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## Leveled Literacy Intervention (LLI)

### Reading Progress for LLI students in the Enlarged City School District of Middletown, New York 2009-2010

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#### Introduction

The following report describes reading gains for students enrolled in the Leveled Literacy Intervention (LLI) program during the 2009-2010 school year in the Enlarged City School District in Middletown, New York. Middletown, NY is a city located 65 miles northwest of New York City. The Enlarged City School District of Middletown serves approximately 7,000 students (40.9% Hispanic, 29.8% White, and 26.4% Black). Out of the total student population, 62.8% of the students are characterized as low income.

Data were collected from 21 teachers who agreed to submit individual data forms for their students who participated in LLI during the 2009-2010 school year. The 295 students were from four different schools in the Enlarged City School District of Middletown. The completed data forms were filled out by Heinemann research assistants who accessed an online data base with the student data or they were sent to the author of this report by the individual LLI teachers or by a district level contact.

### What Is Leveled Literacy Intervention?

LLI is a short-term, small-group, supplementary intervention developed by Irene Fountas and Gay Su Pinnell. LLI is designed to serve struggling readers in grades K-2, although some school districts may use the intervention with older students (see Table 2). LLI is built around the text reading gradient designed by Fountas and Pinnell; this system designates leveled texts from A (the easiest texts) to Z (the most difficult).

LLI is described as a *system* because it includes reading, writing, and word study, each used together and systematically across increasingly difficult levels of texts. Three LLI systems currently exist:

- Orange, recommended for Kindergarten, levels A to C;
- Green, recommended for Grade 1, levels A to J; and
- Blue, recommended for Grade 2, levels C to N.

The K-2 LLI systems are designed to provide 14 to 20 weeks of daily, intensive extra reading lessons (beyond classroom service) that result in accelerated progress with flexible decision making about student entry and exit. Students enrolled in LLI participate in daily (five times per week), 30-minute literacy lessons taught by an LLI trained teacher. The recommended group size is three students at a time with one teacher to allow for close observation and differentiated response to student strengths and needs. Because of restrictions or limited resources, some school districts may alter these requirements but the goal of 1:3 and 5 lessons per week is highly recommended for the strongest outcomes.

The objective of LLI is to help students reduce the gap between their current instructional reading level and their expected instructional reading level.

The intended term of the intervention ranges from about 14 to 18 weeks after which time the students are released if approximate grade level expectations are met. At the end of this time period, students who have made progress but do not yet meet expected instructional reading levels for grade and time are re-

evaluated. The evaluation may suggest more time in LLI lessons or an alternative intervention (such as individual tutoring). Students who have not received a full program of services and are in the intervention at the end of the school year may continue to receive service at the beginning of the next school year. Some students who are taken in to the intervention may have achievement levels more than a year below grade level. Though grade level performance may not be achieved in the short term, if resources allow for service to continue, steady progress may warrant longer term service.

## LLI Teachers

Data were voluntarily reported on 295 LLI students taught by 21 LLI teachers in four schools. The LLI teachers reported serving a variety of roles in their schools including ESL teacher, reading teacher, and special education teacher. The LLI systems were new to some of these LLI teachers. Within the LLI Systems, lesson guides, professional development tutorials and DVD examples of lessons are provided. Of those teachers who reported the source and amount of their LLI training, most were trained by Lesley University (see Table 1) and they received 34.3 hours or approximately five days, on average, of LLI training (*range*: 6-49, *SD* = 16.4). In addition, two of the teachers were trained in Reading Recovery, an individual tutoring approach that offers intensive literacy intervention for first graders (see [whatworksclearinghouse.com](http://whatworksclearinghouse.com)).

Training Source	% of Teachers
Heinemann	4.8% (n=1)
Lesley University	23.8% (n=5)

Table 1. Source of LLI Teacher Training.

## Student Characteristics

Data were submitted for 295 kindergarten through fifth grade students. Of the total group, 51.5% were male and 48.1% were female, and 33.2% were Hispanic, 21.0% were White, 17.6% were Black, .3% were Multi-Racial and .3% of the students' ethnic background was reported as "other". As an indication of students' economic status, information on free/reduced lunch was collected and 46.4% fell into this category. In addition, 12.9% of the children were reportedly English Language Learners. Refer to Table 2 for a summary of the LLI student sample size by grade and refer to Table 3 for a summary of the student demographics.

Student Sample Size					
Kindergarten	1 <sup>st</sup> Grade	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade	4 <sup>th</sup> Grade	5 <sup>th</sup> Grade
13.9% (n=41)	36.3% (n=107)	27.8% (n=82)	15.6% (n=46)	5.1% (n=15)	1.0% (n=3)

Table 2. Student Sample Size.

Student Demographics								
% Male	% Female	% Hispanic	% White	% Black	% Other	% Multi-Racial	% English Language Learners	% Free/Reduced Lunch
51.5% (n=152)	48.1% (n=142)	33.2% (n=98)	21.0% (n=62)	17.6% (n=52)	0.3% (n=1)	0.3% (n=1)	12.9% (n=38)	46.4% (n=137)

Table 3. Student Demographics.

Of the total group of LLI students, 18.3% ( $n = 54$ ) had individualized education plans that mandated that they receive support for Reading and 13.2% ( $n = 39$ ) of the LLI students had an IEP for other services which included support for math, writing, social studies, science, speech and language, occupational therapy, social and emotional issues and other needs. Reading Recovery (RR) services were provided to 1.4% ( $n = 4$ ) of the students prior to entering LLI. Of those LLI students who had RR attendance data available, the students received an average of 87.5 RR lessons ( $n = 2$ , *range*: 83-92, *SD* = 6.4).

## Results – Reading Progress

Below is a summary of the reading progress of 295 students who received LLI during the 2009-2010 school year. Of the total group, four of the LLI students did not complete the full set of sessions offered to them because they moved and thus, their data were eliminated from the analyses reported below. Furthermore, some of the data submitted by the LLI teachers contained missing or incomplete information. The reported results below also exclude cases with missing data.

### LLI Groups and Student Attendance

LLI was designed to be delivered in a group of three students with one teacher, five days per week; however, the delivery of LLI in the Enlarged City School District of Middletown varied somewhat. Overall, each of the LLI groups was comprised of between two and six students ( $M = 3.3$ ,  $SD = .8$ ) and the groups met between two and five days a week ( $M = 4.6$ ,  $SD = .7$ ) for 30 minutes per session (see Table 5). Additionally, 79.4% of the LLI students received additional small group reading instruction in their classrooms (*range*: 2-5,  $M = 4.2$  lessons per week,  $SD = 1.1$ ).

The LLI students who completed the full set of LLI sessions offered to them and for whom attendance information was available received LLI for an average of 16.2 weeks (*range*: 3-35,  $SD = 6.5$ ) and they attended an average of 52.5 LLI lessons (*range*: 5-110,  $SD = 21.4$ ) (see Table 5). It should be noted, however, that some students were not able to receive the full intervention as the school year ended and their LLI teachers indicated that they would receive more LLI the following year.

### Reading Progress

The data were collected and reported for LLI students only. No control group was identified and assessed and therefore, the Enlarged City School District of Middletown LLI student growth was compared to Fountas and Pinnell grade level criteria (see Table 4) to assess the group's progress. Each student's reading gain was determined by looking at their pre- and post- LLI instructional reading levels (ranging from Pre-A to Z) which are based on the Fountas and Pinnell leveled text system.

- Obtaining Fountas and Pinnell Instructional Reading Levels**  
 The F&P instructional reading levels were obtained through the teachers' reports of their students' instructional reading levels which were determined by administration of the Fountas and Pinnell Benchmark Assessment System or Reading Records.
- Conversion to Time Equivalent (TE) Score**  
 Once each child's instructional level at entry and exit was obtained, the levels were converted to a Time Equivalent (TE) score which represents the number of months of school a typically progressing student is expected to have completed when they demonstrate the reading behaviors associated with each level according to Fountas and Pinnell guidelines. The TE scores represent the number of months the student was in school and are based on a ten month school year because children are not in school for two months of each year. If an instructional reading level is expected over more than one month, the TE score reflects the middle point of the expected band of time that the particular level is expected (see Table 4). For example, level C is expected at months eight, nine, and ten during Kindergarten and the time equivalent for level C is month nine.
- Calculating Reading Gain**  
 The difference between the entry and exit TE score reflects the gain (number of months of progress) the student made between entry and exit from LLI. For example, a student who enters LLI at level A and exits at level C has progressed from what is expected in the fourth month of Kindergarten to what is expected in the ninth month of Kindergarten and thus, the student's reading gain is five months.

<b>Fountas and Pinnell Instructional Level Expectations for Reading and Time Equivalent Scores (months) for each Level</b>										
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10
<b>Kindergarten</b>	<b>Pre-A</b> TE=2	<b>Pre-A</b> TE=2	<b>Pre-A</b> TE=2	<b>A</b> TE=4	<b>A/B</b> TE=5	<b>B</b> TE=6.5	<b>B</b> TE=6.5	<b>C</b> TE=9	<b>C</b> TE=9	<b>C</b> TE=9
<b>1<sup>st</sup> Grade</b>	<b>C/D</b> TE=11	<b>D</b> TE=12	<b>E</b> TE=13	<b>E/F</b> TE=14	<b>F</b> TE=15	<b>G</b> TE=16	<b>G/H</b> TE=17	<b>H</b> TE=18	<b>I</b> TE=19.5	<b>I</b> TE=19.5
<b>2<sup>nd</sup> Grade</b>	<b>I/J</b> TE=21	<b>J</b> TE=22.5	<b>J</b> TE=22.5	<b>J/K</b> TE=24	<b>K</b> TE=25	<b>K/L</b> TE=26	<b>L</b> TE=27.5	<b>L</b> TE=27.5	<b>M</b> TE=29.5	<b>M</b> TE=29.5
<b>3<sup>rd</sup> Grade</b>	<b>M/N</b> TE=31	<b>N</b> TE=33	<b>N</b> TE=33	<b>N</b> TE=33	<b>O</b> TE=36	<b>O</b> TE=36	<b>O</b> TE=36	<b>P</b> TE=39	<b>P</b> TE=39	<b>P</b> TE=39
<b>4<sup>th</sup> Grade</b>	<b>P/Q</b> TE=41	<b>Q</b> TE=43	<b>Q</b> TE=43	<b>Q</b> TE=43	<b>R</b> TE=46	<b>R</b> TE=46	<b>R</b> TE=46	<b>S</b> TE=49	<b>S</b> TE=49	<b>S</b> TE=49
<b>5<sup>th</sup> Grade</b>	<b>S/T</b> TE=51	<b>T</b> TE=53	<b>T</b> TE=53	<b>T</b> TE=53	<b>U</b> TE=56	<b>U</b> TE=56	<b>U</b> TE=56	<b>V</b> TE=59	<b>V</b> TE=59	<b>V</b> TE=59

Table 4. Fountas and Pinnell Instructional Level Expectations for Reading and Time Equivalent Scores (months) for each Level.

Overall, the LLI students progressed an average of 8.3 months ( $n = 240$ ,  $SD = 5.9$ ) from entry until exit from LLI. This growth was achieved during participation in LLI for an average of 16.2 weeks. It should be noted that while the LLI teachers strived to provide all scheduled LLI lessons each week, vacation and absentee days often made this impossible. In spite of this, the LLI students progressed an average of just over eight months in a little more than four months. At most grade levels, the LLI students moved forward at an

accelerated pace when compared to typical reading progress over time according to Fountas and Pinnell guidelines (see Table 5 and Chart 1 below).

LLI Implementation and Student Growth					
	Average # of Students in Group	Average # of Weeks of LLI	Average # of LLI Lessons Per Week	Average # of LLI Lessons	Average Student Growth in Months
Kindergarten	M = 3.3 n = 41 SD = .5	M = 9.7 n = 35 SD = 1.0	M = 4.9 n = 35 SD = .3	M = 38.5 n = 35 SD = 2.0	M = 2.9 n = 40 SD = 2.4
Grade 1	M = 3.3 n = 89 SD = .7	M = 17.2 n = 91 SD = 5.7	M = 4.6 n = 94 SD = .8	M = 58.8 n = 94 SD = 19.4	M = 8.0 n = 76 SD = 4.8
Grade 2	M = 2.9 n = 69 SD = .6	M = 18.2 n = 75 SD = 7.1	M = 4.8 n = 80 SD = .5	M = 56.0 n = 75 SD = 24.2	M = 12.1 n = 69 SD = 6.9
Grade 3	M = 4.0 n = 45 SD = 1.0	M = 16.8 n = 35 SD = 6.6	M = 4.1 n = 38 SD = .9	M = 46.2 n = 37 SD = 23.4	M = 8.2 n = 38 SD = 4.8
Grade 4	M = 3.0 n = 14 SD = 1.1	M = 13.5 n = 13 SD = 5.6	M = 4.6 n = 14 SD = .4	M = 38.8 n = 6 SD = 12.2	M = 7.1 n = 14 SD = 1.9
Grade 5	M = 3.0 n = 3 SD = 0	M = 12.0 n = 3 SD = 0	M = 4.0 n = 3 SD = 0	M = 35.0 n = 3 SD = 0	M = 10.0 n = 3 SD = 3.0
Grades K-5	M = 3.3 n = 261 SD = .8	M = 16.2 n = 252 SD = 6.5	M = 4.6 n = 264 SD = .7	M = 52.5 n = 250 SD = 21.4	M = 8.3 n = 240 SD = 5.9

Table 5. Average Number of Students in Group, Average Number of Weeks of LLI, Average Number of LLI Lessons per Week, Average Number of LLI Lessons, and Average Student Growth in Months by Grade.

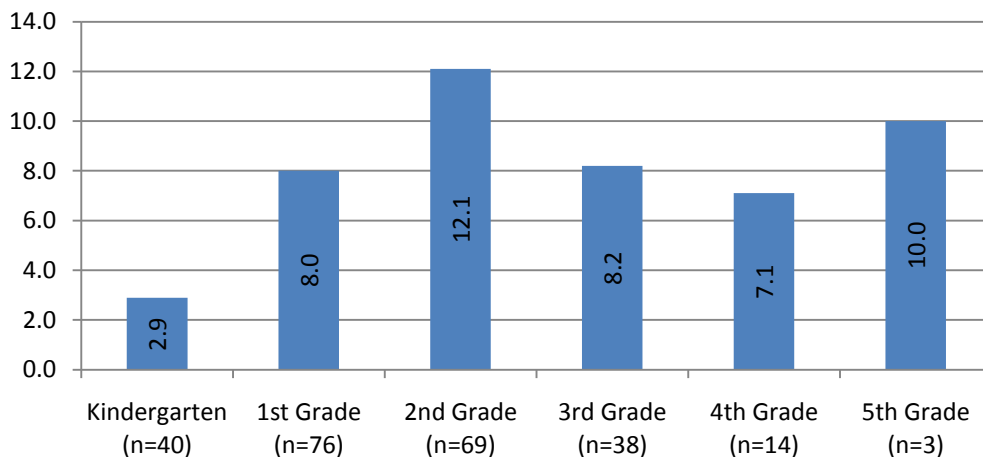


Chart 1. Student Growth (in months) by Grade (n=240)

The instructional reading level gain for the LLI students is depicted in Chart 2 below. Overall, 59.5% of the LLI students demonstrated an instructional reading level at least three levels higher than their pre-LLI level

and 23.3% raised their reading skills seven or more levels, which in all grades represents more than a year's progress (see Chart 2).

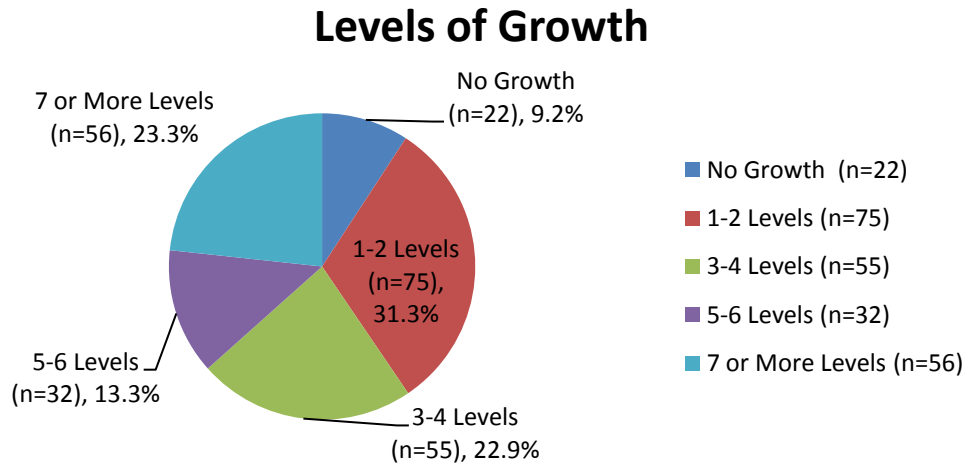


Chart 2. Levels of Growth (n=240).

The results reported for the Enlarged City School District of Middletown LLI students are positive given the variation in the grade level of students and the degree to which they were reading below grade level. Most of the students made some growth and more than half made significant progress.

### Grade Level Attainment

The percentage of students who were below grade level or at or above grade level at entry and exit from LLI, as determined by Fountas and Pinnell guidelines, is depicted below (see Table 4 and Chart 3). Overall, 52.6% of the LLI students were at or within two text reading levels of their expected instructional reading level when their LLI instruction ended (see Table 4 and Chart 3). These results indicate accelerated progress even if students only closely approached expected grade level reading.

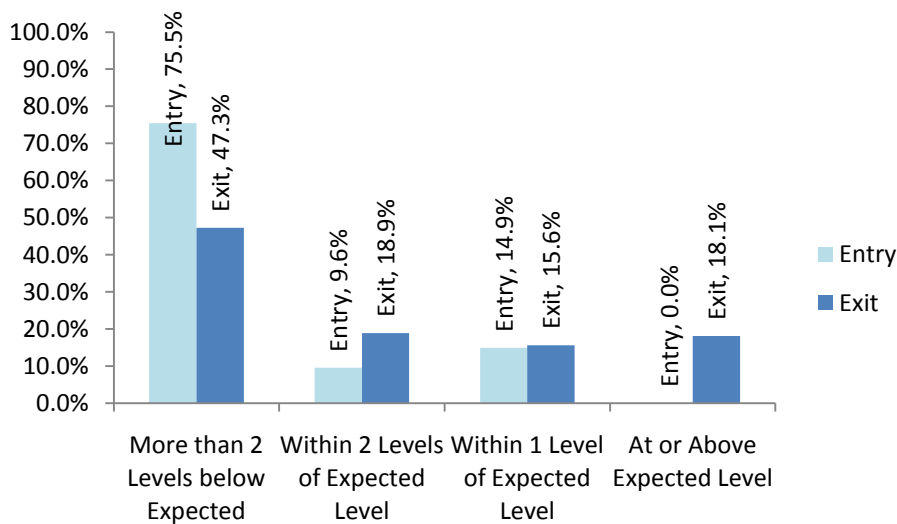


Chart 3. Instructional Reading Level at Entry (n=261) and Exit (n=243).

## Key Findings

- On average, the Enlarged City School District of Middletown LLI students demonstrated reading progress over the span of time they participated in the intervention which is comparable to expected reading progress over 8.3 months during the school year. This progress was achieved during the students' participation in LLI for an average of 16.2 weeks or just over four months.
- Post-LLI, 59.5% of the LLI students demonstrated an instructional reading level at least three levels higher than their pre-LLI levels.
- Post-LLI, 52.6% of the LLI students were at or within two text reading levels of their grade level expectation for reading according to Fountas and Pinnell guidelines.

## Conclusions

Results of this evaluation indicate that as a group, the 295 Enlarged City School District of Middletown, NY struggling readers who received Leveled Literacy Intervention supplementary instruction demonstrated accelerated progress over the period they received LLI; on average the LLI students made almost twice the amount of reading progress expected when compared to typical reading progress over time (Fountas and Pinnell 10 month guidelines). In addition, more than half of the students made significant reading progress. Furthermore, post-LLI, more than half of the LLI students were at or within two text reading levels of their grade level expectation for reading according to the Fountas and Pinnell guidelines (see Table 4).