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On the shoulders of giants: a new dawn, a new age, and a new day

Full-Day Kindergarten Research

Public Health Ontario, June 9, 2014

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FDK: Not without controversy

**EARLY LEARNING**

Full-day kindergarten offers little academic advantage, study says

**CAROLINE ALPHONSO**

EDUCATION REPORTER — The Globe and Mail
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March 28, 2014
Full-day kindergarten children score highest in vocabulary, self-regulation

By Dani-Elle Dube  Global News

March 28, 2014
So....what does the research say?
Research design of Peel Region study

- Full-day early learning kindergarten & half-day kindergarten control groups
- Longitudinal: JK-Gr 2 (Gr 3 tests scores to be added)
- Examine Implementation & impact on: Staff, Parents & Children
- Mixed methods (quantitative and qualitative)
- Measuring success and telling the story
## Demographics

<table>
<thead>
<tr>
<th>Program</th>
<th>Gender</th>
<th>ELL</th>
<th>M Ed*</th>
<th>F Ed*</th>
<th>Presch Exper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>49% boys</td>
<td>61% ELL</td>
<td>4.74</td>
<td>4.69</td>
<td>3.87</td>
</tr>
<tr>
<td>FDK</td>
<td>54% boys</td>
<td>61% ELL</td>
<td>4.53</td>
<td>4.26</td>
<td>2.66</td>
</tr>
</tbody>
</table>
Results to date

- After Year 3 of FDK (we are collecting Year 4 data)
  - Staff
  - Parents
  - Children
Measures: Key Informants & Staff

- Key informant interviews
- Staff surveys
  - ECEs
  - Kindergarten teachers
- “Indicators of Change” focus groups
**Staff: Benefits of Integrated Team**

- **ECE**: 4
- **Teacher**: 2
- **Total**: 10

- **Family**
  - **Child - Social Emotional**: 14
  - **Child - Academic**: 6
  - **Staff**: 10

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**Legend**
- **Family**
- **Child - Social Emotional**
- **Child - Academic**
- **Staff**
Challenges of FDK Integration
Parents

- “Daily hassles” surveys
  - 218 mothers
  - 63 fathers
- Ratings of children’s readiness
  - 586 parents
## Parenting Daily Hassles Questionnaire

**42 items**

<table>
<thead>
<tr>
<th>It’s difficult to...</th>
<th>How often it affects you</th>
<th>How much of a hassle it has been for you</th>
</tr>
</thead>
<tbody>
<tr>
<td>To get my child ready in the morning.</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>To find the time to make my child’s snacks and lunch.</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>To transport my child to school or child care in the morning.</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>To leave my child in the morning because s/he gets upset.</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>To interrupt my day or make special arrangements to get my child from school to child care (or from child care to school).</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>To worry about my child’s safety as s/he is taken back and forth between child care and the school.</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
</tr>
</tbody>
</table>
Parents: Top 5 stressors across all parents (hassles)

#1 “get my child ready in the morning”
#2 “find the time to participate in my child's classroom activities”
#3 “know whether my child is learning enough in school”
#4 “find the time to play with my child”
#5 “know what programs or services are available in my community”
Results: Parenting Daily Hassles

- Significant difference between parents of half-day and FDELK parents on 14 items
- In cases of difference, parents of half-day kindergarten children reported greater hassles than parents of FDELK children
- Fathers more hassled than mothers
Results: Parent Ratings of Child’s “Readiness”

* p<.05, *** p<.001
Children
Number of children

- Full Day Kindergarten (9 sites) = 328
- Control Half Day Kindergarten (7 sites) = 221
- Best Start Integrated (5 sites) = 329
Child measures

Vocabulary

Early reading

Drawing: This is me waiting to go on the computer at daycare

Writing: Teacher has 5 little red crayons

Early Number Knowledge

Example (using red and white poker chips)
- Place 5 red chips in front of child. "Count these chips and tell me how many there are."

Number knowledge

Puppet interview: Social & emotional understanding
Vocabulary over time: Full-day children remain significantly ahead
Reading: FDK children who began in SK remain significantly ahead in Gr. 2
Number knowledge: FDK children did not remain ahead in Grades 1 & 2
Year 1 & Year 3 Implementation

- Our study allows us to compare children who were in the first cohort of FDK implementation (2010-11) with children who were in the third cohort (2012-13)

- A new control group was recruited for Year 3 implementation
Year 1 & Year 3 Implementation: Vocabulary & Reading

Year 1 Implementation (n=161):
- Vocabulary: 97.3
- Reading: 100.7

Year 3 Implementation (n=141):
- Vocabulary: 105.9
- Reading: 102.2
Year 1 & Year 3 Implementation: Vocabulary & Reading

- Year 1 Implementation (n=161): Vocabulary 97.3, Reading 100.7
- Year 3 Implementation (n=141): Vocabulary 105.9, Reading 102.2
Hearing from children

- Children’s voices should be among those heard in early childhood program evaluations
- Quality of children’s day-to-day experiences should be a concern in its own right

(Lansdown, 2005; Smith, Duncan, & Marshall, 2005)
Children’s social experiences & self-regulation

- Interviews
- HTSK task
- Play observations
- Drawings
Child interview with finger puppets

Choose a puppet for yourself and one for me...
Tell me about your day, from the time you leave home until you go home
Half-Day Control

I wait for Jacob and Noah to get out of Ms. [kindergarten teacher’s] class so we can get into the car...and then we drive to [babysitter]’s house and then we have snack...and then we go to the basement and play...and then we come back upstairs to do some work and then we wait for our mommy to come and then we go. Jacob stays at [babysitter]’s. Me and Noah to a daycare.
Fewer transitions mentioned in FDEL

![Bar chart showing mean transitions total years 1 & 2 for half-day control and full-day integrated settings.](chart_image)

- **Half-day control**
  - English First Language: 6.19
  - ELL: 6.38

- **Full-day integrated**
  - English First Language: 5.62
  - ELL: 4.99
Importance of Play
Children tell what's important in kindergarten

- Friends (social)
- Play
- Learning
- Academics (curriculum)
- Rules

Mean

Control  Full-Day Kindergarten

Friends
Why do kids go to school?

- To play
- So you can learn stuff
- Cause it’s fun
- Because my mom wants me to learn things
- Because the bus driver takes me
- To get teached
- Because it’s against the law
What do you like best in Kindergarten?

- What I like best in Kindergarten is the climber
- Playing with my friends
- Playing games, playing in the sand, playing in the water, and playing in the house
- The blocks, those are my best toys
- Playing and having a snack and learning
- I like the play the best
What don’t you like in Kindergarten?

- Nothing...well I just like Kindergarten a lot
- Hitting
- When people hurt me and scratch me and stuff
- I usually don’t like it when people don’t let me play anywhere
- I just don’t like fighting in Kindergarten
- Staying long in circle
- I don’t like spelling my name because I can’t spell good
- The bathrooms
- I don’t like it because I can’t see my mommy and dad
What do teachers do?

- They help us solve problems. They helps us with things in art but only art, not playing
- They help us teach
- They write stuff when we’re playing
- They check people off. They don’t let anybody fights"
- They talk and we have to listen to them, we can show them stuff, what we done, to them, and they say “excellent”
Drawings: Draw yourself doing something here
I’m playing with my friends at school (F 5 yrs)
This is big blocks. I was playing there but then I just wanted to go somewhere else. That’s the end I say. (M 4 yrs)
Me and my friends playing (F 4 yrs)
Scoring the drawing task

- For complexity
  - mental reference lines
  - real reference lines
  - integration of parts of drawing

- For detail (body and face details)

- For themes (social - friends, play, academic)
Results: Drawings

The bar chart compares the mean scores of Complexity, Face Details, and Body Details between Control and Full-Day Kindergarten groups. The scores are as follows:

- **Control**
  - Complexity: 1.0
  - Face Details: 2.5
  - Body Details: 3.8

- **Full-Day Kindergarten**
  - Complexity: 1.3
  - Face Details: 2.8
  - Body Details: 4.1

The higher scores indicate better performance in the Full-Day Kindergarten group compared to the Control group.
Self-Regulation
Program Aims

Live and learn within families and communities. The program aims to provide every child with the kind of support he or she needs in order to develop:

- self-regulation
- health, well-being, and a sense of security
- emotional and social competence
- curiosity and confidence in learning
- respect for the diversity of his or her peers
Interrelated Levels of Self-Regulation

1. Biological

2. Emotional

3. Cognitive: Executive Functions (EFs)
   - inhibitory self control;
   - working memory (holding information in mind while mentally working with it);
   - cognitive flexibility (switching perspectives or focus of attention);
   - attention switching

4. Metacognitive/linguistic

5. Social
The Head Toes Shoulders Knees Task

- measure of self-regulation (McLelland & Cameron)
- ability to inhibit responses & control attention
- Part I (Head Toes) & II (Shoulders Knees added)
Results: Self-regulation Task

Pt 1: p<.005
Pt 2: p<.05
Looking inside full-day K classrooms

Kids, educators, self-regulation, & play through the lens of the COF
Child Observation Framework

Continuous running records were completed during 10-minute intervals in four contexts

- Small group
- Whole group
- Transition
- Play
What we observed

Using the Running Records, we examined:

- Responses to opportunities to self-regulate
- Engagement
- Child-child interactions: including play
- Child-educator interactions
Example of SR Items

1. Calms self when faced with an emotional situation  
e.g., when upset, hyperactive, or excited

2. Appears comfortable and confident in the learning environment  
e.g., does not appear overly shy, nervous, or tense, is not hesitant to enter play situations

3. Considers others’ points of view and adjusts one’s own emotions and behaviours accordingly  
e.g., rather than laughing chooses to help a peer that is hurt or upset
Engagement

- Children’s overall engagement during each observation block was rated on a 3 point scale:

  0= not engaged
  1= somewhat engaged
  2= very engaged

- Above 90% reliability
Interactions

- We also observed and coded
  - Child-child interactions
  - Child-educator interactions

- Multiple learning contexts
  - Academic (literacy, numeracy etc.)
  - Social (conversations, praise, aggression)
  - Play (type of play – parallel, group dramatic etc.)
When are kindergarten children most self-regulated?

![Graph showing estimated marginal means for different activities: Whole Group, Small Group, Play, Transition. The graph indicates that Small Group and Play activities have the highest estimated marginal means.]
When are kindergarten children most engaged?

Children's Level of Engagement in Four Different Contexts

<table>
<thead>
<tr>
<th>Context</th>
<th>Not Engaged</th>
<th>Somewhat Engaged</th>
<th>Very Engaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitions</td>
<td>5%</td>
<td>40%</td>
<td>55%</td>
</tr>
<tr>
<td>Play</td>
<td>10%</td>
<td>25%</td>
<td>65%</td>
</tr>
<tr>
<td>Small group instruction</td>
<td>10%</td>
<td>20%</td>
<td>70%</td>
</tr>
<tr>
<td>Whole group instruction</td>
<td>10%</td>
<td>30%</td>
<td>60%</td>
</tr>
</tbody>
</table>
What educators do varies by context.....

Average Frequency of Interaction Type per Context

- **Small Group**
- **Whole Group**
- **Transition**
- **Play**

- **Instruction**
- **Affection/Praise**
- **Social Interaction**
- **Behaviour Management**
- **Play Extension**
Conclusions

- FDK program in Peel shows benefits for staff teams, parents and children after 3 years
- For children, vocabulary & self-regulation showed greatest differences for FDK
- Research informs our work for continuous improvement in practice, program & policy
- Can also look at the Best Start sites – how did they do over time?
** p < .001
Ontario's Full-day Kindergarten: A Bold Public Policy Initiative

June 1, 2014 | Dr. Janette Pelletier, University of Toronto

Can Ontario's universal full-day kindergarten program help to level the playing field? The list of possibilities is long: closing the gap of language experience of kids living in poverty, reaching all vulnerable kids, including those in the middle class, contributing support to families who need child care, and ensuring that care and education are combined in high quality programs that boost overall child development as well as academic skills and economic success. Research has shown that many of these programs are effective if they are implemented well.