Key findings from Year 3 of Full-Day Early Learning Kindergarten in Peel

"This is me playing Play-Doh. I make something out of it with the cutters and my friends play with me and then we eat snack together and then we play again."

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KEY FINDINGS FROM YEAR 3 OF FULL-DAY EARLY LEARNING KINDERGARTEN IN PEEL

REVIEW: PURPOSE OF THE RESEARCH

The research reported here represents key findings from an ongoing longitudinal study in collaboration with the Regional Municipality of Peel, the Peel District School Board and the Dufferin-Peel Catholic District School Board. For five years, the research has been examining the implementation and impact of school-based integrated early childhood services including kindergarten, child care and parenting support in the Peel Best Start program (Region of Peel, 2011). The Best Start study builds on the previous work of our research team in the Toronto First Duty project (e.g., Corter & Pelletier, 2010; Corter, Janmohamed & Pelletier, 2012; Pelletier, 2012a). In 2010, the Peel research expanded to include full-day early learning/kindergarten (FDK). The FDK program is the focus of this report.

The purpose of the FDK research has been to examine the implementation and impact of Ontario's FDK initiative with three groups of stakeholders: 1) kindergarten children, 2) parents, and 3) staff teams of early childhood educators and kindergarten teachers, including classroom environment quality. The study is being carried out over time from JK/SK until children are in Grade 2 with results from Grade 3 EQAO to be added. This report provides an update on Year 3 of FDK implementation in 2012-13. The first group of FDK children in the study was now in Grade 1 or Grade 2. Also in 2012-13 (Year 3 FDK) a new cohort of kindergarten children in both FDK and half-day kindergarten control schools was recruited. This allowed a comparison between Year 1 FDK and Year 3 FDK. Key findings from previous years were posted on the Atkinson Centre website at OISE (Pelletier, 2012b/c).

This report includes results of analyses with all kindergarten children, and comparisons of FDK children with half-day kindergarten children. The research design has allowed us to observe growth over time (from JK – Grade 1 and from SK – Grade 2 for the first cohort of FDK) as well as to compare cohorts across Year 1 FDK when the implementation was in its infancy, with Year 3 FDK after some of the initial challenges were addressed.

Note that this study continues: in spring 2014, Year 4 data will be collected and in spring 2015 data collection will be completed for the final phase of FDK implementation. All children in the study will have participated from either JK or SK until the end of Grade 2. Grade 3 EQAO data will be included the following year.

METHODOLOGY

Procedures

In Year 3, key informant interviews were carried out with ten individuals across the region of Peel who could contribute to a "big picture" of early childhood services including kindergarten, child care, parenting supports, public health and other areas. Staff data about the early learning team, early learning environment, and parent involvement were collected using the Toronto First Duty Indicators of Change tool (e.g., Corter, Janmohamed & Pelletier, 2012) with focus groups of early childhood educators, kindergarten teachers and in some cases, school principals. Environment observations were carried out again in Year 3 using the Early Childhood Environment Rating Scale-Revised (Harms, Clifford & Cryer, 2005). Children's progress in FDK and half-day control group sites was measured with individual children in a comfortable area close to their classrooms. Each child took part in research tasks with a trained graduate student or postdoctoral researcher who had extensive experience with young children. As in previous years, children enjoyed their time and were never asked to participate if they were shy or unwilling.

Child participants. The study includes 878 children who are being followed longitudinally, including 286 children who were originally enrolled in Best Start sites. Some of the Best Start sites became FDK sites but the children in the original Best Start sites were in half-day kindergarten at the time and some were in the integrated half-day kindergarten/Best Start child care. To simplify the analyses for the purpose of this report, the Best Start children are not included. Thus the analyses were carried out only with the FDK and half-day kindergarten children as well as parents and staff from the corresponding sites.

Year 3 analyses include 328 FDK children (184 from Year 1 and 144 from Year 3). Of the FDK children, 54% were boys, 61% were English Language Learners. Year 3 analyses also include 264 half-day kindergarten control group children (168 from Year 1 and 96 from Year 3). Of the half-day control group children 49% were boys, 61% were English Language Learners. Both mothers' and fathers' education levels were significantly higher in the half-day kindergarten control group sites than in any year of FDK (p<.001). Children's age and parental education were controlled in the analyses.

In Year 3 staff participants at nine FDK sites included 16 kindergarten teachers, 11 Early Childhood Educators as well as principals/vice-principals. Staff participated in focus groups at their schools and through surveys. Staff data have been collected throughout the FDK implementation over three years. In Year 3, the project aimed to examine whether trends observed over the previous years continued to be reported by staff.

Parent data include "daily hassles" surveys from 218 mothers and 63 fathers [those who completed the survey] and ratings of children's readiness from 586 parents from both FDK and half-day kindergarten control groups.

Research measures used in the study

1) Child measures.

Vocabulary. Receptive vocabulary was measured using the Peabody Picture Vocabulary Test III (Dunn & Dunn, 1997). Children look at pages of four items and are asked to point to the picture that represents the word spoken by the examiner. Standardized procedures were followed.

Early reading. The Test of Early Reading Ability – III (Reid, Hresko & Hammill, 2001) was used to assess children's knowledge of alphabet letters and sounds, of conventions of print and of meaning. Standardized procedures were followed in the administration and scoring of these three subtests and total score.

Number knowledge. The Number Knowledge Task (Case et al, 1996) is an experimental measure tested on hundreds of children showing reliable developmental differences in children's understanding of number and number concepts. Total raw scores were used in the analysis.

Early writing. Children were asked to write a sentence dictated by the researcher. The sentence involved writing letters and sounds, as well as number. In addition, size and colour concepts were scored when children were able to convey their emerging understanding and ability to convey messages in print (e.g., write "Teacher has five little red crayons") (see Pelletier, 2002; Pelletier & Lasenby, 2007).

Drawing. Children were asked to "draw yourself doing something here" (at school). Drawings were coded for complexity (integration of parts of the drawing), for number of objects, face and body details and for themes in their drawings (for example, play) (see Rothschild, Simons & Pelletier, 2013).

Puppet interview. Children were asked a series of questions designed to tap their social understanding and experiences. For example, children were asked to tell about their day, to solve social problems and to tell what they liked and did not like about kindergarten. Interviews continued to be carried out with children when they were in Grades 1 and 2. Responses were coded quantitatively and qualitatively (e.g., Pelletier, 1999).

Self-regulation. In Year 3 all children participated in a task of self-regulation and inhibitory control (McClelland & Cameron, 2012). This is an enjoyable task similar to "Simon Says." The Head-Toes-Knees-Shoulders Task (HTKS) has been used to assess self-regulation in children 4-6 years of age (Cameron et al., 2008). The task taps self-regulation by requiring

children to engage in attentional control, working memory, and inhibitory control (McClelland & Cameron, 2012). The directions and scoring procedures (Cameron Ponitz, McClelland, Matthews & Morrison, 2009) were provided to the Principal Investigator from the authors through personal communication. Children were told, *"When I say 'touch your head' you should touch your toes and when I say 'touch your toes' you should really touch your head."* After ten trials children were presented with two more rules: *"Now I am going to add two more rules. When I say 'touch your shoulders,' you should touch your knees. When I say 'touch your knees' you should really touch your shoulders."* Children were awarded 2 points for correctly touching the opposite body part, 1 point for correcting a movement initiated in the wrong direction, and 0 points for touching the wrong body part. The task has been validated psychometrically as a measure of behavioural self-regulation (see Cameron Ponitz et al, 2009).

Direct observation. Direct observations were carried out with 40 FDK children using the Child Observation Framework that examines classroom contexts and self-regulation (Hawes, Gibson, Mir & Pelletier, 2012). Children were observed in four classroom contexts: whole group, small group, play and transitions. Observations were coded as positive or negative responses to opportunities for self-regulation (such as when another child grabs a toy, or when an educator asks children to attend). Coding for the Child Observation Framework (COF) is reported elsewhere (Hawes et al, 2012; Timmons, Pelletier, Corter & Hawes, 2014, in preparation).

2) Parent measures

During recruitment of children to the research, parents were invited to join the longitudinal study. Parents completed a rating scale about their child's "readiness" in six areas: small muscle development, large muscle development, getting along with other children, getting along with adults, general knowledge, knowledge of letters and sounds, knowledge of numbers, and speaking ability.

Parents also completed the Parenting Daily Hassles Survey (Arimura, 2008; Arimura & Corter, 2010). This 42-item survey, adapted from a parenting stress index that assesses everyday stress experienced by parents (Crnic & Greenberg, 1990), asks parents to rate whether daily parenting events are challenging for them and if so, how challenging. For example, getting their child ready in the morning – how often this is a hassle (never – daily) and how much of a hassle (very little – very big). Other examples are making arrangements to care for their child when s/he is ill, finding ways to transport their child to school and child care.

3) Staff measures

Previous Year 1 staff measures included a survey that tapped educators' feelings about the collaborative ECE/kindergarten teacher team and about perceived benefits of the integrated FDK approach. Results are reported in the Year 1 Key Findings (Pelletier

2012b). Again in Year 3 FDK staff participated in a focus group using the Indicators of Change Tool, (developed by the Toronto First Duty research team, see Pelletier, 2012a). This tool measures the degree to which staff teams and the early learning program function in an integrated way.

Classroom environments were observed again in Year 3 using two subscales of the widely-used Early Childhood Environment Rating Scale-Revised (Harms, Clifford & Cryer, 2005): 1) Space and Furnishings and 2) Activities.

Coding and analysis. Qualitative and quantitative data were coded by trained Masters and PhD graduate students. Qualitative data from staff and child interviews and child drawings were coded thematically and were also scored for frequency count. Inter-rater reliability of at least 80% was obtained for all data requiring interpretation. Reliability rating of 100% was obtained for the coding of children's drawings. Year 3 data were added to the databases for children, parents, staff and environment. Parental education level and child age were controlled in the analyses. Descriptive analyses were carried out on qualitative data and statistical analyses were carried out on numerical data using SPSS v.21 data analysis software.

RESULTS

1) CHILDREN

Vocabulary

Repeated Measures ANCOVAs were carried out on the raw vocabulary scores for JK and SK children separately over each of the first three years of FDK. Children's age and parental education levels were controlled in the analysis. This analysis includes children who were in the study at all three time points. Results show that both JK and SK children in FDK programs have remained ahead in vocabulary each year. Results represent a significant difference between FDK and half-day control groups (see Figures 1 & 2).

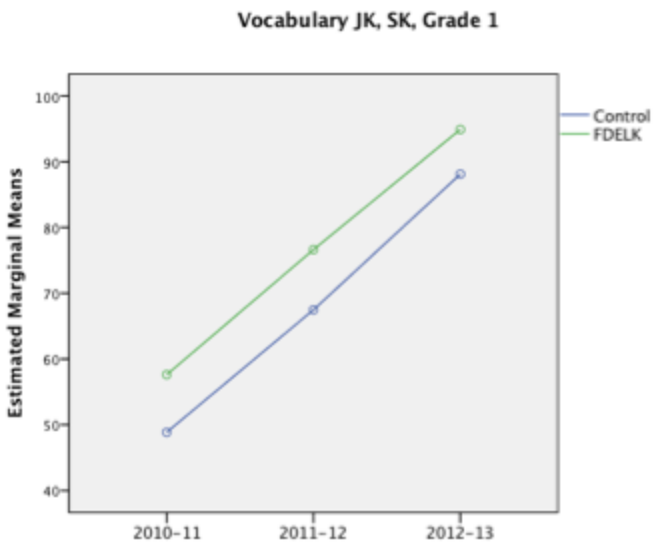


Figure 1. *Raw vocabulary scores each year for children who began the research study when they were in junior kindergarten. Scores control for parental education and children's age.*

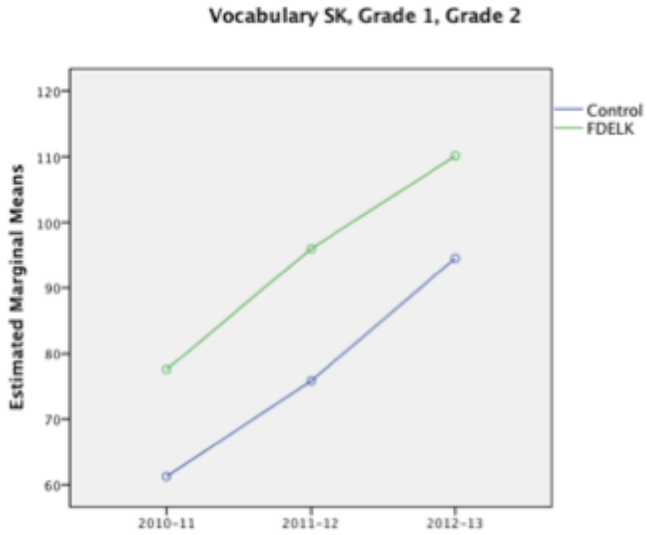


Figure 2. *Raw vocabulary scores each year for children who began the research study when they were in senior kindergarten. Scores control for mothers' and fathers' education and children's age*.

Early Reading

The Test of Early Reading Ability includes three subtests: Alphabet Knowledge, Conventions of Print, and Meaning. Total raw scores represent the sum of scores on the three subtests. Repeated Measures ANCOVAs were carried out on the total raw reading scores for JK and SK children separately over each of the first three years of FDK. This analysis includes children who were in the study at all three time points. Children's age and parental education levels were controlled in the analysis. Results show that by Year 3 there was no significant

difference in reading for children who began FDK in JK; children who began JK in half-day kindergarten had caught up in reading by Grade 1 (see Figure 3). In contrast, by Year 3 children in FDK programs who began the research study in SK continued to remain ahead of half-day controls, that is when the children had reached Grade 2. Results represent a significant difference between FDK and half-day control groups (see Figure 4).

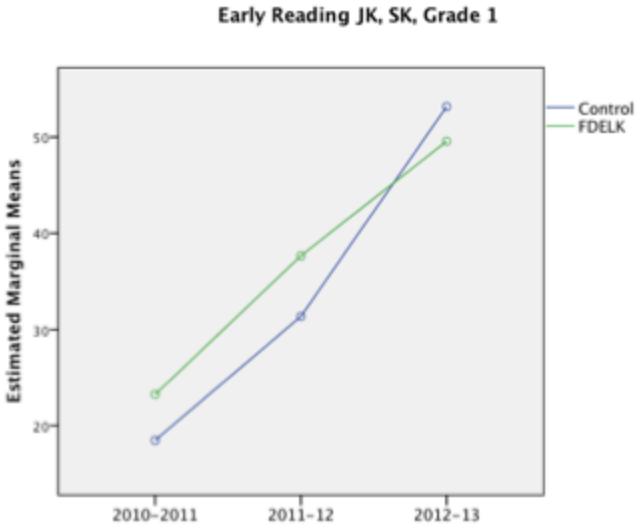


Figure 3. *Raw reading scores each year for children who began the research study when they were in junior kindergarten. Scores control for parental education and children's age.*

Figure 4. *Raw reading scores each year for children who began the research study when they were in senior kindergarten. Scores control for parental education and children's age.*

Number Knowledge

In the Number Knowledge task kindergarten children count objects, determine "more/less," understand which of two numbers was bigger and other similar tasks. As children enter subsequent grades, task items become more challenging, for example, "How much is 2+4?" "What number comes 4 numbers before 60?" By Year 3, the original participating children were in Grades 1 and 2. In Year 3 there was no difference between half-day control group children and those in FDK (see Figures 5 & 6).

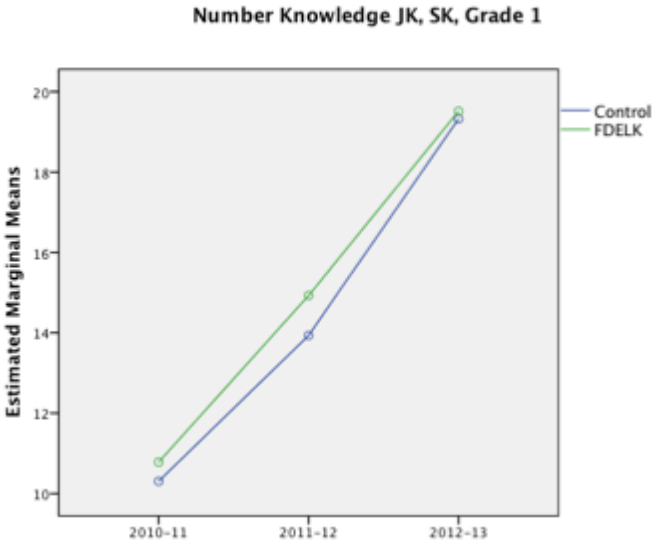


Figure 5. *Number knowledge scores each year for children who began the research study when they were in Junior Kindergarten. Scores control for parental education and children's age.*

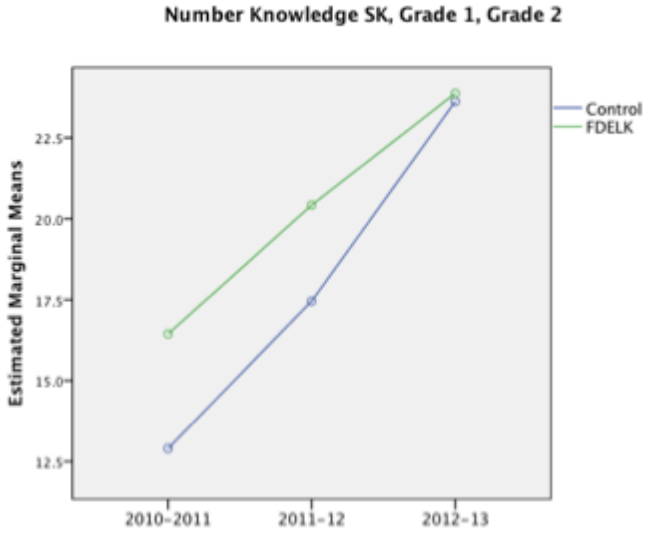


Figure 6. *Number knowledge scores each year for children who began the research study when they were in Senior Kindergarten. Scores control for parental education and children's age.*

Writing

The writing task asked kindergarten children to write: "Teacher has five little red crayons." When children reached Grades 1 or 2 they were asked to write: ""My friend has eight big purple candies" (see Figure 7a/b for samples). These sentences require children to represent letter/sound, quantity, size and colour. Children's writing samples were scored along a continuum from scribbles to drawing to invented spelling to correct spelling. By Year 3 there was no difference between FDK children who began the research in JK and those in the control group (see Figure 8). FDELK children who began the research in SK continued to remain ahead of the control group although the difference was not significant (see Figure 9).

Figure 7a. *Grade 1 writing*

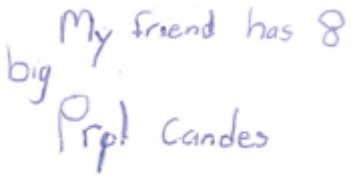


Figure 7b. *Grade 2 writing*

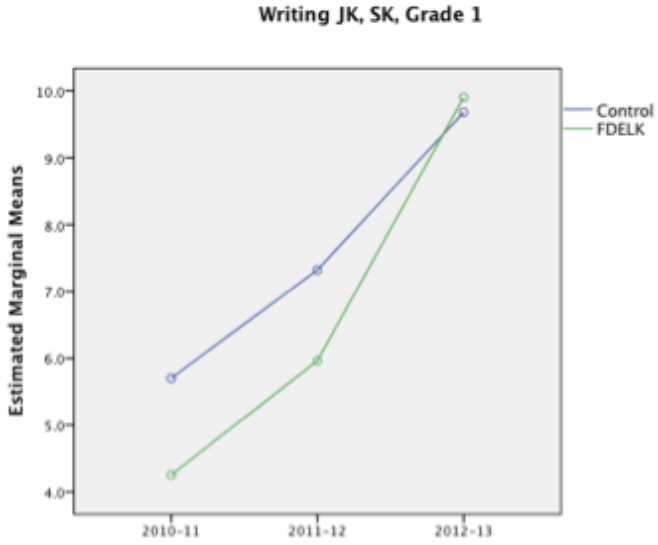


Figure 8. *Writing scores each year for children who began the research study when they were in Junior Kindergarten. Scores control for parental education and children's age.*

Figure 9. *Writing scores each year for children who began the research study when they were in Senior Kindergarten. Scores control for parental education and children's age.*

Comparison of Year 1 and Year 3 FDK Cohorts on Outcome Measures

Interestingly, children who began kindergarten in Year 3 of FDK implementation scored significantly higher on a number of child measures than children who began in Year 1: phonological awareness (Year 1 M=6.13, Year 3 M=6.91, p=.036), number knowledge (Year 1 M=12.58, Year 3 M=14.04, p=.004), writing (Year 1 M=5.69, Year 3 M=6.83, p=.002) and drawing complexity (Year 1 M=1.46, Year 3 M=1.07, p=.002). There were no significant cohort differences in vocabulary and reading.

Interview Themes

The most important stakeholders of our FDK research are the children. Thus, it was important to capture their voices each year beginning in kindergarten and following them through the early grades of school. In order to do this, we carried out interviews with the children using a structured interview protocol. For younger children we used finger puppets to help children engage in a playful way during the interview. During Year 3, puppet interviews were carried out with the new cohort of kindergarteners. As with Year 1 cohort, Year 3 FDK implementation children were asked a number of other questions about their experiences at school including what they like best and what is important. Although all children reported that "play" was what they liked best, children in the half-day kindergarten control group mentioned academic activities and learning more often as being important in kindergarten (for example, reading or writing) (see Figure 10).

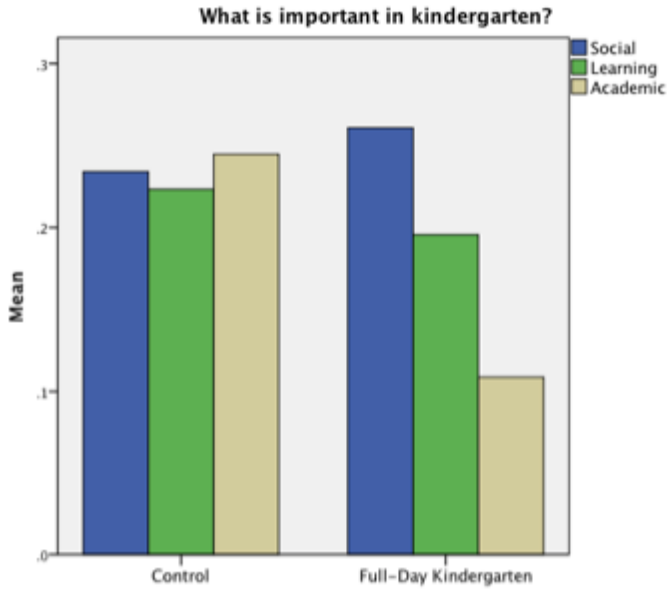


Figure 10. *Children's reports of what is important in kindergarten.*

Children's Drawings

In Year 3, children were asked again to draw themselves doing something at school; see Figure 11a/b for an example of drawings by a FDK child who was now in Grade 1 and by a control group child who had moved to Grade 2. Children's drawings were compared by the theme of the drawing including: play and accompanying narrative, a depiction of socialization (e.g., my friend and I), an academic activity (literacy, numeracy, worksheet), or a physical activity (e.g., running outside). By the time children had moved on to later grades there were no differences in the content of their drawings; both groups depicted more social themes than academic.

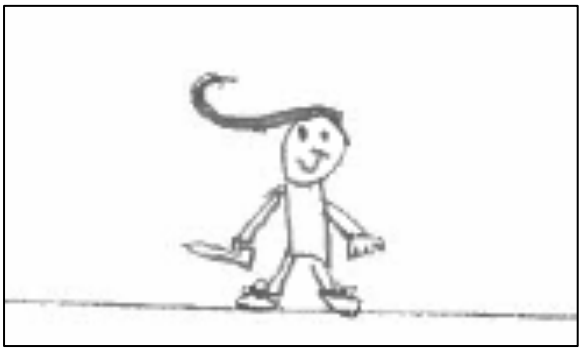


Figure 11a. *"I'm playing lego." (Boy, Grade 1, FDK)*

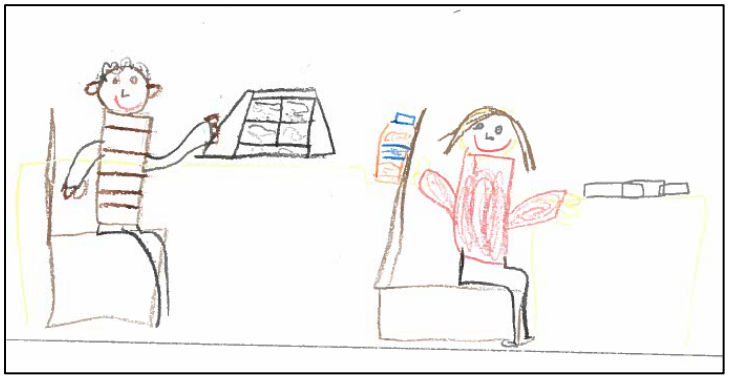


Figure 11 b. *"It is a picture about what we're doing right here. You're right there and I'm right here. This part is me doing this (points). I'm telling you what the pictures are." (Boy, Grade 2, Control Group)*

Children's Self-Regulation

During the Year 3 research, the self-regulation task - Head Toes Shoulders Knees (HTSK) was introduced. In order to compare children who were at the same grade level, only those who began the research during Year 3, that is, the new cohort of JK/SK FDK children and half-day control group were included in this analysis.

A Univariate ANOVA controlling for children's age and parental education level was carried out to determine differences (if any) between children in FDK and those in the half-day control group. The dependent variable was children's total score on the HTSK task. Results indicated a significant effect (F (1,186) = 8.16 p=.005) in which the FDK children scored higher (M=25.58) than the control group (M=17.72) on the HTSK task. This result suggests that children who were in FDK, in contrast to half-day kindergarten, were much more able to control their attention, to inhibit responses and to regulate their behavior.

Classroom observations of contexts that promote self-regulation

Using the Child Observation Framework (Hawes, Gibson & Pelletier, 2012) in FDELK classes, we observed 40 FDK children (16 girls, 24 boys) during whole group time, small group time, free play time and transitions (from one activity to another). A one-way ANOVA was carried out to examine whether there were differences in children's level of self-regulation in these four classroom contexts. The dependent variable was the degree of self-regulation shown by children in each context (e.g., refraining from retaliating to a peer's negative initiation, paying attention, controlling impulses). Results showed that both girls and boys were more able to self-regulate during the contexts of small group time and during play and were less able to self-regulate during whole group time and during transitions (see Figure 12).

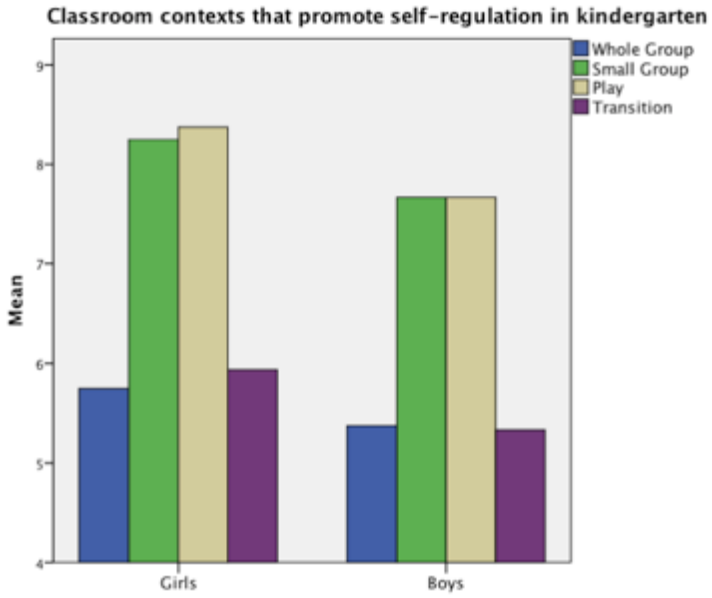


Figure 12. *Observations of FDK children's self-regulation in four classroom contexts*

2) PARENTS

Parent Ratings of Children's Readiness

Parents completed a survey that rated their own child's readiness in comparison to other children their child's age. There were eight items that parents rated as either "less ready than other children", "about the same as other children", or "more ready than other children" in the following areas: 1) small muscle development, 2) large muscle development, 3) gets along with other children, 4) gets along with adults, 5) general knowledge, 6) letter-sound knowledge, 7) number knowledge, and 8) speaking. A one-way ANOVA comparing FDK children to half-day control group children showed that FDK parents rated their children as more ready in every area. Four areas showed a significant difference: small muscle, general knowledge, letter-sound knowledge, and number knowledge (see Figure 13).

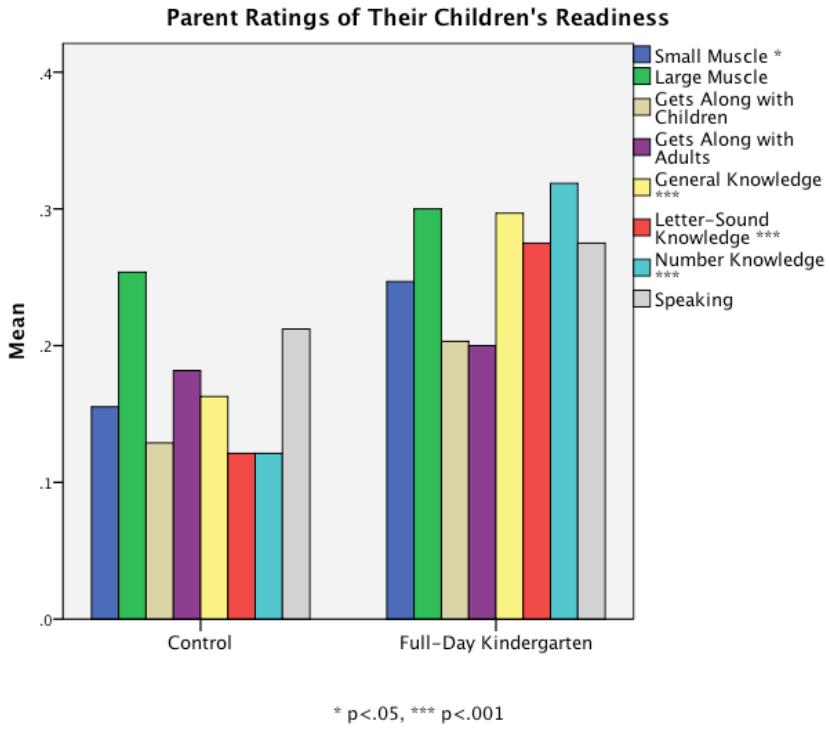


Figure 13. *Kindergarten parents ratings of their child's readiness*

Parenting Daily Hassles

An important aim of the research has been to examine whether Full-Day Early Learning Kindergarten helps parents of young children by providing full-day learning and care for their kindergarten children. To examine this question from the perspective of improved family life, we asked parents of both FDK and half-day kindergarten children to complete a 42-item "Parenting Daily Hassles Survey." Items were adapted from a parenting stress index for the purpose of measuring the smaller but perpetual hassles that parents of young children experience on a daily basis, for example, getting children ready to leave for school/care in the morning, finding time to make children's lunches, worrying about children when they are not feeling 100%, making alternate arrangements when children are sick, and others. There was a significant difference between parents of half-day and FDK parents on 14 of these items. In every case, parents of half-day kindergarten children reported significantly greater hassles than parents of FDK children (see Table 1). In other words it appears that FDK helps parents by reducing their daily hassles.

Table 1. *Parenting Daily Hassles for FDELK and Half-Day Kindergarten Controls*

1= no hassle/never, 2= small hassle/rarely, 3= medium hassle/sometimes, 4= somewhat big hassle/often, 5= big hassle/always

Type of Hassle	Mean: Full-Day K	Mean: Half-Day K	Sign.
How much of a hassle to get your child ready in the morning	1.93	2.27	.032
How often it affects you find time to make your child's lunch and snacks	2.01	2.35	.021
How much of a hassle to find time to make your child's lunch and snacks	1.47	1.97	.000
How often it affects you to transport your child to school or care in the morning	1.94	2.31	.026
How much of a hassle to transport your child to school or care in the morning	1.50	1.97	.003
How much hassle to deal with your child when s/he is exhausted at the end of the day	1.78	2.15	.015
How much hassle to keep track of your child's daily schedule	1.57	1.89	.020
How often it affects you to make alternate arrangements for child care when your child is sick	1.60	2.04	.010
How much hassle to make alternate arrangements for child care when your child is sick	1.49	2.43	.028
How often it affects you to know what to do about school and child care when your child tells you s/he is not feeling 100%	1.73	2.06	.039
How much hassle to know what to do about school and child care when your child tells you s/he is not feeling 100%	1.49	1.90	.016
How often it affects you to find parenting programs that meet your needs	1.94	2.31	.029
How often it affects you to know what programs or services are available in your community	2.16	2.55	.012
How much hassle to know what programs or services are available in your community	1.68	2.18	.002

There were only a few non-significant differences between Year 1 and Year 3 FDK parents, with no observable pattern.

3) STAFF AND KEY INFORMANTS

Key Informant Interviews

We began by asking by key informants who hold positions of leadership within the school boards and regional government how things were going now that FDK was in its third year of

implementation. As in previous reports from this study in Year 1 (spring 2011) and Year 2 (spring 2012), key informants were asked about benefits and challenges of the FDK program. Sixteen key informants participated in Year 3. A review of findings from both 2012 (Year 2) and 2011 (Year 1) shows that key informants were more likely to report concerns about the curriculum than other areas. In Year 1 the proportion of comments related to challenges concerning the staff team of ECE and kindergarten teacher was greater than the proportion concerned with meeting the needs of children and families. In 2012 this was reversed: meeting the needs of children and families was mentioned more often than concern with the staff team. In Year 3 of FDK implementation, key informants most often reported that broader governance issues presented the greatest challenges, for example, third party child care, budgets and operations (see Figure 14). Accordingly, key informants reported that governance needs to be high on the priority list of recommendations for school boards and governments.

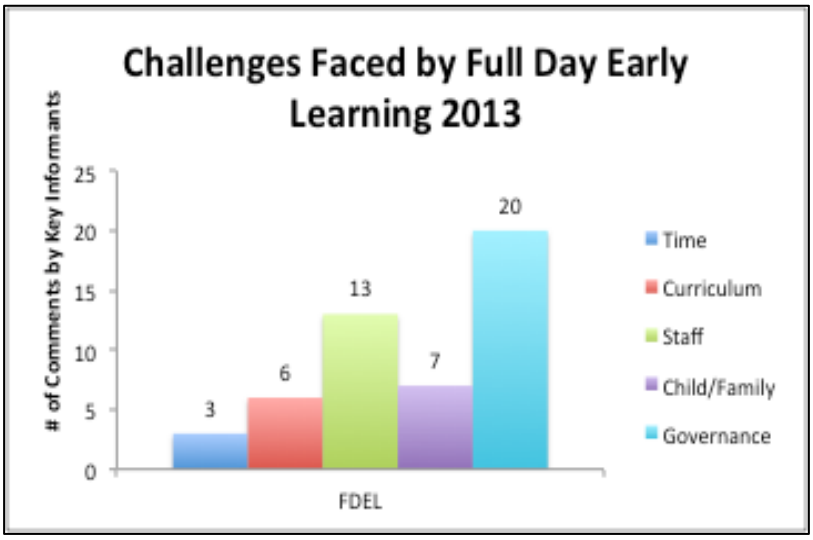


Figure 14. *Challenges reported by key informants in Year 3 of FDK*.

ECE/Kindergarten Teacher Relationship

One of the most discussed areas of FDK implementation over the past three years has been the staff team comprised of the ECE and the kindergarten teacher. As reported in the Year 1 and Year 2 findings, our observations, surveys, focus groups and individual discussions with staff team members have brought to awareness the benefits and challenges of this new team. Issues related to working conditions, role definition and salary levels have continued to dominate the discussions. In Year 3, 18 ECEs and kindergarten teachers participated in the surveys. It is important to note that the majority of ECEs and kindergarten teachers reported having benefitted professionally from working together. As reported previously, when a hierarchy was reported it was more often reported that ECEs hold less power than kindergarten teachers. Specifically, ECEs and kindergarten teachers generally continued to acknowledge that kindergarten teachers delegate more tasks to their early learning partner

and have more authority than ECEs. Figure 15 is a previously reported graph showing this finding.

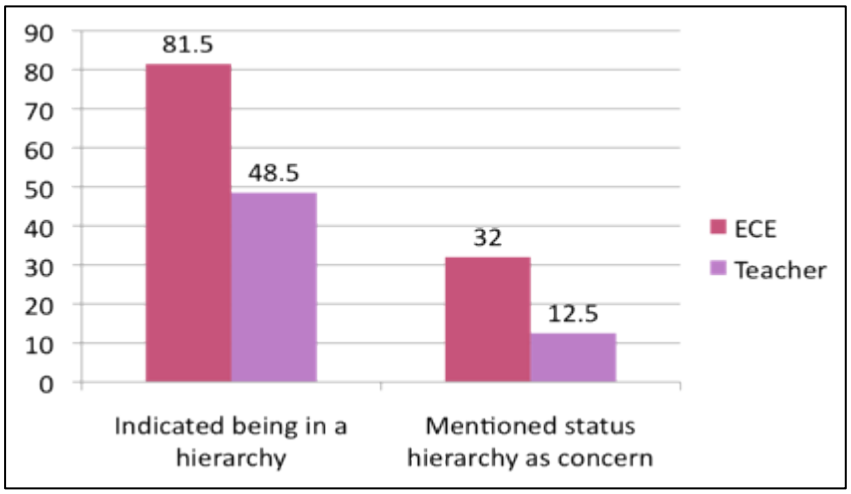


Figure 15. *ECE and kindergarten teachers' perceptions of hierarchy in the early learning team*

Year 3 staff surveys revealed findings that were consistent with the perceptions of hierarchy and difficulties with the staff team. The greatest challenges to the FDK model, according to ECEs and kindergarten teachers related to the staff team. However, program issues, time for meetings and scheduling were also reported often (see Figure 16).

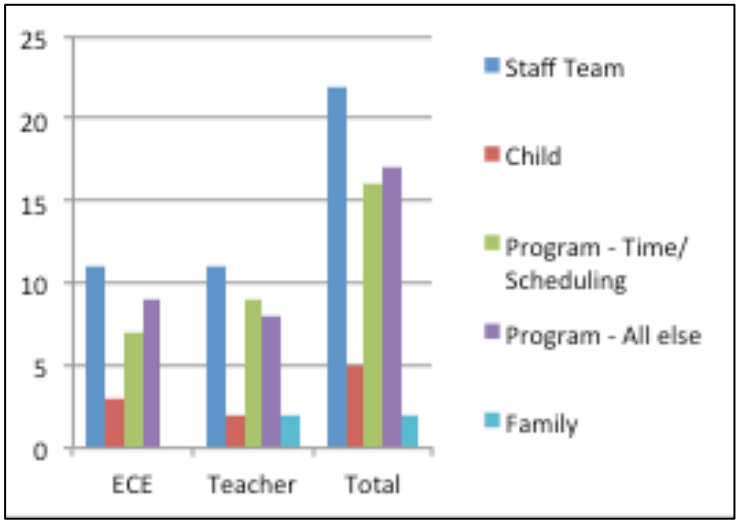


Figure 16. *Challenges of FDELK*

Despite some of the challenges, staff team members reported that there are great benefits to families and to children's social-emotional development of having two professional educators working together in the FDK classroom. Importantly, as can be seen in Figure 16,

staff teams also reported benefits of the integrated staff team. Thus, while there are challenges, there are also many reported benefits (see Figure 17).

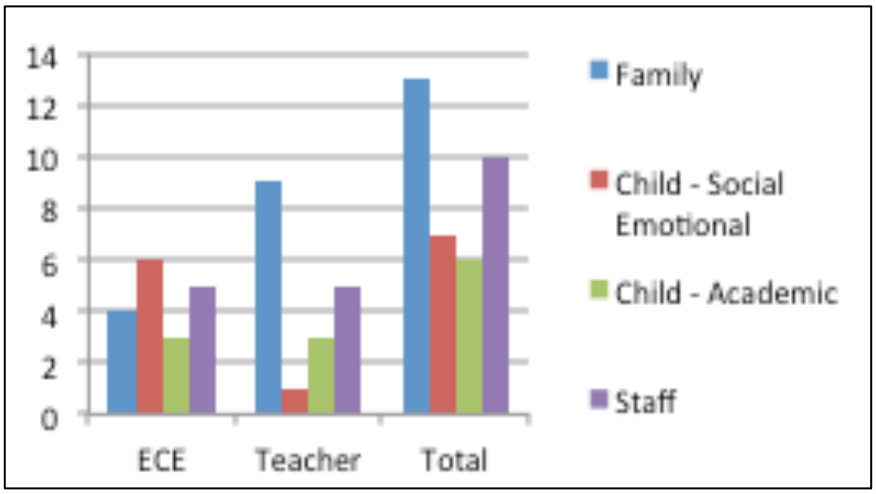
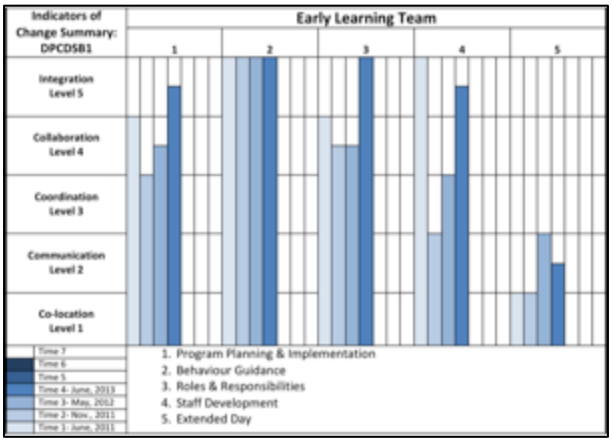


Figure 17. *Benefits of the integrated staff team*

Moving Toward an Integrated Staff Team and Program

The Indicators of Change tool measures the degree to which integrated early learning services in schools (such as kindergarten, child care and parenting support or full-day early learning/kindergarten teams) work together. Focus groups of early learning staff teams provide levels of "site integration" of programs, early learning staff teams, and parent participation. Focus group participants decide collaboratively where their site is situated along a continuum of integration with scores ranging from 1 (no/little integration) to 5 (full integration). FDELK sites have generally reported very high levels of integration even in the first year of implementation with scores between 4 and 5. Nevertheless there are site differences in the degree to which the integration of the early learning environment, the staff team and parent participation develop over time (see Figures 18a/b). The Indicators of Change data are coded and presented to the school boards so that early learning consultants can work with school teams.



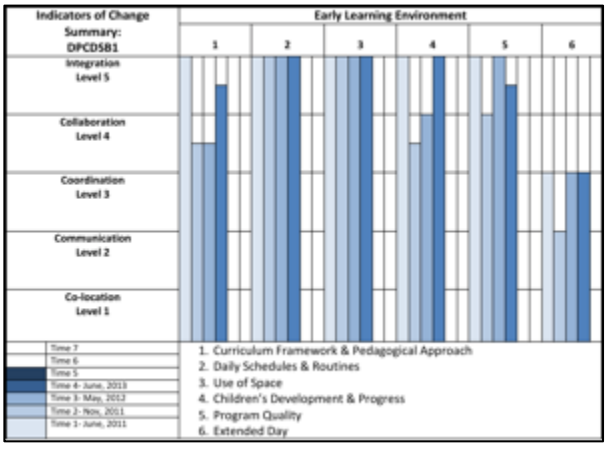
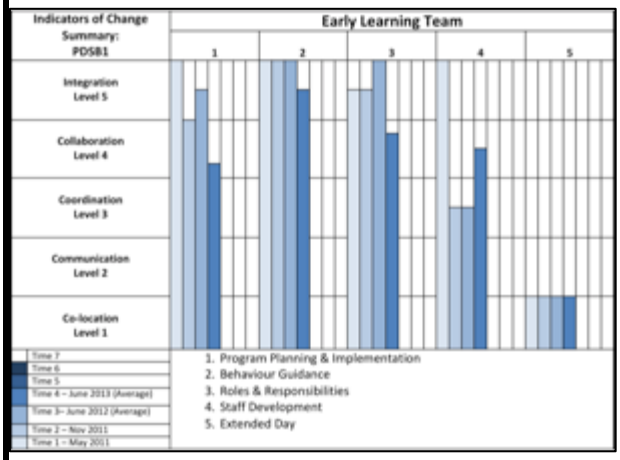


Figure 18a. Example of two Indicators of Change at one FDK site in School Board 1.



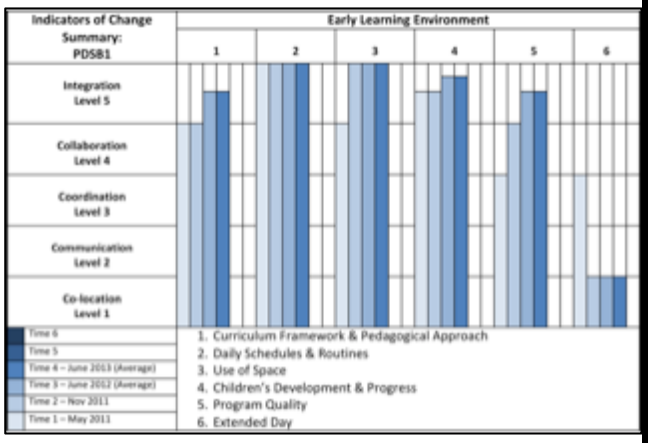


Figure 18b. Example of two Indicators of Change at one FDK site in School Board 2.

Indicators of Change Data Across All Research Sites at the End of Year 3 FDK

To date there are nine FDK schools in the Peel research. Two of the schools began their participation in the research in Year 3. Therefore the data below present overall "change" scores for the remaining seven schools. Two of the seven schools experienced a modest decline in reported movement toward an integrated staff team, early learning environment and parent involvement. Five schools experienced increased levels of integration in those areas (see Table 2).

Table 2. *Indicators of Change scores for nine FDELK sites*

Site	Early Learning Team	Early Learning Environment	Parent Participation	Total Change
1	+1.5	-5	-3	-6.5
2	+4	-1.5	-.5	+2.0
3	-.5	+1.5	+1.5	+2.5
4	-.5	+1.0	+2.0	+2.5
5	+1.5	+4.5	+3	+9.0
6	-3.5	-2.5	+2.5	-3.5
7	+4.0	+2.5	+5.5	+12.0
8	New FDELK site	No Change Data		
9	New FDELK site	No Change Data		

Classroom Environment Observations

As in Years 1 and 2 of this study, during Year 3 of FDK (spring 2013), environment observations were carried out using two subscales of the Early Childhood Environment Rating Scale – Revised (Harms, Clifford & Cryer, 2005). Quality ratings range from 3.0 (acceptable quality) to 7.0 (excellent quality). A score of 5.0 indicates good quality. The subscales of Space and Furnishings and Activities were measured using standardized observation procedures by trained masters-level observers. As shown in Figure 18 below, the average scores across the FDELK sites have consistently been in the 'good' range, despite a modest decline 2012-13. As with the Indicators of Change data, ECERS data provide information to school boards for future planning regarding quality environments for children.

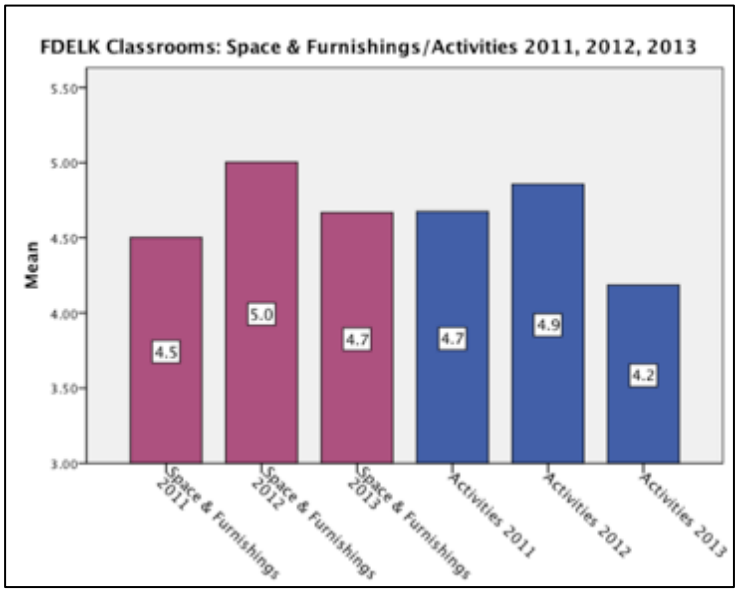


Figure 18. *FDK Space and Furnishings and Activities in Years 1, 2 & 3*

SUMMARY

Research during the third year of FDK implementation in the region of Peel builds on our work over the first two years of FDK from 2010-2012 and on the earlier work of Peel's Best Start program from 2008-2010. This is a longitudinal study following close to 900 children from the time they were in Junior or Senior Kindergarten until the end of Grade 2. Through a collaboration with the two school boards, the Dufferin-Peel Catholic District School Board and the Peel District School Board, EQAO results will be added to the data after the children have finished Grade 3. Other aspects of the collaboration include staff team development, development of an integrated approach to early education and development, and parent perspectives on kindergarten.

All of the children have participated each year in a variety of social-emotional, behavioural and academic tasks so that development in each of these areas can be tracked. A new cohort of FDK and half-day control group children joined the study in Year 3. Results of the longitudinal analyses to date show that children who participated in FDK in comparison to children who participated in half-day kindergarten were significantly ahead in vocabulary at the end of kindergarten and have remained ahead in Grades 1 and 2. This is a very important finding given the critical foundation of vocabulary throughout the school years. FDK children were also significantly ahead in self-regulation as evidenced by their performance on the Head-Toes-Shoulders-Knees Task which measures attentional and inhibitory control and behavioural self-regulation. On other academic measures such as early reading, writing and number knowledge, the senior kindergarten FDK cohort children, but not the junior kindergarten cohort, have remained ahead of their half-day peers. Since this research will continue until all children have finished Grade 2 and perhaps beyond, it is still too early to determine long-range effects in these other areas. New academic measures for older children will be employed this year in Year 4 and scores added to the database. Nevertheless, given the results on vocabulary and the strong performance in self-regulation it can be stated that children in FDK have benefited from their time in FDK.

On the social-emotional side, we interviewed all children about their experiences at school, employing finger puppets for interviews with kindergarten-aged children. We wanted to understand their perspectives as the most important stakeholders in this research. It can be stated that all children appear to enjoy kindergarten regardless of program. Children from both programs report that they enjoy play and friendships the most. When asked what is important about kindergarten half-day control group children reported more often that academics were important, in other words that academics appeared to be more salient to that group. This may be due to educators having to address academic expectations in a shorter period of time rather than through extended play and learning. We asked children once again to draw a picture of themselves doing something at school. While FDK children drew more social and friendship themes in kindergarten than half-day children, when children reached Grades 1 and 2, there were no differences in the themes of their drawings. For all children, as they moved up the grades, they continued to draw pictures depicting more social than academic themes. We also went inside FDK programs to observe children at play, during whole and small group instruction and during transition time, in order to see which classroom contexts were more likely to promote self-regulation and engagement. Using a detailed observation protocol, it was clearly shown that small group and free play times were more promoting of children's self-regulation than whole group and transition times. Although the pattern was similar for boys and girls, it was more pronounced for boys.

It was also important to understand parents' perspectives on their children's development and on their own well-being. Parents completed an eight-item rating scale about their children's development in comparison to other children their child's age. Results showed that FDK parents in comparison to half-day kindergarten parents rated their children higher on all eight indices, four showing significant differences between the groups: small muscle development, general knowledge, letter-sound knowledge and number knowledge. To

understand parents' well-being we asked them to complete a rating scale about their "daily hassles," the everyday events in their lives as parents. When we compared FDK parents and half-day kindergarten parents, there were significant differences on 14 items of the scale, all differences showing that half-day kindergarten parents were more hassled than FDK parents. This finding provides some empirical evidence that FDK not only helps children, but helps their parents as well by providing supports for full-day learning including helping in home-school communication and reducing daily hassles. Across all parents, fathers reported feeling hassled more often than mothers.

We continue to track the development of the early learning staff team and the early learning environment in FDK by communicating with key informants in the Region and the school boards and through focus groups and surveys with ECEs, kindergarten teachers and school administrators. While the development of the staff team and the relationship between ECEs and their kindergarten teacher partners continue to dominate discussions, this research has shown that there has been improvement in the relationship and the early learning environment since Year 1. Key informant interviews show less focus on challenges related to the ECE/kindergarten teacher relationship and more focus on governance issues related to child care, class sizes and space. Staff survey results show that practitioners report professional benefits of working together while continuing to address challenges of the practitioner team relationship. The Indicators of Change focus group data show that sites are working together to develop more integrated teams and programs. For most of the sites, integration continues to improve with time.

This study will include longitudinal follow-up of children from JK/SK until Grade 3, with progress reports each year. A larger provincial evaluation of FDK, commissioned by the Ontario government, has provided independent evidence on the implementation and outcomes of FDK (Ontario Ministry of Education, 2013).

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