

AN OVERVIEW OF THE FULL-DAY KINDERGARTEN PROGRAM EVALUATION

BACKGROUND INFORMATION

Kindergarten is optional in Manitoba and it is up to each school division to determine whether the program is offered. In Winnipeg School Division (WSD), the Half-Day Kindergarten (HDK) program has been offered for numerous years. In 2013, the Winnipeg School Division's Board of Trustees approved a board motion to introduce Full-Day Kindergarten (FDK) in four Elementary schools. The schools were chosen based on location, enrolment and space availability. One of the main goals of introducing FDK was to identify any gaps in academic performance at an early age by providing an enriched environment where students' overall social, emotional, cognitive and physical development could benefit from such program. A longer school day of a Full-Day Kindergarten program provided more time for play-based exploration, the development of projects, and teacher-child interaction. In 2014, the Board of Trustees requested a pilot evaluation of the Full-Day Kindergarten program to examine the longitudinal benefits of the program.

In WSD, Half-Day Kindergarten is offered every day; either in the morning or in the afternoon for two and a half hours. The Full-Day Kindergarten, introduced in 2014, offers daily programming with a 3 hour morning session, an hour lunch break followed by a two and half hour afternoon session. In comparison, Half-Day Kindergarten comprises of 2.5 hours of programming per day versus 5.5 hours for Full-Day Kindergarten. As part of the longitudinal study, both programs in the Division were evaluated and compared over three years. Schools involved in the analysis were Norquay, Strathcona, John M. King, and Wellington for Full-Day Kindergarten and John M. King, River Elm and 2 classes at Sister MacNamara for Half-Day Kindergarten.

This report provides an **overview** of the results of the evaluation of the **Winnipeg School Division's Full-Day Kindergarten Program** spanning from the year these students attended Kindergarten (2015/16) to the year they completed Grade 2 (2017/18). The evaluation was based on a longitudinal analysis comparing outcomes for students attending Full-Day Kindergarten (the 'study' group) with data for students attending Half-Day Kindergarten (the 'comparison' group). The schools for both groups were carefully matched by the Research and Evaluation Team of the Winnipeg School Division. Several distinct WSD datasets were merged, including report card results for the first and third terms of the 2015/16, 2016/17 and the 2017/18 school years; results for all students from the Strengths and Difficulties Questionnaire (SDQ) and the Social Emotional Development (SED) Scale; Divisional ELA and Math Assessment scores; and metadata related to student and family demographics and social factors.

The study followed a cohort of students from Kindergarten to Grade 2 from both the Full-Day Kindergarten program as well as the Half-Day Kindergarten program. The evaluation was originally designed as a four year study, intended to follow the FDK and HDK students to the end of Grade 3 but due to high attrition rates, the evaluation could not proceed to year four.

METHOD

From Kindergarten to Grade 1, both study groups had acceptable attrition rates but the attrition rate from Grade 1 to Grade 2 was high (Table 1). As such, it was determined that the evaluation should not continue into Grade 3.

Table 1. Attrition Rates by Group (unweighted)

Attrition Rates	FDK	HDK	Total
From Kindergarten to Grade 1	7/60 = 11.7%	12/96 = 12.5%	19/156 = 12.2%
From Grade 1 to Grade 2	19/53 = 35.8%	21/82 = 25.6%	40/135 = 29.6%

Priority for enrolment into a Full-Day Kindergarten program was given to children living within the school's catchment. Due to Provincial classroom size requirements at the time, FDK classes were capped at 20. If any spaces were still available, any parent had the opportunity to register their child in the program if they lived in a local school catchment or if their child had attended the school for the Nursery program. To match the FDK program to HDK program schools, the study made use of Propensity Score Analysis (PSA). The analysis used 12 student or school background variables and initial assessment scores as covariates. The PSA was successful in achieving balance on all the covariates and was able to match 153 of the 163 students with complete covariate data. The analysis of the student outcome data used in the study is restricted to these matched students and incorporated the Propensity Weight from the PSA as a weighting factor. This resulted in weighted sample sizes of 60 for the FDK group and 93 for the HDK group.

The PSA, which used information from students and families in this study, is important for two reasons. First, it has been established through the literature that FDK will be most beneficial for students residing with families with lower socioeconomic status. Secondly, in order for the evaluation design to succeed, it is important that no statistically significant differences in students' and families' characteristics emerge between the two study groups. Based on the matching procedures used in the selection of students for the analysis, the FDK and HDK students did not differ on any of the nine demographic variables used in the matching. These included gender, age, two parent family, Indigenous ancestry, immigration, English spoken at home, education, low household income, and assessed value of the student's home. In addition, no differences between the two groups was observed in family composition, parent's employment status, and family stability (see Table 2). In all cases the students and families participating in the FDK and HDK programs were statistically similar in Kindergarten, Grade 1 and in Grade 2 regardless of attrition.

Table 2. Student Characteristics in Kindergarten (2015/16)

Student Characteristics	FDK Students	HDK Students
Female	50.0%	47.5%
Male	50.0%	52.5%
Mean Age	5.49 Years	5.48 Years
Indigenous	40.0%	40.3%
Canadian	90.0%	89.9%
Immigrated to Canada	10.0%	10.6%
English spoken at home	95.0%	93.5%
Students' Family Status	FDK Students	HDK Students
Lived with 2 parents	55.0%	55.3%
Lived with 1 parent	38.3%	42.6%
Did not live with parents	1.7%	1.1%
Lived with an agency	5.0%	1.1%
Family Characteristics	FDK Students	HDK Students
Mean median after-tax income	\$35,646	\$34,402

The following evaluation and assessment tools were used over the three years:

- The Strengths and Difficulties Questionnaire (SDQ)
- The Social Emotional Development Scale (SED)
- Students' Divisional Math Assessment Scores
- Students' Divisional ELA Assessment Scores
- Students' Report Card Ratings
- Students' School Attendance

Additionally, the overall evaluation of the FDK program included:

- Results of a Literature Review regarding Full-Day Kindergarten Programs and a related bibliography
- Results of the Early Childhood Environment Rating Scale – Revised (ECERS-R and E) completed in year one
- Results of parent surveys conducted in year one of the evaluation for both HDK and FDK groups
- Results of focus groups conducted with the FDK teachers and administrators in year one

For this evaluation, T-Tests were used to determine whether there were statistically significant differences between mean scores either by time (Term 1 to Term 3), by grade (Kindergarten to Grade 1, Grade 1 to Grade 2, or Kindergarten to Grade 2), or by group (FDK vs HDK). This facilitated the use of repeated measures and also of using weighted data.

RESULTS OF THE EARLY CHILDHOOD ENVIRONMENT RATING SCALE – REVISED (ECERS-R)

The **ECERS-R** rating scale¹ is used to assess process quality. This consists of the various interactions that occur in the classroom between staff and children, staff and parents, and other adults. Process quality also includes interactions between the children themselves, and the interactions that children have with the many materials and activities in the environment. This takes into account the features of these interactions such as space, schedules and the materials provided to children to explore.

A quality program must provide for the three basic needs all children have:

- Protection of their health and safety
- Building positive relationships
- Opportunities for stimulation and learning from experience

It takes all three to create quality care. Each of the three basic components of quality care can be observed in the program's environment, curriculum, schedule, supervision and interactions.

The **ECERS-R** assesses the physical classroom environment and, to a lesser extent, the warmth of the interactions between teachers and students. The scale assesses classroom environments on seven factors:

- Space and Furnishings
- Language and Reasoning
- Interactions
- Parents and Staff
- Personal Care Routines
- Activities
- Program Structure

For this study ECERS-R assessments were conducted in both the Full-Day Kindergarten and Half-Day Kindergarten classrooms. Differences in mean ECERS-R scores for the FDK and HDK classrooms were explored. The same ECERS rater assessed all of these classrooms. The purpose of the ECERS in this study was to obtain measures that could be used to control for environmental differences in the classrooms when making comparisons of academic and social outcomes for this evaluation.

In six of the seven factors HDK classrooms had a higher average score than the FDK classrooms, particularly with regard to Interactions and Program Structure. Higher ECERS scores for the HDK classrooms appear to relate to two factors: HDK classrooms have existed for many years and are much better developed and outfitted than the newer FDK classrooms; and HDK classrooms had two or three adults interacting with the children while FDK classrooms all had one adult. The overall **global ECERS-R scores** across the four **FDK classrooms** ranged from 4.73 to 6.05, with a mean of 5.3. The individual FDK scores reflected ratings of between 'Minimal' and 'Good' to between 'Good' and 'Excellent.' The **ECERS-R scores** across the **HDK classrooms** ranged from 5.85 to 6.25, with a mean of 6.04. The individual HDK scores reflect ratings of between 'Good' and 'Excellent.' The difference between the means for the two groups was -0.73, or 10.6% of the possible score of 7.0.

PERCEPTIONS OF THE FULL-DAY KINDERGARTEN PROGRAM

This section focuses on parents' and educators' satisfaction regarding the Kindergarten programs in their schools in the first year of the FDK Program (2015/16). The parents' data² are derived from two Parent Surveys that were conducted in the fall of the first year of the program and in the spring of that same school year. The educators' responses were derived from two focus groups that were conducted in this same year: one for the four FDK teachers and one for their administrators. Each focus group was approximately 90 minutes in duration.

¹ Links to 2 articles outlining the validity and reliability of the ECERS R/E scales include: www.ersi.info/PDF/ReliabilityEcers.pdf and <https://wvde.state.wv.us/oel/docs/Annotated%20Biblio%20Early%20Childhood%20Measures%20-%20final%20draft.pdf>

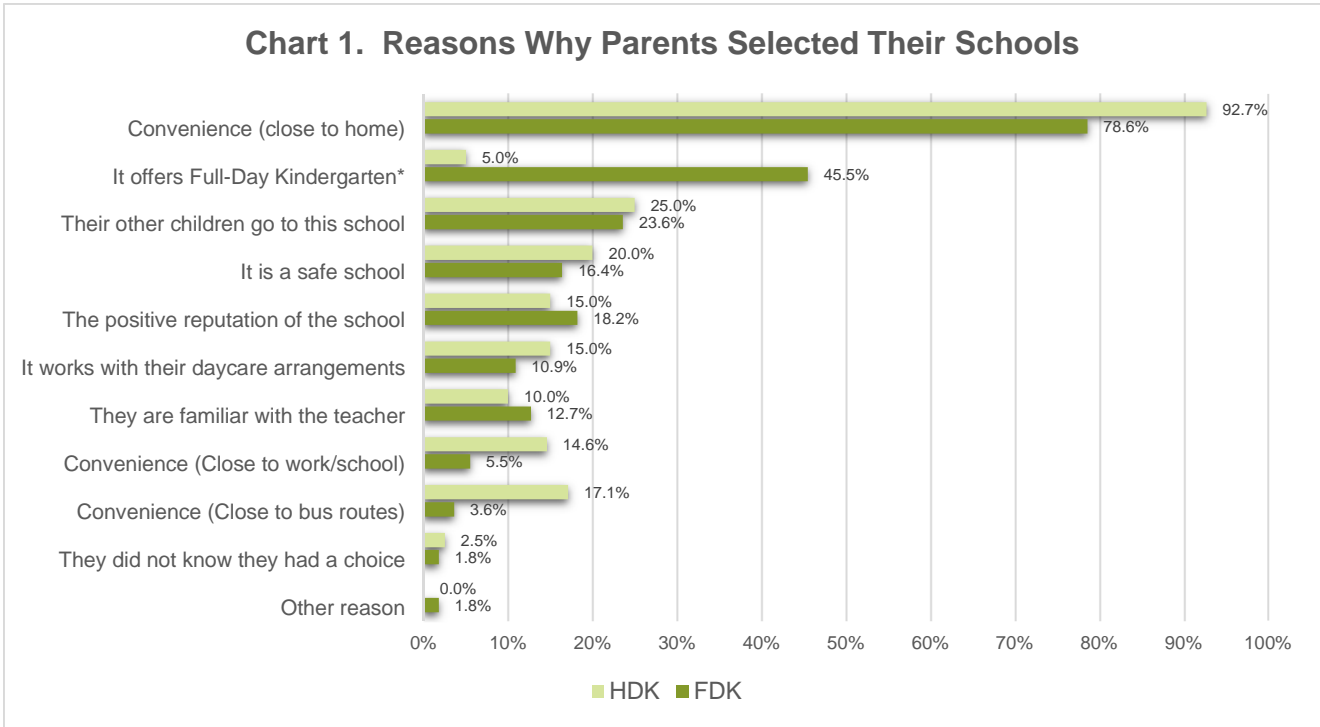
² In this evaluation, the term 'parents' includes caregivers.

PARENTS' PERCEPTIONS – HIGHLIGHTS OF THE PARENT SURVEYS

The parent survey included an array of questions in regards to their home practices, reasons for including their children in the FDK program or not, as well as their opinions in regards to the program. Below are just some of the highlights of the surveys.

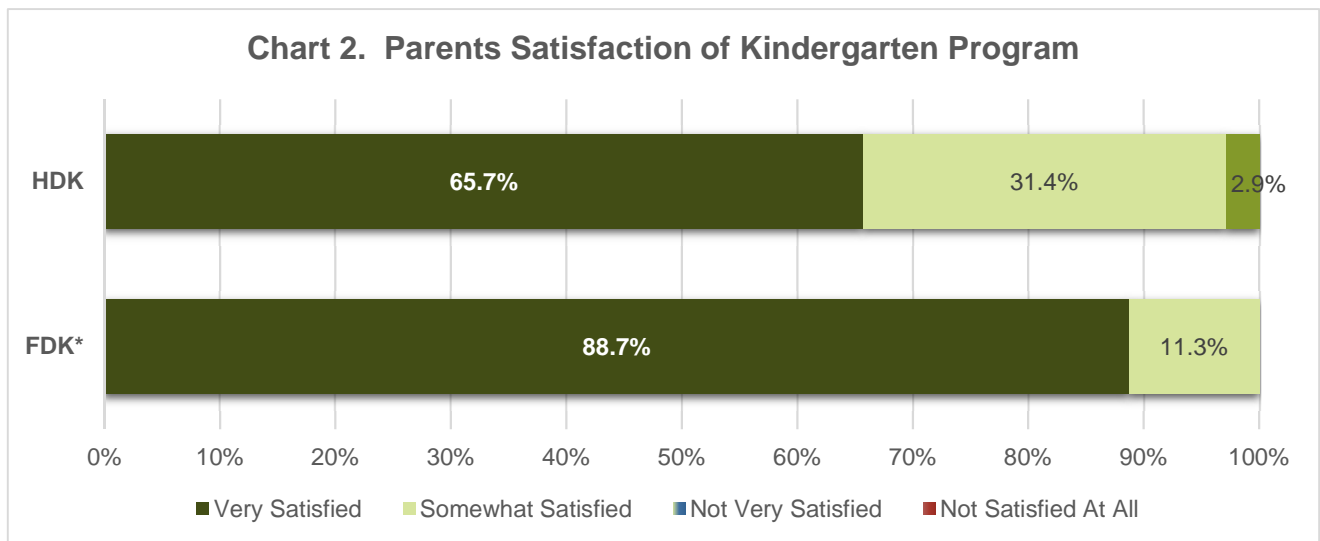
Parents were asked why they selected their schools for their children (see Chart 1). The top three reasons given were:

- For convenience (it was close to their home)
- If offered Full-Day Kindergarten
- Their other children went to the same school



*The one HDK parent who provided this response was hoping that her/his child would attend FDK at their school but this could not be arranged.

Overall, parents of children attending the FDK program were significantly ($p=.026$) more satisfied with their children's Kindergarten program than were the parents of children who attended HDK (see Chart 2). In terms of the FDK parents, 88.7% were very satisfied with their child's Kindergarten program compared with 65.7% of the HDK parents.



STAFF PERCEPTIONS – HIGHLIGHTS OF THE TEACHER AND ADMINISTRATOR FOCUS GROUPS

Note: this section is based on teacher and administrator perceptions of the FDK program.

According to the FDK teachers, the children who benefited the most by participating in the Full-Day program were:

- Students who came into the program either really strong or really weak. They made the most improvement by Grade 1.
- Students with low self-esteem. FDK gave them greater self-confidence and self-esteem.
- Students with behavioural issues. FDK program could effect a positive change.
- Students without daily planned activities. FDK's structure program benefited them.
- Students who were newcomers to Canada. FDK program helped develop better language skills, greater confidence and self-esteem.
- Students who did not go to Nursery school. FDK helped with learning the school routine.
- Students with speech and language issues. FDK provided more time to develop their language skills.

The teachers were able to identify seven benefits of the Full-Day Kindergarten Program. They included:

- The longer day helped build better connections with the students.
- Students learned school routines, built stamina, and were better prepared for Grade 1.
- There was an emphasis on play-based learning.
- Teachers could get to know the children and sometimes their parents.
- There was an increase in parental involvement.
- There was enough time to do projects and the children were more relaxed.
- It was the teachers' perception that student attendance seemed better in the full-day program than that experienced in Half-Day Kindergarten programs.

Administrators of the four original FDK schools in the Winnipeg School Division felt that full-day students benefit because their teachers could spend more time with them and go deeper into their lessons. There was also the perception that the FDK classrooms had fewer students, which would also benefit the students. With the longer day proportionately "less time is spent on cleanup." From the administrators' perspective, FDK students demonstrated "more positive school behaviours." Consistent with comments from the teachers' focus group, it was pointed out that "when [FDK] students entered Grade 1 their teachers could pick them out." Also consistent with the teachers' viewpoint, administrators felt that the Full-Day program benefited students who were new to Canada.

MEASURING STUDENT OUTCOMES BETWEEN GROUPS AND OVER TIME

THE STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ)

The **SDQ**³ measures psychosocial problems and strengths in children and youth ages three to sixteen. The questionnaire consists of 25 items divided across five scales measuring Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, and Prosocial Behaviours. Except for Prosocial Behaviours, the remaining mean scores are combined to reflect the Total Difficulties subscale, indicating the severity of the psychosocial problems. The Prosocial scale indicates the amount of prosocial characteristics a child shows. It has been widely used in both research and practice. The SDQ screens for positive and negative psychological attributes. The SDQ was administered in Term 1 and Term 3 in Kindergarten and only in Term 1 in Grades 1 and 2. The SDQ allowed for three possible ratings for each statement:

- **Not True**, scored as '0'
- **Somewhat True**, scored as '1'
- **Certainly True**, scored as '2'

As some of the items are negative and others positive, **reverse scoring** is used where applicable. Chart 3 provides highlights of the SDQ results by grade for the Total Difficulties scores.

³ Adapted from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2919684/>

CHART 3. STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ) RESULTS BY GRADE



- Both FDK and HDK groups had significantly improved scores from T1 to T3
- HDK students demonstrated more positive outcomes in T1 than FDK students in five of the six SDQ subscales
- Both groups had similar levels of growth between T1 and T3 (no significant differences)



- No significant differences in scores between Kindergarten and Grade 1 for FDK students
- HDK students demonstrated more negative outcomes in Grade 1 compared to Kindergarten (did not see improvements)
- FDK and HDK groups had significantly different levels of growth in scores from Kindergarten to Grade 1



- No differences in scores between groups in Grade 2
- No significant improvements in scores from Grade 1 to Grade 2 for both groups
- Both groups had similar levels of growth between Grade 1 and Grade 2 (no significant differences)

THE SOCIAL AND EMOTIONAL DEVELOPMENT (SED) SCALE

The early years are a time for children to learn who they are as individuals and how to interact with others around them. Social and emotional development affects how the child understands the world and interacts with his or her surroundings. Social emotional development is the process through which children and adults acquire the skills to:

- Recognize and manage their emotions
- Demonstrate caring and concern for others
- Establish positive relationships
- Make responsible decisions
- Handle challenging situations effectively

Chart 4 provides highlights of the SED results over the three years of the evaluation. The information is based on global scores which combines results of all sub-sections of the SED scale developed by WSD⁴. SED data was collected in Term 1 of each year.

CHART 4. SED RESULTS BY GRADE



- Social-emotional data was pulled from the Report Cards
- Both groups showed significant growth in scores between Term 1 and Term 3
- Both groups had similar levels of growth between T1 and T3 (no significant differences)



- FDK group scored significantly higher than the HDK group in Grade 1
- Significant mean increase in FDK scores from Kindergarten to Grade 1
- Significant mean decrease in HDK scores from Kindergarten to Grade 1



- No differences in scores between groups in Grade 2
- Global scores improved significantly from Grade 1 to Grade 2 for both groups
- Both groups had similar levels of growth between Grade 1 and Grade 2 (no significant differences)

⁴ Social Emotional Development Guide, Published by the Winnipeg School Division. June 2015.

THE DIVISIONAL MATH PATHWAY ASSESSMENT

Divisional assessments are conducted three times a year. Results from Term 1 (T1) and Term 3 (T3) of the Math Pathway Assessment were utilized in all three years of the evaluation. The Divisional Math Assessment measures *one strand* of the math curriculum. As a result the scores may differ from the ones in the students' report cards. The Divisional math scores are based on an average score of the seven areas of the Math Pathway Assessment:

- Rote Counting
- Place Value
- Beginning Arithmetical Learning
- Arithmetical Learning
- Flexible Learning
- Pre-Proportional Reasoning
- Modeling and Communicating Mathematical Learning.

For each of the seven areas, a student is scored at one of 10 development levels or signposts. These range from *Pre-Counter* to *Proportional Reasoning – Beginning*. A student that does not even display the beginning stage will receive a score of *Not on the Pathway*. These scores are recorded numerically and the scores of all seven areas are averaged to provide an overall math score. Table 3 provides the results for each group, grade and term. Chart 5 provides highlights of the math pathway assessment's overall scores between grades.

Table 3. Overall Math Results by Grade and Term

Grade	Term	FDK Overall Score	FDK Grade Level Score	HDK Overall Score	HDK Grade Level Score
K	T1	2.69	On Track	2.65	On Track
	T3	4.46	On Track	4.26	On Track
1	T1	4.73	On Track	4.76	On Track
	T3	7.61	Needs Support	6.89	Needs Support
2	T1	7.63	Needs Support	7.30	Needs Support
	T3	9.67	Needs Intervention	9.69	Needs Intervention

CHART 5. SUMMARY OF DIVISIONAL MATHEMATICS ASSESSMENT

K

- Both FDK and HDK scores improved significantly between T1 and T3
- Both groups had similar levels of growth between T1 and T3 (no significant differences)
- Both groups were On Track in Kindergarten

1

- Overall scores improved significantly between T1 and T3 for both groups. FDK scores increased significantly more than HDK between T1 and T3
- Both groups improved significantly from Kindergarten (T1) to Grade 1 (T3)
- Both groups had similar levels of growth between Kindergarten (T1) and Grade 1 (T3) (no significant differences)

2

- No differences in scores between groups in Grade 2
- Overall scores improved significantly from T1 to T3 for both groups
- Both groups had similar levels of growth between T1 and T3 (no significant differences). FDK had borderline* significantly greater growth between T1 and T3 compared to HDK.

* Borderline significance is used periodically in this report to describe differences between groups or over time that are not statistically significant, with a p-value of .06 and .07, but are otherwise notably different, especially given the reduced sample sizes due to student attrition over time.

RESULTS REGARDING THE DIVISIONAL ENGLISH LANGUAGE ARTS (ELA) ASSESSMENTS

The Divisional Language Arts (ELA) Assessments in Kindergarten are based on the Division's *Explore and Discover Assessment* tool and include the following five areas:

- Language
- Phonological Awareness
- Alphabet Knowledge
- Print Awareness
- Early Writing

The Kindergarten assessments provide one Overall ELA score which combines early writing and reading together. In Grades 1 and 2, the ELA assessments scores are broken down into two sections: Writing and Reading. The Writing section is based on the 6 Traits of Writing and the Reading section is based on the *Fountas and Pinnell Benchmark Assessment System*⁵. Each section is described in more detail below.

WRITING ASSESSMENTS

Writing Assessments are based on the six Traits of Writing: Ideas, Organization, Voice, Word Choice, Sentence Fluency, and Conventions. Each trait is scored separately (1 to 9) then combined into an Overall Writing Score (6 to 64). Overall Writing Scores are converted to grade level scores based on term and grade (see Table 4).

Table 4. Writing Conversion Chart for Grades 1 and 2

Grade Level Score	Grade 1		Grade 2	
	Term 1	Term 3	Term 1	Term 3
Above Grade Level	24+	30+	30+	36+
On Track – At Grade Level	18-23	24-29	24-29	30-35
Needs Intervention	12-17	18-23	18-23	24-29
At Risk	6-11	6-17	6-17	6-23

For example, a Grade 1 student with an overall writing score of 13 in Term 1 would fall in the *Needs Intervention* category. If, by Term 3, their score still remained at 13, they would fall in the *At Risk* category. Below is an overview of Overall Writing Scores for FDK and HDK by grade and term (Table 5).

Table 5. Overall Writing Results by Grade and Term

Grade	Term	FDK Overall Score	FDK Grade Level Score	HDK Overall Score	HDK Grade Level Score
K*	T1	5.01	Exploration – Developing	4.91	Exploration – Developing
	T3	7.03	Experimenting – Developing	6.81	Experimenting - Developing
1	T1	15.60	Needs Intervention	13.89	Needs Intervention
	T3	22.13	Needs Intervention	21.75	Needs Intervention
2	T1	21.14	Needs Intervention	22.51	Needs Intervention
	T3	26.11	Needs Intervention	27.69	Needs Intervention

*Kindergarten uses *Explore and Discover* tool which provides unique Overall ELA Scores and Grade Level Scores.

⁵ Adapted from Fountas and Pinnell Benchmark Assessment for Reading (2009).

Kindergarten scores for Term 1 and Term 3 for both groups are within the expected grade level: *Exploration – Developing* for Term 1 and *Experimenting – Developing* for Term 3. Grade 1 and Grade 2 Overall Writing scores are at the *Needs Intervention* Grade Level for both terms and grades.

READING ASSESSMENTS

The *Fountas and Pinnell Benchmark Assessment System* consists of a series of carefully designed benchmark books that measure the level of difficulty at which a student is able to read fiction and nonfiction texts. The books range in difficulty from those for beginning readers (A) to those for advanced readers (Z). They are accompanied by an extensive document, *The Continuum of Literacy Learning, Grades K–8: Behaviors and Understandings to Notice, Teach, and Support*⁶, which lists text characteristics, reading behaviors, and features of comprehension along a grade-by-grade developmental continuum. Included are diagnostic assessments for the following components of reading ability:

- Comprehension within, beyond, and about the text
- Writing about reading
- Fluency
- Phonemic awareness
- Letter names
- Early literacy behaviors
- Phonics and word analysis
- High frequency word reading
- Vocabulary knowledge

The reading levels (A-Z) are converted to month equivalents in order to create scores and compare results (see Table 6).

Table 6. Reading Levels and Month Equivalents

Reading Level	Pre-A	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Month Equivalent	3.5	7.5	10.5	12	13.5	14.5	16	17.5	18.5	21	24	26	28	31	34	37.5	41	44

Reading Level	R	S	T	U	V	W	X	Y	Z
Month Equivalent	47.5	51	54	57.5	61	64	67.5	72.5	78

The grade level expectations are based on the reading levels (see Table 7). From these tables you can determine that in Grade 2, Term 1, a student is expected to be reading at a *Level I* which corresponds to a month equivalent score of 21. By Term 3, a student in Grade 2 is expected to have reached a *Level M* reading level, which corresponds to a month equivalent score of 31.

Table 7. Reading Conversion Chart for Grades 1 and 2

Grade Level Score	Grade 1		Grade 2	
	Term 1	Term 3	Term 1	Term 3
Above Grade Level	E+	J+	K+	N+
On Track – At Grade Level	C/D	I	I/J	M
Needs Improvement	B	F-H	G-H	J-L
At Risk	A or below	E or below	F or below	I or below

Table 8 provides the Overall Reading results by grade and term. The Kindergarten results are the same as presented in Table 7 and represent the Overall ELA score from the *Explore and Discover* Assessment tool.

⁶ Pinnell, G.S., & Fountas, I.C. (2007). *The Continuum of Literacy Learning, Grades K–8: Behaviors and Understandings to Notice, Teach, and Support*. Portsmouth, NH: Heinemann.

Table 8. Overall Reading Results by Grade and Term

Grade	Term	FDK Overall Score	FDK Grade Level Score	HDK Overall Score	HDK Grade Level Score
K*	T1	5.01	Exploration – Developing	4.91	Exploration – Developing
	T3	7.03	Experimenting – Developing	6.81	Experimenting - Developing
1	T1	7.13 (A)	At Risk	6.34 (A)	At Risk
	T3	16.73 (F)	Needs Improvement	16.17 (F)	Needs Improvement
2	T1	15.39 (E/F)	At Risk	17.57 (G)	Needs Improvement
	T3	25.54 (J/K)	Needs Improvement	28.47 (L)	Needs Improvement

*Kindergarten uses Explore and Discover tool which provides unique Overall ELA Scores and Grade Level Scores.

Chart 6 provides a summary of results from the ELA Divisional Assessments used in Kindergarten, Grade 1 and Grade 2 including comparisons between groups and years.

CHART 6. SUMMARY OF DIVISIONAL ENGLISH LANGUAGE ARTS ASSESSMENTS (READING & WRITING)

K

- Both FDK and HDK scores improved significantly between T1 and T3
- Both groups had similar levels of growth between T1 and T3 (no significant differences)
- In Term 1, both groups scored within the Exploration - Developing level and in Term 3, within the Experimenting - Developing level. These are the expected levels for students in Kindergarten.

1

- Reading scores improved significantly for both groups between T1 and T3
- Both started at a Level A (At Risk) in Term 1 and finished at a Level F (Needs Improvement) in Term 3
- Writing scores improved significantly for both groups between T1 and T3 (all scores were within the 'Needs Intervention' grade level score)
- Both groups had similar levels of growth in reading and writing between T1 and T3 (no significant differences)

2

- Reading scores improved significantly for both groups between T1 and T3
- FDK students grade level score went from At Risk (E/F) in T1 to Needs Improvement (J/K) in T3
- HDK students grade level score remained at Needs Improvement for both terms (from G in T1 to L in T3)
- Writing scores improved significantly for both groups between T1 and T3
- HDK showed significant growth in writing scores between Grade 1 (T1) and Grade 2 (T3) compared to FDK

REPORT CARD RESULTS

The Kindergarten Report Cards were developed by the Winnipeg School Division and examine the following four domains of student development:

- Social emotional development (3 items)
- Fundamental movement and health development (3 items)
- Arts, language and literacy development (14 items)
- Mathematics development (10 items)

The Grade 1 and Grade 2 report cards, developed by the Province of Manitoba⁷, examine the following five areas of student assessment:

- English Language Arts (ELA)
- Mathematics
- Science
- Social Studies
- Physical and Health Education

For each item of the report card, one of the following five ratings is possible (scores are in parentheses):

- Does not yet demonstrate the required understanding and application of concepts and skills (0)
- Limited understanding and application of concepts and skills (1)
- Basic understanding and application of concepts and skills (2)
- Good understanding and application of concepts and skills (3)
- Very good to excellent understanding and application of concepts and skills (4)

Within each section of the report card the ratings for the items were averaged to yield a total section score.

For this evaluation, students' report card results were examined at Term 1 and Term 3 for all three years (Kindergarten, Grade 1 and Grade 2). Students with Individualized Education Plans (IEP), students identified as EAL (English as an Additional Language) or those with missing data were excluded from the analysis. The number of missing records between both groups (FDK and HDK) was not significantly different. The flag of IEP and EAL were only available in the ELA and Mathematics sections of the report card.

Below are some of the highlights of the report cards for Kindergarten, Grade 1 and Grade 2 analyses.

HIGHLIGHTS OF THE KINDERGARTEN REPORT CARDS:

- Both FDK and HDK improved significantly from Term 1 report cards to Term 3 reports cards in Kindergarten in all four areas of assessment
- FDK showed significantly greater growth than HDK from T1 to T3 in:
 - o Fundamental movement and health development ($p < .001$)
 - o Arts, language and literacy development ($p < .001$)
 - o Mathematics ($p = .018$)
- There were no significant differences in growth in Social emotional development scores between groups ($p = .86$)
- The total report card rating is the sum of all 30 items rated on the report cards across the four domains. In Kindergarten, FDK students demonstrated a significantly greater amount of growth than the HDK students in their total report card rating ($p < .001$) between Term 1 and Term 3.

HIGHLIGHTS OF THE GRADE 1 REPORT CARDS:

- Both FDK and HDK improved significantly from Term 1 report cards to Term 3 report cards in Grade 1 in all five areas of assessment
- There were differences in growth between groups from T1 to T3. FDK scored higher in:
 - o English Language Arts ($p = .017$)
 - o Mathematics ($p = .015$)
 - o Physical and Health Education ($p = .041$)
- No significant differences between groups existed in:
 - o Science ($p = .23$)
 - o Social Studies ($p = .28$)
- FDK had significantly higher scores than HDK in Term 1 in Mathematics and Social Studies. By Term 3, no differences existed between groups.

⁷ https://www.edu.gov.mb.ca/k12/assess/docs/report_card/index.html

HIGHLIGHTS OF THE GRADE 2 REPORT CARDS:

- Both FDK and HDK improved significantly from Term 1 report cards to Term 3 report cards in Grade 2 in all five areas of assessment (*FDK improvement in Science was considered borderline significant (p=.06))
- At the end of Grade 2, both groups were compared in all five sections of the report cards and results between groups were comparable except in Physical and Health Education where HDK did better (p=.025)
- There were no differences in growth between Term 1 and Term 3 for both groups other than in Physical and Health Education where HDK had a significantly larger growth between T1 and T3 than FDK (p=.025).

STUDENTS' SCHOOL ATTENDANCE

During each school year, the overall attendance for students was averaged and compared group to group. In Kindergarten and Grade 1 the differences between groups were significantly different where FDK students attended more often than HDK students (see Table 9). By Grade 2, the difference between groups was no longer significantly different.

Table 9. Mean Attendance by Grade and Group

Grade	FDK	HDK	Different?
Kindergarten	90.9%	86.6%	Yes (p=.006)
Grade 1	90.4%	86.5%	Yes (p=.042)
Grade 2	90.0%	86.4%	No (p=.12)

SUMMARY

Below is a summary of all the tools and assessments used in the three year FDK evaluation.

Characteristics Between Groups

- No significant differences existed between groups in each of the nine characteristics in Kindergarten, Grade 1 and again in Grade 2.
- No differences existed in Gr1 and Gr2 even after taking the attrition rate into account.

ECERS-R

- On average, HDK classrooms scored higher than the FDK classrooms on the global ECERS-R rating and in six of the seven subscales.
 - FDK classrooms rated between 'Minimal' and 'Good'
 - HDK classrooms rated between 'Good' and 'Excellent'

Parent Survey

- The main reasons parents picked the Kindergarten program was because it was close to home, offered FDK or because their other children were already attending the school.
- 88.7% of FDK parents were very satisfied with the Kindergarten program compared to 65.7% of HDK parents.

Teacher Focus Group

- Teachers thought certain students benefited more from the FDK program (e.g., those with low self-esteem, behaviour issues, newcomers to Canada, etc.).
- Teachers said some of the benefits of FDK programming included more time to build connections, get to know students and families and to work on projects.

Administrator Focus Group

- Administrators thought teachers could spend more time with students and go deeper into their lessons in the FDK program. They also thought that FDK students demonstrated more positive school behaviours.

SDQ Results

- HDK students started Kindergarten with more positive outcomes in 5 of the 6 SDQ subscales. In Grade 1, HDK scores regressed whereas FDK scores remained the same. By Grade 2, scores for both groups were similar (the differences between groups no longer existed).

SED Scale

- In Kindergarten, there were similar scores and levels of growths between both groups. The FDK group improved significantly between K and Grade 1 and finished the year with higher scores than HDK. By Grade 2, the differences between groups no longer existed. Both groups had similar scores.

Divisional Math Assessments

- Both groups had significant growth from grade to grade. In Grade 1, FDK growth scores were significantly larger than HDK scores. In Grade 2, this difference between groups was of borderline significance ($p=.06$).

(Note: the Divisional Math Assessment measures *one strand* of the math curriculum)

ELA Assessments

- Both groups scored within the expected grade levels in Kindergarten and showed similar levels of growth. In Grade 1, scores and growth levels for both groups in reading and writing were similar. By the end of Grade 2, both groups had similar reading and writing scores.

Report Cards

- In Kindergarten, FDK students showed significantly larger growth in 3 of the 4 report card sections, as well as in the total report card rating. In Grade 1, both groups had similar scores in all sections. At the end of Grade 2, both groups had comparable results in all sections except in Physical and Health Education where HDK did better.

Attendance

- In both Kindergarten and Grade 1, FDK students attended school significantly more often than HDK students. In Grade 2, there were no differences between groups in attendance rates.

CONCLUSION

The Full-Day Kindergarten pilot program was established to identify gaps in learning within the Winnipeg School Division. The FDK pilot program which began in 2014/15 was expanded in 2015/16 to include five additional schools. In 2016/17, two more schools were added bringing the total to 11. As of 2019/20, there were approximately 200 students enrolled in Full-Day Kindergarten across the Division. The remaining 2,000 Kindergarten students were enrolled in a Half-Day Kindergarten program. To determine whether the program should be supported and/or expanded it was necessary to review the results of the evaluation to determine whether the FDK program had any positive effects on the students and whether any gap in academic learning in the early years existed between Half-Day Kindergarten and Full-Day Kindergarten.

The evaluation examined students' growth regarding both their social and emotional development as well as their academic development. The three year evaluation compared results between groups at each grade level as well as the growth within each school year and between school years. In the final year of evaluation, results indicated that there were no significant differences between FDK students and HDK students in the majority of the assessments tools used. The exception to this was in the Divisional Math Assessment scores where FDK students scored significantly higher than HDK students in terms of growth in Grade 1 and borderline significantly higher in Grade 2. It is important to note that the Divisional Math Assessment tool measures only one strand of the math curriculum and does not represent the overall outcomes and achievement indicators of math at each grade level. The other difference in scores between groups in Grade 2 was in the Physical and Health Education section of the report card where HDK students demonstrated a greater growth in scores than FDK at the end of Grade 2.

In terms of social and emotional development, SDQ and SED results indicated that in Grade 1, FDK students consistently had greater growth than HDK students in sub-sections of the SDQ and in the Global SED scores. Although these differences did not continue into Grade 2 this is a relevant finding and therefore important to note.

The data did not show that the FDK program had any impact on academic performance in later years as there were no sustained growth improvements for FDK students compared to HDK students.