iLit 2013-15
LONGITUDINAL EFFICACY STUDY

FINAL REPORT

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EXECUTIVE SUMMARY

Pearson partnered with Gatti Evaluation to study the efficacy of the iLit program in a longitudinal study during the 2013-14 and 2014-15 school years.

Schools are preparing for their first school year testing Common Core State Standards (CCSS), while still striving to meet adequate yearly progress goals. Many schools are attempting to maximize their efforts by implementing Common Core aligned, technology based, core literacy programs. In response, Pearson developed the inspireLiteracy (iLit) program. iLit is a fully digitally delivered Common Core aligned reading intervention designed to meet the needs of 4th to 10th grade students reading below grade level.

Gatti Evaluation has partnered with Pearson to conduct an independent two school year longitudinal (i.e., 2013-14 7th → 2014-15 8th) randomized control trial of the iLit program. The study assessed the effectiveness of the iLit program in increasing students' achievement and attitudes in both the initial year of implementation and the consecutive school year. Further, iLit will have its effectiveness tested against a comparison group of similar students in classrooms that did not switch curricula. These teachers continued to utilize district adopted programs and teachers' preferred materials and methods.

The study sample consisted of 283 below-grade-level 7th grade students from six schools, each in a different state, located in five different regions of the US.

The evaluation began in 19 classrooms (i.e., iLit = 8, comparison = 11) from six schools in six different states (AZ, CA, CO, MI, NJ, and NY). Teacher(s) at each school volunteered to use the iLit program and each school's below-grade-level students were individually randomly assigned to either an iLit or comparison classroom. By the end of the second school year 70 or 24.7% (i.e., iLit = 30, comparison = 40) of the original study students either withdrew from school (i.e., 49) or exited the study (i.e., 21). Multiple imputation was used to combine the resulting group mean differences and their robust standard error. Empirical standard errors (i.e., Sandwich estimator) where estimated that are robust to the nesting of students in classrooms and schools.

As may be expected, the final study sample was largely eligible to receive free or reduced-priced lunch (i.e., iLit = 78%, comparison = 81%), had a significant portion not English proficient (i.e., iLit = 24%, comparison = 28%), and special education students (i.e., iLit = 14%, comparison = 12%). The sample was also mostly Hispanic (i.e., iLit = 55%, comparison = 61%) and to a lesser extent Caucasian (i.e., iLit = 23%, comparison = 20%) and African American (i.e., iLit = 19%, comparison = 15%).

Although initially iLit teachers were expected to use the program about 90 minutes a day during their literacy blocks, iLit instruction blocks were shortened in the second school year for various reasons. Teachers reported their students received an average of 97 minutes of daily literacy instruction in the initial school year and an average of 80 minutes in the second school year. The blocks ranged from 86 to 138 minutes in 2013-14 and from 50 to 120 minutes in 2014-15.

Teachers were able to complete an average of 62 iLit lessons in the initial school year (i.e., 50% of the available 125 iLit lessens) with individual teachers completing 46 to 89. In the second school year teachers were able to complete an average of 66 iLit lessons (i.e., 53%) with individual teachers completing 48 to 99. Most teachers regularly used the daily iLit components. Three teachers (i.e., CO, NJ, one from NY), however, did not regularly find time or deem it necessary to include student journals and/or student conferencing.

An assessment battery comprised of the *Group Reading Assessment and Diagnostic Evaluation* (GRADE) and an academic attitude survey was used to measure gains in student achievement and literacy attitude over the course the school year. In addition, the research team collected information on teacher and student attitudes towards iLit through teacher logs, classroom observations, teacher interviews and focus groups, as well as student surveys.

The achievement data indicates iLit can be successful in increasing Literacy achievement for at-risk middle grade students.

Both the comparison and iLit groups performed well below average at baseline (CP PR=24th, iLit PR=26th) on the GRADE. The achievement data, however, indicates clearly that at-risk middle grade students using iLit as their primary literacy program can be successful. iLit students saw consistent gains across school years and with a 10 percentile point increase for comprehension, a 16 percentile point increase for vocabulary, and a 15 percentile point gain in total achievement. The largest gains were seen on the Listening Comprehension scale, 26 and 19 percentile points in 2013-14 and 2015-16 respectively. Compared to achievement gains seen recently across widely used, nationally normed literacy assessments, these gains are large in comparison.

Students using the iLit program had relatively large statistically significant achievement gains from the first school year implementing the program and continued to show large statistically significant achievement gains into the second school year.

In 2013-14, performance was statistically similar between study groups on the GRADE and most of its sub-tests. The exception was Listening Comprehension, where the iLit students statistically outperformed the comparison group by 7 percentile points.

In the 2014-15 school year the iLit group statistically significantly outperformed the comparison group in the Comprehension scale (i.e., 10 percentile points) and subsequently the Total scale (i.e., 8 percentile points). Vocabulary performance was practically equivalent across both years and Listening Comprehension was as well in the second school year. A review of recent RCT research reports of low performing and at-risk middle grades students saw an average comparative effect size of 6 percentile points. The statistically significant gains seen by the iLit group are all larger than this average.

After the initial school year, iLit students performed as well as their comparison counterparts on all achievement outcomes. By the end of the second school year, the iLit students significantly outperformed their comparison counterparts on the GRADE Total Test and specifically Comprehension scales.

Teachers and students alike had positive experiences with the iLit program beginning with their first year exposed to the program. Teachers felt the program was easy to implement in the classroom and that the program fit with their instructional philosophy. The digital delivery, however, created issues throughout the study for schools. Most of the time these issues could be attributed to a site's local infrastructure, however, teachers did experience occasional glitches with the iLit program.

A majority of students (i.e., 69%) demonstrated an overall positive attitude towards the program in the 2013-14 school year. This was reduced to 50% of students when surveyed in the next school year. iLit students also demonstrated a statistically similar literacy academic attitudes to their comparison group peers across the two school years.

Teachers felt the program was easy to implement in the classroom, well-paced, and liked the daily components of the program. All classrooms experienced technology issues throughout the two school years. Most of the time these issues could be attributed to a site's local infrastructure and the majority of technology issues were dealt with in 2013. All teachers agreed problems were negligible the second school year.

Teachers also felt their students were engaged by the program through the tablet use, interactivity, lesson presentations, and plethora of independent reading stories. It was, however, apparent that these teachers also felt the motivation of their classrooms fell off as the initial school year progressed. This drop off in motivation was attributed to a combination of the relatively long 90 minute blocks and the routine nature of the program. Teachers felt student motivation picked up in the second school year. This was attributed to occasionally changing up the order of the component, supplementing the program (ex., incorporate fun seasonal or topical activities), and reducing the daily time on the program.

The focus group responses to iLit were overall very positive in 2013-14, with 81% of responses coded as positive in nature. Responses remained positive in the second school year with 69% positive comments overall.

I. INTRODUCTION

Pearson partnered with Gatti Evaluation to study the efficacy of the iLit program in a longitudinal study during the 2013-14 and 2014-15 school years.

As schools prepare for their first school year testing Common Core State Standards (CCSS) [1], while still striving to meet adequate yearly progress goals, many are attempting to maximize their efforts by implementing Common Core aligned, technology based, core literacy programs. In response, Pearson developed the inspire Literacy (iLit) program. iLit is a fully digital, Common Core aligned reading intervention designed to meet the needs of 4th to 10th grade students reading below grade level.

Gatti Evaluation has partnered with Pearson to conduct an independent longitudinal randomized control trial efficacy study of the iLit program. The program was evaluated in classrooms with at-risk middle grade students (i.e., 7th→8th) distributed in six schools from six different states (AZ, CA, CO, MI, NJ, and NY) during the 2013-14 and 2014-15 school years. This report provides methods and results for this longitudinal research effort.

iLit is a fully digital Common Core aligned reading intervention designed to meet the needs of 4th to 10th grade students reading below grade level.

Study Goals and Research Questions

Theoretically, research-based curricula can increase student achievement. Although such a curriculum may be skillfully applied to create an educational environment that significantly increases achievement, poorly designed and implemented programs will provide little or no benefit, and may even be detrimental. Poorly designed and implemented curricula can confuse and frustrate students and teachers, proving to be a waste of valuable resources and learning time. For these reasons, managers of federal, state and local educational funding, as well as state and district adoption committees require publishers to conduct rigorous efficacy research to support the effectiveness of their educational materials.

The primary goal of the current project is to conduct rigorous research to support the assertion that, when properly implemented, the iLit program effectively increases at-risk students' achievement and attitudes in both the initial year of implementation as well as maintain this effect through the second school year. iLit will further have its effectiveness tested against a comparison group (i.e., students randomly assigned iLit and comparison groups) of similar students in classrooms that did not switch curricula but continued to utilize district adopted programs and methods. The second goal for this project is to collect information on teacher and student attitudes towards features and aspects of iLit. The research questions for this study are outlined below:

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[1] In a coordinated effort the Council of Chief State School Officers (CCSSO) together with the National Governors Association Center for Best Practices (NGA Center) utilized input from teachers, school administrators, content experts, the general public, state standards and international models to develop a set of standards that outline what students should learn within their K-12 educational career (Common Core State Standards, n.d.).

RQ1. Do below grade level students, receiving core literacy instruction from the iLit program over the course of the initial and second school year of implementation, demonstrate a significant improvement in literacy achievement?

RQ2. Do below grade level students, receiving core literacy instruction from the iLit program over the course of the initial and second school year of implementation, demonstrate a significant improvement in achievement over otherwise similar and randomized students in classrooms using their current literacy programs and methods (i.e., not fully digital)?

RQ3. Do students receiving iLit instruction demonstrate positive attitudes toward reading and literacy instruction?

RQ4. How are teachers implementing the iLit program and how can this information inform program revisions and best practice?

RQ5: How did teachers and students react to the iLit program?

II. METHODOLOGY

The iLit efficacy study employed a two-group, randomized design. iLit students received the program for literacy instruction during two straight school years while students in the comparison classrooms are to receive instruction from their current materials and methods preferred by their classroom teachers.

The program was evaluated via a two-group randomized, baseline to post observation assessment, research design. Below grade level 7th grade English Language Arts students were identified at each school and became a potential study participant. All potential 7th grade study students were then randomly assigned to one of the two study conditions (i.e., comparison or iLit) prior to the start of the 2013-14 school year. Each school and its teachers decided which among them was best suited to be the iLit and or comparison teacher(s) for that school.

Students in iLit classrooms received the program for literacy instruction during the 2013-14 and 2014-15 school years. It should be noted here that the NJ school did not start the iLit program until after winter break in 2014. Students in the comparison classrooms received literacy instruction from those materials and methods familiar to students and preferred by their teachers. The comparison teachers did not use, however, a fully digital delivery literacy program.

Gatti Evaluation provided participating schools all data collection materials, maintained constant communication with study participants, and followed clear data collection procedures throughout the study to ensure that both study and program implementation ran smoothly and effectively. The following sections provide information on study procedures, including student and teacher level data collection, site recruitment and selection, the nature of literacy instruction at the study sites, program training and implementation, details on educational settings at each study site, demographic information for study participants, and the statistical methodologies used to analyze outcomes.

Student Outcome Measures

A challenging assessment battery was group administered to students to measure achievement and academic attitude growth during the school year.

An assessment battery comprised of the *Group Reading Assessment and Diagnostic Evaluation* (GRADE) and a Literacy academic attitude survey was used to measure gains in student achievement and attitude over the course the two school years. The assessment battery was intended to challenge the students; attempting to adequately assess baseline knowledge, while also providing room for growth as knowledge is acquired during the school year. The GRADE and Literacy academic attitude survey were group-administered at the beginning and end of school year (i.e., within four weeks of start and end of school year).

Group Reading Assessment and Diagnostic Evaluation (GRADE)

The GRADE is a standardized, nationally norm-referenced literacy achievement test, published by Pearson Assessments. The GRADE was constructed with all fifty states' standards in mind, covering a wide range of content topics and skills. The GRADE includes 9 levels that span grades K-12, each with two parallel forms. Level M, which is normed for 6th, 7th, and 8th grade students, was administered to study students. Form A was administered at baseline as well as end-of-year, while form B was administered in the middle of the school year. The GRADE is not a timed test, but generally takes between 60 and 90 minutes to administer. Sites returned completed student tests to the site coordinators, who then shipped the tests to the research team for hand-scoring.

Both GRADE overall and subtest scores were reported. The subtest scores allowed the research team to evaluate the effectiveness of the curricula on three important dimensions. The subtests are vocabulary, comprehension (i.e., sentence and passage comprehension sub-scales), and listening comprehension. These subtests assess students' knowledge of word context and meaning, written language context and understanding, as well as, verbal language understanding, respectively. It should be noted that Listening Comprehension is not included in the combined Comprehension or Total GRADE score.

Literacy Academic Attitude and iLit Opinion Surveys

The reading academic attitude survey was developed by the Gatti Evaluation principal investigator. Students responded to twenty self-report questions regarding general attitude, confidence, motivation, and self-perceived aptitude. Student responses were coded as 1 for a positive response (i.e., Yes, definitely), 0 for a neutral response (i.e., Sometimes), and -1 for a negative response (i.e., No, not really). This scoring method anchors a completely neutral student at an overall score of zero with positive total scores indicating an overall positive or more enthusiastic attitude.

Lastly, students in iLit classrooms were surveyed online as to their opinions on several aspects of the program in the later part of both school years. In part, students were asked three questions designed to be combined into a composite general attitude score. Specifically, the survey asked students: did they prefer iLit to their previous English class, was English class more interesting now with iLit, and would they like to continue using iLit next school year? As with the academic attitude survey, student responses were coded as 1 for a positive response (i.e., Yes, definitely), 0 for a neutral response (i.e., Sometimes), and -1 for a negative response (i.e., No, not really) 0 for a neutral response. Similarly, positive total scores indicate an overall positive or more enthusiastic attitude toward the program.

Reliability

As seen in Table 1, the estimated intraclass reliability from the study sample for the GRADE total scores tested highly reliable. As would be expected, the subtests tested less reliable but reliable enough for summary statistics. Also, scores tended to be more reliable for subsequent testing sessions as the content of the assessment became more familiar to students. The estimated intraclass reliability for the literacy academic attitude scores tested as consistently moderate to highly reliable. Lastly, the iLit student opinion survey tested reliable for summary statistics with an estimated 0.76 intraclass reliability.

Table 1 7th Grade Scales' Intraclass Reliability		
Scale	BOY1	EOY1
GRADE Total	0.89	0.91
Vocabulary	0.73	0.76
Sentence Comprehension	0.76	0.82
Passage Comprehension	0.81	0.84
Listening Comprehension	0.54	0.55
Literacy Academic Attitude Survey	0.76	0.77
iLit Student Opinion Survey		0.76

Teacher Measures

In addition to the assessment battery, qualitative data collection methods were also employed. The research team collected qualitative data through self-report teacher logs and classroom observations, as well as teacher interviews and focus groups. The data was compiled and content analyzed to examine teacher attitudes, pedagogy and performance, as well as to illuminate the various ways teachers and students interact with the iLit program. The teacher and classroom data also increased the validity of the research findings by verifying results through multiple data collection methods, by adding context to the achievement results through reporting the perspectives of various study participants, and by collecting data throughout the project period. Continuous monitoring of the study sites was of immense importance, and teachers were routinely asked to share their opinions and concerns throughout the school year.

The research team collected achievement, attitudinal, as well as, observational and self-report data making the study both quantitative and qualitative in nature.

Weekly Teacher Logs

All study teachers were required to complete weekly self-report online logs in which they described their English language arts lessons. Information from the weekly logs was important for two reasons; to guarantee iLit teachers fully and regularly utilized all key components of the program in an attempt to positively influence student achievement, and to document the instructional model utilized by each study teacher, including classroom environment, teaching style, pacing, content, and methods. The information in these logs was checked each week, and the project manager asked teachers for clarification when necessary.

Teachers were asked not to spend more than 15 minutes per week completing the logs. It is clear some teachers spent more time, however, as many of the logs were returned with detailed comments. Teachers often shared candid weekly experiences with the project manager and were typically happy to provide documentation describing weekly instruction and learning experiences related to the program.

Teacher Observations

Site visits took place between late November and mid-December, and again between March and April. Classroom observations were conducted by representatives of the research team. All iLit teachers were observed twice each school year and comparison classrooms from each school were observed at least once during routine English language arts lessons. Note the NJ school was not observed in 2013 because of their late start with the program.

Portions of the observation forms included; a description of the classroom environment, summary of the lesson taught, teacher interview, student comments, observed teaching strengths and weaknesses, pacing, and supplemental instruction information. The observations also allowed the research team to verify the ability and willingness of iLit teachers to properly implement the program. It should be noted that periodic observations show just a snapshot of the classroom environment and instruction. The observations are, however, worthwhile because they are the only opportunity the research team has to directly observe the study teachers in action and verify teacher reported information.

Teacher Surveys

All participating teachers were administered three brief online surveys each school year distributed equally throughout the school year. The purpose of these surveys was to collect information on teaching experience and education, school environment and student population, teaching philosophy and strategies, literacy curricula and implementation, and finally technology usage. Teachers using iLit were also asked to illuminate positives and negatives about the program and recommend useful revisions of the program. All of this information allowed researchers to gain additional insight into the overall experience at each research site.

iLit Teacher Focus Group

Focus groups were executed by the research team each school year to ascertain teacher attitudes toward the iLit program. Focus groups, though more labor intensive, can be superior to simple questionnaires in collecting detailed attitudinal information from participants. When properly conducted, the focus group discussion gravitates to those topics most important to the participants, and can provide more nuanced information. Collecting attitudinal data in person allows for a better understanding of participant tone and importance of responses, and provides opportunity to delve deeper into topics.

The focus group results describe what teachers and students liked about the iLit program, how the program could be improved, and how teachers are using specific features of the program.

Focus group sessions were conducted via WebEx in March and April. The research team facilitated each session. The sessions lasted approximately 60 minutes. All iLit teachers participated in the focus group sessions in both school years.

These sessions provided a forum for teachers to respond to specific questions about the curriculum, as well as express their professional and personal opinions about the program. Each session held the teachers' comfort level as a high priority. The teachers were encouraged to speak without hesitation or inhibition, and to be as honest and candid as possible. Though the facilitator followed

a structured interview format, the teachers were allowed to direct the discussion and provide their reactions to, and comment on, any and all aspects of the program. The focus group sessions provided extensive insight into teacher and student experiences with, and attitudes about, the program.

Each session was recorded and transcribed, allowing the research team to compile a large master file of participant responses. Following an exhaustive review of the teacher responses, a two-dimensional coding system was developed to organize the responses. Responses were categorized by *Topic Area* and *Attitude*. Topic area codes have a three digit numeric format, with the first digit on the left indicating general topic category and the remaining digits indicating a specific topic within each general category. The topic codes are further categorized by teacher and paired with either an 'N' to indicate neutral, a '+' to indicate positive, or a '−' to indicate a negative attitude toward an aspect of the program or the tone of the comment.

Site Recruitment and Selection

Prior to the 2013-14 school year, the research team identified potential research schools with the appropriate technology and teacher(s) available to implement the iLit program. Specifically, schools needed to have at least one teacher willing and eager to accept the challenge of the technology, a class set of tablets dedicated to the iLit classroom on a daily basis, and a sizeable group of students performing below grade level in English Language Arts that were eligible to participate in the study.

Potential schools that indicated interest were sent a study description that included responsibilities and incentives. Research schools were further vetted through Pearson technical liaisons and the research team. The research team vetted schools with diligent back-and-forth communication around a detailed questionnaire and an infrastructure checklist.

When sites were deemed eligible for participation and approved by the Principal Investigator, the school was invited to participate in the study. To complete the research application process both a district level administrator (ex., curriculum director, superintendent) and a school level administrator (ex., principal) signed a memorandum of understanding (MOU) outlining the responsibilities of each stakeholder. Among other things, the MOU stipulated that participating schools not use a fully digital literacy program with comparison students, abide by the students' random assignment, and that iLit teachers fully implement the program with their students.

A Pearson field engineer spoke with each site to assess their infrastructure and ensure they would be able to successfully install and run iLit. Then a field engineer was dispatched for a site visit to perform the installation process and verify the program was in fact working properly.

Ultimately, six schools from urban, suburban and rural school districts in six different states (i.e., AZ, CA, CO, MI, NJ and NY) were recruited. One metropolitan school in Arizona participated. Michigan and New Jersey each contributed one suburban school. Lastly, one rural school from California and Colorado participated in the study. Appendix 1 provides details about the educational environment for each study site, as well as a demographic breakdown. This

information is important for determining how applicable results from this study may be to the consumers of this report.

Comparison Classroom Literacy Instruction

Each school decided how students would be included in the comparison classrooms and how many comparison classrooms there would be. That is, a school may have put all comparison students into a single classroom or mixed the comparison students among all the 7th grade English Language Arts sections. Table 2 breaks out how study sections where setup and the minutes of literacy instruction at each school. In the first school year all iLit students were contained together in separate classes. This changed in the second school year with the NY school mixing new non-study students to their iLit classes.

The MI school decided a single teacher would instruct both the iLit and comparison classrooms, one of each with study students only, an additional comparison teacher was added the second school year. The CA and CO schools used different teachers to instruct the iLit and comparison students, with each teacher providing instruction to one section consisting solely of study students. The comparison students at these schools were merged with non-study students the second school year. The remaining three schools (i.e., AZ, NJ, NY) had two or more mixed comparison sections with portions of study students in both school years.

Table 2a		7th Grade Participating Study Classrooms			
Group	Number Classrooms	Teachers	Includes Non-study Students	Study/Non-study Students	Minutes Daily ELA
Whole Sample					
iLit	8	11 CP and 8 iLit classrooms	No	100% iLit students in classrooms with only study students	97
Comparison	11		Yes		62
Arizona District					
iLit	2	4 different teachers	No	CP classrooms about 50% study students	138
Comparison	2		Yes		71
California District					
iLit	1	2 different teachers	No	Only study students in both classrooms	90
Comparison	1		No		90
Colorado District					
iLit	1	2 different teachers	No	Only study students in both classrooms	90
Comparison	1		No		50
Michigan District					
iLit	1	iLit and CP is same teacher	No	Only study students in both classrooms	98
Comparison	1		No		98
New Jersey District					
iLit	1	3 different teachers	No	CP classrooms 25% and 54% study students	110
Comparison	2		Yes		58

New York District					
iLit	2	2 teachers CP only, 2 teachers both iLit and CP	No	Mixed CP classrooms 11% and 76% study students	86
Comparison	4		Yes		43

Table 2b	8th Grade Participating Study Classrooms				
Group	Number Classrooms	Teachers	Includes Non-study Students	Study/Non-study Students	Minutes Daily ELA
Whole Sample					
iLit	7	11 CP and 7 iLit classrooms	Yes	84% iLit students in classrooms with only study students	80
Comparison	11		Yes		59
Arizona District					
iLit	1	3 different teachers	No	CP classrooms 6-18% study students	70
Comparison	2		Yes		70
California District					
iLit	1	2 different teachers	No	CP classroom 42% study students	90
Comparison	1		Yes		70
Colorado District					
iLit	1	2 different teachers	No	CP classroom 19% study students	50
Comparison	1		Yes		50
Michigan District					
iLit	1	iLit teacher is also one of two CP teachers	No	CP classrooms are 75% and 40% study students	60
Comparison	2		Yes		60
New Jersey District					
iLit	1	3 different teachers	No	CP students are mixed into 6 periods	120
Comparison	2		Yes		58
New York District					
iLit	2	1 teacher CP only, 2 teachers both iLit and CP	Yes	One mixed iLit class 82% study students. Mixed CP classrooms 59%, 68% and 79% study students.	90
Comparison	3		Yes		45

Teachers assigned to the comparison condition were expected to continue implementing the English language arts curricula currently being used by them. In the 2013-14 school year, two study schools (i.e., CA, CO) adopted published literacy programs for use at 7th grade. Two other schools (i.e., AZ, NJ) relied on novels and teacher created and compiled materials for literacy and writing instruction. The last two schools (i.e., NY, MI) instructed using CCSS aligned materials designed by state sanctioned organizations. These two sites represented the majority of the comparison students (i.e., 62%). A third of the comparison students were in classrooms utilizing teacher created and compiled materials and a relatively small portion (i.e., 16%) received literacy instruction regularly from published text programs.

Comparison students received an average of 62 and 59 minutes of daily literacy instruction in 2013-14 and 2014-15 respectively. The iLit students received considerably more literacy instruction, an average 97 minutes of daily literacy instruction in 2013-14 and 80 minutes of daily

literacy instruction in 2014-15. This is to be expected as the iLit program is based on a 90-minute literacy block and the study was designed accordingly. Teaching experience was similar between the study groups. The comparison students were instructed by a teacher with an average of 8.33 years teaching, 10.34 years for the iLit group. The teachers for both study groups were also well educated. Seventy-two percent of the comparison students were instructed by a teacher with a master's degree and 93% of the iLit students had a teacher with a master's degree.

iLit Instruction and Implementation

This section provides evidence in response to research question four; specifically, how are teachers implementing the iLit program. The iLit teachers were expected to use the program about 90 minutes a day during their literacy blocks. The iLit teachers felt their instruction blocks could be shorter in the second school year. Reasons for shortening the blocks included: the students were already familiar with the program and were working more efficiently, students would remain more engaged, portions of students' daily work could be supplemented with homework, and scheduling shorter blocks could allow specials to be included in the iLit students' school week.

Teachers reported their students received an average of 97 minutes of daily literacy instruction in the initial school year. The literacy blocks ranged from 86 to 138 minutes. Teachers reported daily in their logs that these blocks were 82% to 96% pure iLit instruction, with an average of 90%. In the second school year, teachers reported their students received an average of 80 minutes of daily literacy instruction. The literacy blocks ranged from 50 to 120 minutes and teachers reported daily in their logs that these blocks were 50% to 100% pure iLit instruction, with an average of 72%.

The NY school implemented a special iLit model where iLit was used for 45 minutes daily and then instruction was supplemented with NY state adopted Engage modules. This was to ensure the NY state standards were covered and students were prepared for the state test. Since the iLit instruction time was effectively cut in half, teachers employed the Time to Read component only once a week. The comparison classes in NY only used the Engage modules for 45 minutes daily.

The iLit program is based on 25 weeks of instruction organized into 5 units of 25 lessons each. In the initial school year teachers used the program for an average 22 full weeks of instruction; individual sites ranged from 18 to 23 weeks. It should be noted here that the NJ school did not start the iLit program until after winter break and used the program for 13 full weeks. Teachers were able to complete an average of 62 iLit lessons (i.e., 50% of the available 125 iLit lessens) with individual teachers completing 46 to 89 lessons. In the second school year, teachers used the program for an average 26 full weeks of instruction with individual sites ranging from 17 to 31 weeks. Teachers were able to complete an average of 66 iLit lessons (i.e., 53%) with individual teachers completing 48 to 99 lessons.

Table 3 details the usage of iLit components. It is apparent that most teachers regularly used the daily components. Three teachers (i.e., CO, NJ, one from NY), however, did not regularly find time or deem it necessary to include student journals and/or student conferencing. Most teachers did not make much use of the end of unit performance tasks.

The following sub-sections detail the product training and how well the iLit teachers implemented the program as observed by the research team.

iLit Teacher Training

To initiate the study, Gatti Evaluation representatives conducted a study orientation for all teachers at the start of the 2013-14 school year. The study orientation formally introduced the teachers to the research team, explained in detail the requirements and benefits of participation in the study, as well as, addressed any immediate questions or concerns about the research. All teachers were required to read and sign informed consent forms.

Teachers received multiple training sessions by Pearson curriculum specialists. This well-received training allowed teachers to fully implement the iLit program and helped foster positive teacher and student attitudes.

The publisher ensured that sites had full access to the program and that access was continual throughout the duration of the study. Pearson provided free product training and funding to cover the cost of substitute teachers during the trainings. All iLit teachers, including those teaching 8th grade iLit students in the second year of the research study, were required to attend training sessions facilitated by a curriculum specialist supplied by the publisher. The initial curriculum training took place on-site over the course of one full school day. The training introduced administrators and teachers to the key components, resources and instructional features of iLit, including the digital presentations, the teacher and student application, and how to meet individual student needs.

A follow-up training session was provided four to six weeks after the initial training session. These sessions were tailored to each individual schools' needs and provided support for consistent usage and implementation fidelity. In addition, this time was further used to acquaint teachers with new features/aspects of the curriculum and to discuss and learn about the online reporting system. These training sessions were coupled with in-classroom observations and one-on-one meetings between teachers and consultants. They lasted one school day. Finally, a refresher training was delivered to each iLit teacher via WebEx. This last training session typically last two hours.

All iLit schools required follow up technology visits to ensure that the installation was working efficiently with the local infrastructure. This time was also used to address any additional technology issues unique to each site. The AZ school in particular had a weak local infrastructure, with no available onsite district technology assistance. As a result, they required additional technology support from the publisher. The most common issues experienced involved projection issues, problems with audio, challenges with pushing out and receiving assignments, freezing screens, slow loading, problems logging in. Most technology issues arose from problems with the local infrastructure. For example, iPads overheating, interrupted or insufficient bandwidth, or outdated, unsupported, and/or conflicting applications. Nearly all recurring technology issues were dealt with in 2013.

Table 3	2013-14 iLit Program Component Usage							
Study Site	Time To Read Journals (15)[1]	Time To Read Conferencing (15)	Vocabulary (5)	Read Aloud, Think Aloud (15)	Classroom Conversation (10)	Whole Group Instruction (15)	Work Time (30)	End of Unit Performance	iLit Total (90)
Average	12.36 (76.49%)	13.30 (80.85%)	8.01 (99.34%)	21.70 (99.55%)	8.84 (96.88%)	21.48 (98.48%)	29.67 (99.81%)	22.02 (99.81%)	115.36 (106.25)
AZ	13.35 (100%)	12.96 (100%)	7.87 (100%)	19.14 (100%)	7.41 (100%)	35.74 (100%)	36.52 (100%)	8.17 (100%)	132.99 (146)
AZ	10.00 (100%)	10.00 (100%)	5.00 (100%)	17.80 (100%)	10.00 (100%)	25.61 (100%)	30.00 (100%)	5.00 (100%)	108.41 (144)
CA	13.36 (92%)	4.93 (80%)	5.25 (100%)	17.06 (98%)	7.24 (93%)	15.35 (97%)	32.05 (100%)	11.32 (38%)	95.23 (90)
CO	15.00 (39%)	14.07 (65%)	10.70 (97%)	21.74 (100%)	8.23 (94%)	19.68 (94%)	29.78 (100%)	66.67 (14%)	119.20 (90)
MI	5.52 (87%)	12.90 (98%)	6.23 (98%)	18.74 (98%)	8.05 (91%)	19.17 (97%)	30.79 (100%)	0.00 (0%)	101.39 (98)
NJ	17.50 (43%)	17.07 (63%)	10.00 (100%)	25.64 (100%)	10.76 (100%)	20.64 (100%)	29.40 (100%)	30.00 (7%)	131.01 (110)
NY	16.85 (51%)	15.81 (57%)	9.04 (100%)	25.34 (100%)	6.00 (97%)	19.22 (100%)	24.19 (98%)	23.00 (8%)	116.46 (86)
NY	7.29 (100%)	18.67 (100%)	10.00 (100%)	28.13 (100%)	13.07 (100%)	16.43 (100%)	24.64 (100%)	10.00 (7%)	118.22 (86)
	2014-15 iLit Program Component Usage								
Study Site	Time To Read Journals (15)[1]	Time To Read Conferencing (15)	Vocabulary (5)	Read Aloud, Think Aloud (15)	Classroom Conversation (10)	Whole Group Instruction (15)	Work Time (30)	End of Unit Performance	iLit Total (90)
Average	10.25 (52.90%)	10.51 (38.99%)	8.75 (89.87%)	20.46 (90.12%)	7.35 (84.45%)	18.76 (87.87%)	25.19 (90.13%)	21.45 (17.45%)	101.27 (89.30)
AZ	5.19 (83%)	5.20 (78%)	5.00 (97%)	12.73 (98%)	5.00 (95%)	12.86 (98%)	13.83 (100%)	5.00 (81%)	64.81 (99)
CA	5.00 (80%)	5.00 (2%)	6.00 (98%)	16.57 (99%)	5.99 (96%)	15.34 (99%)	29.24 (95%)	41.86 (8%)	83.14 (113)
CO	15.45 (26%)	12.14 (16%)	12.63 (81%)	26.86 (81%)	7.14 (67%)	25.81 (86%)	29.63 (93%)	0.00 (0%)	129.66 (61)
MI	6.89 (92%)	9.15 (96%)	8.23 (96%)	21.85 (96%)	8.46 (94%)	22.25 (90%)	30.02 (92%)	0.00 (0%)	106.85 (75)
NJ	15.77 (16%)	18.08 (16%)	10.00 (96%)	20.66 (95%)	10.23 (83%)	16.76 (89%)	19.18 (84%)	26.82 (14%)	137.50 (125)
NY	13.18 (21%)	13.45 (25%)	10.62 (71%)	24.11 (71%)	7.30 (71%)	19.56 (65%)	29.25 (77%)	55.00 (2%)	117.47 (62)

1. Indicates recommended daily instruction minutes for each iLit component.
Component cells indicate iLit teachers' average reported instruction minutes and percent of lessons using that component.
Parentheses for iLit Total cells indicate minutes in Literacy blocks at each site. Total minutes does not include End of Unit Performance minutes.

iLit Program Implementation

During the 2013-14 site visits observers from the research team rated each iLit teacher's program implementation on several dimensions both prior to and after winter break. These ratings were used to objectively categorize teachers as low, medium, and high program implementers. The teacher from the NJ school was observed once, after winter break, as they did not start using the program prior to break.

Ratings were given specifically for general classroom indicators (i.e., control, rapport, engagement, lesson preparation, differentiated instruction, instructional strategies, technology integration, pacing) and implementation of specific program components. Teachers could be scored as did not meet, meets, and exceeds expectations according to a priori defined standards. Teachers that met expectations in these areas were deemed medium implementers while those teachers that did not were categorized low implementers. None of the iLit teachers were consistently rated as not meeting expectations.

Five 7th grade iLit teachers were placed in the medium category and three teachers rose to level of high implementers. High implementers were characterized by consistently exceeding expectations on iLit and general classroom indicators, as well as, a holistic implementation rating of at least 8 out of 10.

Additionally, teachers were rated as to their overall implementation of the program on a one to ten scale. Here observers considered and scored holistically a set of criteria including adherence to study guidelines, proper use of specific program elements, pacing, preparation, and presentation. This holistic score was used to give added perspective to the general classroom and specific program component indicators.

A rating of one was reserved for those teachers that were putting forth no effort and a ten was reserved for those teachers using all the required components with distinction, or in essence, experts. A rating of five was applied to those teachers trying their best to implement the program but were still having some problems implementing the required components. These teachers could be described as average implementers. A rating of seven acted as an additional anchor point. A rating of seven was given to those teachers that were implementing the required components well.

Holistic implementation ratings indicated the iLit teachers as a group were implementing the program with medium or high fidelity in the 2013-14 school year. They continued to implement with fidelity the next school year.

One teacher received overall implementation ratings below five (i.e., average rating = 4). This was mainly due to one of their observed iLit classrooms not meeting expectations in classroom control and technology implementation. They did, however, meet expectations on the specific program components. This teacher and four others (i.e., ratings ranging from 5 to 7) largely met expectations on general classroom and specific program component indicators and were consigned to the Medium implementation group. Three teachers consistently exceeded expectations and constituted the High implementation group. These teachers were rated between 8 and 10 on overall implementation ratings. The average for overall implementation in 2013-14 was 6.9; indicating iLit teachers were as a group implementing the program with fidelity. The iLit teachers continued

to implement well in 2014-15. The overall implementation rating averaged 7.3 in the second school year with all teachers given a 6 or higher.

Participants

The study sample was diverse and was comprised of 283 (i.e., iLit = 144, comparison = 139) below-grade-level 7th grade students from six schools, each from a different state (i.e., AZ, CA, CO, MI, NJ, and NY). By the end of the first school year 12% of the students left the study (i.e., iLit = 16, comparison = 17). At the end of the second school year 70 or 24.7% (i.e., iLit = 30, comparison = 40) of the original study students either withdrew from school (i.e., 49) or exited the study (i.e., 21). Complete demographic information was not available for 6% of the study students (i.e., 13 comparison, 4 iLit).

The study sample consisted of 283 below-grade-level 7th grade students from six schools, each in a different state, located in five different regions of the US.

The data in Table 4 provides the demographic breakdown of the study sample. The study schools demonstrated considerable variation in ethnicity, as well as percentage of students eligible for free or reduced-priced lunch and students that are not English proficient. As may be expected, the final study sample was largely eligible to receive free or reduced-priced lunch (i.e., iLit = 78%, comparison = 81%), had a significant portion not English proficient (i.e., iLit = 24%, comparison = 28%), and special education students (i.e., iLit = 14%, comparison = 12%). The sample was also mostly Hispanic (i.e., iLit = 55%, comparison = 61%) and to a lesser extent Caucasian (i.e., iLit = 23%, comparison = 20%) and African American (i.e., iLit = 19%, comparison = 15%).

Table 4		iLit RCT Sample Demographic Information						
Group	Grades	Student Count	Not English Proficient	Free/Reduced Lunch	Percent Caucasian	Percent Hispanic	Percent African American	Other or No Information
Whole Sample								
iLit	7-8	140	24%	78%	23%	55%	18%	4%
Comparison		126	28%	81%	20%	61%	15%	4%
Arizona District								
iLit	7-8	30	37%	100%	0%	100%	0%	0%
Comparison		30	27%	97%	3%	97%	0%	0%
California District								
iLit	7-8	17	6%	65%	18%	47%	6%	29%
Comparison		10	0%	60%	10%	60%	10%	20%
Colorado District								
iLit	7-8	12	0%	8%	92%	0%	8%	0%
Comparison		9	11%	11%	89%	11%	0%	0%

Michigan District								
iLit	7-8	21	0%	67%	81%	0%	19%	0%
Comparison		18	0%	72%	83%	11%	6%	0%
New Jersey District								
iLit	7-8	11	0%	73%	9%	27%	55%	9%
Comparison		12	0%	100%	0%	33%	58%	9%
New York District								
iLit	7-8	49	43%	92%	0%	73%	27%	0%
Comparison		47	55%	87%	0%	74%	21%	5%

Data Analysis Procedures

Statistical analyses were performed on GRADE total and subtest raw gain scores, as well as, literacy academic attitude survey raw gain scores. Gain scores are calculated by subtracting the beginning-of-year raw score from the end-of-year raw score. The mean gain for the comparison group was statistically compared to the iLit group.

While students were the unit of analysis, the schools were the independent units. The hierarchical nature of the data (i.e., students nested within classrooms, classrooms nested within schools) has the effect of reducing the amount of independent information available in the sample, therefore decreasing the precision of estimates and the power of hypothesis tests to find these estimates statistically significant.[2]

SAS's Mixed procedure[3] was used to analyze the data. An ordinary least squares fixed effects model with a naïve covariance structure within a robust empirical standard error formulation (i.e., Sandwich estimator) was used to calculate p-values and confidence intervals for the group mean differences. This procedure results in estimates that are unbiased and statistical hypothesis tests that are consistent[4] despite the nested nature of the data.

Several covariates were entered into the statistical models. These covariates included student demographic information (i.e., free or reduced lunch eligible, ethnicity, gender, special education status, English language proficient), as well as classroom environment indicators for both school years (ex., minutes in literacy instruction block, number students in section, number study students in section, mixed section with non-study students), and teacher experience (i.e., years teaching, years at current school, years teaching literacy at current grade, highest degree). Adding variables known to impact achievement outcomes to the statistical models may reduce the residual variation or error about the estimates resulting in more precisely estimated results and additional power to statistically detect group differences. Also, the additional variables may reduce the effect from nesting and help normalize the residual distribution.

[2] Donnar, A. & Klar, N. (2000) *Design and analysis of cluster randomization trials in health research.* Arnold Publishers, London.
[3] SAS Institute Inc. (2008) Online documentation 9.2
[4] Liang, N. M. & and Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models. *Biometrika*, *73*, pp. 13-22.

All statistical significance tests are two-tailed with a Type I error rate of 0.05. This means that, statistically significant group mean differences have no better than a 1 in 20 chance of occurrence when the groups are in fact equal. Statistical significance thus implies that the samples are likely drawn from two separate populations or that the groups are unlikely to be the same in the population. Coupled with the rigorous study design we may then hold these statistically significant differences as evidence for one group outperforming the other.

Standardized effect size estimates (i.e., effect size = group mean gain difference / comparison group sample gain score standard deviation) along with a percentile rank based effect size measure are computed for statistically significant differences.[5] The latter effect size measure indicates the percentile rank for the average iLit student's gain in relation to the comparison group's distribution. For example, if the treatment group outperformed the comparison group by 0.20 standard deviations the average/mean/median score for the treatment group was larger than 58% of the comparison group scores, thus the treatment group outperformed the comparison group by 8 percentile points.

Almost a quarter (i.e., 24.7%) of those students starting the study, did not remain in the study till the end of the second school year. To best guarantee the results of the study would be unbiased, the data analyses incorporated the Multiple Imputation (MI) method. The advantage of MI is that when the mechanism causing the non-response is the same for both the observed and un-observed data (i.e., ignorable non-response, missing at random) MI produces unbiased and consistent pooled results, including estimates for standard errors and confidence intervals.

The MI technique can simply be described as a three step process. First, the missing information is filled in repeatedly with estimated values using a suitable method, assuming missing information is missing at random. This creates multiple data sets, in which only the estimated values differ across them. The next step is to perform the same statistical analyses on each estimated data set. Lastly, the results of these analyses are pooled to estimate one set of 'whole sample' statistical results.

Technically, missing data was imputed using the SAS MI Procedure. As the missing information followed a complex arbitrary pattern, missing values were estimated using Bayesian Markov Chain Monte Carlo estimation. The imputation model included the baseline and gain scores for each school year for each outcome variable (ex., beginning of school year one GRADE, end of school year one GRADE gain, beginning of school year two GRADE, end of school year two GRADE gain) along with the covariates used in the statistical model mentioned previously, group status, and indicators for reasons student data was missing. One hundred estimated data sets were created. These data sets were analyzed for congruence of basic descriptive statistics and scanned for out-of-bounds estimates. The results from the Mixed procedures were then pooled using the SAS MI Analysis procedure.

By the end of the first school year 12% of the students left the study with 24.7% attrition by the end of the second school year. Also, complete demographic information was not available for 6% of the study students. There was relatively little missing information for the classroom variables

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[5] Hedges, L. V. & Olkin, I. (1985). *Statistics methods for meta-analysis*. Academic Press, NY.

as it was possible to determine for all but 5 students what these values would be for them in school year two (i.e., their teachers in 2014-15 were fixed).

III. RESULTS

Report section III summarizes the results of data analyses, including statistical and qualitative results. The first subsection demonstrates the closeness of the samples on the quantitative outcome measures at baseline. The second subsection addresses research questions one, assessing baseline to end-of-year achievement gains for iLit students. The third subsection addresses research question two, comparing achievement gains for the iLit group to that of the comparison group. Lastly, subsections four and five address research questions three and five. That is, do iLit students demonstrate more positive attitudes toward literacy and literacy instruction, and, how did teachers and students react to the program?

Baseline Group Equivalence

As would be expected for a sample of below grade level students, the average baseline achievement performance was well below the median of the norm group (i.e., see Table 5).

Table 5	2013 Baseline Study Group Scores			
Measure	iLit Mean (SD)	iLit PR	CP Mean (SD)	CP PR
GRADE Total	36.74 (13.15)	26	36.00 (12.88)	24
Vocabulary	13.97 (5.24)	30	14.31 (5.26)	30
Sentence Comprehension	9.13 (3.90)	--	8.78 (4.05)	--
Listening Comprehension	9.88 (2.63)	--	10.04 (2.23)	--
Passage Comprehension	13.64 (5.79)	--	12.91 (5.43)	--
Total Comprehension	22.77 (8.90)	25	21.69 (8.65)	23
Academic Attitude	1.58 (5.98)	--	2.56 (5.78)	--

Both the comparison and iLit groups achieved at equally well below average at baseline.

Table 5 presents the simple sample 2013 baseline iLit and comparison group means for each measure of achievement and literacy academic attitude. Table 6 presents the baseline group mean differences for each outcome measure, as well as, the two-sided statistical significance test results and effect size measures for these differences. The difference for all achievement outcome measures was not statistically significant and effect sizes were relatively small ranging from -3 to 5 percentile points. Group mean differences were less than one percent correct (i.e., number question answered correctly / number question) for GRADE Total and Vocabulary score and 2% for Comprehension score.

Lastly, both the iLit and the comparison group were overall positive in their baseline literacy attitudes. The iLit group had slightly lower academic attitudes, less than one point on a 40 point scale. This difference was not statistically significant.

The iLit and comparison groups were overall positive and statistically equivalent in their Literacy academic attitudes.

Table 6	2013 Baseline Study Group Score Comparisons		
Measure	Sample Difference(Qs)	p-value	Effect Size[1]
GRADE Total	0.74 (89)	0.441	0.06 (2%)
Vocabulary	-0.34 (40)	0.670	-0.06 (-3%)
Sentence Comprehension	0.35 (19)	0.235	0.09 (3%)
Listening Comprehension	-0.15 (17)	0.394	-0.07 (-3%)
Passage Comprehension	0.73 (30)	0.271	0.13 (5%)
Total Comprehension	1.08 (49)	0.162	0.12 (5%)
Academic Attitude	-0.99 (-20,+20)	0.114	-0.17 (-7%)
1. Numeric effect Size = sample group mean score difference / comparison score standard deviation Percent effect size = difference in percentile rank for the median iLit group score in relation to the comparison group's scores			

iLit Students' Achievement Gains

This section will attempt to answer research question one:

RQ1. Do below grade level students, receiving core literacy instruction from the iLit program over the course of the initial and second school year of implementation, demonstrate a significant improvement in literacy achievement?

This section will present 2013-14 and 2014-15 school year achievement results for iLit students exclusively. These gains were consistent across school years and with a 10 percentile point increase for comprehension, a 16 percentile point increase for vocabulary, and a 15 percentile point gain in total achievement. The largest gains were seen on the Listening Comprehension scale, 26 and 19 percentile points in 2013-14 and 2015-16 respectively. The baseline-to-end of school year achievement gains for the iLit students were statistically significant on the GRADE and its subtests.

Students using the iLit program had large statistically significant achievement gains from the first school year implementing the program and continued to show large achievement gains into the second school year.

A recent report[6] of achievement gains seen across widely used, nationally normed literacy assessments, reported a 95% confidence interval for beginning to end of 7th grade school year achievement gains of 9 to 11 percentiles, and 6 to 13 percentile points for 8th grade. The 14 and 15 percentile gains seen on the GRADE (note: does not include listening comprehension scale) are large in comparison (i.e., see Table 7).

Table 7	iLit Group Gain and Effect Sizes			
GRADE Level M Scale	2013-14 Gain (SD)	2013-14 Effect Size	2014-15 Gain (SD)	2014-15 Effect Size
GRADE Total	3.05 (8.33)	0.37 (14%)	3.72 (9.89)	0.38 (15%)
Vocabulary	1.57 (4.42)	0.36 (14%)	1.74 (4.01)	0.43(17%)
Sentence Comprehension	0.81 (3.11)	0.26 (10%)	1.47 (3.93)	0.37 (15%)
Listening Comprehension	1.74 (2.50)	0.70 (26%)	1.21 (2.41)	0.50 (19%)
Passage Comprehension	0.60 (4.82)	0.12 (5%)	0.66 (5.61)	0.12 (5%)
Total Comprehension	1.44 (6.13)	0.24 (9%)	2.07 (7.90)	0.26 (10%)

Gain = iLit sample mean baseline to end of school year post-test gain score, (SD) = iLit sample gain score standard deviation
Numeric effect Size = sample mean gain score / gain score standard deviation
Percent effect size = difference in percentile rank for the average end-of-school-year score in relation to the baseline score distribution
GREEN highlighting indicates p-value is < 0.05 and two-sided statistical test is significant

Group Achievement Gain Comparisons

This section will attempt to answer research question two:

RQ2. Do below grade level students, receiving core literacy instruction from the iLit program over the course of the initial and second school year of implementation, demonstrate a significant improvement in achievement over otherwise similar and randomized students in classrooms using their current literacy programs and methods (i.e., not fully digital)?

After the initial school year, iLit students performed as well as their comparison counterpart on all achievement outcomes. By the end of the second school year, the iLit students significantly outperformed their comparison counterparts in Comprehension.

Figure 1 presents the baseline and end-of-school-year group means on the GRADE total battery and subtests across each school year. Table 8 reports the differential group gains with associated effect sizes. Groups performed equivalently in the 2013-14 school year with the exception of Listening Comprehension, in which the iLit group statistically outperformed the comparison group.

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[6] Carolyn J. Hill, CJ., et al. (July, 2007). Empirical Benchmarks for Interpreting Effect Sizes in Research. MDRC Working Papers on Research Methodology, web site: www.mdrc.org

In the 2014-15 school year however, the differential gains in Listening Comprehension were positive with the iLit group statistically significantly outperformed the comparison group in the Comprehension scale and subsequently the Total scale. Vocabulary performance was practically equivalent across both years and Listening Comprehension was as well in the second school year. A review[7] of recent RCT research reports of low performing and at-risk middle grades students saw an average comparative effect size of 6 percentile points. The statistically significant gains seen by the iLit group are all larger than this average.

Table 8	Comparative Group Effect Size Gains			
GRADE Level M Scale	2013-14 Gain (SD)	2013-14 Effect Size	2014-15 Gain (SD)	2014-15 Effect Size
GRADE Total	0.05 (7.28)	0.01 (<1%)	2.17 (10.89)	0.20 (8%)
Vocabulary	-0.01 (3.65)	-0.00 (<1%)	0.07 (4.89)	0.01 (1%)
Sentence Comprehension	-0.13 (3.20)	-0.00 (-2%)	0.86 (4.34)	0.20 (8%)
Listening Comprehension	0.38 (2.09)	0.18 (7%)	0.05 (2.31)	0.02 (1%)
Passage Comprehension	0.23 (4.83)	0.05 (2%)	1.30 (6.36)	0.20 (8%)
Total Comprehension	0.08 (5.97)	0.01 (1%)	2.07 (8.31)	0.25 (10%)

Numeric effect Size = group mean gain score difference / comparison group gain score standard deviation
Percent effect size = difference in percentile rank for the median iLit group gain score in relation to the comparison group's scores
GREEN highlighting indicates p-value is < 0.05 and two-sided statistical test is significant

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[7] Lipsey et al. (2012). Translating the Statistical Representation of the Effects of Education Interventions into More Readily Interpretable Forms. (NCSER 2013-3000). Washington, DC: National Center for Special Education Research, Institute of Education Sciences, U.S. Department of Education. This report is available on the IES website at http://ies.ed.gov/ncser/.
Note: Studies were restricted to those using random assignment designs with practice-as-usual control groups and attrition rates no higher than 20% from 1995 or later. See Table 9.

Figure 1.   Group Gain Comparisons for Literacy Achievement Outcomes
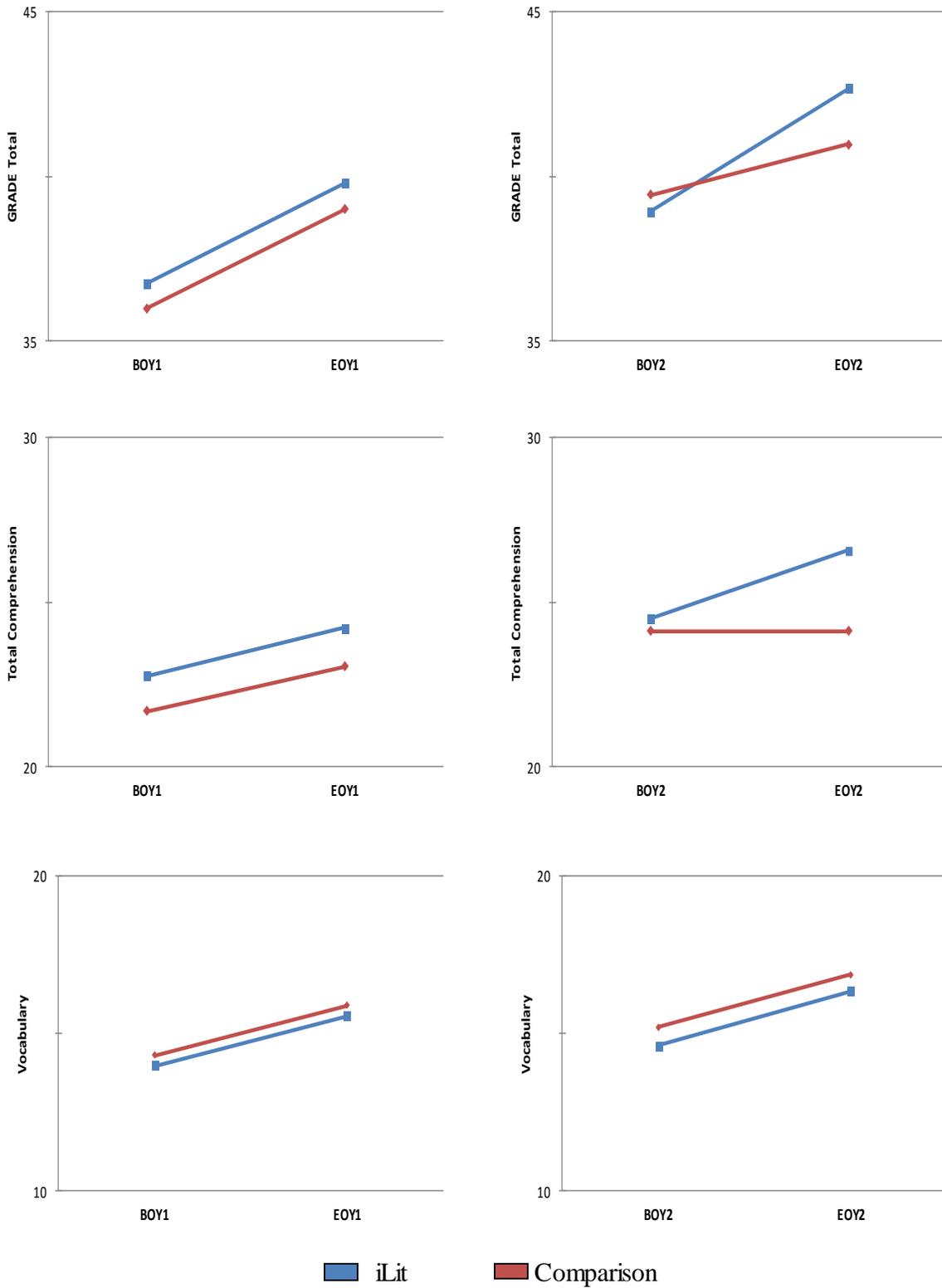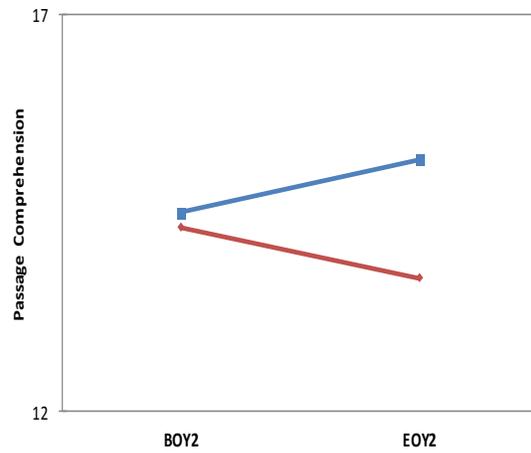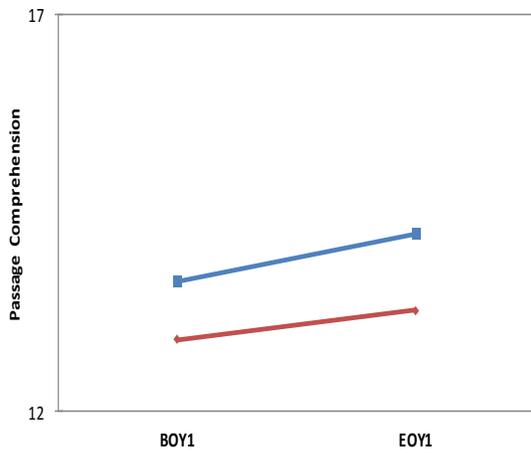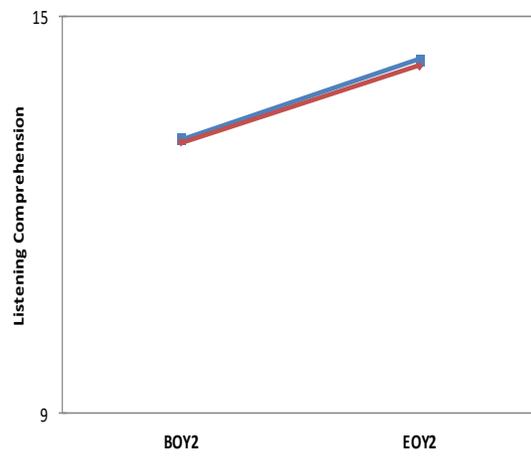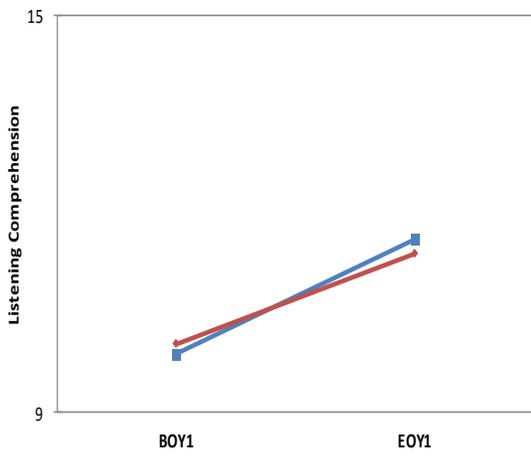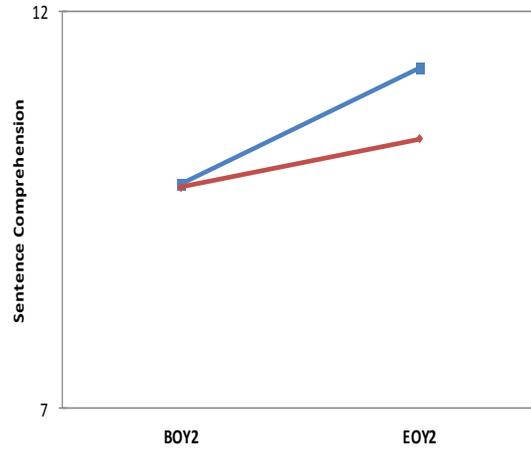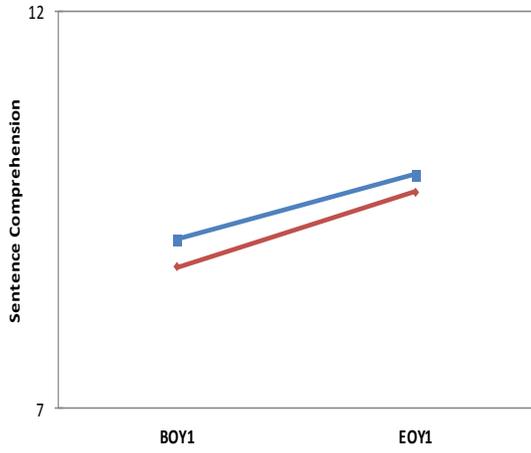
Student Academic Attitudes

This section will attempt to answer research question three:

RQ3. Do students receiving iLit instruction demonstrate positive attitudes toward reading and literacy instruction?

It can be seen from Figure 2 that, on average, both iLit and comparison students had overall positive academic attitudes at both the beginning and end of each school year. The scoring method for the student academic attitude survey anchors a completely neutral student at an overall score of zero with positive total scores indicating an overall positive or more enthusiastic attitude. That is, each of the 20 responses were coded as 1 for a positive response, 0 for a neutral response, and -1 for a negative response giving a -20 to +20 score range.

The comparison group began the 2013-14 school year more positive (i.e., group mean difference was not statistically significant) but did not increase at all in their attitudes that year. The iLit group, however, did gain a small amount in their academic attitudes towards literacy instruction (i.e., 4 percentile points). The opposite was observed the next school year where the comparison group increased slightly and the iLit students did not. Comparing the differential group gains did not yield statistically significance for either school year.

Figure 2.   Group Gain Comparisons for Literacy Academic Attitude
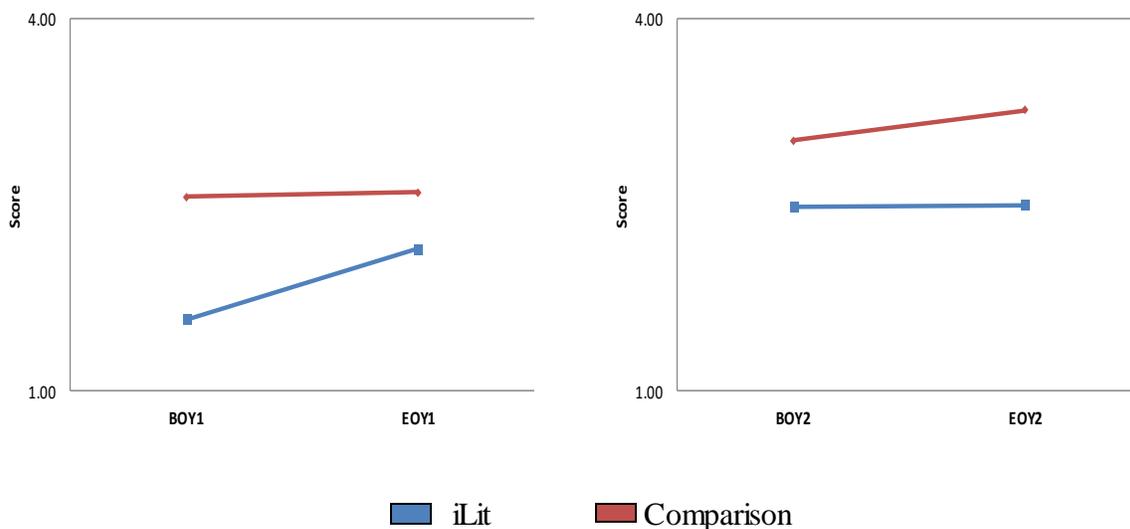
Teacher and Student iLit Opinions

This section addresses research question five:

RQ5: How did iLit teachers and students react to the iLit program?

The first sub-section summarizes the results for the student iLit opinion survey. The second sub-section summarizes comments collected from iLit teacher focus groups.

Student iLit Attitudes

Students from iLit classrooms were surveyed as to their opinions on several aspects of the program. A solid majority (i.e., 69%) demonstrated an overall positive attitude towards the program in the 2013-14 school year. This was reduced to 50% of students when surveyed in the next school year.

In 2013-14 more students felt iLit definitely made English class more interesting, preferred iLit to their previous English class, and wanted to continue using iLit (i.e., see Table 12). Students were noticeably less enthusiastic in the second school year.

Table 9	2013-14 iLit Student Attitude Results		
Question	Yes, Definitely	Sometimes/Maybe	No, Not Really
English class is more interesting now.	34%	48%	18%
Would like to continue using iLit next school year.	42%	25%	33%
Prefer iLit to previous English class.	41%	44%	15%
2014-15 iLit Student Attitude Results			
Question	Yes, Definitely	Sometimes/Maybe	No, Not Really
English class is more interesting now.	31%	34%	35%
Would like to continue using iLit next school year.	14%	26%	60%
Prefer iLit to previous English class.	29%	32%	39%

Teacher iLit Attitudes

Opinions about the iLit program were systematically collected from teachers with online surveys, as well as, during focus group sessions. There were 8 iLit teachers in the initial school year and 7 in the second, all attended the focus groups and completed the surveys.

The iLit teachers' focus group responses collected in the initial school year were overall very positive, with 81% of 213 recorded comments coded as positive in nature. Further, general opinions and impressions of the program were very positive (i.e., 92%, 12/13 focus group responses). The second school year again produced an overall majority of positive responses (i.e., 69% of 225 focus group responses) with 76% (i.e., 13/17 focus group responses) of general impressions still positive.

The focus group responses to iLit were overall very positive in 2013-14, with 81% of responses coded as positive in nature. Responses remained positive in the second school year with 69% positive comments overall.

When surveyed at the end of the first school year, half of the iLit teachers said they would definitely recommend the program. As one of these teachers offered, *"iLit is an amazing program. I have been teaching for 16 years and it is the most engaging, comprehensive program that I have come across."* Only a single iLit teacher said they would not recommend the program. This teacher felt the program was bland, too scripted, and the "glitchiness of the application" often interfered with successful instruction. This teacher also felt the independent learning portions of the program required the students to self-regulate and stay on task, a potential challenge when teaching alone in a class with 23 at-risk students.

Teachers felt the program was easy to implement in the classroom, well-paced, and liked the daily components of the program. Comments regarding pre-prepared lessons (i.e., time and effort, completeness, delivery, student interaction) and teacher support (i.e., access to student data, assigning and grading) were nearly all positive in nature. Some teachers did, however, feel they often needed to score the writing assignments themselves. Further, teachers generally agreed the program's content was appropriately difficult and personalized, with adequate skills practice and progress monitoring. Lastly, when surveyed, all but one teacher agreed the program fit with their instructional philosophy.

All classrooms experienced technology issues throughout the two school years. Most of the time these issues could be attributed to a site's local infrastructure, however, teachers did experience occasionally missing components, freezing, students being kick off or difficulty logging in, and assignments not sent in or pushed out. This being said, the majority of technology issues were dealt with in 2013 and the teachers were much more positive with the digital delivery in the second school year (i.e., 25% to 60% positive comments). All teachers agreed problems were negligible the second school year.

Teachers felt their students were engaged by the program through the tablet use, interactivity, lesson presentations, and plethora of independent reading stories. It was, however, apparent that these teachers also felt the motivation of their classrooms fell off as the initial school year progressed. This drop off in motivation was attributed to a combination of the relatively long 90 minute blocks and the routine nature of the program. Teachers felt student motivation picked up in the second school year. This was attributed to occasionally changing up the order of the component, supplementing the program (ex., incorporate fun seasonal or topical activities), and reducing the daily time on the program.

IV. DISCUSSION

The study sample was diverse and consisted of 283 below grade level 7ᵗʰ-8ᵗʰ grade students from six schools, each in a different state, located in five different regions of the US.

The study sample was diverse and was comprised of 283 below-grade-level 7th grade students from six schools, each from a different state (i.e., AZ, CA, CO, MI, NJ, and NY). As may be expected, the final study sample was largely eligible to receive free or reduced-priced lunch, had a significant portion not-English proficient, and special education students. The sample was also mostly Hispanic (i.e., 58%), and to a lesser extent Caucasian and African American. Both the comparison and iLit groups achieved similarly and well below average at baseline (CP PR=24ᵗʰ, iLit PR=26ᵗʰ).

iLit students saw relatively large achievement gains from their first school year using the program and repeated these gains in the second school year.

The achievement data indicates clearly that at-risk middle grade students using iLit as their primary literacy program can be successful. The achievement gains on the GRADE and its subtests for the iLit students were relatively large and very consistent across consecutive school years.

Performance was statistically similar between study groups on the GRADE and most of its sub-tests in the initial implementation year. The exception was Listening Comprehension, where the iLit students outperformed the comparison group. This is significant as the iLit teachers were introduced to, and began using any part of the program at the start of the 2013-14 school year. In addition, iLit's fully digital delivery was new to both teachers and students. In the second school year the iLit students went on to significantly outperformed their randomized comparison counterparts in comprehension and total literacy achievement.

The achievement data indicates at-risk middle grade students using iLit can be successful in increasing Literacy achievement.

Teachers and students alike had positive experiences with the iLit program beginning with their first year exposed to the program. Teachers felt the program was easy to implement in the classroom and that the program fit with their instructional philosophy. The technology of the fully digital delivery, however, created issues throughout the initial school year. Most of the time these issues could be attributed to a site's local infrastructure, however, teachers did experience occasional glitches.

A majority of iLit students demonstrated an overall positive attitude towards the program in the initial school year, and half had positive attitudes by the second school year. iLit students also demonstrated statistically similar literacy academic attitudes to their comparison group peers across both school years.

Teachers felt their students were engaged by the program through the tablet use, interactivity, lesson presentations, and plethora of independent reading stories. It was, however, apparent that these teachers also felt the motivation of their classrooms fell off as the initial school year

progressed. This was attributed to a combination the relatively long 90 minute blocks and the routine nature of the program. This dip in classroom motivation was alleviated in the second school year by allowing teachers to occasionally change up the order of the component, supplement the program (ex., incorporate fun seasonal or topical activities), and reducing the daily minutes on the program.

The focus group responses to iLit were overall very positive in 2013-14, with 81% of responses coded as positive in nature. Responses remained positive in the second school year with 69% positive comments overall.

A.1 iLit Study Site Descriptions

This appendix summarizes the educational environment for each study site as well as a demographic breakdown. This information is crucial for determining how applicable results from this study may be to the consumers of this report. It is important to note that this study is a two year study. In the first school year, 2013-14, 7th grade participated. In the 2014-15 school year these student will be followed into 8th grade.

Arizona District

This school resides in a large city and students are expected to follow a strict dress code. This school prides itself in creating a positive school climate, college-going culture and strong classroom instruction in order to prepare students for future success both in and out of school. In the 2010-11 school year, the district served a community of over 49,000. The median household income is approximately $27,000, indicating a lower-class community.

This is a medium-large sized school serving approximately 800 students in grades six through eight. The 7th grade level is made up of just over 280 students. This school is primarily Hispanic, which represents 95% of the school's population. Caucasians and African Americans each comprise 2% of the school's population, with American Indian/Alaskan Natives making up the remaining 1%. This school falls into the high range for participation in the nation's lunch program with 100% of students eligible to receive free or reduced-price lunch.

The percentage of 7th grade students testing at standard in mathematics in the 2012-13 school year was 49%, 16% lower than the statewide results whereas in reading, 71% tested at standard, only 14% lower than the statewide average. In 8th grade, 43% and 52% of students tested at standard for mathematics and reading respectively, compared to statewide results of 58% for math and 72% for reading. The student/teacher ratio is approximately 17 to 1.

In year one, three 7th grade teachers agreed to be in the study, with two choosing to participate as iLit teachers. The comparison teacher instructed two sections of 7th grade comparison students, each being mixed with non-study students. Students received a total of 31 weeks of literacy instruction of which iLit students received 19 weeks of iLit. Daily literacy blocks averaged 144 minutes for iLit students, and 71 minutes for comparison students. The comparison teachers at this site utilized a novel based approach in their literacy classes. Additionally, they took advantage of the many resources available to teachers and developed teacher created learning materials.

The iLit teachers were trained on September 9th, approximately one month after school began. They received an additional training on October 21, 2013, which served as a refresher. In addition, the iLit teachers received a final training on December 20th per their request for additional training. The baseline testing was administered during the first two weeks in September 2013, the middle of year testing during the last two weeks in January 2014 and the end of year testing during the last week of April 2014.

In year two, three 8th grade teachers agreed to be in the study, with one of the 1st year iLit teachers returning and two new comparison teachers. With the reduction of one iLit instructor, the returning teacher instructed two iLit sections; however, at winter break these two sections were condensed into one group of iLit study students. The comparison students were mixed with non-study

students. Daily literacy blocks were reduced to 60 minutes for iLit students, but remained the same for comparison classes, also at 60 minutes. In addition all study students received 30 minutes daily of ESL literacy or math intervention, depending on their needs.

Students received a total of 36 weeks of literacy instruction of which iLit students received 17 weeks of iLit instruction. The iLit teacher received a WebEx training on September 19th, 2014. There was additional training on March 9th, 2015. Baseline testing was administered at the end of August 2014, middle of year testing took place during the third week of January 2015 and in the last week of April 2015 the end of year testing was completed.

California District

This school resides in a rural area. Within its district, this campus comprises the most advanced technology focused school. Staff pride themselves on educating students via the many technological tools made available to staff and students such as, computers and tablets, interactive white boards and cutting edge multi-media software. In the 2010-11 school year, the district served a community of approximately 61,000. The median household income is slightly above $105,000, indicating an upper middle-class community.

This is a medium to large sized school serving just over 800 students in grades seven and eight. The 7th grade is made up of approximately 450 students. Forty-five percent of the school's population is made up of Hispanic students. Caucasian and African American students make up 24% and 13% of the student population respectively. The remainder of the population is comprised of 15% Asian/Pacific Islander and 3% multiple ethnicities. Fifty-two percent of the students at this school are eligible for free or reduced price lunch, which places this school into the mid-range for participation in the nation's free or reduced-price lunch program.

This school did not meet AYP in the 2012-13 school year. The percentage of 7th grade students testing at standard in mathematics in the 2012-13 school year was 7% higher than the statewide results of 52%. In reading, the statewide average was 60% whereas 75% of students at this site tested at standard. Eighth grade students testing at standard in mathematics was 3% lower than the statewide results of 31%. For reading 63%, compared to 57% statewide, tested at standard. The student/teacher ratio is approximately 22 to 1.

In year one, the site chose one iLit teacher and one comparison teacher to instruct the 7th grade study classes. The treatment students were combined in one class together and received an average of 90 minutes of daily iLit instruction. Comparison students were grouped together and mainstreamed. They also received 90 minutes of daily instruction; however, it was broken down into 45 minutes of general literacy education and 45 minutes of largely non-digital literacy intervention instruction. For the comparison students, the district adopted a widely published elementary literacy curriculum.

In year one, students received a total of 30 weeks of literacy instruction of which iLit students received 23 weeks of iLit instruction. The iLit teacher was trained September 24, 2013 just under two months after school began. A follow up training took place on October 29th. The school administered baseline, midyear and end of year testing at the end of August 2013, January 2014 and April 2014 respectively.

In year two, there were two 8th grade teachers in the study, with the participating iLit teacher returning from year one and the assignment of a new comparison teacher. The iLit study students remained in a class unto themselves and received an average of 77 minutes of daily iLit instruction. Comparison students were mixed with non-study students and had an average daily block of 42 minutes allotted for literacy instruction.

Students received a total of 37 weeks of literacy instruction of which iLit students received 28 weeks of iLit instruction. The iLit teacher had training through an online webinar in September 2015. Additional training was given on December 16th, 2014. The school administered baseline testing at the end of August 2014, midyear testing the last week of January 2015 and end of year testing during the last two weeks of May 2015.

Colorado District

This school resides in a rural area and students are expected to follow a dress code. This school prides itself in being technologically advanced. This school strives to use the technology resources available to them to help students realize their ultimate potential. In the 2010-11 school year, the district served a community of approximately 11,400. The median household income is nearly $83,000, indicating a middle-class community.

This is a small sized school serving approximately 430 students in grades kindergarten through eight. The 7th grade level is made up of slightly over 30 students. This school is primarily Caucasian, which represents approximately 91% of the school population. Hispanic students comprise 7% of the school's population, with African American and Hawaiian Native/Pacific Islander making up the remaining 2%. This school falls into the low range for participation in the nation's free or reduced-price lunch program with only 11% of students eligible to receive free or reduced-price lunch.

This school met AYP in the 2010-11 school year. In the 2012-13 school year 53% of 7th grade students tested at standard as compared to the statewide average of 55%. In reading, on the other hand, students averaged 4% higher than the statewide results of 68%. For 8th grade, only 35% of students tested at standard in mathematics and 58% in reading, whereas statewide results averaged 52% for math and 67% for reading. The student/teacher ratio is approximately 14 to 1.

In year one, two teachers were chosen to participate in the study; one was selected as the iLit teacher and the other as the comparison teacher. The students were not mainstreamed, but taught all together in their appropriate iLit or comparison class. Daily literacy blocks averaged 90 minutes for iLit students and 50 minutes for comparison students. The district adopted a widely published elementary literacy curriculum for the comparison students.

In year one, students received a total of 28 weeks of literacy instruction of which iLit students received 22 weeks of iLit instruction. The iLit teacher was trained approximately one month after the start of school, on September 20, 2013 with a follow up training occurring two months later on November 21st. Baseline tests were administered during the first two weeks of school, midyear tests were administered during the last week of January 2014 and the end-of-year testing took place during the last two weeks of April 2014.

In year two, there were two 8th grade teachers in the study, with the participating iLit teacher returning from year one and a new comparison teacher being assigned. The iLit study students

were not mixed with non-study students and their iLit instruction blocks were reduced to 50 minute daily blocks from 90 minutes. The comparison students were mixed with non-study students and continued to receive 50 minutes of daily literacy instruction.

Students received a total of 34 weeks of literacy instruction of which iLit students received 29 weeks of iLit instruction. The iLit teacher received a WebEx training on September 11th, 2014. The teacher received additional training on March 10th, 2015. The school administered baseline and midyear testing at the end of August 2014 and January 2015 respectively. End of year testing was completed in the last week of April and the first week of May 2015.

Michigan District

This school resides in a large suburb and boasts a small, family-oriented learning community whose students enjoy a low teacher to student ratio and cutting edge learning technology. In the 2010-11 school year, the district served a community of approximately 10,000. The median household income is approximately $54,000, indicating a middle-class community.

This is a small sized school serving over 400 students in grades seven through twelve. The 7th grade level is made up of approximately 70 students. This school is primarily Caucasian, which represents 84% of the school population. African Americans comprise 6% of the school's population. Hispanic, American Indian/Alaskan Native and multi-ethnic students make up the remaining 10% of the population. This school falls into the mid-range for participation in the nation's free or reduced-price lunch program with 61% of students eligible to receive free or reduced price lunch.

This school met AYP in the 2011-12 school year. The percentage of 7th grade students testing at standard in mathematics in the 2012-13 school year was 31% lower than the statewide results of 38%. In reading, 47% of students tested at standard compared to 62% statewide. Eighth grade students testing at standard for math and reading also fell below the statewide averages of 33% and 66%, respectively, to 9% for math and 58% for reading. The student/teacher ratio is approximately 18 to 1.

In the first year of the study, one teacher was chosen to participate in the study to serve as both the comparison and iLit teacher. This teacher led one iLit class, exclusive to treatment students, and one comparison class, excusive to comparison students. Daily literacy blocks averaged 99 minutes for iLit and comparison classes. In addition, the lowest achieving students in each group received an additional 40 minutes of literacy intervention instruction. Students were assigned to receive the intervention each semester; however, after the first semester each student had the opportunity to test out of this additional instruction. Comparison teachers at this site combine teacher created and compiled resources with their district adopted published literacy program to use with their state sanctioned CCSS aligned framework (i.e., MAISA)

The iLit teacher was trained at the start of the school year on September 6th. The final training took place on October 22, 2013. The baseline testing was administered during the last two weeks in September 2013, middle of year testing was completed in mid-January 2014 and the end of year testing was administered at the beginning of May. Students received a total of 34 weeks of literacy instruction of which iLit students received 26 weeks of iLit instruction.

In year two, the year one iLit teacher instructed both the iLit section and one comparison section for 52 minutes of daily instruction each. For the additional comparison students, who were also allotted 98 minute literacy blocks, another teacher was assigned; however, that teacher later resigned in early February 2015. The class was assigned to one substitute teacher until the end of March and then another substitute until mid-April, at which point a permanent teacher was hired.

Students received a total of 35 weeks of literacy instruction of which iLit students received 31 weeks of iLit instruction. The iLit teacher had training through an online webinar in September 2014 and received additional training on December 4th, 2014. Baseline testing was completed near the end of September 2014, middle of year testing was administered during the last week of January 2015 and the end of year testing was administered in mid-May 2015.

New Jersey District

This school resides in a large suburb and students are expected to follow a strict dress code. This school's goal is to create a child centered environment where students can challenge themselves academically while developing a sense of self-worth and a life-long love of learning. In the 2010-11 school year, the district served a community of over 45,000. The median household income is approximately $51,000, indicating a middle-class community.

This is a medium to large sized school serving over 650 students in grades five through eight. The 7th grade level is made up of approximately 185 students. African Americans comprise 50% of the school's population. Hispanic students represent 29% and Caucasian students represent 20% of the population, while Asian students make up the remaining 1%. This school falls into the high range for participation in the nation's lunch program with 72% of students eligible to receive free or reduced-price lunch.

This school met AYP in the 2009-10 school year. In the 2012-13 school year 7th grade students testing at standard in mathematics was 36%, 28% lower than the statewide results whereas 34% of students tested at standard in reading compared to 65% statewide. The percentage of 8th grade students testing at standard in math was 15% lower than the statewide average of 69%. In reading 70% of students tested at standard, which is 12% lower than the statewide results. The student/teacher ratio is approximately 8 to 1.

In the first year of the study, this school chose one iLit teacher and two comparison teachers to instruct the 7th grade literacy study classes. The iLit students were combined in one class together and received 110 minutes of daily iLit instruction whereas comparison students were mainstreamed with other students into 2 sections and received 58 minutes of daily instruction. The district did not adopt an elementary basal literacy curriculum. As an alternative, this site pulls resources from a widely published basal text, but primarily utilizes novels, online resources and a variety of teacher created materials to meet the needs of their students.

This research site did not join the study until the beginning of February. The iLit teacher was trained on January 15, 2014, approximately four months after school began. A follow up training took place two months later on March 7th. The school administered baseline, midyear and end-of-year testing at the beginning of November 2013, February 2014 and the end of May 2014 respectively. Students received a total of 30 weeks of literacy instruction of which iLit students received 13 weeks of iLit instruction.

In year two, the year one iLit teacher returned along with two new comparison teachers. The iLit students remained in one 120 minute literacy block together where they received 90 minutes of iLit instruction and 30 minutes of other literacy instruction (Lucy Calkin's Lit Wrkshp). The comparison students continued to receive 58 minute literacy blocks and they were mixed into various periods throughout the day with non-study students.

Students received a total of 34 weeks of literacy instruction of which iLit students received 26 weeks of iLit instruction. The iLit teacher received a WebEx training on September 12th, 2014. The teacher received additional training on February 19th, 2015. The beginning of year testing was administered to all study students in early September 2014, whereas midyear tests were completed by iLit students in the first week of February 2015 and comparison students in the last week of February 2015. End of year tests were administered in mid-May 2015.

New York District

This school resides in a large suburb. This research site is proud of the many programs they offer to prepare students for higher education and their eventual careers. Further, they prioritize providing optimal curriculum, high quality teaching practices, and counselors to guide and support students academically. In the 2010-11 school year, the district served a community of just under 44,000. The median household income is approximately $84,000, indicating a middle-class community.

This is a medium to large sized school serving almost 900 students in grades six through eight. The 7th grade is made up of approximately 300 students. Sixty-two percent of the school's population is made up of Hispanic students. African American students make up 36% and Caucasian students make up the remaining 2%. Eighty-six percent of the students at this school are eligible for free or reduced price lunch, which places this school into the high range for participation in the nation's free or reduced-price lunch program.

In the 2012-13 school year 12% of 7th grade students tested at standard in math, compared to the statewide results of 28%. In reading 19% of students, as compared to the statewide results of 31%, tested at standard. Only 13% of 8th grade students testing at standard in math, which is 14% lower than the statewide results. In reading, 20% of students tested at standard compared to the statewide results of 34%. The student/teacher ratio is approximately 11 to 1.

Two 7th grade teachers agreed to participate in the study as the iLit teachers. These same teachers, in addition to two others, instruct the comparison students. While the iLit students were in a class exclusive to treatment students, the comparison students were mainstreamed into 4 different sections. Daily literacy blocks averaged 86 minutes for iLit students, and 43 minutes for comparison students. This site occasionally pulls resources from their district adopted published literacy program but primarily employ a state sanctioned CCSS aligned program.

Students received a total of 30 weeks of literacy instruction of which iLit students received 23 weeks of iLit instruction. The iLit teachers were trained on October 15, 2013, approximately one month after school began. They received an additional training on December 12th and a final training on April 22, 2014. The final training was provided at the request of the teachers and was tailored to their individual needs. Baseline testing was administered during at the end of September 2013, the middle of year during the last week of January 2014 and the end of year testing during the last week of May 2014.

In year two, the two iLit teachers, who also served as comparison teachers, returned to teach in the same capacity as year one. In addition there was one new comparison teacher, with only a handful of comparison students assigned to him. All comparison classes, and one iLit class, were mixed with non-study students. Daily literacy blocks changed for iLit in that the students received 45 minutes of iLit instruction and 45 minutes of other literacy (Odell) instruction. The comparison students continued to have daily 45 minute literacy blocks.

Students received a total of 36 weeks of literacy instruction of which 29 weeks were iLit instruction. The iLit teachers were trained on October 9th, 2014, approximately one month after school started. They received additional training on February 26th, 2015. The school administered baseline and midyear testing in mid-September 2014 and February 2015 respectively. End of year testing was completed during the last week of May and the first week of June 2015.