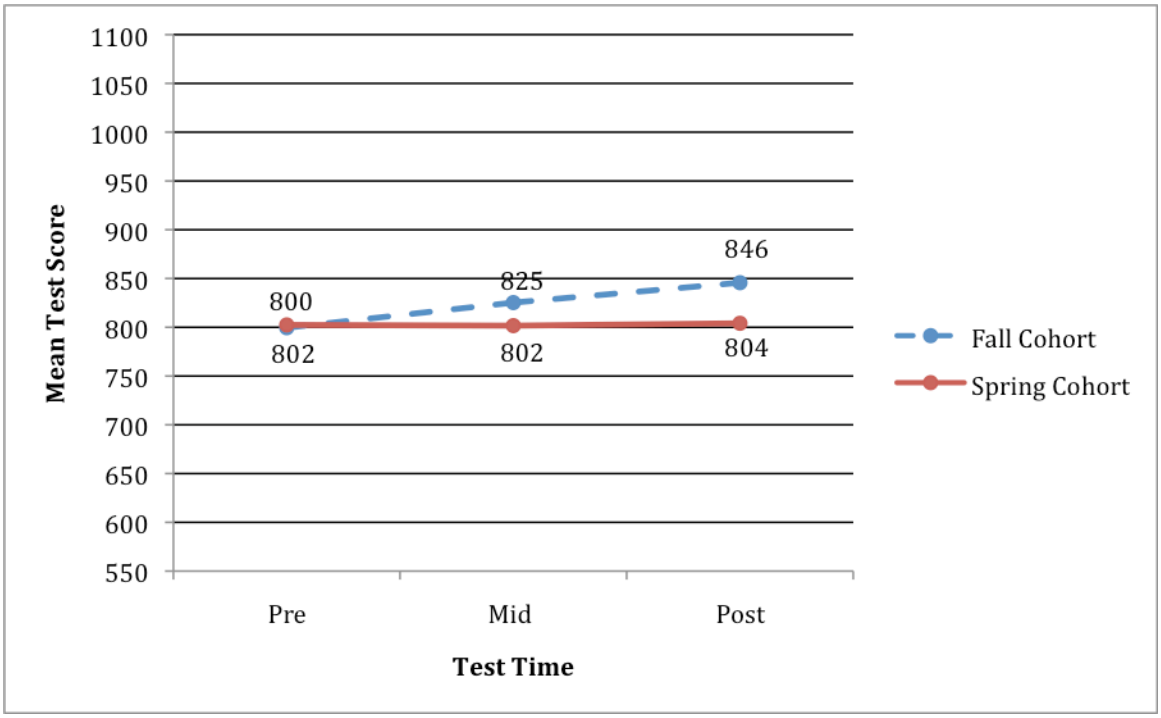
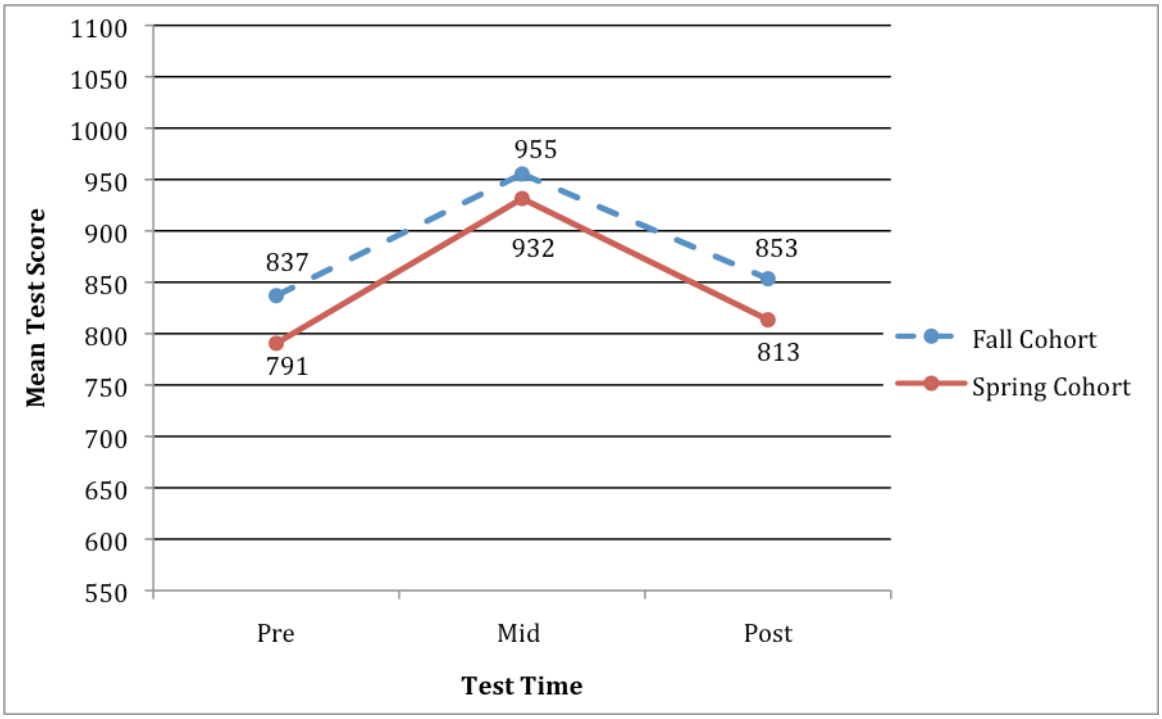


Figure 27: ASA Reading Comprehension Scaled Scores, Rossford



We visited Rossford in fall 2007 and spring 2008. During the site visits we conducted classroom observations and interviews with the school principal, reading/English teachers, and EO students. Students were very engaged in instruction and participated in reading activities. Our data show that administrators, teachers, and parents work together at Rossford. Administrators and parents confirmed data from interview with teachers. Teachers and parents confirmed students' data.

We learned from interview data that the EO program had helped the students in reading. Teachers and students agreed that the program helped them to stay focused on reading. Students improved in reading comprehension and understood main ideas. An increase in participation in reading activities and self-confidence was reported. Of 35 students who took the final assessment at Rossford, we interviewed 28. They overwhelmingly agreed that the program had helped them. They based their assessment on grade improvement in reading from C to B, B to A, and in one case from C to A.

According to group interviews with students, the EO students learned about main ideas, new vocabulary, synonyms, and plural nouns. One of the students said, "I was home-schooled before I came here and I was a little behind. This caught me up, so the things that the other kids already knew, I was still learning, so I learned everything from Educate Online and now, I'm back on top." Another student pointed out that the EO

program "... helped me read a little bit faster instead of stopping at each word." All of the comments were positive about the program; an 8th grader said that she had learned a lot about "synonyms, plural nouns, and stuff like that. They taught us the correct spellings." While another student said, "It taught me the difference between words, it sounds the same but means different things. It helped me understand some words that I really didn't know sometimes."

Parents seemed to be committed to the program. They set up the session calendar, checked their children's progress regularly, and monitored their online activities. According to the teachers, this involvement made a difference in program success.

Wagner Junior High School
Wagner, SD

Wagner Middle School is a public school with an enrollment of 127 students in 7th and 8th grades. It is located in Wagner, Charles Mix County, SD. In 2007, the estimated town's population was 1,558 (62.5% White, 35.5% Indian American, 3% Hispanic, and 1.5% other races). At Wagner Middle School, 69% of the students qualify for free-reduced lunch; the state average is 29% per school. Ethnicity of the student body includes 54% American Indian/Alaskan native and 46% White.

Data from the school year 2007-2008 show that 77% of the students in 7th grade and 79% of students in 8th grade at Wagner MS scored at or above the proficient level on the Dakota State Test of Educational Progress (Dakota STEP) in reading; the state average was 84% while the district average was lower, 77%. The student-teacher ratio in 2007 was 15 students per FTE teacher, higher than the state average of 13 students per FTE teacher. Wagner Junior HS made adequate yearly progress (AYP) in 2007-2008. The graduation rate in 2008 was 95.33%, almost identical to the state rate of 95.21%.

We visited Wagner twice to speak with administrators, teachers, and students. Feedback was largely positive from administrators and teachers and neutral from students. ASA data do not support program effects because the fall cohort did not experience greater achievement gain than the spring cohort at the mid-test. Additionally, despite students being randomly assigned into groups, the spring cohort started with notably higher scores that continued through all three administrations of the ASA. The figures below summarize cohort means at Wagner.

Figure 28: ASA Total Scaled Scores, Wagner

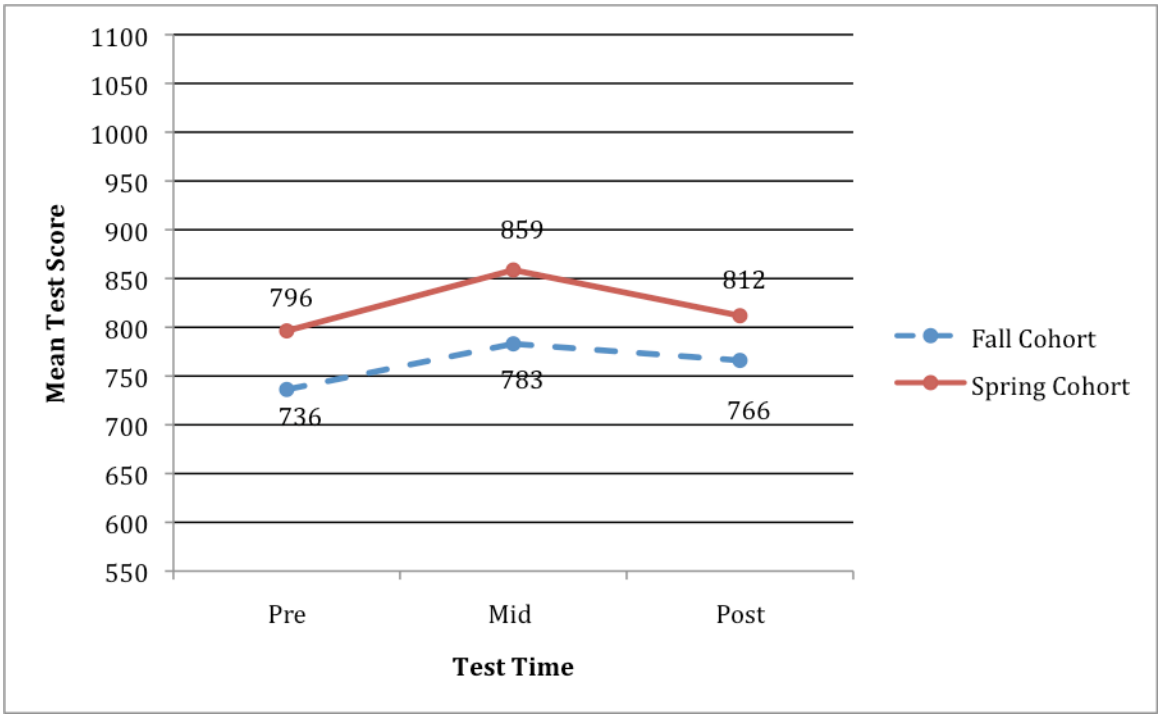


Figure 29: ASA Vocabulary Scaled Scores, Wagner

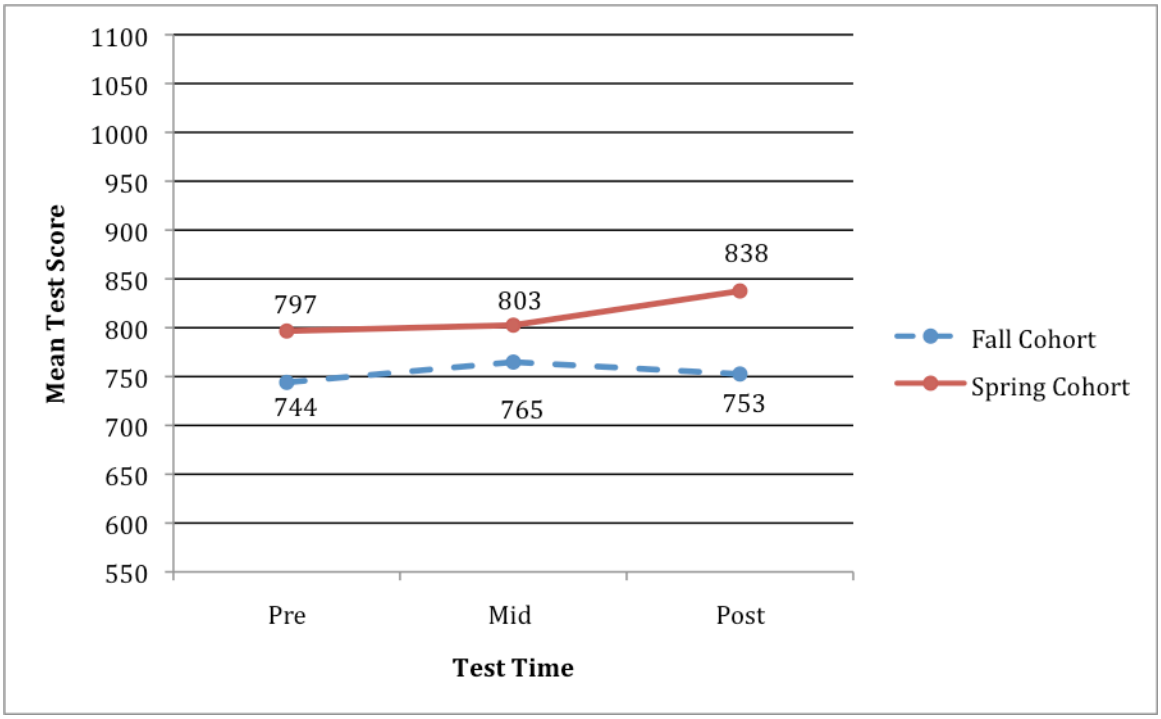
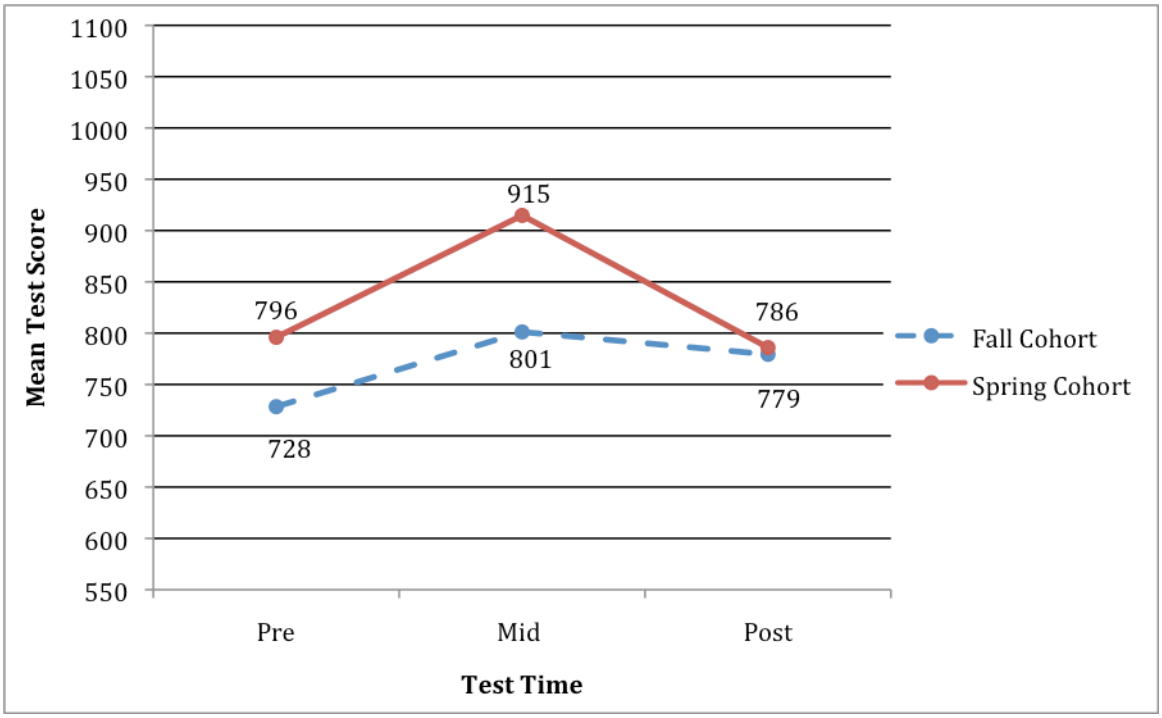


Figure 30: ASA Reading Comprehension Scaled Scores, Wagner



Although an overwhelming majority of students participating in group interviews thought the program was helpful, they complained about logistical issues, such as the timing for participation. Two students (and the principal) also mentioned technical difficulties. For example, one student commented, "[We] had some trouble getting a dial tone but have been able to get on." For some reason, students at Wagner tended to dislike reading and language arts more than students at other sites; a large proportion (two fifths, or 40%) mentioned math as a favorite subject and language arts as a least favorite. Not surprisingly, several students in both the fall and spring cohorts were sometimes disengaged in language arts class. Students tended to like the EO instructors more than their classroom teachers, but wished that there were a closer relationship between the lessons in EO and the work at school. Towards the end of the year, students also mentioned fatigue due to participation in the program while taking end of the year tests and other school activities.

Whittier Middle School
Sioux Falls, SD

Whittier Middle School is a public school located in Sioux Falls, Minnehaha County, SD. In 2007, the estimated population in Sioux Falls was 139,517 with 92% white, 2% African American, 2% Native American, 1% Asian, and 3% other/mixed. In the school year 2007-2008, Whittier Middle School had an enrollment of 951 students in grades six to eight, of whom 55 were English Language Learners. The student body was comprised of 74% White, 11% African American, 8 % Latino, 4% American Indian or Alaskan Native, and 3 % Asian/Pacific Islander.

Data from the school year 2007-2008 show that 50% of Whittier students participated in the free or reduced-price lunch program, higher than the state average of 29%. Whittier has not meet Adequate Yearly Progress (AYP) during the last two school years. The student-teacher ratio in 2007 was 16 students per FTE teacher, higher than the state average of 13 students per FTE teacher.

In 2007, 78% of Whittier students scored at or above proficient Reading level as measured by the Dakota State Test of Educational Progress (Dakota STEP). The state average for reading was 81% of students. All of the EO participating students at Whittier were ELLs.

Results from the state assessment show that at Whittier 84% of the students in 6th grade, 75 % of students in 7th grade, and 77% of students in 8th grade scored at or above proficient level. However, according to the same test results, 73% of the ELLs in 6th grade, 96% of the ELLS in 7th grade, and 76% of the ELLs in 8th grade scored below proficient level in reading (basic level).

In the school year 2007-2008 we visited the school twice. During the school visits, we observed English, reading, and English as a Second Language classes and interviewed the School Principal, the EO program coordinator, and the English, Reading, and ESL teachers. We also conducted small group interviews with participating students.

Interview data show that at the beginning of the school year (fall group) there were communication issues between parents of ELLs—who spoke languages other than English or Spanish, and EO customer service, which caused some of the students to start the program later than planned.

Overall perception of the program was very positive. From interview data we learned that some students had improved their reading scores and self-confidence. The students felt that participation in the online program was independent work they were doing without adults' help, for which they were earning something (free tutoring and computer). The EO students had improved in reading; however, teachers did not want to assert that it was

due to participation in EO because the students were also taking a 90 minutes reading class called "Read 180." Students who participated in small group interviews agreed that the EO program had helped them in reading. They reported learning about prefixes, suffixes, main ideas, synonyms, and vocabulary. The students' grades went up from D to C and from C to B in some cases. They also noted that the program had helped them in subjects other than reading.

The student and teacher perceptions of EO's effectiveness were not mirrored in standardized test data unfortunately. ASA data were inconclusive in that the cohorts were not equivalent at the start of the year. Looking at the total score, the fall cohort decreased the gap at the mid-test by exhibiting slightly greater growth. Because the cohorts were fairly dissimilar at the start of the year, however, it is not appropriate to assume the increased growth is the result of the program. Further, the additional achievement gain was minimal. ASA scores are summarized below.

Figure 31: ASA Total Scaled Scores, Whittier

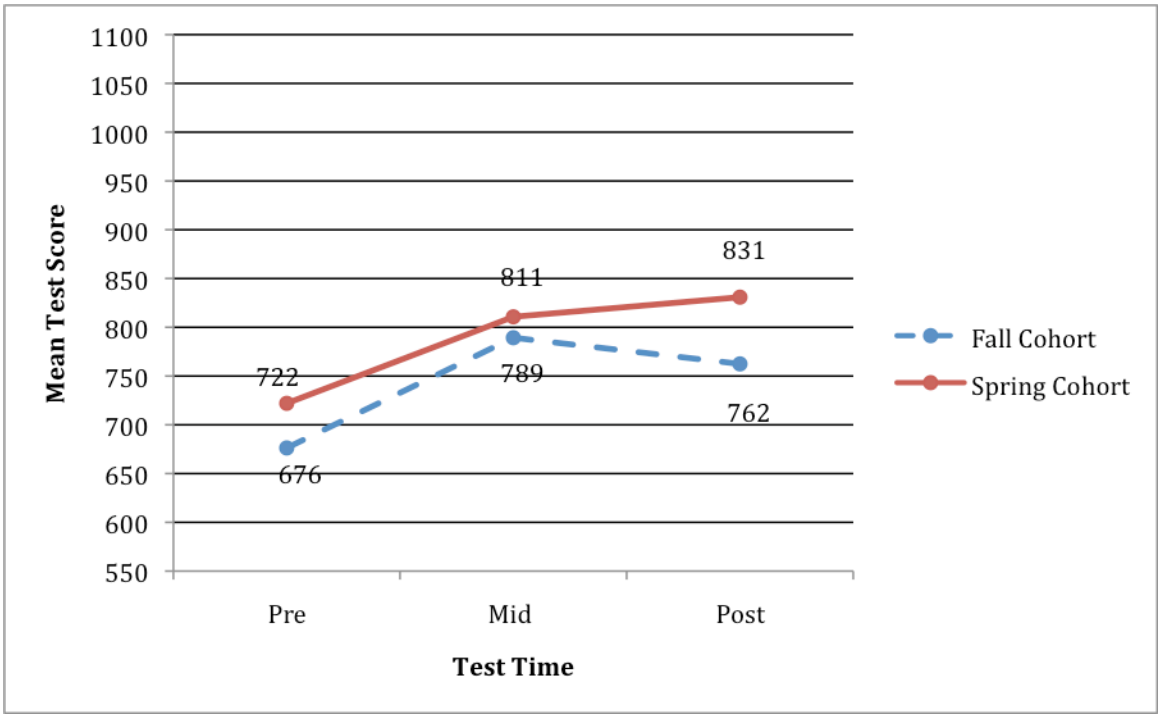


Figure 32: ASA Vocabulary Scaled Scores, Whittier

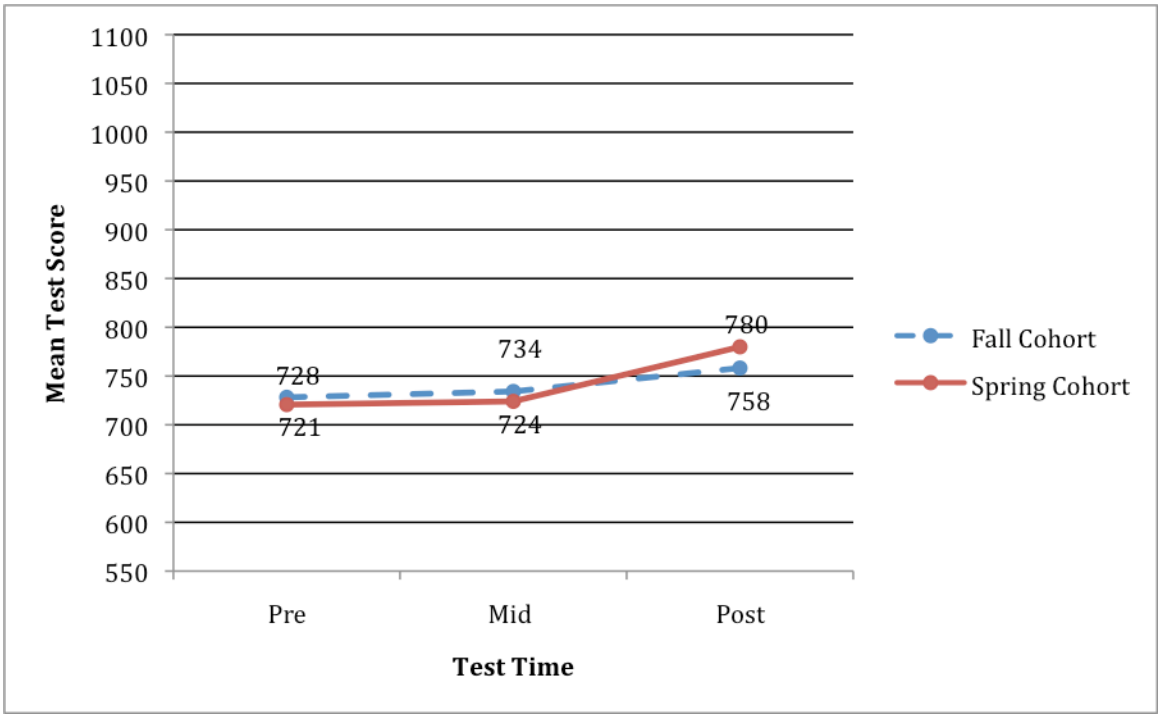
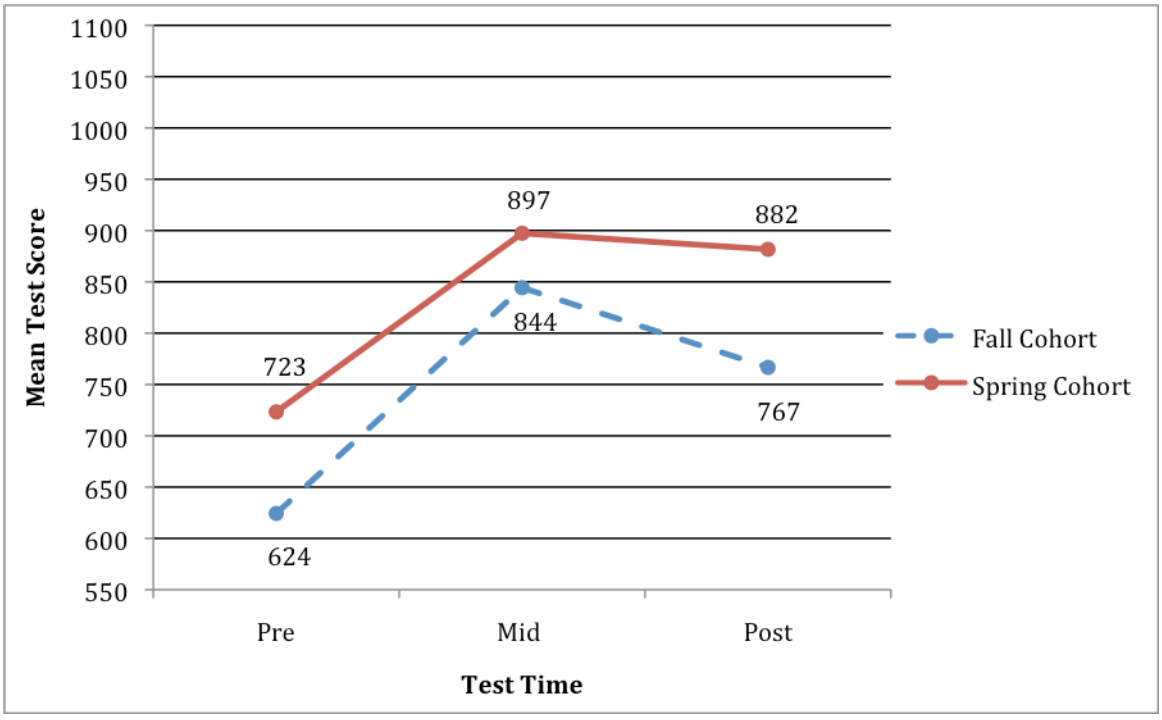


Figure 33: ASA Reading Comprehension Scaled Scores, Whittier



Conclusion

Due to the wide range of findings, the case studies support the need to examine quantitative and qualitative information together when considering the effects of SES. Although the data points are sometimes complementary and together paint a more complete picture, at other times, they are contradictory. The qualitative data suggest that improved classroom achievement and engagement are not always translated to achievement gain on the ASA or CAT/5.

Appendix B: Consent Forms

Student (Surveys)

Dear Student:

We would like you to participate in our research study.

We are asking you to participate in Catapult Online's reading tutoring program, which provides students with instruction over the computer and Internet. You are being asked to participate in approximately 26 total hours of instruction during the school year. Catapult Online will give you all of the equipment you need to participate (such as a computer, mouse, keyboard, and headset). You will be asked to take six tests during the school year – two in the fall, two in the winter, and two in the spring. We will also ask you to take a brief survey three times during the year—once in the fall, once in the winter, and once in the spring, at the same time you take the tests.

We will not show your test answers or survey answers to anyone else, including your teachers or parents, so whatever information you give us will be kept confidential. When we get your test booklets and surveys, we will remove your name and other information that can be used to tell who you are so that no one will be able to trace your answers to you.

Participation in this project is voluntary and will not affect your school grades. We do not believe that there are any risks in participating. You may refuse to participate in the study. If you agree and later decide that you don't want to do the tutoring, you and your family will have to return the computer, but there will be no other penalty. If you complete the tutoring program, you will get to keep the computer and equipment that comes with it. If you complete all of the assessments and surveys required (in the fall, in the winter, and in the spring), you will also receive a $10.00 gift certificate at the completion of the study.

The benefit of participating is that you will receive tutoring in reading and a computer that you can keep after you finish the tutoring program. You also will help us learn whether Catapult Online's program helps students in school.

If you have any questions about this study, please call Marshall at 800-410-2820 or email him at marshall@rockman.com. If you have questions about your rights as a research subject you can call Independent Review Consulting at 800-472-3241 or email subject@irb-irc.com.

Sincerely,
Marshall Perry, Ph.D.
Rockman et al

By signing this form, you are indicating that you agree to participate in this study.

YES I agree to participate in this study.

_____ _____

Student Name (Please Print) Date

Parent for Child (Surveys)

INFORMED CONSENT STATEMENT
Star Schools Grant Program
2007-2008

Your child has been invited to participate in a research study as part of the U.S. Department of Education's Star Schools grant program. The purpose of this study is to determine the effectiveness of supplemental education services (SES), and identify ways to increase their effectiveness and students' access to them—with the overall goal of improving the reading ability of middle-school students. This study will focus on one particular SES program, Catapult Online's middle-school reading program.

INFORMATION

As part of this study, your child will participate in Catapult Online's supplemental education service program. Your child will receive 26 hours of reading instruction, provided by Catapult Online's teachers via remote technologies (such as computers connected to the Internet). Your child will receive instruction during one of two time periods—from November 2007 to February 2008, or from February to April 2008. During that time, Catapult Online will provide your child with all the equipment required to participate (e.g., a computer, tools for voice communication, etc.).

As part of this study, your child will take two different reading assessments at three times during the school year (October/November 2007, January/February 2008, and April/May 2008). All of the assessments will be administered at your child's school, during the school day. One set of tests will be administered on a computer; the other will be a paper and pencil test. In addition to taking the assessments, your child will be asked to complete a short survey about how he or she feels about reading, school, and his or her experience with the Catapult Online tutoring program. The surveys will be given in October/November 2007, January/February 2008, and April/May 2008.

RISKS

There are no foreseeable risks associated with this study.

BENEFITS

By participating in this study, your child will receive individualized tutoring in reading. It is expected that this instruction will help your child's academic performance. In addition, your child's participation will provide valuable information about the effectiveness of SES and how it can be designed to provide access to all students. There is no payment for participation.

CONFIDENTIALITY

Your child's information will be used only for the purposes of this study. No individually identifiable information will be made available to any party other than those that are part of this study. All data will be destroyed after the conclusion of this study.

CONTACT

If you have questions at any time about the study or the procedures you may contact the researcher: Marshall Perry, toll-free at 800-410-2820, 49 Geary St, Suite 530, San Francisco, CA 94108, marshall@rockman.com. If you have questions about your child's rights as a research subject, you can call Independent Review Consulting at 800-472-3241 or email subject@irb-irc.com.

PARTICIPATION

Your child's participation in this study is voluntary; s/he may refuse to participate without penalty. If your child decides to participate, s/he may withdraw from the study at any time without penalty. If your child withdraws from the study before data collection is completed, your child's data will be destroyed. Your child's participation in this study is contingent on her/him not participating in any SES program other than Catapult Online during the school year. If your child participates in any other SES program during this study, s/he will be removed from the remainder of the study.

CONSENT

Please add your child's name and sign **PAGE 3** of this document if you give permission for your child to participate in the study. Please detach the **SIGNED PAGE 3** and return to the presenter at the end of this meeting or to ROCKMAN *ET AL* at

Attn: Terri Akey
3925 Hagan Street, Suite 301
Bloomington, IN 47401

You may keep the first two pages for your records.

Sincerely,

Marshall Perry, Ph.D.,
Researcher, ROCKMAN *ET AL*

****

I have read this form and received a copy of it. I have had all my questions answered to my satisfaction.

I agree to allow my child, _____, to take part in this study.

Parent's signature_____ Date _____

**********PLEASE SIGN AND RETURN THIS PAGE**********

CONSENT

Please add your child's name and sign **THIS** page of document if you give permission for your child to participate in the study. Please detach **THIS signed** page and return to the presenter at the end of this meeting or to ROCKMAN *ET AL* at

Attn: Terri Akey
3925 Hagan Street, Suite 301
Bloomington, IN 47401

You may keep the first two pages for your records.

Sincerely,

Marshall Perry, Ph.D.,
Researcher, ROCKMAN *ET AL*

****

I have read this form and received a copy of it. I have had all my questions answered to my satisfaction.

I agree to allow my child, _____, to take part in this study.

School: _____

Parent's signature_____ Date _____

Parent for Self (Survey & Interview)

INFORMED CONSENT STATEMENT
Star Schools Grant Program
For Parent Participation

We invite you to participate in a research study as part of the U.S. Department of Education's Star Schools grant program. The purpose of this study is to examine the impact of Supplemental Educational Services (SES) on middle school reading performance. Specifically, this research will focus on one particular SES provider, Catapult Online.

INFORMATION
If you take part of this study, you will respond a short survey at the beginning of the school year during the parent meeting at your child's school. You may also be selected to participate in a phone interview two times during the school year. We will select 30 parents from each state (Ohio, South Dakota, and California) to participate in phone interviews to talk about their child's progress in reading, experiences with Catapult Online, reading classes, school, and learning reading strategies.

RISKS & BENEFITS
There are no foreseeable risks associated with this study. In terms of benefits, your participation will provide valuable information about the effectiveness of SES programs and how these programs can be designed to provide access to all students.

CONFIDENTIALITY
Your information will be used only for the purposes of this study. No individually identifiable information will be made available to any party other than those that are part of this study. All data will be destroyed after the conclusion of this study. When we get your answers, we will remove your name and other information that can be used to tell who you are so that no one will be able to trace your answers to you.

CONTACT
If you have questions at any time about the study or the procedures you may contact the researcher: Marshall Perry, 800-410-2820, 49 Geary St, Suite 530, San Francisco, CA 94108, marshall@rockman.com. If you have questions about your rights as a research subject, you can call Independent Review Consulting at 800-472-3241 or email subject@irb-irc.com.

PARTICIPATION
Your participation in this study is voluntary; you may refuse to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty. If you withdraw from the study before data collection is completed, your data will be destroyed. There is no payment for participation however you may qualify to receive a $10 gift card. If your child participates in any other SES program during this study, s/he will be removed from the remainder of the study and you will not be asked to take part in this research.

CONSENT
I have read this form and received a copy of it. I have had all my questions answered to my satisfaction.

I, _____, agree to take part in this study.
(Print Name)

Parent's signature_____ Date _____

Investigator's signature_____ Date _____

Teacher (Observations & Interview)

INFORMED CONSENT STATEMENT
Star Schools Grant Program
2007-2008

This school is participating in a research study as part of the U.S. Department of Education's Star Schools grant program. The purpose of this study is to determine the effectiveness of supplemental education services (SES), and identify ways to increase their effectiveness and students' access to them—with the overall goal of improving the reading ability of middle-school students. This study focuses on one particular SES program, Catapult Online's middle-school reading program.

INFORMATION

As part of this study, several classrooms at each school will be observed over a period of approximately 45 minutes. These observations will inform our understanding of how school context can support supplemental education service delivery. Observations will not interfere with normal classroom activities. Sometime after the observation, the researcher would like to interview the classroom teacher. Interviews will last approximately 30-45 minutes and will relate to the teacher's opinions about the program, and the progress that students make through their participation. Related school administrators will be invited to interview as well.

RISKS AND BENEFITS

There are no foreseeable risks associated with this study. Your participation will provide valuable information about the effectiveness of SES and how it can be designed to provide access to all students. There is no payment for participation.

CONFIDENTIALITY

Information about you and your class will be used only for the purposes of this study. No individually identifiable information will be made available to any party other than those that are part of this study. All data will be destroyed after the conclusion of this study.

CONTACT

If you have questions at any time about the study or the procedures you may contact the researcher: Marshall Perry, toll-free at 800-410-2820, 49 Geary St, Suite 530, San Francisco, CA 94108, marshall@rockman.com. If you have questions about your child's rights as a research subject, you can call Independent Review Consulting at 800-472-3241 or email subject@irb-irc.com.

PARTICIPATION

Your child's participation in this study is voluntary; s/he may refuse to participate without penalty. If your child withdraws from the study before data collection is completed, your child's data will be destroyed.

CONSENT FOR INTERVIEW

If you **give consent** to be interviewed, please detach page 2 of this document and return it to the researcher. You may keep this form for your information,

Sincerely,

Marshall Perry, Ph.D.,
Researcher, ROCKMAN *ET AL*

****

I have read the interview consent form and received a copy of it.

By signing this form, you are indicating that you agree to participate in an interview.

YES I agree to participate in an interview.

Teacher Name (Please Print Date

Please initial: I **agree** to allow the researcher to audiotape me. _____

Parent for Child (Observations & Interview)

INFORMED CONSENT STATEMENT
Star Schools Grant Program
2007-2008

Your child is participating in a research study as part of the U.S. Department of Education's Star Schools grant program. The purpose of this study is to determine the effectiveness of supplemental education services (SES), and identify ways to increase their effectiveness and students' access to them—with the overall goal of improving the reading ability of middle-school students. This study will focus on one particular SES program, Catapult Online's middle-school reading program.

INFORMATION

As part of this study, several classrooms at each school will be observed over a period of approximately 45-90 minutes during Reading, English Language Arts, and/or English as a Second Language classes. These observations will inform our understanding of how school context can support supplemental education service delivery and document reading instructional experiences that Educate Online students have in the classroom. After the observations, researchers will briefly speak with groups of participating students about their experiences with Catapult Online. Informal group interviews will last approximately 15-20 minutes. The observations and group interviews will not interfere with normal classroom activities.

RISKS AND BENEFITS

There are no foreseeable risks associated with this study. Your child's participation will provide valuable information about the effectiveness of SES and how it can be designed to provide access to all students. There is no payment for participation.

CONFIDENTIALITY

Your child's information will be used only for the purposes of this study. No individually identifiable information will be made available to any party other than those that are part of this study. All data will be destroyed after the conclusion of this study.

CONTACT

If you have questions at any time about the study or the procedures you may contact the researcher: Marshall Perry, toll-free at 800-410-2820, 49 Geary St, Suite 530, San Francisco, CA 94108, marshall@rockman.com. If you have questions about your child's rights as a research subject, you can call Independent Review Consulting at 800-472-3241 or email subject@irb-irc.com.

PARTICIPATION

Your child's participation in this study is voluntary; s/he may refuse to participate without penalty. If your child decides to participate, s/he may withdraw from the study at any time without penalty. If you or your child withdraws from the study before data collection is completed, your child's data will be destroyed.

CONSENT

If you **give consent** for your child to be observed in a classroom and interviewed, you may simply keep this form for your information, If you **do not** give consent, please detach the **SIGNED PAGE 2** and return to

_____ at school or **Justin Robertson** at

ROCKMAN *ET AL*
3925 Hagan Street, Suite 301
Bloomington, IN 47401

Sincerely,

Marshall Perry, Ph.D.,
Researcher, ROCKMAN *ET AL*

If you **do not** give consent, please **detach this page** and return to

_____ at school or **Justin Robertson** at

ROCKMAN *ET AL*
3925 Hagan Street, Suite 301
Bloomington, IN 47401

You may keep the first page for your records.

Sincerely,

Marshall Perry, Ph.D.,
Senior Researcher, ROCKMAN *ET AL*

****

I have read this form and received a copy of it.

I **do not give consent** for my child, _____, to be observed or interviewed.

Parent's signature_____ Date _____

Appendix C: Surveys

Parent Background

Star Schools Parent Background Survey
2007-2008

Dear Parents,

The following questions ask you to tell us a little bit about your child who will be receiving tutoring in reading from Educate Online. We are looking at how well the Educate Online program helps your child and others do better in reading, and hopefully, better in school. Your answers to the questions below will be kept confidential, and we will not share them individually with anyone else, including the school and Educate Online. Thank you very much for taking the time to answer this brief survey.

Once you have completed the survey below, we will send you a $10.00 gift card from Walmart. During the school year, we may contact you two more times to see how your child is doing with the tutoring program and with school.

Contact Information (to be used for mailing gift card and for possible follow-up)

❑ I do not wish to provide my contact information

Name: _____

Address: _____

Phone Number where you can be reached: _____

Best time to call: ❑ Morning ❑ Afternoon ❑ Evening

Section 1: About Your Child

1. Child's Name: _____
2. Child's School: _____
3. What grade is your child in? ❑ Grade 6 ❑ Grade 7 ❑ Grade 8 ❑ Other: _____
4. Which of the following services does your child receive at school? Check all that apply.

❑ Extra help in math (e.g. Title 1 Math)
❑ Extra help in reading (e.g., Title I Reading or Reading Recovery)
❑ Special Education
❑ English as Second Language
❑ Speech and Language services
❑ Other: _____

Please rate how often your child does the following:	**Never**	**Rarely**	**Sometimes**	**Often**	**Very Often**
1. My child reads at home.	❑	❑	❑	❑	❑
2. My child does his or her homework.	❑	❑	❑	❑	❑
3. My child asks me for help with school assignments.	❑	❑	❑	❑	❑
4. My child asks other people at home for help with school assignments (brothers or sisters, other adults).	❑	❑	❑	❑	❑
5. My child is absent from school.	❑	❑	❑	❑	❑

Please rate how much you agree or disagree with the following:	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
6. My child feels confident about reading.	❑	❑	❑	❑
7. My child likes reading.	❑	❑	❑	❑
8. My child reads well.	❑	❑	❑	❑
9. My child understands what he or she reads.	❑	❑	❑	❑
10. My child talks about reading at home.	❑	❑	❑	❑
11. My child likes school.	❑	❑	❑	❑
12. My child likes his or her reading/English teacher(s).	❑	❑	❑	❑

Section 2. You and Your Child

Please rate how often you do the following:	**Never**	**Rarely**	**Some-times**	**Often**	**Very Often**
1. I help my child with homework.	❑	❑	❑	❑	❑
2. I check my child's homework.	❑	❑	❑	❑	❑
3. I keep track of how my child is doing in school.	❑	❑	❑	❑	❑
4. I do extra learning activities with my child at home.	❑	❑	❑	❑	❑
5. I volunteer at my child's school.	❑	❑	❑	❑	❑
6. I attend parent activities at my child's school such as parent-teacher conferences or open houses.	❑	❑	❑	❑	❑
7. I attend activities in which my child is involved such as band concerts, school plays, or sports events.	❑	❑	❑	❑	❑
8. I read books or magazines for my own pleasure.	❑	❑	❑	❑	❑
9. My child and I read together.	❑	❑	❑	❑	❑
10. I like to read.	❑	❑	❑	❑	❑
11. Reading is enjoyable for me.	❑	❑	❑	❑	❑

Please rate how much you agree or disagree with the following statements:	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
12. I feel comfortable helping my child with homework.	❑	❑	❑	❑
13. I am comfortable talking to someone at school about my child.	❑	❑	❑	❑
14. I know how to help my child with reading.	❑	❑	❑	❑
15. I know how my child is doing in school.	❑	❑	❑	❑
16. I know how to help my child succeed in school.	❑	❑	❑	❑
17. It is important for my child to get a good education.	❑	❑	❑	❑
18. It is important for my child to do well in school.	❑	❑	❑	❑

Section 3. Computer Technology

1. Do you currently have Internet access in your home? ❑ Yes ❑ No
2. Do you currently have a computer in your home? ❑ Yes ❑ No

If yes to #2 above, please answer the questions below.	**Not at all**	**A little**	**Somewhat**	*A lot*
a. To what extent does your child use your home computer for his / her homework?	❑	❑	❑	❑
b. To what extent do you understand what your child does on the computer?	❑	❑	❑	❑

Thank you very much for completing this survey

Star Schools Student Survey
2007-2008

Today's Date: _____

Section 1: About You

1. Name: _____

2. How old are you? _____I am a: ❑ Boy ❑ Girl

3. What grade are you in? ❑ Grade 6 ❑ Grade 7 ❑ Grade 8 ❑ Other: _____

4. What school do you attend? _____

5. I call myself: ❑ Black or African American ❑ Hispanic or Latino ❑ White
❑ Asian or Pacific Islander ❑ Native American ❑ Mixed Race
❑ Other: _____

6. Have you had tutoring in reading before this school year? ❑ Yes ❑ No

7. Have you had tutoring for other subjects (math, science, social studies) before this year? ❑ Yes ❑ No

8. Have you done Catapult Online tutoring on the computer before this year? ❑ Yes ❑ No

Section 2. You and Reading

Please tell us how much you agree or disagree with each statement:
(Choose 1 answer for each.)

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Reading is hard for me.	❍	❍	❍	❍
2. I am good at reading.	❍	❍	❍	❍
3. I like to read.	❍	❍	❍	❍
4. I do well in my English/Language Arts class(es).	❍	❍	❍	❍
5. I need extra help in English/Language Arts.	❍	❍	❍	❍
6. I know more than my English/Language Arts grades show.	❍	❍	❍	❍
7. Reading is important in everyday life.	❍	❍	❍	❍
8. Reading is boring.	❍	❍	❍	❍

Please tell us how often do you do the following: *(Choose 1 answer for each.)*

	Never	Rarely	Some-times	Often
9. I pay attention in my English/Language Arts class(es).	❍	❍	❍	❍
10. I work hard in my English/Language Arts class(es).	❍	❍	❍	❍
11. I do my English/Language Arts homework.	❍	❍	❍	❍
12. I ask questions in my English/Language Arts class(es).	❍	❍	❍	❍

Section 3. You and School

Please tell us how much you agree or disagree with each statement:
(Choose 1 answer for each.)

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I like school.	❍	❍	❍	❍
2. I am rarely absent from school.	❍	❍	❍	❍
3. I usually get to school on time.	❍	❍	❍	❍
4. I like my English/Language Arts teacher(s).	❍	❍	❍	❍
5. My English/Language Arts teacher(s) think I can do well.	❍	❍	❍	❍
6. My English/Language Arts teacher(s) listen to me.	❍	❍	❍	❍
7. My English/Language Arts teacher(s) respect me.	❍	❍	❍	❍
8. My English/Language Arts teacher(s) believe I can learn.	❍	❍	❍	❍
9. School is hard for me.	❍	❍	❍	❍
10. My English/Language Arts teacher(s) give me extra help when I need it.	❍	❍	❍	❍
11. It is important for me to do well in school.	❍	❍	❍	❍
12. My English/Language Arts teacher(s) are fair with me.	❍	❍	❍	❍
13. My English/Language Arts teacher(s) make it clear what they expect of me.	❍	❍	❍	❍
14. My English/Language Arts teacher(s) care about how I do in school.	❍	❍	❍	❍
15. I can do well in school if I want.	❍	❍	❍	❍

Section 4. You at Home
Please tell us how often your parents or another adult at home do the following:
(Choose 1 answer for each.)

An adult at home. . .	Never	Rarely	Some-times	A lot
1. Helps me with my English homework.	❍	❍	❍	❍
2. Makes me do my homework.	❍	❍	❍	❍
3. Checks my homework.	❍	❍	❍	❍
4. Talks to my teachers about how I am doing in school.	❍	❍	❍	❍

Please tell us how much you agree or disagree with each statement:
(Choose 1 answer for each.)

An adult at home. . .	Strongly Disagree	Disagree	Agree	Strongly Agree
5. Knows how I am doing in school.	❍	❍	❍	❍
6. Expects me to do well in school.	❍	❍	❍	❍
7. Makes it clear what they expect from me.	❍	❍	❍	❍
8. Listens to what I have to say.	❍	❍	❍	❍
9. Helps me when I have a problem at school.	❍	❍	❍	❍

Section 5. You and Computers

3. Did you have Internet access at home before you started Catapult Online? ❑ Yes ❑ No
4. Did you have a computer at home before you started Catapult Online? ❑ Yes ❑ No

Please tell us how much you agree or disagree with each statement:
(Choose 1 answer for each.)

	Strongly Disagree	Disagree	Agree	Strongly Agree
3. I am good at using the computer.	❍	❍	❍	❍
4. I feel comfortable using a computer.	❍	❍	❍	❍
5. I like using the computer for fun.	❍	❍	❍	❍
6. Computers make learning or school work more fun.	❍	❍	❍	❍
7. Computers make learning or school work easier.	❍	❍	❍	❍
8. I like using computers to do school work.	❍	❍	❍	❍

Please tell us how often do you do the following: *(Choose 1 answer for each.)*

	Never	Rarely	Sometimes	Often
9. I play games on the computer.	❍	❍	❍	❍
10. I email my friends or family on the computer.	❍	❍	❍	❍
11. We use computers for learning in school.	❍	❍	❍	❍
12. I do my school or homework on the computer.	❍	❍	❍	❍
13. I surf the Internet for fun.	❍	❍	❍	❍

Student Mid

Star Schools Student Mid-Survey

Today's Date: _____

1. Name: _____
2. How old are you? _____I am a: ❑ Boy ❑ Girl
3. What grade are you in? ❑ Grade 6 ❑ Grade 7 ❑ Grade 8 ❑ Other: _____
4. What school do you attend? _____
5. I call myself: ❑ Black or African American ❑ Hispanic or Latino ❑ White
   ❑ Asian or Pacific Islander ❑ Native American ❑ Mixed Race
   ❑ Other: _____
6. Since school started this year, have you received any other extra help in reading BESIDES CATAPULT ONLINE? ❑ Yes ❑ No

Please tell us how much you agree or disagree with each statement: *(Choose 1 answer for each.)*

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. Reading is hard for me.	❍	❍	❍	❍
2. I am good at reading.	❍	❍	❍	❍
3. I work hard in school.	❍	❍	❍	❍
4. I like to read.	❍	❍	❍	❍
5. I do well in my English/Language Arts class(es).	❍	❍	❍	❍
6. I need extra help in English/Language Arts.	❍	❍	❍	❍
7. I know more than my English/Language Arts grades show.	❍	❍	❍	❍
8. Reading is important in everyday life.	❍	❍	❍	❍
9. Reading is boring.	❍	❍	❍	❍
10. I like school.	❍	❍	❍	❍
11. I am rarely absent from school.	❍	❍	❍	❍
12. School is hard for me.	❍	❍	❍	❍
13. I am a good student.	❍	❍	❍	❍
14. It is important for me to do well in school.	❍	❍	❍	❍
15. I would like to read more.	❍	❍	❍	❍

Please tell us how often do you do the following: *(Choose 1 answer for each.)*

	Never	Rarely	Some-times	Often
16. I pay attention in my English/Language Arts class(es).	❍	❍	❍	❍
17. I work hard in my English/Language Arts class(es).	❍	❍	❍	❍
18. I do my English/Language Arts homework.	❍	❍	❍	❍
19. I ask questions in my English/Language Arts class(es).	❍	❍	❍	❍
20. I read outside of school.	❍	❍	❍	❍
When I read something,				
21. I go back and re-read what I don't understand.	❍	❍	❍	❍
22. I read more slowly when I don't understand.	❍	❍	❍	❍
23. I skim for main ideas and key phrases when I start a new chapter in a textbook.	❍	❍	❍	❍
24. I recognize the topic sentence of paragraphs.	❍	❍	❍	❍
25. I read confusing phrases and sentences out loud.	❍	❍	❍	❍
26. I try to figure out the author's purpose (for example, to entertain, persuade, inform).	❍	❍	❍	❍
27. I make predictions about what may come next.	❍	❍	❍	❍
28. I look for the author's main point or idea.	❍	❍	❍	❍
29. I ask myself "what do I already know?" about the topic.	❍	❍	❍	❍
30. I make connections with my own experiences.	❍	❍	❍	❍
31. I talk with others about what I'm reading.	❍	❍	❍	❍
32. I summarize during and/or after reading.	❍	❍	❍	❍
33. I try to figure out how the text is organized by looking for signal words.	❍	❍	❍	❍
34. I take notes and/or highlight.	❍	❍	❍	❍
35. I use my imagination to help me understand.	❍	❍	❍	❍
36. I guess the meaning of a word I don't know by re-reading the sentence it's in and the sentences before and after it.	❍	❍	❍	❍
37. I look for patterns in the text (words that are repeated or ideas that are similar or different).	❍	❍	❍	❍
38. I ask myself what the text is about.	❍	❍	❍	❍
39. I look for details or facts to understand what the text is about.	❍	❍	❍	❍

Please tell us how often a parent or an adult at home does the following: *(Choose 1 answer for each.)*

An adult at home. . .	**Never**	**Rarely**	**Sometimes**	**Often**
40. Helps me with my English/Language Arts homework.	❍	❍	❍	❍
41. Makes me do my English/Language Arts homework.	❍	❍	❍	❍
42. Checks my English/Language Arts homework.	❍	❍	❍	❍
43. Talks to my teachers about how I am doing in English/Language Arts.	❍	❍	❍	❍

Please tell us how much you agree or disagree with each statement: *(Choose 1 answer for each.)*

An adult at home. . .	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
44. Knows how I am doing in school.	❍	❍	❍	❍
45. Expects me to do well in school.	❍	❍	❍	❍
46. Helps me when I have a problem at school.	❍	❍	❍	❍

Please tell us how much you agree or disagree with each statement: *(Choose 1 answer for each.)*

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
47. I am good at using the computer.	❍	❍	❍	❍
48. I feel comfortable using a computer.	❍	❍	❍	❍
49. I like using the computer for fun.	❍	❍	❍	❍
50. Computers make learning or schoolwork more fun.	❍	❍	❍	❍
51. Computers make learning or schoolwork easier.	❍	❍	❍	❍
52. I like using computers to do schoolwork.	❍	❍	❍	❍

Please tell us how often do you do the following: *(Choose 1 answer for each.)*

	Never	**Rarely**	**Sometimes**	**Often**
53. I play games on the computer.	❍	❍	❍	❍
54. I email my friends or family on the computer.	❍	❍	❍	❍
55. We use computers for learning in school.	❍	❍	❍	❍
56. I do my school or homework on the computer.	❍	❍	❍	❍
57. I surf the Internet for fun.	❍	❍	❍	❍

DID YOU COMPLETE YOUR CATAPULT ONLINE PROGRAM IN THE FALL/WINTER? ❑ Yes ❑ No

If NO, PLEASE STOP. You are done with the survey. You do not need to do the questions on the last page.

IF YES, PLEASE GO TO THE LAST PAGE AND FINISH THE SURVEY.

(ONLY ANSWER IF YOU COMPLETED YOUR CATAPULT ONLINE TUTORING IN THE FALL/WINTER)

Please tell us how much you agree or disagree with each statement about Catapult Online:

(Choose 1 answer for each.)	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
58. The lessons in Catapult Online are easy.	❍	❍	❍	❍
59. Getting around the Catapult Online website is easy.	❍	❍	❍	❍
60. The work I do on Catapult Online helps me do better in school.	❍	❍	❍	❍
61. I enjoy the lessons on Catapult Online.	❍	❍	❍	❍
62. The Catapult Online teachers are good teachers.	❍	❍	❍	❍
63. Sometimes I don't understand the lessons on Catapult Online.	❍	❍	❍	❍
64. Since I have been working on Catapult Online, my English/Language Arts grades have improved.	❍	❍	❍	❍
65. Since I have been working on Catapult Online, I read better.	❍	❍	❍	❍
66. I use what I learned from Catapult Online to help me in my English/Language Arts class(es).	❍	❍	❍	❍
67. Since I have been working on Catapult Online, I understand what I read better.	❍	❍	❍	❍
68. Catapult Online taught me new ways to understand what I am reading.	❍	❍	❍	❍
69. I get feedback from Catapult Online that helps me learn.	❍	❍	❍	❍
70. Catapult Online helps me figure out my mistakes in reading.	❍	❍	❍	❍
71. I like getting help from my online instructor.	❍	❍	❍	❍
72. I like working through Catapult Online problems or exercises on my own.	❍	❍	❍	❍
73. I like getting Catapult Online tokens when I do good work.	❍	❍	❍	❍

74. Things I like <u>most</u> about Catapult Online are:
75. Things I like <u>least</u> about Catapult Online are:

Student Post

Star Schools Student Post-Survey

Today's Date: _____

1. Name: _____
2. How old are you? _____ I am a: ❑ Boy ❑ Girl
3. What grade are you in? ❑ Grade 6 ❑ Grade 7 ❑ Grade 8 ❑ Other: _____
4. What school do you attend? _____
5. I call myself: ❑ Black or African American ❑ Hispanic or Latino ❑ White ❑ Asian or Pacific Islander ❑ Native American ❑ Mixed Race ❑ Other: _____
6. Since school started this year, have you received any other extra help in reading BESIDES CATAPULT ONLINE? ❑ Yes ❑ No

Please tell us how much you agree or disagree with each statement: *(Choose 1 answer for each.)*

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. Reading is hard for me.	❍	❍	❍	❍
2. I am good at reading.	❍	❍	❍	❍
3. I work hard in school.	❍	❍	❍	❍
4. I like to read.	❍	❍	❍	❍
5. I do well in my English/Language Arts class(es).	❍	❍	❍	❍
6. I need extra help in English/Language Arts.	❍	❍	❍	❍
7. I know more than my English/Language Arts grades show.	❍	❍	❍	❍
8. Reading is important in everyday life.	❍	❍	❍	❍
9. Reading is boring.	❍	❍	❍	❍
10. I like school.	❍	❍	❍	❍
11. I am rarely absent from school.	❍	❍	❍	❍
12. School is hard for me.	❍	❍	❍	❍
13. I am a good student.	❍	❍	❍	❍
14. It is important for me to do well in school.	❍	❍	❍	❍
15. I would like to read more.	❍	❍	❍	❍

Please tell us how often do you do the following: *(Choose 1 answer for each.)*

	Never	Rarely	Some-times	Often
16. I pay attention in my English/Language Arts class(es).	❍	❍	❍	❍
17. I work hard in my English/Language Arts class(es).	❍	❍	❍	❍
18. I do my English/Language Arts homework.	❍	❍	❍	❍
19. I ask questions in my English/Language Arts class(es).	❍	❍	❍	❍
20. I read outside of school.	❍	❍	❍	❍
When I read something,				
21. I go back and re-read what I don't understand.	❍	❍	❍	❍
22. I read more slowly when I don't understand.	❍	❍	❍	❍
23. I skim for main ideas and key phrases when I start a new chapter in a textbook.	❍	❍	❍	❍
24. I recognize the topic sentence of paragraphs.	❍	❍	❍	❍
25. I read confusing phrases and sentences out loud.	❍	❍	❍	❍
26. I try to figure out the author's purpose (for example, to entertain, persuade, inform).	❍	❍	❍	❍
27. I make predictions about what may come next.	❍	❍	❍	❍
28. I look for the author's main point or idea.	❍	❍	❍	❍
29. I ask myself "what do I already know?" about the topic.	❍	❍	❍	❍
30. I make connections with my own experiences.	❍	❍	❍	❍
31. I talk with others about what I'm reading.	❍	❍	❍	❍
32. I summarize during and/or after reading.	❍	❍	❍	❍
33. I try to figure out how the text is organized by looking for signal words.	❍	❍	❍	❍
34. I take notes and/or highlight.	❍	❍	❍	❍
35. I use my imagination to help me understand.	❍	❍	❍	❍
36. I guess the meaning of a word I don't know by re-reading the sentence it's in and the sentences before and after it.	❍	❍	❍	❍
37. I look for patterns in the text (words that are repeated or ideas that are similar or different).	❍	❍	❍	❍
38. I ask myself what the text is about.	❍	❍	❍	❍
39. I look for details or facts to understand what the text is about.	❍	❍	❍	❍

Please tell us how often a parent or an adult at home does the following: *(Choose 1 answer for each.)*

An adult at home. . .	**Never**	**Rarely**	**Sometimes**	**Often**
40. Helps me with my English/Language Arts homework.	❍	❍	❍	❍
41. Makes me do my English/Language Arts homework.	❍	❍	❍	❍
42. Checks my English/Language Arts homework.	❍	❍	❍	❍
43. Talks to my teachers about how I am doing in English/Language Arts.	❍	❍	❍	❍

Please tell us how much you agree or disagree with each statement: *(Choose 1 answer for each.)*

An adult at home. . .	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
44. Knows how I am doing in school.	❍	❍	❍	❍
45. Expects me to do well in school.	❍	❍	❍	❍
46. Helps me when I have a problem at school.	❍	❍	❍	❍

Please tell us how much you agree or disagree with each statement: *(Choose 1 answer for each.)*

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
47. I am good at using the computer.	❍	❍	❍	❍
48. I feel comfortable using a computer.	❍	❍	❍	❍
49. I like using the computer for fun.	❍	❍	❍	❍
50. Computers make learning or schoolwork more fun.	❍	❍	❍	❍
51. Computers make learning or schoolwork easier.	❍	❍	❍	❍
52. I like using computers to do schoolwork.	❍	❍	❍	❍

Please tell us how often do you do the following: *(Choose 1 answer for each.)*

	Never	**Rarely**	**Sometimes**	**Often**
53. I play games on the computer.	❍	❍	❍	❍
54. I email my friends or family on the computer.	❍	❍	❍	❍
55. We use computers for learning in school.	❍	❍	❍	❍
56. I do my school or homework on the computer.	❍	❍	❍	❍
57. I surf the Internet for fun.	❍	❍	❍	❍

If you participated in Catapult Online starting in <u>March 2008</u>, please continue on to the next page of the survey.

If you completed the Catapult Online program in <u>February 2008 or before</u>, please STOP! You are done with the survey

(ONLY ANSWER IF YOU COMPLETED YOUR CATAPULT ONLINE TUTORING AT THE END OF THE SPRING SEMESTER)

Please tell us how much you agree or disagree with each statement about Catapult Online:

(Choose 1 answer for each.)	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
58. The lessons in Catapult Online are easy.	❍	❍	❍	❍
59. Getting around the Catapult Online website is easy.	❍	❍	❍	❍
60. The work I do on Catapult Online helps me do better in school.	❍	❍	❍	❍
61. I enjoy the lessons on Catapult Online.	❍	❍	❍	❍
62. The Catapult Online teachers are good teachers.	❍	❍	❍	❍
63. Sometimes I don't understand the lessons on Catapult Online.	❍	❍	❍	❍
64. Since I have been working on Catapult Online, my English/Language Arts grades have improved.	❍	❍	❍	❍
65. Since I have been working on Catapult Online, I read better.	❍	❍	❍	❍
66. I use what I learned from Catapult Online to help me in my English/Language Arts class(es).	❍	❍	❍	❍
67. Since I have been working on Catapult Online, I understand what I read better.	❍	❍	❍	❍
68. Catapult Online taught me new ways to understand what I am reading.	❍	❍	❍	❍
69. I get feedback from Catapult Online that helps me learn.	❍	❍	❍	❍
70. Catapult Online helps me figure out my mistakes in reading.	❍	❍	❍	❍
71. I like getting help from my online instructor.	❍	❍	❍	❍
72. I like working through Catapult Online problems or exercises on my own.	❍	❍	❍	❍
73. I like getting Catapult Online tokens when I do good work.	❍	❍	❍	❍

74. Things I like <u>most</u> about Catapult Online are:
75. Things I like <u>least</u> about Catapult Online are:

Appendix D: Interview Protocols

Student (Individual)

Reading/Language Arts Informal student group interview

1. Do you like to read?
2. Do you think that you are a good reader?
3. What would you like to do better as a reader?
4. Let's say a friend of yours was thinking about getting the Catapult Online services, and wanted to learn about it. How would you describe it?
5. How are things going with Catapult Online?
6. Would you say that it is easy or hard? Why?
7. Do you think that Catapult Online is helping you become a better reader? Why or why not?
8. What do you like about it?
9. What do you not like about it?
10. Does Catapult Online help you with the reading you do in Language Arts? In other classes?

Catapult Online Reading Program – Student Focus Group

Participants names: _____
_____
_____
_____
_____

School:_____ Grade:_____

1. What are your favorite things to learn about?
2. Do you like using computers?
3. What are your favorite things to do on a computer?
4. What are your favorite things to learn on a computer?
5. Are you good at using computers?
6. What are you best at in school?
7. Does Catapult Online help you with regular reading classes?
8. Are Catapult Online lessons easy?
9. Is Catapult Online easy to use?
10. Does Catapult Online teach you new material? How?
11. Does Catapult Online help you in school? How?
12. Have your grades improved since you began participating in Catapult Online?
13. What do your friends think about you being in Catapult Online?
14. What part of Catapult Online do you like most / least?
15. Do you like to read?
16. Do you think that you are a good reader?
17. What would you like to do better as a reader?
18. Let's say a friend of yours was thinking about getting the Catapult Online services, and wanted to learn about it. How would you describe it?
19. How are things going with Catapult Online?
20. Would you say that it is easy or hard? Why?
21. Do you think that Catapult Online is helping you become a better reader? Why or why not?
22. What do you like about it?
23. What do you not like about it?
24. Does Catapult Online help you with the reading you do in Language Arts? In other classes?

Catapult Online - Parent Interview

1. Name: _____ _____ Date: _____
First Last

4. School name: _____

5. How familiar are you with the Catapult Online program?
6. Does your child share with you what he/she is doing in Catapult Online?
7. If so, what does your child enjoy most / least about Catapult Online?
8. How frequently (if ever) do you monitor your child's progress on Catapult Online?
9. What do you do to monitor progress?
10. How satisfied are you with how your child is doing in Catapult Online?
11. Has your child's grade improved in English/Language Arts? Why do you think that is?
12. Has Catapult Online affected your child's attitude about reading? About school?
13. Have you observed any change in your child's school-related behavior as a result of his/her participation in the Catapult Online program?
14. Did you have any technical problems with logging on? Did they get resolved? How?
15. Do you think your child's progress will continue after completing Catapult Online? Why?
16. Has your child used the computer since completing? How did she use it?
17. Has Catapult Online met your expectations?
18. What do you like most / least about Catapult Online?
19. Do you think that technology is an efficient way to provide supplemental educational service?
20. What – if anything – would you change about Catapult Online's program?
21. Is there anything else you would like to add regarding your experience with Catapult Online?

Reading/Language Arts Teacher Interview

1. Do you know which students are in SES?
2. What do you know about their SES experience (content, performance in SES, attitude about SES)
    a. Any evidence of bringing SES experience into the classroom?
3. What impact does SES have on students—academic, attitude, or other?
4. How do you integrate students' SES experiences into your classroom?
5. What do you do to help struggling students?
    a. Do others in your building share your beliefs/practices about how to help struggling learners?
    b. How do these beliefs/practices differ?
    c. What are the main issues/problems your students have in reading?
6. What reading curriculum or reading program do you use?
    a. What modifications, if any, do you have to make for struggling learners?
    b. What instructional approach do you use to teach reading?
7. What are your criteria for a good SES program?
    a. How would you know if a SES program were working or not working for one of your students?
8. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
9. Do you think computer-based technology is an effective way to deliver SES?
10. Do you think that students participating in SES programs are stigmatized by their peers?
11. How would you describe [participating student] in terms of current abilities, interest in reading, and engagement in class?

Supplemental ("Pull Out") Teacher Interview

1. Do you know which students are in SES?
2. What do you know about their SES experience (content, performance in SES, attitude about SES)
    a. Any evidence of bringing SES experience into the classroom?
3. What impact does SES have on students—academic, attitude, or other?
4. How do you integrate students' SES experiences into your classroom or program?
    a. How does what you do help support students' regular reading instruction?
5. What do you do to help struggling students?
    a. Do others in your building share your beliefs/practices about how to help struggling learners?
    b. How do these beliefs/practices differ?
    c. What are the main issues/problems your students have in reading?
6. What reading curriculum or reading program do you use?
    a. What modifications, if any, do you have to make for struggling learners?
    b. What instructional approach do you use to teach reading?
7. What are your criteria for a good SES program?
    a. How would you know if a SES program were working or not working for one of your students?
8. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
9. Do you think computer-based technology is an effective way to deliver SES?
10. Do you think that students who are in SES programs are stigmatized by their peers?
11. How would you describe [participating student] in terms of current abilities, interest in reading, and engagement in class?

School Principal Interview

1. How do you select SES providers for your school? What are the criteria for selection?
2. What are your criteria for a good SES program?
    a. How would you know if a SES program were working or not working for students in your school?
3. Do you think computer-based technology is an effective way to deliver SES?
4. Do you think that students who are in SES programs are stigmatized by their peers?
5. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
6. How are parents educated about SES opportunities?
    a. How are they educated about CO?
7. How were students selected for the CO reading program?
8. What is the philosophy of the school regarding helping struggling learners?
9. How does your reading program meet the needs of struggling learners—are there holes in the program or mis-matches?
10. What are the ways in which your reading/language arts teachers approach struggling learners?
11. What are the challenges to working with struggling learners?

Curriculum Specialist

1. What reading curriculum or reading program does your school(s) use and why?
2. How does the curriculum meet or not meet the needs of your struggling learners?
3. What other programs do you have in place to help your struggling learners in reading?
4. What is your philosophy regarding how to help struggling learners in reading?
5. How does SES fit within the district/school framework of helping struggling learners?
6. How does CO fit within the district/school framework of helping struggling learners?
7. Do you think computer-based technology is an effective way to deliver SES?
8. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
9. What are your criteria for a good SES program?
    a. How would you know if an SES program were working or not working for your school(s)?
10. How well does SES and/or CO march up with support provided by schools for reading?

Title I / SES School District Coordinator

1. What are your criteria for a good SES program?
    a. How would you know if an SES program were working or not working for one of your schools?
2. Do you think computer-based technology is an effective way to deliver SES?
    a. How do you make decisions about what SES program(s) to offer?
    b. How are parents' options/choices related to SES programming communicated to them?
3. What is the process that takes place from the time the student is identified through when they receive services?
4. What are the parents' issues and concerns regarding the provision of SES?
5. What are your issues and concerns regarding the provision of SES?
6. What supports and programs are available to parents regarding making SES programs|? As part of the SES programs themselves?
7. What are the challenges that associated with providing SES?
    a. How do these challenges vary across schools?
8. Do you think CO is a good program?
    a. Why or why or not?
    b. What could be done better?

English as a Second Language School District Coordinator

1. What ESL curriculum (e.g., bilingual, immersion, pull-out, inclusive, etc.) do you offer to English Language Learners (ELLs) in your school(s)?
2. How are English Language Learners (ELLs) placed in English classes?
3. Are ELLs placed in reading programs other than the school reading program for all the students?
4. What other programs do you have in place to help your ELLs in reading?
5. How are SES selected for ELLs?
6. How does SES fit within the district/school framework of helping struggling ELLs?
7. How does CO fit within the district/school framework of helping struggling ELLs?
8. Do you think computer-based technology is an effective way to deliver SES?
9. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
10. What are your criteria for a good SES program?
11. How would you know if an SES program were working or not working for students in the ESL program?
12. How well do SES and/or CO march up with support provided by schools for ELLs?

School Principal Interview (English Language Learners)

1. How do you select SES providers for your school? What are the criteria for selection?
2. Are SES offered to ELLs in your school? If so, what are your criteria for a good SES program for ELLs?
    a. How would you know if a SES program were working or not working for ELLs in your school?
3. Do you think computer-based technology is an effective way to deliver SES for ELLs?
4. Do you think that their peers stigmatize ELLs who are in SES programs?
5. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
6. How are parents of ELLs educated about SES opportunities?
    a. How are they educated about CO?
7. How were ELLs selected for the CO reading program?
8. What is the philosophy of the school regarding helping struggling ELLs?
9. How does your reading program meet the needs of struggling ELLs—are there holes in the program or mis-matches?
10. What are the ways in which your reading/language arts teachers approach struggling ELLs?
11. What are the challenges to working with struggling ELLs?
12. What curriculum (e.g., bilingual, immersion, pull-out, inclusive, etc.) is offered to ELLs in your school?
13. How are English Language Learners (ELLs) placed in English classes?
14. Are ELLs placed in reading programs other than the school reading program for all the students?
15. What other reading programs do you have in place to help your ELLs?
16. How do SES fit within the district/school framework of helping struggling ELLs?

How does CO fit within the district/school framework of helping struggling ELLs

Reading/Language Arts (English Language Learning) Teacher Interview

1. Do you know which ELLs are in SES?
2. What do you know about their SES experience (content, performance in SES, attitude about SES)
    a. Any evidence of bringing SES experience into the classroom?
3. What impact does SES have on students—academic, attitude, or other?
4. How do you integrate ELLs' SES experiences into your classroom?
5. What do you do to help struggling ELLs?
    a. Do others in your building share your beliefs/practices about how to help struggling ELLs?
    b. How do these beliefs/practices differ?
    c. What are the main issues/problems that your ELLs have in reading?
6. What reading curriculum or reading program do you use?
    a. What modifications, if any, do you have to make for struggling ELLs?
    b. What instructional approach do you use to teach reading to ELLs?
7. What are your criteria for a good SES program?
    a. How would you know if a SES program were working or not working for one of your ELLs?
8. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
9. Do you think computer-based technology is an effective way to deliver SES for ELLs?
10. Do you think that ELLs who are in SES programs are stigmatized by their peers?
11. How would you describe [participating student] in terms of current abilities, interest in reading, and engagement in class?

English Language Learning Pull-out Teacher Interview

1. Do you know which ELLs are in SES?
2. What do you know about their SES experience (content, performance in SES, attitude about SES)
    a. Any evidence of bringing SES experience into the classroom?
3. What impact does SES have on students—academic, attitude, or other?
4. How do you integrate ELLs' SES experiences into your teaching?
5. What do you do to help struggling ELLs?
    a. Do others in your building share your beliefs/practices about how to help struggling ELLs?
    b. How do these beliefs/practices differ?
    c. What are the main issues/problems that your ELLs have in reading?
6. What reading curriculum or reading program do you use?
    a. What modifications, if any, do you have to make for struggling ELLs?
    b. What instructional approach do you use to teach reading to ELLs?
7. What are your criteria for a good SES program?
    a. How would you know if a SES program were working or not working for one of your ELLs?
8. Do you think CO is a good program?
    a. Why or why not?
    b. What could be done better?
9. Do you think computer-based technology is an effective way to deliver SES for ELLs?
10. Do you think that ELLs who are in SES programs are stigmatized by their peers?
11. How would you describe [participating student] in terms of current abilities, interest in reading, and engagement in class?

Catapult Online - Teacher Interview

1. Name: _____ _____ Date: _____
   First Last

Professional Background. Tell me a little about your background as an educator?

2. How many years of teaching experience do you have?
3. What experience have you had teaching middle school students?
4. Teaching reading?
5. In what area(s) are you licensed to teach?
6. In what state are you licensed?
7. What degree do you hold?

Thoughts about Catapult Online

8. What do you like most about teaching with Catapult Online?
9. What are some of the benefits to teaching online?
10. What are some of the benefits of the Catapult Online program?
11. Are there any unique challenges to teaching online in general? Are there challenges specific to the Catapult Online program?
12. What do you least enjoy about teaching in the Catapult Online program?
13. What are the biggest differences between your traditional teaching and teaching in an SES program?
14. What are the biggest differences between teaching online and teaching in a traditional face-to-face classroom?
15. What are the most effective instructional elements in the Catapult Online program?
16. What are the least effective instructional elements in the Catapult Online program?

Technology

17. Prior to working for Catapult Online, how would you describe your technology skills?
18. What did you do with technology/at what skill level (teach others/expert, able to do on own, able to do with help, not able to do)?
19. Have your technology skills improved over the course of working with Catapult online? How?
20. Do you ever have technical problems with the Catapult system?
21. What types?
22. How do you get them resolved?

Students

23. How often do you get to work with the same students?
24. Do you feel that you are getting enough background information and guidance to adequately instruct each student?
25. If not, what else would be helpful?
26. How would you describe the students you have worked with in terms of:
27. Ability to learn?
28. Motivation to learn?
29. Technical skills?
30. Are some students more difficult to teach than others? Why?
31. What types of students struggle most with Catapult Online? Why?

32. What students succeed the most with Catapult Online? What characteristics make a student more able to succeed in an online learning environment?
33. What outcomes do you see in the students with whom you have worked? (or simply a difference between new students vs. those who have been with the program longer)
34. Are they more or less engaged with the instructional materials?
35. Are they more or less motivated to learn? Are they more or less confident in their abilities & knowledge?
36. Do they have improved skill and/or comfort using technology?
37. How are these students different from those you taught before?
38. Do you feel that these students can be successful? Can they catch up?
39. What might be holding them back?
40. Do you ever learn about how these students do when they go back to the classroom?
    a. From whom?
    b. What kinds of things have you heard?
41. What roles do parents play in students' participation, level of effort, success, etc?

Instructional Methods

42. Describe the instructional methods that you use most for Catapult.
43. How does your instructional style change (if at all) when working with more or less than 2 students?
44. Do students seem to prefer some activities over others? For example, closed-ended vs. open-ended activities?
45. Do you think the approach taken by Catapult Online is effective?
46. Is it the best possible strategy for improving student performance? What would be better?

Training and Support

47. How well did the training that you received from Catapult Online adequately prepare you to serve as a teacher for the program?
48. What other training materials or instruction would have been helpful?
49. What do you think makes a really good Catapult Online teacher? Attributes, skills, preparation, etc.
50. Do you receive adequate ongoing support from Catapult Online?
51. What types of support have you found to be most valuable?
52. Are there other types of support that you would find to be valuable?
53. Do you ever have concerns that you voice to CO staff? Were your concerns resolved?
54. Have there ever been any communications issues with CO?

Suggestions/Recommendations

55. Is there anything that you would recommend to make the Catapult Online program more efficient?
56. Are there any additional resources that would be helpful?
57. Are there any procedural changes you'd recommend?

Catapult Online - Teacher Interview (Teachers of ELL students)

Teacher Number: _____ Date: _____

Professional Background Tell me a little about your background as an educator?

1. How many years of teaching experience do you have?
2. What experience have you had teaching middle school students?
3. What experience have you had specifically with teaching reading?
4. What experience have you had specifically with teaching ELL students?
5. In what area(s) are you licensed to teach?
6. In what state(s) are you licensed?
7. What degree(s) do you hold?

Thoughts about Catapult Online

8. What do you like most about teaching with Catapult Online?
9. What are some of the benefits to teaching online?
10. What are some of the benefits of the Catapult Online program?
11. Are there any unique challenges to teaching online in general? Are there challenges specific to the Catapult Online program?
12. Are there challenges to teaching ELL students online?
13. Are there challenges specific to the Catapult Online program?
14. What do you least enjoy about teaching in the Catapult Online program?
15. Are there certain tasks or types of activities that are more challenging to manage than others?
16. What are the biggest differences between your traditional teaching and teaching ELL students in an SES program?
17. What are the biggest differences between teaching online as compared to teaching in a traditional face-to-face classroom?
18. What are the most effective elements in the Catapult Online program?
19. What are the least effective elements in the Catapult Online program?

Technology

20. Prior to working for Catapult Online, how would you describe your technology skills?
21. What did you do with technology/at what skill level (teach others/expert, able to do on own, able to do with help, not able to do)?
22. Have your technology skills improved over the course of working with Catapult online? How?
23. Do you ever have technical problems with the Catapult system?
    a. What types?
    b. How do you get them resolved?

Students

24. How often do you get to work with the same ELL students in the CO program?
25. Do you feel that you are getting enough background information and guidance to adequately instruct each ELL student?
26. If not, what else would be helpful?
27. How would you describe the ELL students you have worked with in terms of?
    a. Ability to learn?
    b. Motivation to learn?
    c. Technical skills?
28. Are some ELL students more difficult to teach than others? Why?
29. What types of students struggle most with Catapult Online? Why?
30. What types of students succeed the most with Catapult Online?
31. What characteristics make an ELL student more able to succeed in an online learning environment?
32. What outcomes do you see in the students with whom you have worked? (or simply a difference between new students vs. those who have been with the program longer, differences between ELL students and non-ELL students)
33. Are ELL students more or less engaged with the instructional materials?
34. How are these ELL students different from those you taught before?
35. Do you feel that these ELL students can be successful? Can they catch up?
36. What might be holding them back?
37. Do you ever learn about how these ELL students do when they go back to the classroom?
    a. From whom?
    b. What kinds of things have you heard?
38. What roles do parents of ELL students play in students' participation, level of effort, success, etc.

Instructional Methods

39. Describe the instructional methods that you use most for Catapult.
40. How does your instructional style change (if at all) when working with more or fewer than 2 students?
41. Do ELL students seem to prefer some activities over others? For example, closed-ended vs. open ended activities?
42. Do you think the approach taken by Catapult Online is effective?
43. Is it the best possible strategy for improving ELLs performance? What would be better?

Training and Support

44. How well did the training that you received from Catapult Online adequately prepare you to serve as a teacher for the program?
45. What other training materials or instruction would have been helpful?
46. What do you think makes a really good Catapult Online teacher? Attributes, skills, preparation, etc.
47. Do you receive adequate ongoing support from Catapult Online?
48. What types of support have you found to be most valuable?
49. Are there other types of support that you would find to be valuable? If so, explain/describe.

50. Do/did you ever have concerns that you voice to CO staff? Were your concerns resolved?
51. Have there ever been any communications issues with CO?

Suggestions/Recommendations

52. Is there anything that you would recommend to make the Catapult Online program more efficient for English Language Learners?
53. Are there any additional resources that would be helpful to support ELL students?
54. Are there any procedural changes you'd recommend?

Appendix E: Observation Rubrics

Classroom Observation

ROCKMAN *ET AL*
Educate Online Reading Program 2007-2008

CLASSROOM OBSERVATION

The purpose of this template is to provide guidance for classroom observations in the reading (Reading/English Language Arts/English as a Second Language) classrooms of participating Educate On-line students. Classroom observations will provide data to document the classroom context where the EO students receive reading instruction and the type of instructional activities in which the students engage during the class period. The focus of the observation will be classroom activities performed by EO students, for example:

- Type of/time spent on reading activities like reading aloud, reading silently, asking questions about word/sentence meanings, defining words, language structure, text interpretation, comprehension, spelling, use of dictionary, pronunciation, and word recognition, among others (i.e., reading instructional strategies).
- Participation in class activities whether individual or in-group and type of activity performed (participation/engagement).
- Connection of EO reading activities with in-classroom activities, questions for clarification, reading related-questions (learning transference).

Note: There is no need to identify the EO students in the observed classroom.

Time	Activity	Audience	Source/Resources
Activity begins: Activity ends:	Description of the activity.	Individual, small group, whole class.	Book, workbook, Manual, etc.

Educate Online Reading Program
Observation Protocol

Researcher's Initials: _____ Date: _____ Time: _____

Teacher's Name: _____ # of Students: __ 1 __ 2 __ 3

Student Names	Lesson Level	Lesson Content Code	Independent			Guided	
			Start	End	Score	Start	End
1)							
Total time on			IP:			GP:	
2)							
Total time on			IP:			GP:	
3)							
Total time on			IP:			GP:	

Pre-Observation Notes: (Note anything you observe before the lesson/s begin.)

In the space on the left, Each time the teacher "moves", document the time, which student (1, 2, 3), which part of the lesson (IP, GP).
In the appropriate box, indicate if Spanish is used by writing in an "S" and if the interaction occurs in text "T".

	Teacher																		Student									
Observation Notes (time, student, part of lesson)	Initiates Social Talk	Checks Understanding	Monitors Progress	Teaches New Concept/Vocab	Reviews Concept/ Vocab	Provides Explanation	Connects Concepts	Reviews Student Work	Builds Vocabulary	Gives Example	Extends Lesson	Provides Feedback	Translates	Comparisons b/w Eng & Span	Redirects Student	Answers Question	Gives Directions/Intros Lesson	Encourages/Praises Student	Asks for Help	Asks Content-Related Questions	Asks Procedural Questions	Connects Concepts	Answers Question	Asks for Translation	Initiates Social Talk	Asks Off-Lesson Questions	Demonstrates Understanding	Repeats/Practices

	Teacher																		Student									
Observation Notes (time, student, part of lesson)	Initiates Social Talk	Checks Understanding	Monitors Progress	Teaches New Concept/Vocab	Reviews Concept/ Vocab	Provides Explanation	Connects Concepts	Reviews Student Work	Builds Vocabulary	Gives Example	Extends Lesson	Provides Feedback	Translates	Comparisons b/w Eng & Span	Redirects Student	Answers Question	Gives Directions/Intros Lesson	Encourages/Praises Student	Asks for Help	Asks Content-Related Questions	Asks Procedural Questions	Connects Concepts	Answers Question	Asks for Translation	Initiates Social Talk	Asks Off-Lesson Questions	Demonstrates Understanding	Repeats/Practices

	Teacher																		Student									
Observation Notes (time, student, part of lesson)	Initiates Social Talk	Checks Understanding	Monitors Progress	Teaches New Concept/Vocab	Reviews Concept/ Vocab	Provides Explanation		Reviews Student Work	Builds Vocabulary	Gives Example		Provides Feedback	Translates Directions/Explan	Comparisons b/w Eng & Span	Redirects Student	Answers Question	Gives Directions/Intros Lesson	Encourages/Praises Student	Asks for Help	Asks Content-Related Questions	Asks Procedural Questions	Connects Concepts	Answers Question	Asks for Translation	Initiates Social Talk	Asks Off-Lesson Questions	Demonstrates Understanding	Repeats/Practices

	Teacher																		Student									
Observation Notes (time, student, part of lesson)	Initiates Social Talk	Checks Understanding	Monitors Progress	Teaches New Concept/Vocab	Reviews Concept/ Vocab	Provides Explanation	Connects Concepts	Reviews Student Work	Builds Vocabulary	Gives Example	Extends Lesson	Provides Feedback	Translates	Comparisons b/w Eng & Span	Redirects Student	Answers Question	Gives Directions/Intros Lesson	Encourages/Praises Student	Asks for Help	Asks Content-Related Questions	Asks Procedural Questions	Connects Concepts	Answers Question	Asks for Translation	Initiates Social Talk	Asks Off-Lesson Questions	Demonstrates Understanding	Repeats/Practices

	Teacher																		Student									
Observation Notes (time, student, part of lesson)	Initiates Social Talk	Checks Understanding	Monitors Progress	Teaches New Concept/Vocab	Reviews Concept/ Vocab	Provides Explanation	Connects Concepts	Reviews Student Work	Builds Vocabulary	Gives Example	Extends Lesson	Provides Feedback	Translates	Comparisons b/w Eng & Span	Redirects Student	Answers Question	Gives Directions/Intros Lesson	Encourages/Praises Student	Asks for Help	Asks Content-Related Questions	Asks Procedural Questions	Connects Concepts	Answers Question	Asks for Translation	Initiates Social Talk	Asks Off-Lesson Questions	Demonstrates Understanding	Repeats/Practices

Post Observation Notes: (Respond for each student individually.)

- Initiation of Interactions (mostly student or teacher?)

- Time in Interaction (what portion of the time during the lesson was spent interacting? Who spent more time talking—teacher, student, or about even?)

- Tone of Interactions

- Role of Interactions (how closely were the interactions tied to the lesson content? What other things were being accomplished during the interactions?)

- Resources used in Interactions (What kinds of resources did the teacher/student draw on in the interactions? i.e. personal interests/experiences? Media?)

- Other (e.g., Faciliatator's use of Spanish)