



READY TO
LEARN
PROVIDENCE

Early Childhood Educator Professional Development (ECEPD) 2006-10

PROJECT OVERVIEW AND RESULTS

February 2011

Vision: All children in Providence will enter school healthy and ready to learn.

Who are we?

Vision:

All children in Providence will enter school healthy and ready to learn.

Approach:

- Creating social networks
- Investing in early care and education
- Conducting research and raising awareness



Primary Focus of our Work



- ▣ Advancing children's early literacy skills
- ▣ Enhancing the quality of early education through professional development for early childhood practitioners
- ▣ Implementing transition-to-kindergarten activities that bridge the gap between early education and public school

The R2LP Community

Partners

Child Care Centers

Family child care homes

Community-based organizations

Families

Health community

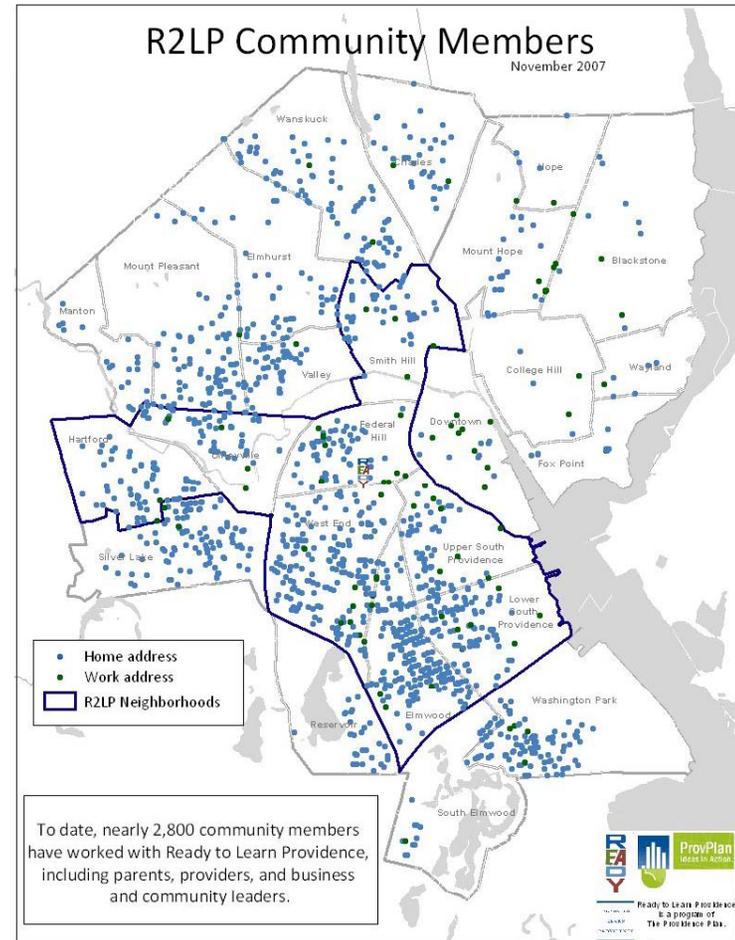
Higher education

Head Start

Local and state government

Providence Public Library

LEAs – Providence, Pawtucket, Central Falls



Major Initiatives

- ❑ R2LP AmeriCorps Program
- ❑ USDOE Early Reading First 2004, 2006, 2009
- ❑ USDOE Early Childhood Educator Professional Development Grant 2006
- ❑ Ready Families
- ❑ Transition to Kindergarten
- ❑ Community Health
- ❑ Investments in the Providence Public Library
- ❑ Research



R2LP Approach to Professional Development

- ❑ Vision driven
- ❑ Depth, dosage and duration
- ❑ Local capacity building
- ❑ College credit
- ❑ Research based
- ❑ Culturally responsive
- ❑ English and Spanish
- ❑ Learning community
- ❑ Leadership development
- ❑ Developmental supports



R2LP's 2006 ECEPD Project



- Two college level courses
 - *HeadsUp! Reading*
 - *Early Literacy Curriculum*

- Six mentoring visits to classrooms and family child care homes

- Support of AmeriCorps Members

- Additional supports and resources
 - *English as a Second Language classes*
 - *Tutorial Support through Community College of RI*
 - *Leadership Activities*
 - *Club, conferences and workshops*

R2LP ECEPD Partners



Community College of
Rhode Island

The University of
Rhode Island

Wheelock College

Providence Head Start

20 Child Care Centers

Providence Public
Library

Genesis Center



Participants

▣ Providence Head Start

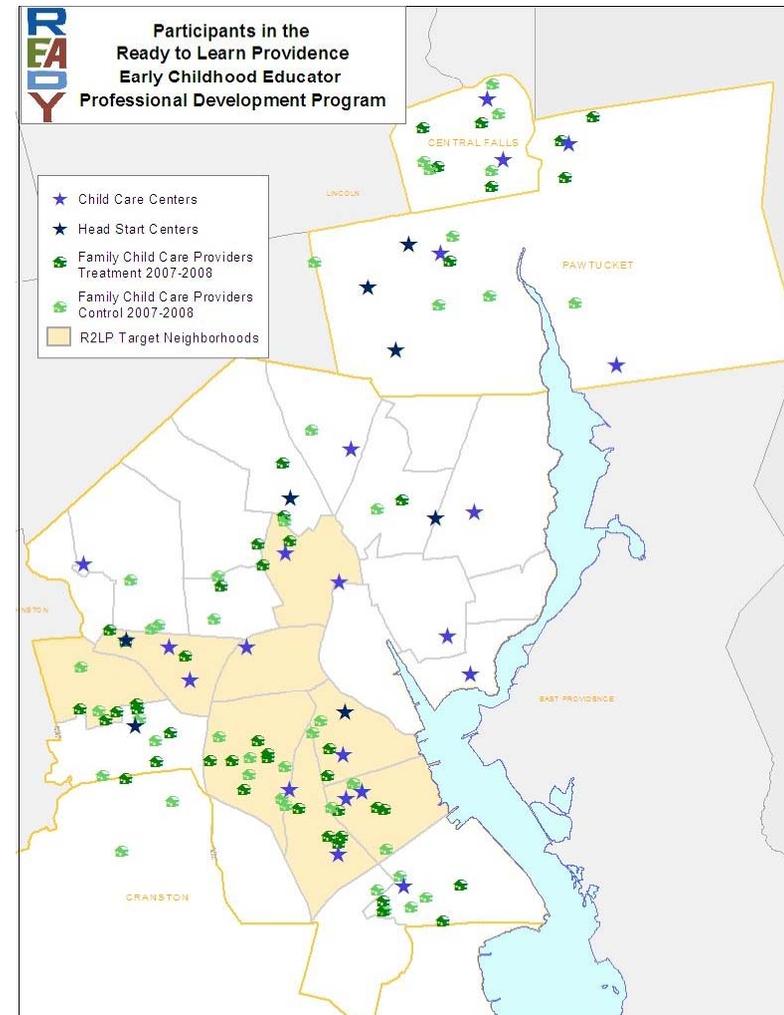
- Teachers and assistant teachers from 60 classrooms located in seven centers;

▣ Child Care Centers

- Teachers and assistant teachers from 22 community based child care centers

▣ Family Child Care Providers

- Predominately Spanish-speaking licensed providers



College Credits

College credits were available for participants earning a grade of B or better in the *HeadsUp! Reading* or *Early Literacy Curriculum* courses

A total of 213 participants earned 1,143 college credits

About the 213 participants:

- 68 participants earned 6 credits and 45 participants earned 3 credits
- 71 were center-based providers, 90 were Head Start teachers, and 52 were family child care providers
- 62 participants who identified their primary language as Spanish earned 324 credits

About the 1,143 credits:

- 582 credits were awarded for HeadsUp Reading and 561 for Early Literacy Curriculum
- 921 CCRI credits were awarded and 222 URI credits were awarded

Challenges



- Child care subsidy cuts effective September 2007 – impact on community centers and family providers
- Providence Head Start administrative changes in Fall 2007 and Spring 2009
- Implications of policy changes for rigorous evaluations

Research Questions



- 3 primary areas:
 1. Early childhood educators
 2. Children
 3. Implementation of the intervention

Early Childhood Educators (ECEs)

- Does participation in R2LP's professional development intervention **improve ECEs' knowledge and skills** related to appropriate support of children's language and literacy development and "readiness"?
- If so, does improvement **vary by subgroup** (e.g., center-based teachers vs. home-based providers, teachers with B.A. vs. those with A.A. or less)?
- Are there any **differences in changes in knowledge and skills** of ECEs who participate in the intervention in Year 1 (treatment group) vs. ECEs who participate the following year (control, or delayed treatment, group)?
- Do any changes in the knowledge and skills of teachers in the treatment or delayed treatment group **persist during the year after participating in the intervention**, without any additional support? If so, in what ways?

Children



- Do children in the classrooms of ECEs who participate in the R2LP intervention demonstrate ***increases in their language and early literacy skills at greater levels and/or rates*** compared to children in classrooms of ECEs who do not receive the intervention?
- If so, do impacts ***vary across different child subgroups*** (e.g., by gender or English-language learner status)?
- Do children in classrooms on ECEs who participate in the R2LP intervention ***reach grade- and age-level literacy and language expectations by kindergarten?***

Implementation



- To what extent is the R2LP *intervention implemented according to specifications and plans* (depth, dosage, and duration)?
- How does implementation *vary across subgroups* of ECEs, if at all?
- What are the *barriers* faced during implementation, and how are they addressed?

Design

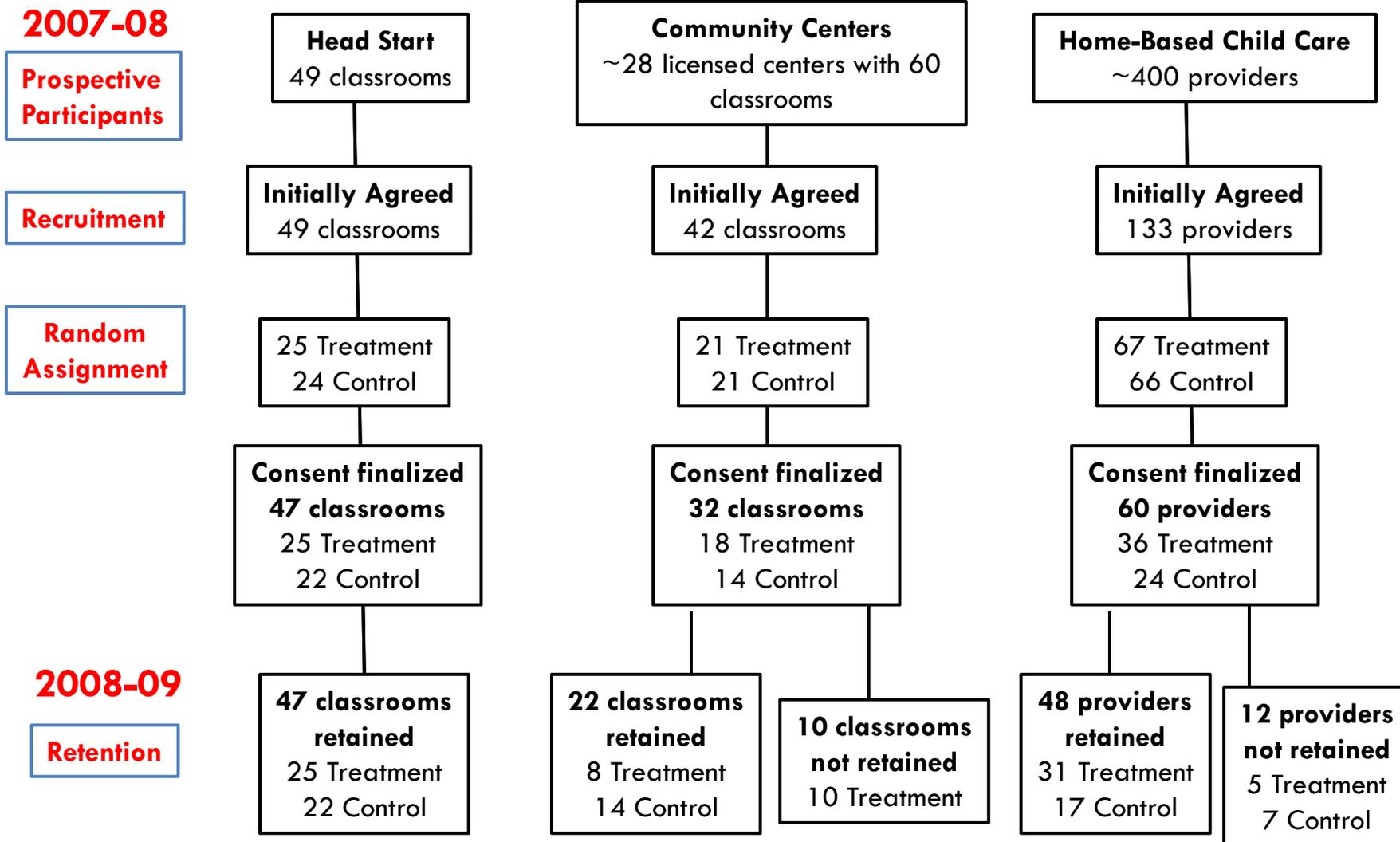
- Cluster randomized trial (CRT)
 - Classrooms, not individual teachers or children, are the unit to be randomized
- Stratified by setting
 - Head Start
 - Community centers
 - Home-based child care
- Issue of intervention “diffusion”
 - 6 Head Start centers and 5 community centers housed both treatment and control classrooms in Year 1
 - No. teachers involved:
 - Head Start
 - 24 treatment teachers
 - 22 control teachers
 - Community centers
 - 10 treatment teachers
 - 5 control teachers

Power



- The project's original external evaluator conducted an analysis to determine the minimum number of center-based and home-based settings we would need to recruit to have a reasonable chance of finding a significant effect of the intervention, if in fact it did have a significant impact.
- Center-based classrooms
 - ▣ At least 84 classrooms
 - ▣ At least 10 children per classroom
- Home-based settings
 - ▣ At least 120 providers
 - ▣ At least 4 children per setting

Figure 1. Early childhood setting recruitment and retention



Intervention

- 2 major parts:
 - Intensive didactic instruction of early childhood educators
 - *HeadsUp! Reading* (National Head Start Association)
 - *Early Literacy Curriculum*, based on the *Opening the World of Learning (OWL) curriculum* (Schickendanz & Dickinson, 2005)
 - Over 2 years, 11,880 “man-hours” invested by teachers/providers in didactic training
 - Mentoring of early childhood educators
 - 6 visits per year
 - Generally 2 hours/visit
 - Over 2 years, 2,137 hours of mentoring provided to teachers/providers

Measures

□ Teachers

- *Early Language & Literacy Classroom Observation (ELLCO)* (Smith, Dickinson, Sangeorge, & Anastasopoulos, 2002) in center-based classrooms
 1. Literacy Environment Checklist (LEC)
 2. Classroom Observation (CO)
 3. Literacy Activities Rating Scale (LARS)
- *Child/Home Early Language & Literacy Observation (CHELLO)* (Neuman, Dwyer, & Koh, 2007) in home-based child care settings

□ Children

- *Peabody Picture Vocabulary Test – Third Ed. (PPVT-III)* (Dunn & Dunn, 1997)
 - *Phonological Awareness Literacy Screening (PALS) PreK* (Invernizzi, Sullivan, Meier, & Swank, 2004)
- All measures were administered twice per year, once in the fall and again in the spring

Figure 2. Child recruitment and attrition, 2007-2008

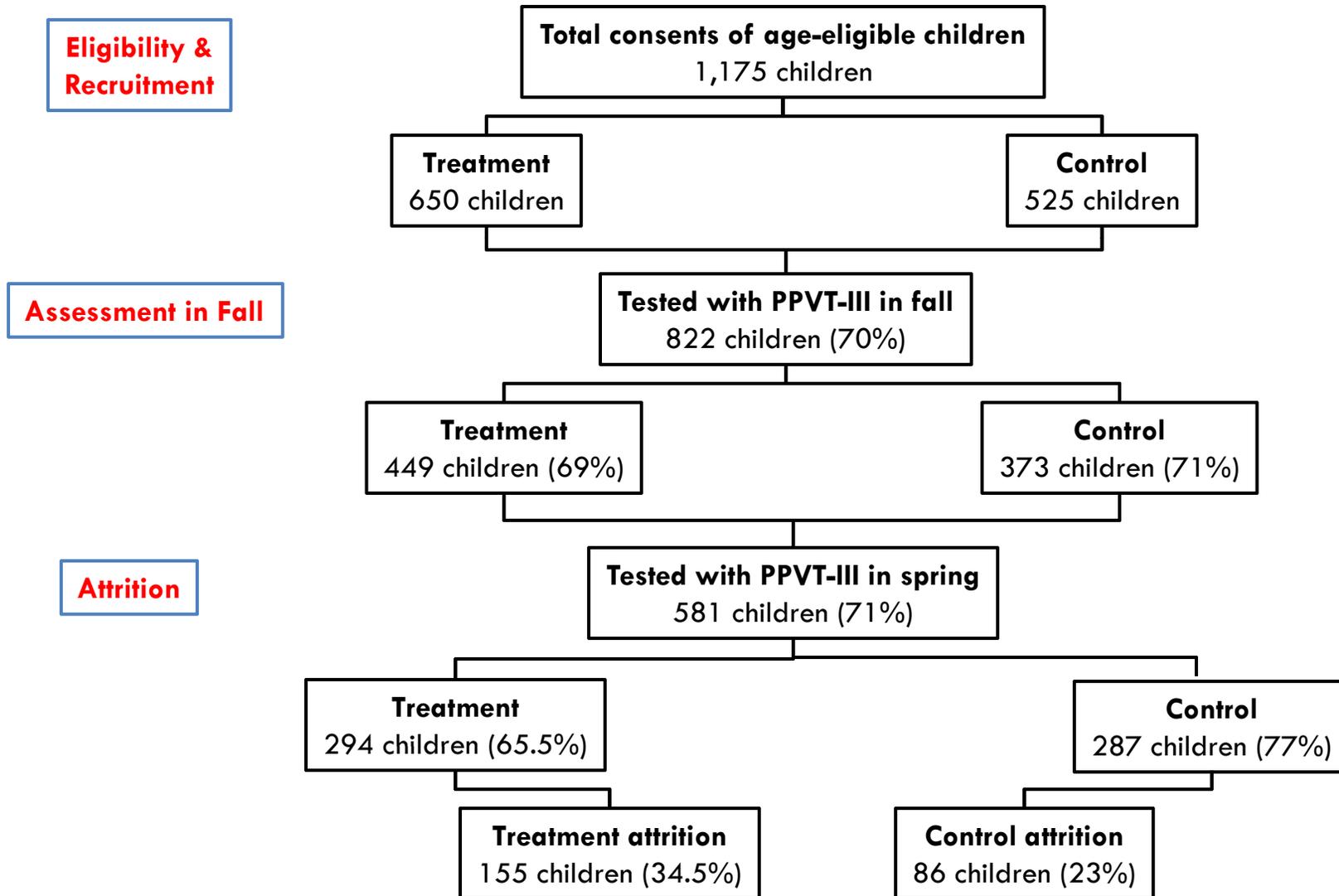
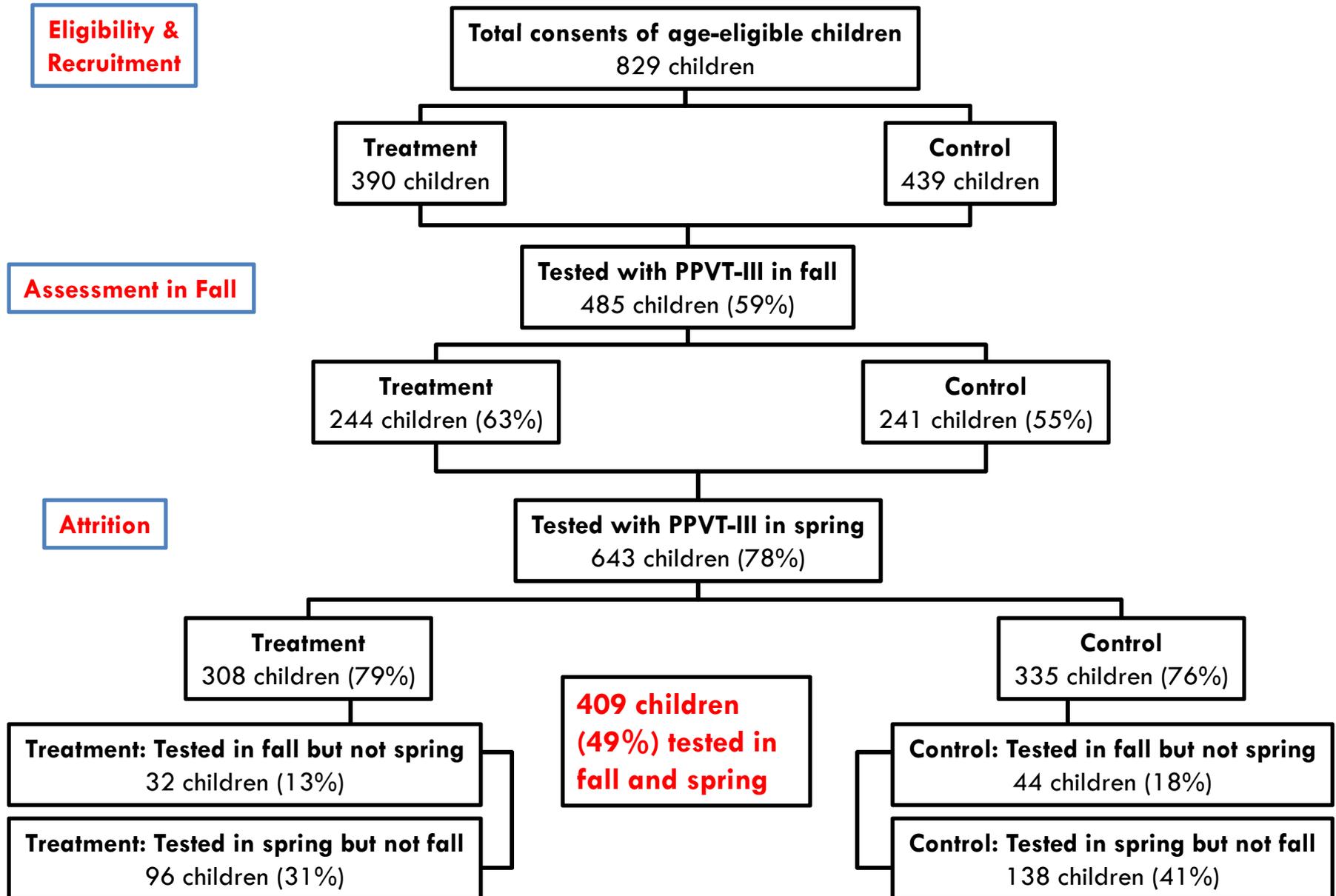


Figure 3. Child recruitment and attrition, 2008-2009

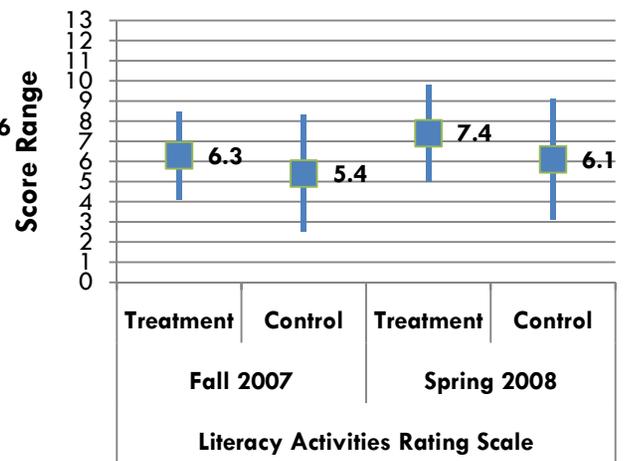
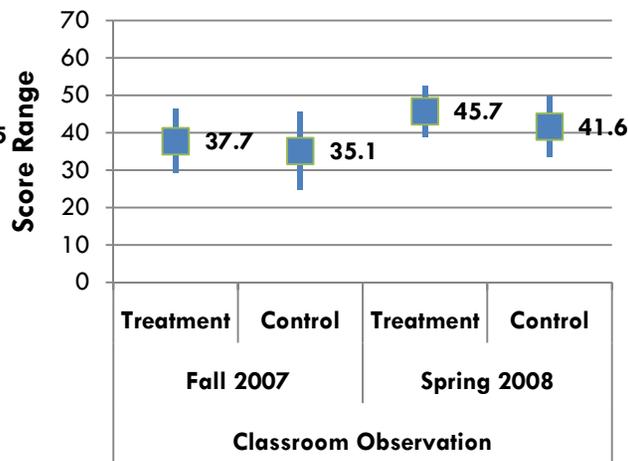
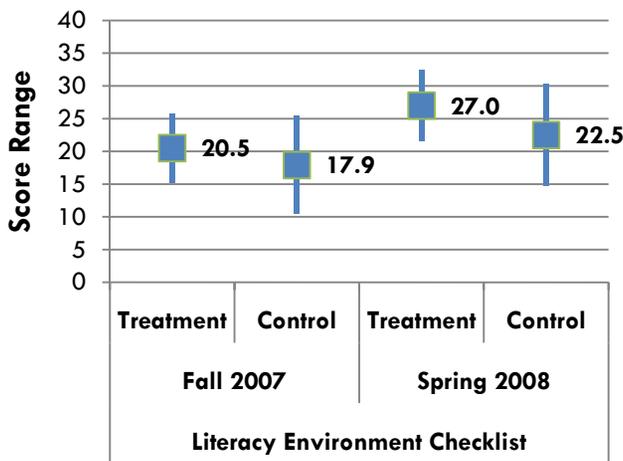


Analyses

- ***Within each year***
 - Frequencies and descriptive statistics of ELLCO, CHELLO, PPVT-III and PALS PreK scores
 - Tests of spring differences in ELLCO and CHELLO scores between teachers in the treatment and control groups, using fall scores as covariate (ANCOVA)
 - Hierarchical linear (multilevel) modeling of PPVT-III and PALS PreK scores to test differences between children in the treatment and control groups
 - Quantitative and qualitative analyses of mentor visit data
 - Time engaged in each mentoring activity
 - Relative percentages of early literacy content codes within mentoring activities
 - Coding of visit summaries to evaluate relative foci of mentors across classrooms and across time, with comparisons by setting type (i.e., Head Start, community center, home-based child care)
- ***Across years***
 - Longitudinal (multilevel) analyses of ELLCO and CHELLO scores for teachers with 3 or 4 repeated measures, testing for differences between teachers in the treatment and control groups
 - Links between ELLCO scores and mentor visit data to examine relationships between specific mentoring activities and classroom environments/instructional practices
- ***Other***
 - Children's early literacy outcomes in kindergarten and first-grade in Providence Public School District, as measured by the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS) (Good & Kaminski, 2002)

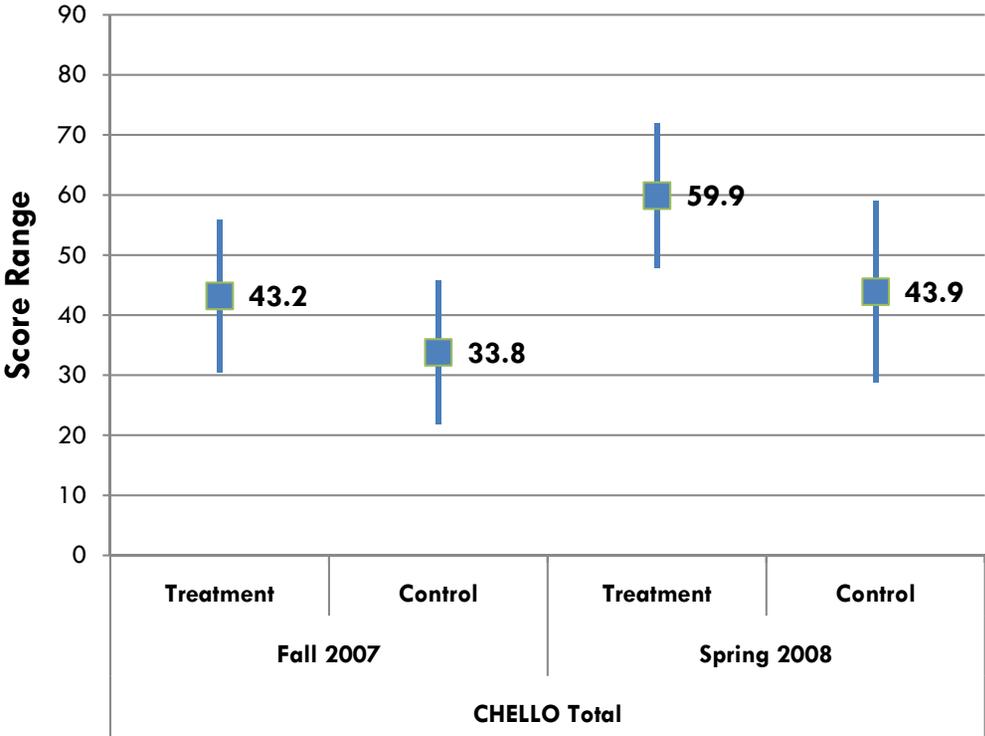
ELLCO – Year 1

By the end of Year 1, teachers in center-based treatment classrooms scored significantly higher on the *Literacy Environment Checklist (LEC)* and *Literacy Activities Rating Scale (LARS)* of the ELLCO in the spring than teachers in control classrooms, conditional on their fall scores.



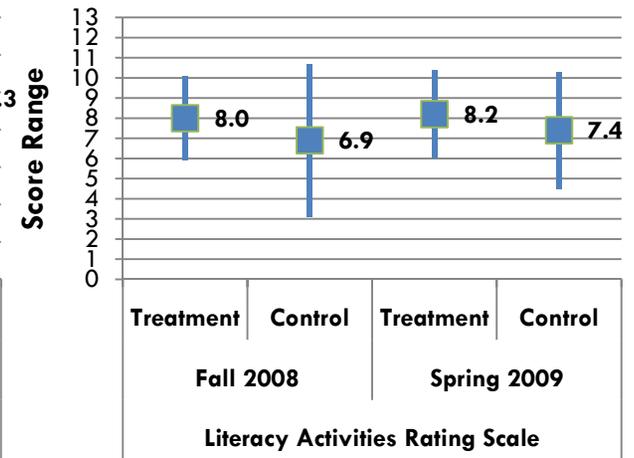
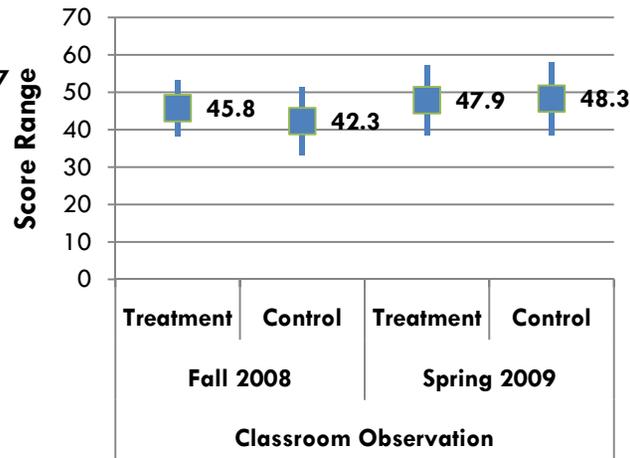
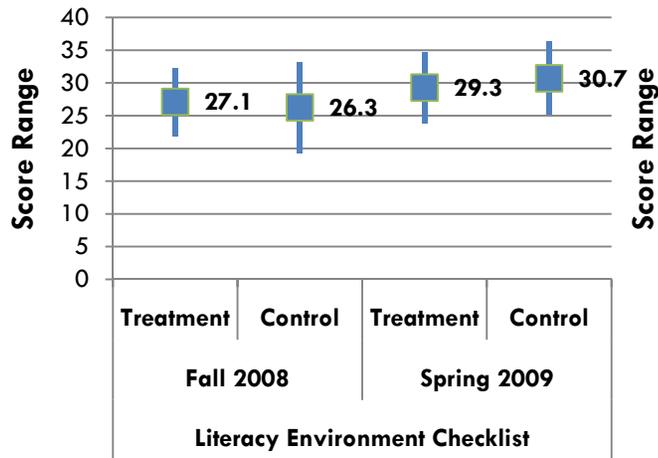
CHELLO – Year 1

By the end of Year 1, home-based child care providers in the treatment condition scored significantly higher on the CHELLO in the spring than providers in the control condition, conditional on their fall scores.



ELLCO – Year 2

By the end of Year 2, there were no differences between teachers in center-based treatment and control classrooms in their spring ELLCO scores, conditional on their fall scores.

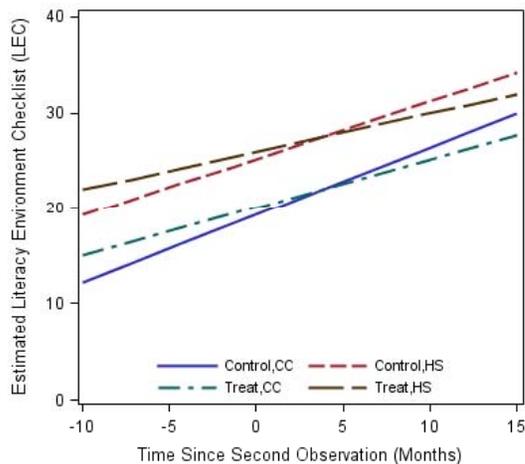


ELLCO Longitudinal

Longitudinal (multilevel) analyses were conducted of teachers' ELLCO scores, with a subset of 59 teachers observed 3 or 4 times across the two years.

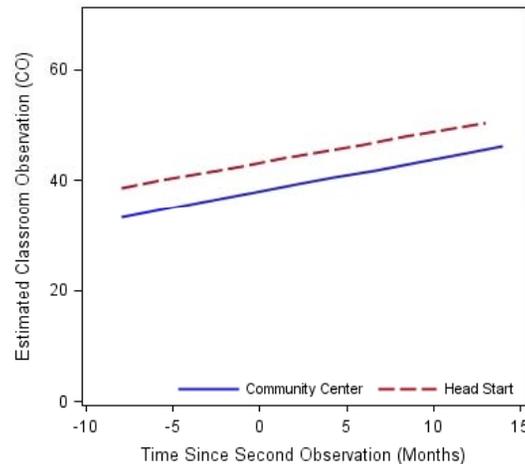
There were significant demographic differences between teachers with 3 or 4 ELLCO observations and teachers with fewer than 3 observations. Teachers with 3 or 4 observations tended to work in Head Start, had higher levels of education, and were older compared to teachers with fewer than 3 observations.

Literacy Environment



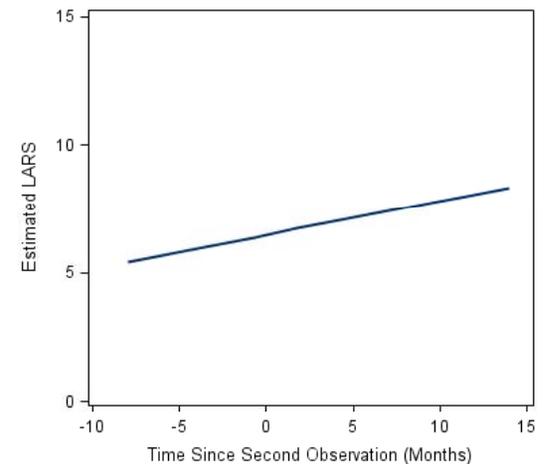
SOURCE: RZLP ECEPD database as of October 2, 2009.

Classroom Observation



SOURCE: RZLP ECEPD database as of October 2, 2009.

Literacy Activities

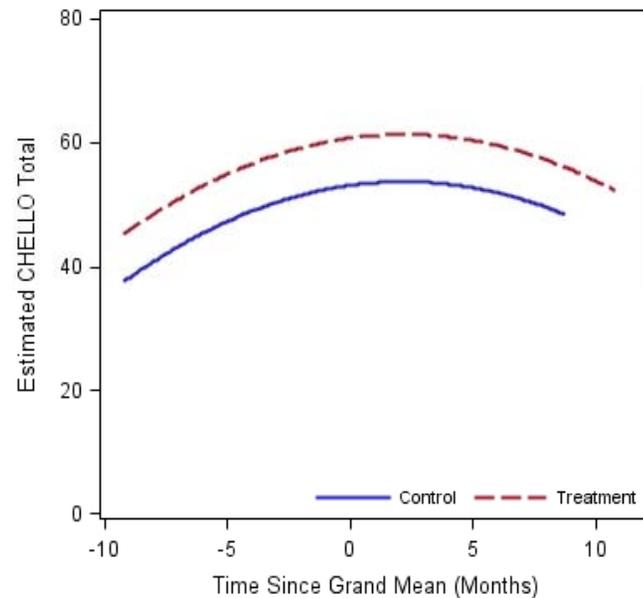


SOURCE: RZLP ECEPD database as of October 2, 2009.

CHELLO Longitudinal

Longitudinal (multilevel) analyses were conducted of providers' CHELLO scores, with a subset of 40 providers observed 3 or 4 times across the two years. Almost twice as many providers in the treatment group ($n = 26$) were observed on 3 or 4 occasions than providers in the control group ($n = 14$).

Otherwise, providers with 3 or 4 observations were demographically comparable to the providers with fewer than 3 observations.



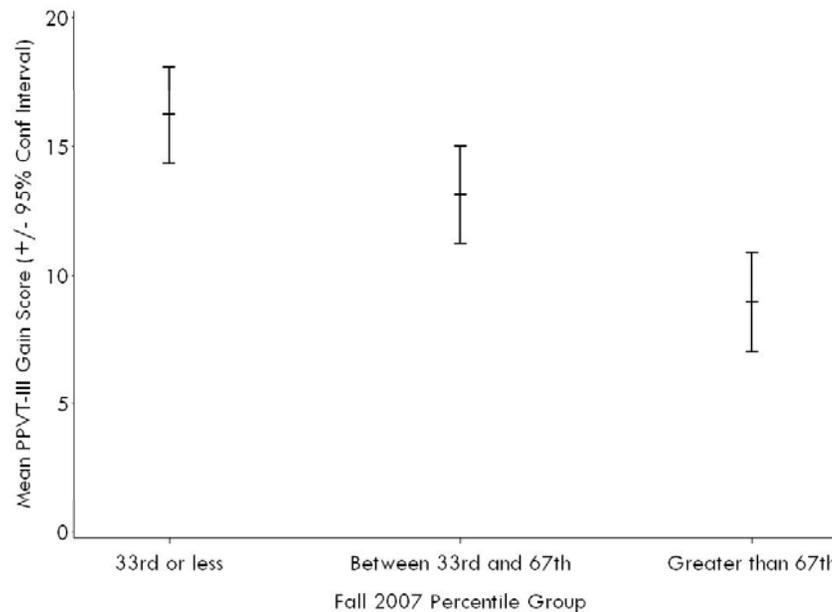
SOURCE: R2LP ECEPD database as of October 2, 2009.

PPVT/PALS – Year 1

By the end of Year 1, treatment status did not significantly predict children’s spring PPVT scores (or PALS PreK upper-case alphabet recognition scores). However, children who attended classrooms in which teachers had earned a B.A. or M.A. scored significantly higher on the PPVT in the spring than children who attended classrooms of teachers who had earned an A.A. or less.

Also, we found an inverse relationship between percentile group membership in the fall and change in PPVT raw scores from fall to spring.

Figure PPVT-2007-08-1. ECEPD 2007-08 PPVT-III Gain Scores by Percentile Group



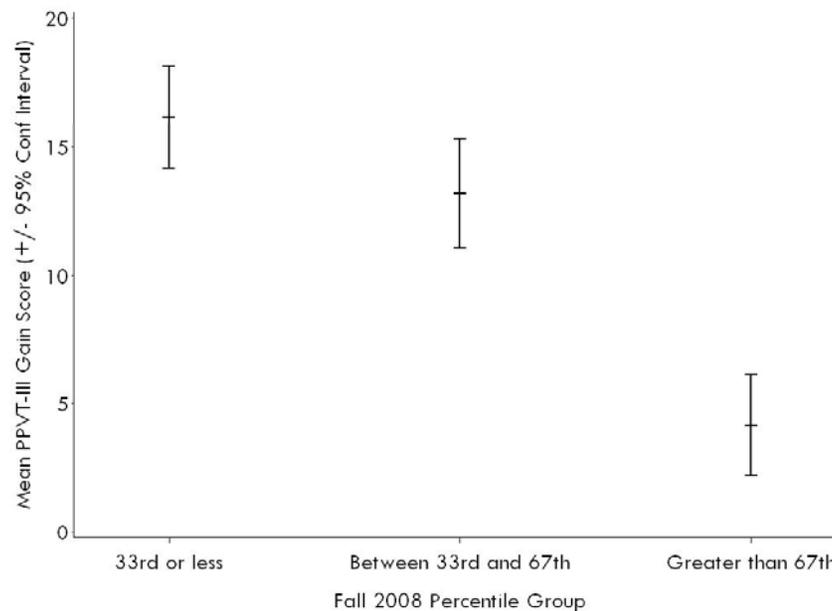
NOTE: n = 196, 197, and 187, respectively.
SOURCE: R2LP ECEPD database as of December 3, 2008.

PPVT/PALS – Year 2

By the end of Year 2, treatment status did not significantly predict children’s spring PPVT scores (or PALS PreK upper-case alphabet recognition scores).

Again, we found an inverse relationship between percentile group membership in the fall and change in PPVT raw scores from fall to spring.

Figure PPVT-2008-09-1. ECEPD 2008-09 PPVT-III Gain Scores by Percentile Group



NOTE: n = 140, 134, and 127, respectively.
SOURCE: R2LP ECEPD database as of October 2, 2009.

DIBELS - 1



The Providence Public School District (PPSD) administers *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS) (Good & Kaminski, 2002) to children in grades K through 3 in the fall, winter, and spring of each school year.

These measures include:

1. Initial Sound Fluency(K only)
2. Letter Naming Fluency (K & 1st)
3. Phoneme Segmentation Fluency (K & 1st)
4. Nonsense Word Fluency (K, 1st, 2nd)
5. Oral Reading Fluency (1st, 2nd, 3rd)

Each child's performance across administered DIBELS measures is summarized as:

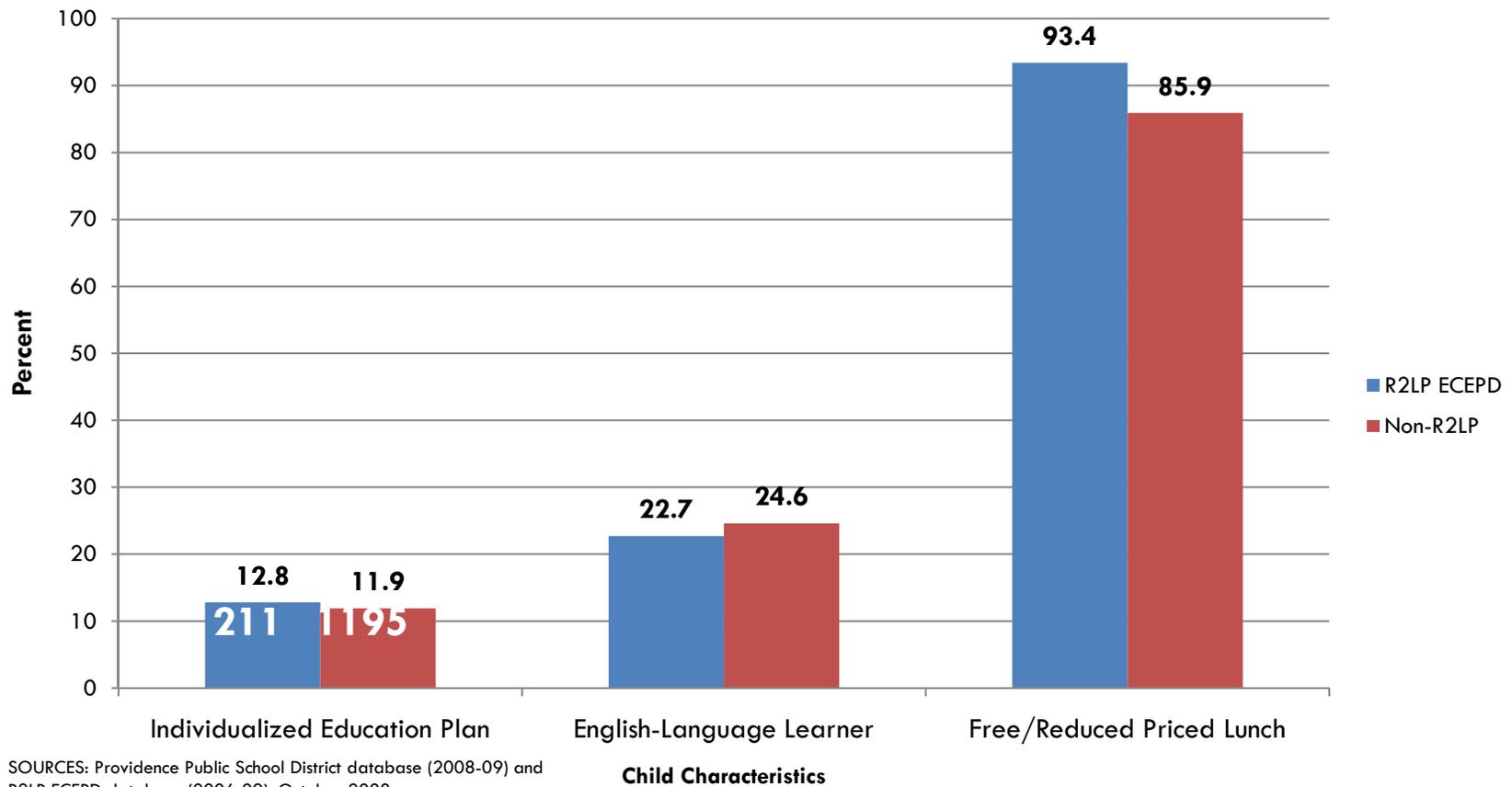
- *Benchmark* (at grade level)
- *Strategic* (in need of additional intervention)
- *Intensive* (in need of substantial intervention)

We obtained data from PPSD of DIBELS administered to roughly 6,000 students in grades K through 3 in 2008-09 and again in 2009-10.

- In 2008-09, 211 kindergartners had participated in R2LP's ECEPD project.
- In 2009-10, 379 kindergartners and 380 first-graders had participated in the ECEPD project.

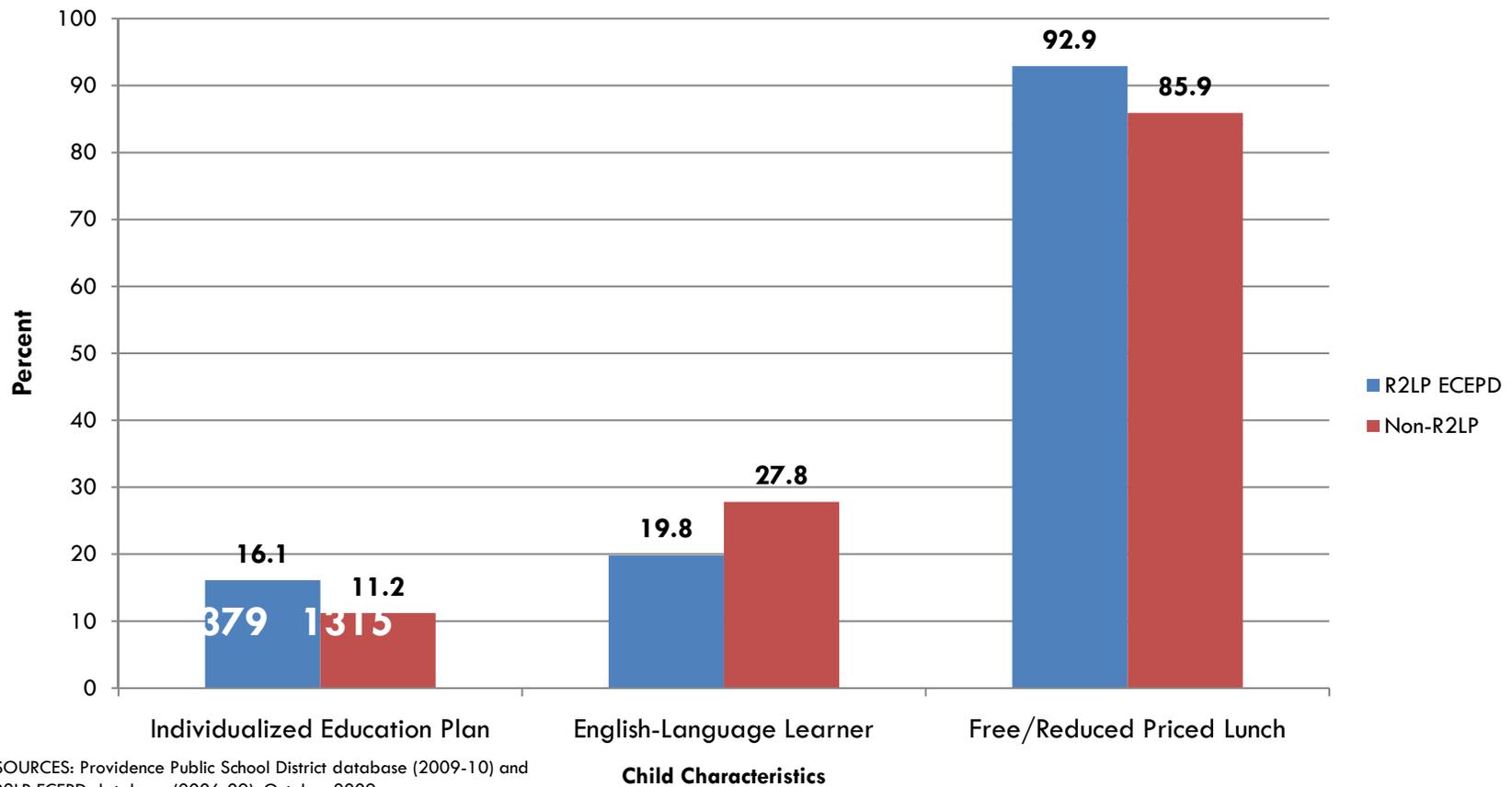
DIBELS - 2

Figure DIBELS-2008-09-1. Comparison of Child Characteristics between Kindergartners in the Providence Public School District (PPSD) in October 2008, by Involvement in R2LP's ECEPD Intervention Prior to Enrollment in PPSD



DIBELS - 3

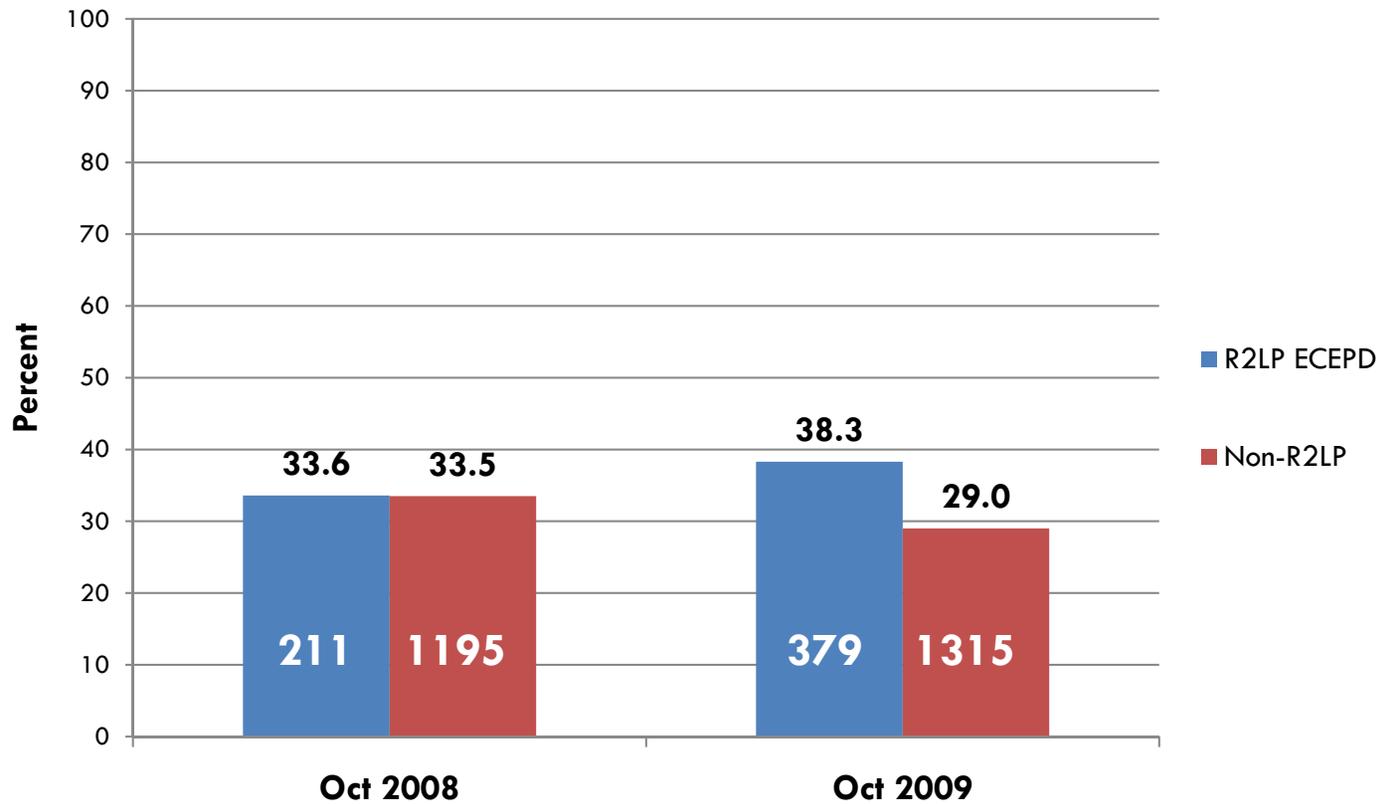
Figure DIBELS-2009-10-1. Comparison of Child Characteristics between Kindergartners in the Providence Public School District (PPSD) in October 2009, by Involvement in R2LP's ECEPD Intervention Prior to Enrollment in PPSD



SOURCES: Providence Public School District database (2009-10) and R2LP ECEPD database (2006-09), October 2009.

DIBELS - 4

Figure DIBELS-2008-09-2. Percentage of Kindergartners in Providence Public School District (PPSD) Reaching Benchmark on DIBELS in October 2008 & 2009, by Involvement in R2LP's **ECEPD** Intervention Prior to Enrollment in PPSD



SOURCES: Providence Public School District database (2008-10) and R2LP ECEPD database (2006-09).

Summary of Major Findings - 1

□ Center-based Teachers

- By the end of Year 1, teachers who had participated in R2LP's intervention scored significantly higher on portions of the ELLCO focusing on their literacy environments and practices than teachers who had not participated in the intervention.
- By the end of Year 2, there were no differences in the literacy environments and practices of teachers who had participated in the intervention the year before versus teachers who had just participated in the intervention. This could mean teachers in the Year 1 treatment group sustained and nourished their implementation of the intervention in Year 2, while teachers in the control group were receiving the intervention.
- ELLCO observations of a subset of teachers (not necessarily representative of all participating teachers) across both years indicated their literacy environments and practices grew significantly over time, though there were no differences in growth rate between teachers who participated in the intervention in Year 1 versus Year 2.

□ Home-based Providers

- By the end of Year 1, providers who had participated in R2LP's intervention scored significantly higher on the CHELLO than providers who had not participated in the intervention.
- CHELLO observations across both years indicated the literacy environments and practices of providers who participated in the intervention in Year 1 grew significantly over the first year, but declined significantly during the second year, when no additional support from R2LP staff was provided.
- There were no differences in the growth curves of providers who participated in the intervention in Year 1 (treatment) versus Year 2 (control), though this could have been affected substantially by the low number of providers in the control group who were observed three or four times across the two years.

Summary of Major Findings - 2

□ Children

- Attending a classroom in which the teacher(s) (or providers in Year 1) participated in R2LP's intervention did not significantly predict children's spring PPVT or PALS letter recognition scores, by the end of Years 1 or 2.
- Across both years, we observed an inverse relationship between children's percentile group membership in the fall and change in PPVT raw scores from fall to spring.
- The proportion of children who "graduated" from R2LP's ECEPD classrooms and reached benchmark on DIBELS measures administered to them in the first month of kindergarten was comparable to the benchmark status of "non-R2LP" kindergartners in 2008 and higher in 2009.

Implications for Our Current and Future Work – What the Data Tell Us



- **DIVERSE DELIVERY**

Data show statistically significant growth in all learning environments – Head Start classrooms, community based programs, family child care homes – and among English and Spanish speaking providers.

- **LEARNING COMMUNITIES MATTER**

Isolated family child care providers did not sustain the changes when the intervention ended and there was no follow-up. It's a call for continued investment to help move a workforce along a continuum.

Implications for Our Current and Future Work – What the Data Tell Us



- **LEADERSHIP MATTERS**

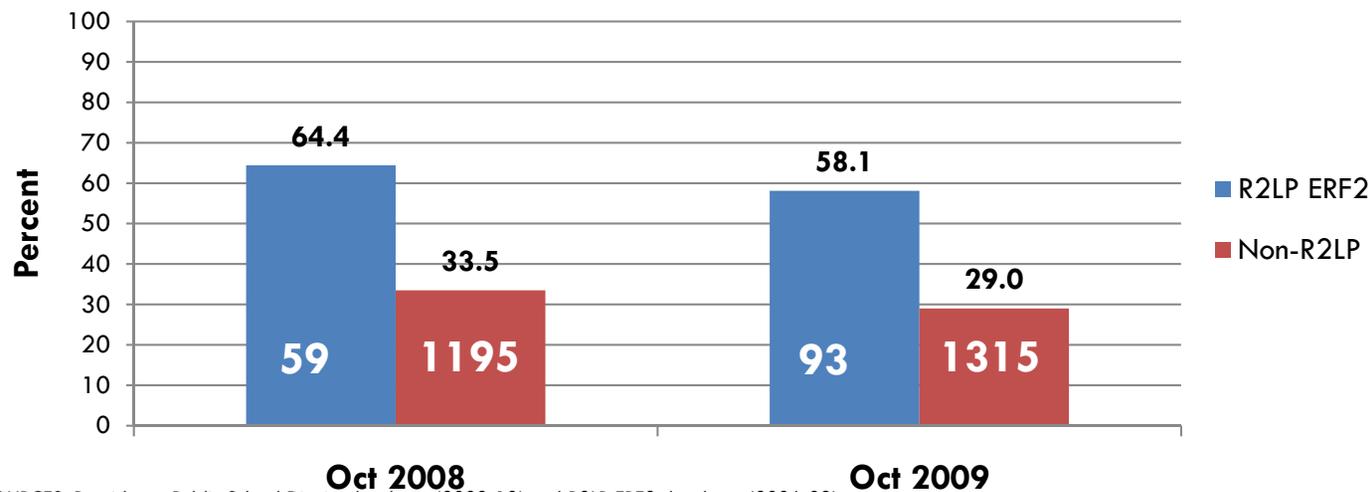
When directors or head teachers took the classes themselves, provided intentional support to their teaching staff and fostered learning communities within their sites, results were stronger.

- **DEPTH, DOSAGE, DURATION**

Remembering this research project's Professional Development model was based on the integration of both course work and onsite mentoring, the intervention significantly impacted classroom learning environments and teacher instructional practices. Child outcomes, however, did not attain the same level of statistical significance. The question remains: What is the balance between course theory and classroom implementation?

DIBELS – ERF 2

Figure DIBELS-2008-09-3. Percentage of Kindergartners in Providence Public School District (PPSD) Reaching Benchmark on DIBELS in October 2008 & 2009, by Involvement in R2LP's ERF 2 Intervention Prior to Enrollment in PPSD



SOURCES: Providence Public School District database (2008-10) and R2LP ERF2 database (2006-09).

With data provided from ECEPD and our Early Reading First projects, R2LP believes that future research will want to examine *mentoring* as a variable to achieve statistically significant child outcomes. By further examining time spent mentoring in classrooms, areas of curriculum focus, as well as dimensions of a mentoring protocol, future research may wish to determine the “tipping point” or dosage of mentoring necessary to achieve both classroom and child outcomes.