AN INVESTIGATION OF THE FEATURES AND EFFECTIVENESS
OF THE FULL-DAY EARLY LEARNING KINDERGARTEN
PROGRAM IN ONTARIO

by

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ABSTRACT

This dissertation includes two studies. Study 1 is a qualitative case study that describes enactment of the main components of a high fidelity Full-Day Early Learning Kindergarten (FDELK) classroom, specifically play-based learning and teacher-ECE collaboration. Study 2 is a quantitative analysis that investigates how effectively the FDELK program promotes school readiness skills, namely self-regulation, literacy, and numeracy, in Kindergarteners. To describe the main components of an FDELK classroom in Study 1, a sub-sample of four high fidelity case study schools were selected from a larger case study sample. Interview data from these schools’ administrators, educators, parents, and community stakeholders were used to describe how the main components of the FDELK program enabled educators to meet the individual needs of students and promote students’ SR development. In Study 2, hierarchical regression analyses of 32,207 students’ self-regulation, literacy, and numeracy outcomes using 2012 Ontario Early Development Instrument (EDI) data revealed essentially no benefit for students participating in the FDELK program when compared to peers in Half-Day or Alternate-Day Kindergarten programs. Being older and female predicted more positive SR and literacy outcomes. Age and gender accounted for limited variance in numeracy outcomes. Results from both studies suggest that the Ontario Ministry of Education should take steps to improve the quality of the FDELK program by incorporating evidence-based guidelines and goals for play, reducing Kindergarten class sizes to more effectively scaffold learning, and revising curriculum expectations to include a greater focus on SR, literacy, and numeracy skills.
I am grateful to God that I had the opportunity and privilege to pursue my PhD. Throughout this journey, I worked with incredible people who greatly contributed to the quality of my work. Dr. John Freeman’s invaluable support helped refine my thinking around key concepts and analyses, all the while challenging me to continually strive for excellence. Dr. Lynda Colgan’s insights about qualitative research, particularly around cross-case analysis, were foundational to the qualitative study. Dr. John Kirby provided expertise and guidance in regard to constructs and statistical analyses of the quantitative study.

I wish to acknowledge the Ontario Ministry of Education for granting me permission to use the qualitative data collected from the Evaluation of the Implementation of the Full-Day Early Learning Kindergarten (FDELK) program for the qualitative study. Special thanks to Jim Grieves, former Assistant Deputy Minister (ADM) of the Early Learning Division, for assisting with the approval process.

I wish to acknowledge the Offord Centre at McMaster University for allowing me to use the 2012 Early Development Instrument (EDI) dataset for the quantitative study. Special thanks to Magdalena Janus, Rob Raos, and Amanda Offord for hosting me at the Offord Centre and helping me navigate the EDI dataset.

Lastly, a huge thank you to my loving family and friends, particularly my husband and three children, for their encouragement, patience, and support. I could not have accomplished this milestone without the dedication of such an amazing group of people.
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This chapter provides context for my research on the Full-Day Early Learning Kindergarten (FDELK) program by introducing the purpose of the work, highlighting my interest in (and connection to) Full-Day Kindergarten (FDK), discussing critical concepts related to the research, and describing challenges in data access. Details about the structure of my dissertation are also included in this chapter.

**Purpose of this Dissertation**

The new Full-Day Early Learning Kindergarten program in Ontario provides researchers with an opportunity to investigate the nature of the teaching and learning occurring in the program and the effectiveness of the program. Accordingly, the purpose of this study was twofold: a) to describe how the main components of a high fidelity FDELK classroom, namely play-based learning and teacher-ECE collaboration, are enacted and experienced in the classroom and b) to investigate how effectively the FDELK program promotes school readiness skills, namely self-regulation, literacy, and numeracy, in Kindergarteners. Each of these purposes is addressed in a separate manuscript. Chapter 2 describes Study 1 (the qualitative study), while Chapter 3 describes Study 2 (the quantitative study). Chapter 4 is a general discussion of both studies that includes implications of this research.
Overview of the Two Studies

Study 1

Study 1 is a qualitative case study that examines the nature of the primary components of the FDELK program, play-based learning and teacher-ECE collaboration, in high fidelity schools. High fidelity schools are those that describe implementing practices closely matching the Ontario Ministry of Education’s (OME) vision for the FDELK program as outlined in the program document (OME, 2010). Study 1 includes educators’ reports of how the main features of the FDELK program enabled them to meet the needs of individual students and promote the development of self-regulation—an important aspect of school readiness in students. The qualitative data used for this study were collected by the Social Program Evaluation Group (SPEG), Queen’s University, during a two-year evaluation of the Implementation of the Full-Day Early Learning Kindergarten (FDELK) program, an evaluation commissioned by the Ontario Ministry of Education. Interview data from a sub-sample of FDELK administrators, educators (teachers, ECEs, and Educational Assistants), community stakeholders, and parents were used to create complete profiles of four high fidelity FDELK schools (see Appendix A for school profiles). The sub-sample of participants from four high fidelity schools was selected from a larger sample of 10 FDELK English-language schools.

Study 2

Study 2 is a quantitative investigation of the effectiveness of the FDELK program in promoting school readiness, specifically self-regulation and the related academic outcomes of literacy and numeracy. It examines (a) the extent to which participating in the Full-Day Early Learning Kindergarten program predicted better self-regulation
outcomes in students after accounting for student- and school-level characteristics, (b) the extent to which participating in the Full-Day Early Learning Kindergarten program predicted better literacy outcomes in students after accounting for student- and school-level characteristics, and (c) the extent to which participating in the Full-Day Early Learning Kindergarten program predicted better numeracy outcomes in students after accounting for student- and school-level characteristics. This study used 2012 Early Development Instrument (EDI) data, a measure of school readiness, collected by the Offord Centre at McMaster University. The Offord Centre had ethics clearance to collect data for Senior Kindergarten (SK) students with a passive consent process.

**Autobiographical Sketch**

This research builds upon my background as a Kindergarten teacher. My first teaching position was as an SK teacher in a small private school. I had 16 students in a full-day, every day program. While the training I received during my Bachelor of Education degree emphasized the importance of students constructing their own knowledge through meaningful experiences, the approved school curriculum was very skills-based. I appreciated how easy it was to implement a straightforward curriculum but found it a challenge to maintain the attention of 4- and 5-year-olds in my class for any length of time (over five minutes!). As a result, I supplemented the skills-based curriculum with games, activities, and inquiry-based learning to hold the students’ interest. In my class, students were only given the opportunity to take part in play centres at the end of the day, once all of their other work was completed. By the end of the year, most students were reading one- and two-vowel words and had a good grasp of numeracy concepts (counting to 100, one-to-one correspondence, understanding more/less
relationships, decomposing numbers into ones and tens). After teaching Kindergarten for two years, I pursued my Master of Education degree in Cognitive Studies at Queen’s University. Many of my graduate school courses confirmed the importance of direct instruction in promoting early school success.

Four years after completing my master’s degree, I accepted a Research Associate position with the Social Program Evaluation Group (SPEG) at Queen’s University. During that time, because of my interest in early learning, a colleague made me aware of a Request for Proposals from the OME for the Evaluation of the Implementation of the Full-Day Early Learning Kindergarten (FDELK) program. As an experienced Kindergarten teacher, I wondered why and how the OME was going to adopt a play-based Full-Day Kindergarten program. Based upon my interest in the FDELK program, our research group formed an expert team of researchers and developed a proposal to evaluate the program’s implementation during its first two years. Dr. Mary-Louise Vanderlee of Brock University and I constructed a plan for the qualitative component of the evaluation, and I was also part of the team that developed the quantitative evaluation plan. When our proposal was accepted by the Ontario Ministry of Education, I became the Project Manager for the evaluation. As the Project Manager, I was heavily involved in the qualitative case study component of the research as I helped develop case study protocols, trained research assistants, collected data (at seven of the 16 case study schools), analyzed data, and wrote reports for the Ministry of Education. Although we were not given the type of quantitative data we anticipated, I took part in quantitative team consultations with the limited data we were given. Over the course of my work on the FDELK Evaluation, which became part of my doctoral research, my interest in the
notion of School Readiness that began when I taught Kindergarten was renewed. What skills do young children need to be prepared for success in Grade 1, in particular, and the school system, in general?

**School Readiness**

School readiness is a judgment about the degree to which children are equipped with the skills/competencies they need to be successful in formal schooling (Carlton & Winsler, 1999; Snow, 2006). It was not until formal education became compulsory that a judgment about whether or not students were able to meet the demands of school was needed (Headley, 1965; Snow, 2006). Moreover, Kindergarten programs became a means of equipping young children with the school readiness skills they needed to be successful in school.

The Kindergarten movement was founded by Friedrich Froebel in Germany during the early 1800’s (Provenzo, 2009). The term Kindergarten emerged from Froebel’s conception of teachers as gardeners and children as the plants that need to be nurtured; Kindergarten essentially means garden of children, kinder meaning child and garten meaning garden (Headley, 1965). Froebel’s Kindergarten acknowledged that children’s learning begins shortly after birth. It incorporated play-based learning through the use of play materials (“gifts”) and hands-on activities (“occupations”) to capitalize on children’s inclination towards being active. Children’s early sensory experiences with play materials (blocks, balls of yarn, and geometric shapes) were believed to promote early language development because children were actively involved in understanding and describing material properties (Froebel, 1887). When Kindergarten was initially
developed by Froebel, learning in childhood was seen as important in its own right and not merely as preparation for later education (Bruce, 2011).

As compulsory primary education and Kindergarten began to grow in popularity in North America from the mid-1800s to the early 1900s, the notion of school readiness began to emerge as a prerequisite for being in Kindergarten and as a focus of Kindergarten programs (Headley, 1965; Snow, 2006). During that time, school officials’ determination of school readiness was often based on the maturational theory of development that children need to be old enough and display a certain level of maturity to be ready for the demands of school (Gesell, 1925). The greatest criticism of a maturationistic perspective is that it takes a passive approach to children who are “unready” for school or the development of particular skills/competencies; such children just need more time to develop (Carlton & Winsler, 1999).

When Kindergarten became integrated into public schools in the early 1900s, it placed greater demands on students: Kindergarten curriculum became more unified with Grade 1 curriculum and the age range narrowed from 3-7 year-olds to 4-5 year-olds (Ross, 1976; Weber, 1969). In the mid-1950s, two distinct philosophies around Kindergarten were prominent among parents: a) children needed more rigorous academics in Kindergarten, and b) the nature of children should be respected in Kindergarten (Weber, 1969). Despite some parental reservation, Kindergarten became increasingly more academic in North America, with students spending less and less time involved in free play or “choice time” (Miller & Almon, 2009). In response to the greater academic demands placed on children in Kindergarten, the notion of developmentally appropriate practice (DAP) arose. DAP is characterized by teachers meeting children
where they are in regard to their stage of development and supporting them to achieve learning goals (National Association for the Education of Young Children [NAEYC], 2015). There are three core considerations of DAP: knowing about child development and learning, knowing what is individually appropriate, and knowing what is culturally appropriate (NAEYC, 2015). To promote the success of children who develop at different rates and who have different early experiences, early childhood experts thus called for a paradigm shift from understanding school readiness solely as the child being ready for school to including the standpoint that schools also should be ready to meet the needs of diverse children through developmentally appropriate practices (Carlton & Winsler, 1999; NAEYC, 1995).

School readiness is conceived as a complex multi-dimensional construct composed of distinct skills that prepare students for school (Ackerman & Barnett, 2005; Snow, 2006). The American National Education Goals Panel (1995) identified school readiness as a composite of five dimensions: a) physical well-being and motor development; b) social and emotional development; c) approaches towards learning (predispositions and learning styles); d) language development (including early literacy); and e) cognition and general knowledge. Similarly, the Ontario Ministry of Education adopted a multi-dimensional understanding of school readiness reflected in the FDELK program curriculum document that focuses on six learning areas: a) personal and social development; b) language; c) mathematics; d) science and technology; e) health and physical activity; and f) the arts (Ontario Ministry of Education [OME], 2010).

Studies on school readiness skills stress the critical role of early literacy, numeracy, and attention skills in preparing students for later success (Duncan, Magnuson,
Huston, Klebanov, & Brooks-Gunn, 2007; Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006; Pagani, Fitzpatrick, Archambault, & Janosz, 2010). Using six longitudinal data sets, Duncan et al. (2007) examined the link between Kindergarten entry academic, attention, and socioemotional skills and later reading and math achievement. Across all six studies, the strongest predictors of later achievement were school-entry reading, math, and attention skills.

Early literacy refers to two broad categories of skills that contribute to a young child’s ability to read: decoding and comprehension skills (Whitehurst & Lonigan, 1998). Decoding skills include alphabet knowledge (that letters arbitrarily correspond to sounds) and phonological awareness (words are made up of sound units that can be isolated and manipulated), whereas comprehension skills include children’s knowledge of the world, their vocabulary, and their grammatical abilities (Golstein, 2011). Both decoding and comprehension skills are necessary for young children to become fluent readers and understand what it is they are reading (Sénéchal & LeFevre, 2014). Children who experience reading difficulties tend to fall into two broad groups: those who have weak decoding skills and those who have both weak decoding and comprehension skills (Torgesen, 2004). To promote the school readiness of all students, it is suggested that Kindergarten educators teach both decoding and comprehension skills.

Similar to early literacy, early numeracy refers to two broad categories of skills that contribute to young children’s mathematical understanding: numeral representations (counting and basic computation skills; Desoete & Gregoire, 2006) and logical operations (comparison and classification; Nunes & Bryant, 1996). In this sense, early numeracy involves understanding the code of how numbers are represented and understanding the
relationships among numbers. Mathematical thinking develops as children’s understanding and ability to make relational statements grows (Smith, 2002). To promote school readiness, educators should not only teach the basics of how to represent numbers, but focus on how numbers relate to each other.

In addition to the important role that discrete academic skills play in fostering school readiness, research acknowledges the importance of self-regulation (SR) in promoting early school success (Blair & Diamond, 2008; McClelland & Cameron, 2012; McClelland et al., 2007). Self-regulation refers to a person’s ability to pursue purposeful, goal-directed behaviour (Barkley, 2001). SR is a complex psychological process that requires individuals to inhibit impulsive or habitual behaviour, consider multiple courses of action, and select the most advantageous outcome, even if the advantage is not immediate (Barkley, 2001). The ability to self-regulate facilitates decision making, problem solving, and strategy selection.

Self-regulation is significantly and positively correlated with academic skills (Howse, Clakins, Anastopoulos, Keane, & Shelton, 2003; McClelland et al., 2007), with self-regulation growth predicting academic skills growth (Becker, Miao, Duncan, & McClelland, 2014; McClelland et al., 2007; Nesbitt, Farran, & Fuhs, 2015; Welsh et al., 2010). Consequently, developing self-regulation in preschool and Kindergarten settings may help improve children’s future school success (Blair & Diamond, 2008). Focusing on the development of SR may be especially important for children from disadvantaged socio-economic homes who may be at greater risk for poor self-regulatory skills (McClelland & Cameron, 2011; Wanless, McClelland, Tominey, & Acock, 2011). Self-regulation in preschoolers appears to be supported by engaging classroom activities
(Nesbitt, Farran, & Fuhs, 2015), a positive relationship with teachers (Williford, Vick Whittaker, Vitiello, & Downer, 2013), comprehensive curriculum that focuses on self-regulation instruction (Diamond, Barnett, Thomas, & Munro, 2007), and game playing and dramatic play (Bodrova & Leong, 2006). Self-regulation and how it can be developed is addressed in greater detail in the literature reviews of Chapters 2 and 3.

The Context of Early Learning in Canada and Ontario

In recognition of the fact that it is important to support the development of specific knowledge, skills, and behaviours in children to ensure their success in school and later life, members of the Council of Ministers of Education, Canada (CMEC) are working collectively and individually to provide quality early learning opportunities for Canadian children (CMEC, 2008). For example, the Ministers released a statement on play-based learning in full support of using purposeful play to promote positive outcomes for children (CMEC, 2012). CMEC also created an Early Learning and Development Framework highlighting six principles, which includes learning through play (principle #5) and the need for caring and responsive educators to support learning (principle #6; CMEC, 2014).¹

Correspondingly, major shifts have occurred with respect to the context of early learning in Ontario. The Early Learning Division [ELD] was established at the Ontario

¹ The CMEC’s six principles are as follows:

a) The child is integral to policy and program development.
b) The family is central to a child’s development.
c) Honouring the diversity of children and families is integral to equity and inclusion.
d) Safe, healthy and engaging environments shape lifelong learning, development, behaviour, health and well-being.
e) Learning through play capitalizes on children’s natural curiosity and exuberance.
f) The educator, or the extended family as educator, is central to supporting learning and development through responsive and caring relationships.
Ministry of Education in 2010, with a mandate to oversee child care and Full-Day Kindergarten in Ontario. The ELD adopted an almost identical six-principle Early Learning Framework to that of CMEC, although the ELD framework is more tailored to the school system than is that of CMEC.² For example, the ELD’s framework identifies that partnerships with families and communities can help best meet the needs of children (principle #2), a planned program supports early learning (principle #4), and Early Childhood Educators are an essential element of early childhood settings (principle #6; OME, 2015).

One of the initial responsibilities of the Early Learning Division was to facilitate the implementation of the FDELK program offered universally for 4- and 5-year-olds across the province. The FDELK program is part of the OME’s “overall plan to help more children get a strong start in school, so they can have successful, rewarding lives” (OME, 2010, p. 1). The key components of the program encompass: the use of play-based curriculum to promote self-regulation in children, a team-teaching approach involving a certified teacher and an Early Childhood Educator (ECE) in each class (with average class sizes of 26), and the availability of extended care in the school setting to make transitions for young children easier (Pascal, 2009). During the first phase of implementation in the 2010/2011 school year, FDELK was launched at nearly 600

² The OME’s six principles are as follows:

a) The early years set the foundation for lifelong learning, behaviour, health and well-being.
b) Partnerships with families and communities help early childhood settings to best meet the needs of young children.
c) Respect for diversity, equity, and inclusion is vital for optimal development and learning.
d) A planned program supports early learning.
e) Play is a means to learning that capitalizes on children's natural curiosity and exuberance.
f) Knowledgeable and responsive Early Childhood Educators and other early learning practitioners are essential to early childhood settings.
schools, with the program being implemented in all Ontario elementary schools (approximately 4000) by 2014 (Babbage, 2010).

**Challenges in Data Access**

Challenges were encountered in obtaining access to both the qualitative and quantitative data used in this dissertation. Originally, I intended to use the qualitative and quantitative data collected for the Evaluation of the Implementation of the FDELK Program, commissioned by the Ontario Ministry of Education, for the purposes of my doctoral work. However, the OME indicated it would not authorize my use of its data until a report about the evaluation was released to the public. Once the report (see Vanderlee, Youmans, Peters, & Eastabrook, 2012) was made publicly available, I asked for permission to use the OME’s data again, but my request was denied because my research question was too political in nature: the Ministry of Education did not want me to evaluate the effectiveness of the FDELK program. Given the evaluative nature of quantitative research, I was refused access to the quantitative data altogether. Eventually, a compromise was reached with the OME in that I was granted access to use the qualitative case study to describe the practices of high fidelity (or exemplary) FDELK classrooms.

To examine the effectiveness of the FDELK program, I contacted the Offord Centre at McMaster University to inquire about the possibility of using its 2012 Early Development Instrument (EDI) data. The Offord Centre granted my request to use its data, but its data sharing agreement stated that all analyses had to occur at the Offord Centre. Before going to the Offord Centre, I asked many questions about the data set to try and do as much preparation work as possible. While I was hoping to make just one
three-day trip to the Offord Centre because of the distance between Hamilton and Kingston, the first trip was limited to preliminary analyses so two trips had to be made.

**Definitions of Key Terms**

Four key terms are used throughout this dissertation: self-regulation (SR), literacy, numeracy, and Full-Day Kindergarten (FDK).

**Self-Regulation (SR)**

The term self-regulation used in this research is based on a complex cognitive psychological understanding of SR. As such, SR is defined as purposeful, goal-directed behaviour in which an individual inhibits impulsive or habitual responses, considers multiple courses of action, and selects the most advantageous outcome, even if the advantage may not be immediate (Barkley, 2001). There are a number of mechanisms, known as executive functions (EFs), that enable an individual to self-regulate. The main EFs underlying SR are inhibition, set shifting (cognitive flexibility), and working memory (Barkley, 2001; Miyake, Friedman, Emerson, Witzki, & Howerter, 2000). Working together, EFs help individuals to “construct hypothetical futures and direct behaviour toward them” (Barkley, 2001, p. 6).

**Literacy**

The term literacy is used in this research to refer to emergent literacy. Emergent literacy is defined as the “skills, knowledge, and attitudes that are precursors to reading and writing” (Whitehurst & Lonigan, 1998, p. 848). Proficiencies associated with emergent literacy include children’s knowledge of the context in which reading and writing occur, such as background knowledge of the world and an understanding of language and its purposes, and children’s knowledge of rules and strategies for decoding
written text (or for translating sounds into text). Both background knowledge of literacy and decoding skills are necessary for young children to become successful readers (Sénéchal & LeFevre, 2014).

**Numeracy**

In this research, the term numeracy is used to denote early numeracy. Early numeracy refers to basic arithmetic skills children generally acquire prior to beginning Grade 1; these skills are essential for developing mathematical understanding in primary school (Aunio, Aubrey, Godfrey, Pan, & Liu, 2008). Early numeracy skills are categorized into two broad categories: numeral representations (counting and basic computation skills; Desoete & Gregoire, 2006) and logical operations (comparison and classification; Nunes & Bryant, 1996). Early numeracy skills include a basic understanding of how numbers are represented and the relationships among and between numbers (Smith, 2002).

**Full-Day Kindergarten**

This research utilizes a definition of Full-Day Kindergarten (FDK) consistent with that used in the research literature. Accordingly, an FDK program has the following three distinguishing features:

1. It is a formal program organized by qualified staff that runs the entire school day (for 5-6 hours), five days a week.
2. It is offered the year (or two) before Grade 1.
3. It lasts for one (or two) school years (Cooper, Allen, Patall, & Dent, 2010; Elicker & Mathur, 1997).
Summary

The purpose of this research is: (a) to describe how the main features of the FDELK program (i.e., play-based learning and teacher-ECE collaboration) were implemented in FDELK schools (Study 1) and (b) to evaluate the effectiveness of the FDELK program using a province-wide dataset (Study 2). Study 1 (Chapter 2) is a qualitative case study of four high fidelity FDELK schools, while Study 2 (Chapter 3) is a quantitative study that compares the 2012 EDI outcomes (SR, literacy, and numeracy) of students from FDELK and non-FDELK (including Half-Day and Alternate-Day Kindergarten programs) classrooms. A general discussion of both studies, including research implications, is presented in Chapter 4.
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CHAPTER 2: HOW IS THE FULL-DAY EARLY LEARNING KINDERGARTEN (FDELK) PROGRAM PUT INTO ACTION IN A HIGH FIDELITY CLASSROOM?

The early years of a child’s life, from conception to age 6, lay a foundation for academic, emotional, and social development, with lifelong implications for future success (Duncan et al., 2007; Hart & Risley, 1995; Welsh, Nix, Blair, Bierman, & Nelson, 2010). While many young children receive appropriate support from their families and communities to equip them for school success, a substantial achievement gap between children from middle socioeconomic status (SES) families and children from low socioeconomic families exists at school entry, widening over time and relating negatively to future school and employment success (Ryan, Fauth, & Brooks-Gunn, 2006). Full-Day Kindergarten (FDK) programs have been implemented across North America to help reduce this gap in early achievement. Advocates of Full-Day Kindergarten believe increased time at school for students affords teachers opportunities to explore concepts more deeply and provide a broader range of learning experiences (Anderson & Tunison, 2005; Lee, Burkham, Ready, Honigman, & Meisels, 2006). Comparisons of Full-Day and Half-Day Kindergarten (HDK) programs in the United States (US) using the Early Childhood Longitudinal Study of Kindergarten (ECLS-K) indicated that FDK teachers spent more instructional time in whole group teacher-directed, small group, and individual instruction than did HDK teachers (Lee et al., 2006; Walston & West, 2004). Moreover, children in FDK classes participated in more child-initiated activities than did their HDK peers (Lee et al., 2006). Reports of FDK in
Saskatchewan further suggest that Full-Day Kindergarten programs enable students to self-assess and reflect on their learning because the program does not occur in such a hurried context as it does in half-day or alternate-day programs (Anderson & Tunison, 2005).

In addition to giving educators more time to develop the social and academic skills that are necessary for students’ success in Grade 1, FDK programs are growing in popularity with families because they ease child care costs (Brewster & Railsback, 2002). Significant changes in family demographics over the past few decades have resulted in the majority of families now requiring child care, as a consequence of a steady increase in single-parent families (up from 16.6% in 1981 to 25.8% in 2006) and dual-income families (up from 47% in 1976 to 64% in 2008) in Canada (Statistics Canada, 2007; Williams, 2012).

In response to a growing body of evidence about the importance of early childhood education, disparities among children upon school entry, and changing family demographics, Ontario has implemented the Full-Day Early Learning Kindergarten (FDELK) program for 4- and 5-year-old children in every school across the province. The Ontario Ministry of Education describes Full-Day Kindergarten learning as part of its “overall plan to help more children get a strong start in school, so they can have successful, rewarding lives” (Ontario Ministry of Education [OME], 2010). The key components of the program are: the use of play-based curriculum to promote self-regulation in children, a team-teaching approach involving a certified teacher and an Early Childhood Educator (ECE) in each class (with average class sizes of 26), and the
availability of extended care in the school setting to make transitions for young children easier (Pascal, 2009).

Despite the Ministry of Education’s efforts to provide students with a strong educational start, initial qualitative research on the FDELK program has identified a number of program challenges. For example, many FDELK teachers have reported not understanding how to implement play-based learning or the purpose of the new approach (Goulden, 2012; Lynch, 2014; Tozer, 2012; Vanderlee, Youmans, Peters, & Eastabrook, 2012). Teachers have indicated that they are unsure of how to reconcile the Ministry’s play mandate with school boards’ emphasis on literacy assessments (Vanderlee et al., 2012). Moreover, the program’s large class sizes, especially when there is a large number of students in a small physical classroom, make it difficult for students to regulate their own behaviour and take part in learning (Lynch, 2014; Ryan & Date, 2012; Vanderlee et al., 2012).

Given that there is often variability in how educational programs are implemented, initial challenges reported about the FDELK program may have arisen because of poor implementation. The purpose of this qualitative study therefore was to describe the main components of the FDELK program, namely play-based learning and teacher-ECE collaboration, when it is implemented in a manner consistent with the Ministry of Education’s vision for the program. As such, the question that guided this research was “How is the FDELK put into action in a high fidelity FDELK classroom?” Case study method was used to examine the nature of play-based learning and teacher-ECE collaboration in high fidelity FDELK schools, including how these program components enabled educators to meet the needs of individual students and promote the
development of self-regulation in students. This study provides insight about the ways in which characteristics of the FDELK program are enacted in high fidelity classrooms, using interview data from FDELK administrators, educators (teachers, ECEs, and Educational Assistants), community stakeholders, and parents. It furthermore identifies successful FDELK practices and challenges that persist in the program, even when it is implemented according to Ministry guidelines.

Literature Review

Play-Based Learning

A characteristic of the FDELK program in Ontario that distinguishes it from similar FDK programs is its incorporation of a “play-based environment that promotes the physical, social, emotional, and cognitive development of all children” (OME, 2010, p. 2). One of the program’s fundamental principles states: “Play is a means to early learning that capitalizes on children’s natural curiosity and exuberance” (OME, 2010, p. 2). Play has five generally agreed-upon features:

1. It is self-directed;
2. It is intrinsically motivating;
3. Its structure and rules are defined by the player(s);
4. It is imaginative and non-literal; and
5. It requires active engagement, but is stress-free (Gray, 2008; Hewes, 2006).

Some forms of play identified in the FDELK program document are pretend play (e.g., acting out roles or scenarios), sociodramatic play (e.g., storytelling), and constructive play (e.g., drawing, building, and painting; OME, 2010, p. 14). While the OME does not provide an explicit definition of the term “play-based learning,” it does provide a
definition by example: “When children are manipulating objects, acting out roles, or experimenting with various materials, they are engaged in learning through play” (OME, 2010, p. 2). This definition assumes that all play involves learning and thus fails to address the underlying cognitive processes by which play can actually translate into learning. According to Piaget (1962), most child-directed play involves what children already know and, as a result, is assimilative in nature; it does not result in new knowledge, skills, and understanding. For play to advance learning, children must encounter new ideas and problems that do not fit with their prior knowledge, experience uncertainty, and work towards accommodating the novel information with prior knowledge.

With this understanding in mind, research on play-based learning has underscored the importance of adult interaction to support children’s learning during play. For example, studies on guided play suggest it may promote more favourable academic outcomes than direct instruction or free play (Ferrara, Hirsh-Pasek, Newcombe, Michnick Golinkoff, & Shallcross Lam, 2011; Fisher, Hirsh-Pasek, Newcombe, & Golinkoff, 2013; Han, Moore, Vukelich, & Buell, 2010) because it involves adult-scaffolded instruction in a child-led context (Weisberg, Zosh, Hirsh-Pasek, & Michnick Golinkoff, 2013). In guided play, adults initiate and participate in play with clear learning goals, but children guide their own discoveries (Skolnick Weisberg, Hirsh-Pasek, & Michnick Golinkoff, 2013). As such, adult participation in guided play includes the following behaviours: asking open-ended questions, co-playing, confirming children’s discoveries, and encouraging the use of materials in new and innovative ways (Skolnick Weisberg et al., 2013). This participation is in line with the ways in which the FDELK program document
explicitly identifies the role of educators in inquiry-based learning, a form of play-based learning:

[Children’s] curiosity on its own is not enough. The guidance of a thoughtful Early Learning–Kindergarten team is essential to enable children to learn through inquiry…Team members provide children with opportunities to plan, observe, and gather information, and then to compare, sort, classify, and interpret their observations. They provide a rich variety of materials and resources, and interact with children to clarify, expand, or help articulate the children’s thinking. They then encourage children to share their findings with one another through oral and/or visual representations. (OME, 2010, p. 15)

The active role taken by adults in guided play, in conjunction with children taking the initiative in their own learning, appears to promote preschoolers’ vocabulary development, language production, and knowledge acquisition. In a vocabulary intervention targetted at a high-risk population of 4- and 5-year-old children, Han, Moore, Vukelich, and Buell (2010) explored how direct instruction alone and direct instruction combined with guided play impacted vocabulary development. Children were randomly assigned to one of the two treatment groups. Both groups experienced vocabulary gains, but children who participated in direct instruction combined with guided play had stronger vocabulary gains than children who received only direct instruction. Moreover, a study investigating how play impacts language during block play found that guided play positively impacted the production of spatial talk. In this study, parents and their children were assigned to one of three block building conditions: free play, guided play, and play with preassembled structures. Parents in the guided play condition produced significantly more spatial talk than did parents in the other two conditions, while, in a parallel fashion, children in the guided play scenario produced significantly more spatial talk than did children in the free play scenario (Ferrara et al., 2011). With respect to the effectiveness of guided play in knowledge development,
Fisher, Hirsh-Pasek, Newcombe, and Golinkoff (2013) studied preschoolers’ knowledge acquisition of four shapes using three randomly assigned conditions: free play, guided play, and direct instruction. Children in the guided play group demonstrated a greater definitional understanding of geometric shapes than did children in the other two groups.

Whereas academic benefits are linked to guided play, social competence and self-regulation are connected with mature dramatic play, which is characterized by children taking on multiple roles, using props symbolically, and creating clearly defined rules (Bodrova & Leong, 2003). A foundational aspect of this type of high-level play is that children have the opportunity to discuss, negotiate, and change rules (Bodrova & Leong, 2003). Cultural changes like children being less involved in multi-age play and more involved in adult-directed activities have resulted in a dramatic decrease of mature play in the 21st century (Leong & Bodrova, 2012). As a result, teachers need to scaffold aspects of high-level pretend play like planning, taking on roles, using props, playing over an extended time frame, making use of better language, and engaging in quality play scenarios (Leong & Bodrova, 2012). Benefits arise from mature play because children are required to follow rules and delay gratification to stay in the play, they are engaged in perspective-taking by assuming multiple roles, and they are involved in planning their play through negotiations with peers (Bodrova & Leong, 2005).

A study of 122 preschool children explored how different forms of pretend play (and physical play) predicted children’s affective social competence (Lindsey & Colwell, 2013). Over a period of two years, data were collected from emotion knowledge interviews that assessed children’s ability to recognize facial expressions and identify the emotions of characters in vignettes, questionnaires from mothers about children’s
emotion regulation skills, and naturalistic observations of children’s peer play. After controlling for children’s initial affective social competence skills, children’s participation in sociodramatic play predicted children’s emotional expressiveness, emotion knowledge, and emotion regulation one year later. Similarly, Elias and Berk (2002) examined the role of sociodramatic play in the development of preschoolers’ self-regulation (SR). At the beginning of the school year (fall), naturalistic observations of the amount of children’s dramatic play, along with observations of children’s self-regulation during two classroom contexts—clean-up and circle time—were made. To assess the development of SR, observations of children’s self-regulation were collected again in the late winter and early spring. The amount of time spent by children in sociodramatic play predicted children’s SR during clean-up periods. This relationship was particularly strong for high-impulsive children and non-existent for low-impulsive children.

The strongest support for how mature play impacts young children’s self-regulation comes from a school district study in which teachers and preschoolers (21 classes total) were randomly assigned to one of two curricula: Tools of the Mind, which uses sociodramatic play to support SR skills, or a Balanced Literacy curriculum (Diamond, Barnett, Thomas, & Munro, 2007). Measures of self-regulation consisted of four tests of executive functions (EFs) that tapped into children’s inhibitory control, working memory, and cognitive flexibility. On all EF measures, Tools of the Mind preschoolers outperformed the Balanced Literacy group, most especially in the more demanding measures. No statistical difference was found between the Tools of the Mind preschoolers and the Balanced Literacy group on language and literacy measures (Barnett et al., 2008).
While there are benefits associated with guided play and mature dramatic play, there can be instances of unproductive play in play-based learning classrooms. For example, when children are fighting or re-enacting the same play, learning is not enhanced (Bodrova & Leong, 2005). Also, occurrences of too much or too little adult interaction can occur. With guided play, teachers need to ensure that they are presenting materials strategically, giving appropriate feedback, and probing for understanding, without taking over the discovery aspect of learning (Honomichl & Chen, 2012). In sociodramatic play, teachers need to scaffold aspects of mature play without being involved in the actual play, so that peers can enter into negotiations and discussions around rules and roles (Leong & Bodrova, 2003). Ultimately, the effectiveness of play-based learning hinges on the knowledge, support, and guidance of educators.

**Teacher-ECE Collaboration**

In addition to being play-based, the FDELK program in Ontario uses a team teaching approach by having two educators, a teacher and an Early Childhood Educator (ECE), working together in each class. With respect to these educators’ roles, the Ontario Ministry of Education states, “Knowledgeable and responsive educators are essential” (OME, 2010, p. 7); educators will have “the benefit of a collaborative and complementary partnership” (OME, 2010, p. 8). The OME (2010) provides some guidance on what the complementary roles may look like for teachers and ECEs. For example, teachers are to be responsible for long-term planning, program organization, and classroom management, whereas ECEs are to focus on age-appropriate program planning and formative assessment. However, less guidance is given by the OME about what a collaborative partnership entails. Collaboration is defined as “an active and
ongoing partnership, often from people from diverse backgrounds, who work together to solve problems or provide services” (Barr, Koppel, Reeves, Hammick, & Reeth, 2005, p. xxii). With respect to teachers and ECEs in FDELK classrooms, they should be part of a dedicated partnership in the service of educating Kindergarten students.

Initial research on Kindergarten teams in the FDELK program suggests there are both successes and challenges being experienced by teams in regard to collaboration. For example, a qualitative study by Callaghan (2012) examining the collaborative structure of FDELK teams identified positive practices associated with collaboration, along with barriers to partnerships. Data were collected from individual interviews with teachers and ECEs, focus groups, and observations of Kindergarten teams in their classrooms. Teams that worked collaboratively (i.e., were involved in co-teaching) were characterized by adaptability, openness, trust, communication, and shared beliefs about their practice; collaboration was rooted in reciprocity. When teams worked collaboratively, they benefitted from shared and reflective practice and were better equipped to meet the needs of individual students. Given that collaborative relationships and practices take time to develop, a major barrier to promoting Kindergarten team partnerships was a lack of shared planning time. Other barriers included a lack of trust in one’s teaching partner, misconceptions about the role of the ECE, and underutilization of ECEs.

In a study investigating whether or not hierarchical relationships exist in FDELK teaching teams, Gibson and Pelletier (2011) surveyed 28 ECEs and 32 teachers working in the program. ECEs felt that their professional training was valued in their schools and that they were welcomed. Both teachers and ECEs felt supported by their school administration as early learning staff. However, teachers and ECEs had different
perspectives about how their workload was shared. ECEs saw their workload as a shared responsibility, while teachers indicated that they had a greater share of responsibility. Moreover, there appeared to be a hierarchical teaching structure in some Full-Day Early Learning Kindergarten classrooms in that more than one half of the teachers agreed they had more authority than their ECE teaching partners. In accordance with this perspective, half of the ECEs believed they had less influence on program decisions than did their teaching partners. Additionally, one-fourth of Kindergarten teachers reported delegating tasks to their teaching partners, and nearly 35% of ECEs reported acting as an assistant to their teaching partner. Based upon their survey results, Gibson and Pelletier (2011) estimated that there was a hierarchical teaching structure in approximately one-fourth to one-third of FDELK classrooms. The problem with hierarchical structures in early years’ classrooms is that typically one educator takes on a lead role and the other takes on an assistant role, instead of educators taking on co-teaching roles in which they share responsibilities (Shim, Hestins, & Cassidy, 2004). Hierarchical relationships in FDELK classrooms could undermine the quality of the program because ECEs may be taking on more of an Educational Assistant (EA) role than a co-teaching role.

Two studies focused solely on the barriers to collaboration for the FDELK team. The first study, an exploratory netnographic study (i.e., an ethnography conducted over the Internet that studies online communities and cultures) of Ontario Kindergarten teachers’ perceptions of the FDELK program, revealed team teaching issues (Lynch, 2014). For this study, data were collected from discussions on teacher message boards and the comments sections of online news articles and then coded using a qualitative inductive approach. Team teaching concerns emerged as one of three themes. A major
concern of Kindergarten teachers was that there were no explicitly defined roles; as a result, some ECEs did not plan with teachers, while others saw their roles as the same as teachers. A lack of shared planning time was an additional barrier to teamwork. Lastly, some partnerships were not effective with no remedial solutions available when educators were not compatible. Ultimately, power relations were undermining partnerships because of a lack of direction from the Ministry of Education, school boards, and administrators with regard to defining educator roles. In addition, educators were not provided with guidance about how to develop partnerships based upon the experience and expertise of the team.

The second study explored ECEs’ perceptions of the FDELK in Ontario. Its results highlighted the issue of power relations as a threat to partnerships (Walton, 2013). With respect to roles, three ECEs employed by three different school boards felt that teachers were responsible for curriculum, and they were to be in charge of care of the children; ECEs tended to be responsible for domestic duties in the classroom, like recess supervision, classroom set-up, and tidying up the classroom after school. As a result, they believed that their professional background and expertise were underutilized and undervalued. Other aspects of ECE marginalization included a lack of collaborative planning time, which resulted in ECEs planning with their teacher partners without being paid. A lack of collaborative paid planning time made it challenging for ECEs to communicate effectively with their teaching partners and to have their voices heard.

As a way of gathering information to support FDELK teaching teams, McGlyne-Stewart and Bezaire (2014) analyzed online survey responses of 297 FDELK educators (46.5% ECEs; 53.5% teachers) about what advice they would offer to new FDELK
teams. Interpersonal advice for educators was to: focus on building a team relationship; develop continuous communication that was open, yet respectful; and negotiate roles and responsibilities based on each other’s strengths, keeping in mind that there was a need for flexibility with shared responsibilities. At a more systems level, educators recommended the use of hiring practices that ensured teachers and ECEs were compatible, allowing teachers and ECEs who worked well together to remain teaching partners, providing more child development training for teachers and more curriculum implementation training for ECEs, offering training on team building, and giving daily planning time to teaching teams.

Collaboration between teachers and ECEs in FDELK classrooms is essential for the success of the FDELK program, moving away from a hierarchical relationship toward a co-teaching relationship (Shim, Hestenes, & Cassidy, 2004). In a study exploring the relationship between teaching structure and child care quality involving 72 teachers in 44 preschool classrooms, a co-teacher structure was associated with a higher quality classroom (Shim, Hestenes, & Cassidy, 2004). After controlling for teachers’ educational backgrounds, classrooms with co-teachers had significantly higher average scores on classroom quality and activities/materials, as measured by the Early Childhood Environment Rating Scale-Revised (ECERS-R), than classrooms with one teacher. Similarly, in the Toronto First Duty (TFD) project (the model on which the FDELK program was based), preschool classrooms with greater collaboration between the teacher and ECE demonstrated higher quality (Corter et al., 2007). Teaching teams worked well together “when they had time to meet on a regular basis, access to joint professional
development, and were able to develop shared goals for program improvement and specific aims for children” (Corter et al., 2007, p. 79).

Meeting Individual Needs

Early childhood settings, like the FDELK program, are marked by diverse learning needs as a result of individual developmental differences in children, children coming from varied cultural and linguistic backgrounds, and the inclusion of children with special education needs (Chen & Weiland, 2007). The Full-Day Early Learning Kindergarten program document (OME, 2010) acknowledges this reality and identifies an approach for meeting students’ individual needs:

Every child is unique, and has individual needs. Children develop at different rates and in different ways. Their diverse cultural and linguistic backgrounds and daily realities contribute to differences in the ways they develop and demonstrate their learning. Consequently, children need opportunities to learn in ways best suited to their individual needs and at appropriate times in their development. (p. 6)

Darragh (2007) suggested adopting the Universal Design for Early Childhood Education (UDECE) to promote educational equality for all students. The UDECE has a number of implications for program delivery, as it recommends providing multiple means of:

1. Representation—learners require different forms of acquiring information and knowledge so varied learning opportunities are optimal; children need opportunities to see, hear, and touch in the process of learning.

2. Engagement—learners need stimulating environments and interesting curricula; children’s interests should be incorporated into learning environments and curricula to foster their engagement.

3. Expression—learners need various opportunities to demonstrate what they know; children should be given a variety of assessments so their individual strengths and needs can be documented fairly.
Accordingly, the FDELK program document outlines the need for multiple teaching approaches (including play), avenues of engagement (children’s interests, real-life contexts, and inquiry), and demonstrations of children’s learning (saying, doing, and representing). However, a study exploring how Kindergarten teachers implemented instructional practices for diverse learners revealed a discrepancy between the instructional practices they desired to implement and the feasibility of the practices (Hughes & Valle-Riestra, 2007). Ninety-five Kindergarten teachers responded to a revised version of the Adaptations for Kindergarten Children with Disabilities survey about the desirability and feasibility of inclusive practices in their classrooms. Whereas the majority of Kindergarten teachers indicated a desire to incorporate inclusive practices, they rated the feasibility of these practices significantly lower than their desirability. For example, the practice with the greatest gap between desirability and feasibility was one-on-one instruction, which had an average desirability rating of 4.65 (out of 5) and a feasibility rating of only 2.27. Additional practices with average gaps greater than one included revise curricula, adjust classroom materials, and adjust teaching style. Follow-up interviews with a subsample of 18 Kindergarten teachers identified the challenges teachers experienced when trying to meet the needs of diverse students: a lack of understanding about how to instruct students with disabilities, large class sizes, and insufficient time to instruct and adapt materials (despite the program being full-day). When asked what teachers required to make the likelihood of enacting inclusive practices greater, they identified three facilitating factors: additional materials and equipment, more staff support, and smaller class sizes. Teachers who reported that they were successful in meeting the needs of students with disabilities in their classroom attributed
the success to additional one-on-one adult support because more attention could be dedicated to students in need of it.

A comprehensive study of 730 Kindergarten classrooms and 240 pre-Kindergarten classrooms sheds further light on the instructional quality received by children in early learning contexts (LaParo et al., 2009). In this study, observational data were collected using the Early Childhood Environment Rating Scale-Revised (ECERS-R), the Classroom Assessment Scoring System (CLASS), and the Emerging Academics Snapshot. Kindergarten teachers in the study provided very low levels of instructional support; instructional methods tended to rely on traditional didactic teaching methods rather than on active learning strategies that engaged children in the learning process. As a result, children in Kindergarten were less likely to be involved in dramatic play, art activities, and building with blocks than were children in pre-Kindergarten. Moreover, only 61% of the average Kindergarten student’s time was spent in instructional activities because the rest of the time was taken up by transitional activities (e.g., waiting in line and washing hands). Low levels of instructional support in combination with a lack of time spent in instructional activities suggest that the needs of all students are not being adequately met in most early learning classrooms. On the other hand, high quality teacher interactions (emotional support, classroom organization, and instructional support) and high quality educational materials in Kindergarten were associated with classrooms with smaller child-adult ratios. Classrooms with smaller child-adult ratios also took part in more frequent small group and math activities.

An underlying mechanism in high quality Kindergarten classrooms that supports achievement appears to be behavioural engagement. For example, research on
Kindergarten classroom quality identified behavioural engagement as an indirect mediator between classroom quality and reading achievement (Cameron Ponitz, Rimm-Kaufman, Grimm, & Curby, 2009). In this study, data were collected for 171 Kindergarten students from primarily poor and working-class families. Kindergarteners’ self-regulation was measured with the Teachers’ Self-Control rating scale; students’ level of engagement was measured using the Observed Child Engagement Scale; the amount of time students spent off-task was recorded; and the reading achievement of students was measured using the Woodcock-Johnson III Tests of Achievement. The quality of Kindergarten classrooms was rated using the Classroom Assessment Scoring System. High quality classrooms had students who exhibited higher levels of engagement. Moreover, students who exhibited greater classroom engagement exhibited better reading skills than students who were less engaged. Behavioural engagement that supports academic achievement consists of having opportunities for quality teacher-child interactions, maximizing instructional time, and providing rich and diverse learning opportunities for students (Downer, Rimm-Kaufman, & Pianta, 2007).

**Self-Regulation**

There is a lack of conceptual clarity about what is meant by the term self-regulation (Barkley, 2001; for reviews, see Dinsmore, Alexander, & Loghlin, 2008; McClelland & Cameron, 2012). Definitions of self-regulation tend to be general and offer inadequate explanations of key features (e.g., Florez, 2011; Liebermann, Giesbrecht, & Müller, 2007; McClelland & Cameron, 2012). Although most SR definitions acknowledge it as a “complicated” or “complex” process, they do not explain underlying
cognitive processes. An understanding of self-regulation based on cognitive psychology provides important insights about this construct.

From a cognitive psychology perspective, self-regulation refers to a person’s ability to pursue purposeful, goal-directed behaviour (Barkley, 2001). SR is a complex process in which an individual inhibits impulsive or habitual behaviours, considers multiple courses of action, and selects the most advantageous outcome, even if it is not immediate (Barkley, 2001). Executive functions (EFs) are the underlying mechanisms that enable an individual to self-regulate; these functions include inhibition, set shifting (cognitive flexibility), and working memory. Inhibition is the mechanism by which individuals stop themselves from reacting impulsively or habitually and pursue a delayed consequence, rather than an immediate reward (Barkley, 2001). Set shifting (cognitive flexibility) and working memory help individuals contemplate alternate courses of action before selecting the most beneficial one (Miyake, Friedman, Emerson, Witzki, & Howerter, 2000). EFs guide behaviour in novel goal-focused circumstances where no pre-existing schemas exist (Fernandez-Duque, Baird, & Posner, 2000); they are required for decision making, problem solving, and strategy selection. Working together, EFs help individuals to “construct hypothetical futures and direct behaviour toward them” (Barkley, 2001, p. 6).

Self-regulation begins to develop in the early childhood period, signalling a child’s ability to demonstrate internal regulation. Researchers acknowledge the importance of self-regulation (SR) in promoting early school success (Blair & Diamond, 2008; McClelland & Cameron, 2012; McClelland et al., 2007). Studies examining the relationship between self-regulation and academic skills suggest self-regulation is
significantly and positively correlated with academic skills (McClelland et al., 2007), with self-regulation growth predicting academic skills growth (McClelland et al., 2007; Nesbitt, Farran, & Fuhs, 2015; Welsh et al., 2010).

Research on self-regulation and executive functions (the mechanisms underlying self-regulation) in preschool children points toward a critical role for teachers and the learning environment in the development of SR. For example, in a study exploring whether or not young children’s SR predicted their academic achievement, learning-related behaviours were identified as mediators of this relationship (Nesbitt et al., 2015). Data were collected for 1,103 preschoolers and included the following measures: academic achievement using the Woodcock-Johnson III Achievement Battery, executive functions measured by various tasks, and learning-related behaviours as captured by the Child Observation in Preschool (COP). Students with higher self-regulation skills (which resulted in greater literacy and mathematics gains) demonstrated more involvement in learning opportunities, exhibited more sequential learning behaviours (activities that require a series of steps or operations), and exhibited less classroom disengagement.

Similarly, Williford, Vick Whittaker, Vitiello, and Downer (2013) explored the relationship between individual children’s engagement with teachers, peers, and tasks in a preschool setting and their growth in self-regulation. The sample for this study was 341 predominantly low-income and Hispanic children from 100 preschools that operated only for half-days. Measures of individual children’s classroom interactions were obtained using the Individualized Classroom Assessment Scoring System (inCLASS; Downer et al., 2010). Children’s self-regulation measures were acquired through teacher reports, using the Task Orientation subscale of the Teacher-Child Rating Scale (Hightower et al.,
1986), the Emotion Regulation Checklist (Shields & Cicchetti, 1997, 2001), and two
direct measures of self-regulation from the Preschool Self-Regulation Assessment
(Smith-Donald, Raver, Hayes, & Richardson, 2007). Data analysis using multi-level
modelling revealed the following main effects, while controlling for children’s fall self-
regulation score (by including it as a predictor variable), ethnicity, whether or not English
was spoken at home, maternal education, gender, and age:

1. Children who were more positively engaged with their teachers in preschool
tended to make greater gains in compliance/executive function than peers who
were less positively engaged with teachers ($b = 0.27$, SE = .10, $p = .007$; effect
size = .17).

2. Children who were more actively engaged with classroom tasks and activities
tended to make greater gains in emotion regulation than children who were less
engaged in classroom tasks and activities ($b = 0.12$, SE = 0.06, $p = .039$; effect
size = .12).

This study provides correlational evidence both that children who had a positive
relationship with their teacher and children who were more actively engaged in classroom
tasks tended to demonstrate greater gains in SR than their peers. Children who experience
a positive relationship with their teachers may be more inclined to adopt teacher
expectations of behaviour, model their behaviour, and accept their guidance, comparable
to what research suggests about positive parent-child relationships promoting SR (Brody
& Flor, 1998; Grolnick & Farkas, 2002). Moreover, children who are more involved in
classroom tasks and activities may have more opportunity to practice and improve their
self-regulation abilities than their less engaged peers (Baumeister, Gailliot, DeWall, &
Oaten, 2006; Baumeister, Vohs, & Tice, 2007; Diamond & Lee, 2011; Muraven, Tice, & Baumeister, 1998).

In addition to positive teacher-student relationships and students’ engagement with tasks and activities, it appears that a teachers’ ability to effectively manage their classrooms predicts SR growth in preschool children. A study examining the relationship between Kindergarten classroom quality and children’s self-regulation in a sample of children from rural working-class and poor families found that teachers’ effective classroom management ability was the strongest predictor of children’s (teacher-reported) self-control, task completion, and classroom engagement, after controlling for initial direct measures of self-regulation (Rimm-Kaufmann, Curby, Grimm, Nathanson, & Brock, 2009). Classroom management was measured using three dimensions from the Classroom Assessment Scoring System (CLASS): behaviour management, productivity related to instructional opportunities, and instructional learning formats (Pianta, LaParo, & Hamre, 2007). As such, effective classroom management that appears to promote SR growth in preschoolers incorporates routines and rules, provides accessible learning opportunities, and offers a variety of learning choices to keep children engaged and to meet the needs of all learners.

**Summary**

One of the distinctive features of the FDELK program is that it is play-based. To advance learning through play, it should be guided by a knowledgeable adult. Also, certain types of play, like sociodramatic play, can help promote children’s self-regulation. Another key feature of the FDELK program is that it uses a collaborative approach to teaching as there is a Kindergarten teacher and an ECE working together. Preliminary
research on FDELK teams indicates there is a lack of clear direction about the specific roles of teachers and ECEs and insufficient (or non-existent) shared planning time. Teaching teams require a shared vision for the program and time to collaborate to work effectively.

Integrating a play-based approach to learning and using a team teaching system in the FDELK program can help meet the individual needs of students. First, play-based learning can help by providing choice around activities, requiring active participation in learning, and making it possible for students to demonstrate their learning in a variety of ways. Second, having two adults in the classroom should make it easier for educators to get to know their students' needs and work with individual students one-on-one and in small groups. Likewise, the distinctive features of the FDELK program can facilitate the development of self-regulation in students. SR skills are associated with being engaged in learning opportunities, like play-based learning. Two educators working together makes it possible for one educator to focus on and work through SR issues that arise, while the other educator teaches the rest of the class.

The purpose of this study was to describe what the FDELK program looks like when it is implemented in a manner consistent with the Ministry of Education’s vision for the program, namely in high fidelity classrooms. The question that guided this research was “How is the FDELK program put into action in a high fidelity FDELK classroom?” In addition to describing how the main characteristics of the FDELK program were enacted in four high fidelity schools, this study offers insights about successful FDELK practices and challenges that persist in the program, even when it is implemented as envisioned.
Method

The qualitative data used for this research were collected by the Social Program Evaluation Group (SPEG), Queen’s University during a two-year evaluation of the Implementation of the Full-Day Early Learning Kindergarten (FDELK) program commissioned by the Ontario Ministry of Education. A case study method was used for the evaluation to acquire an in-depth understanding of a phenomenon in a real-world context, namely how the FDELK program was implemented in schools during its first two years (Bromley, 1986; Patton, 2002). A case study approach enables researchers to address research questions that are descriptive in nature (Shavelson & Towne, 2002; Yin, 2003). With this principle in mind, the purpose of the evaluation was twofold:

1. To identify early indicators of effective practices related to the implementation of the FDELK.
2. To identify challenges associated with FDELK implementation to help inform program delivery moving forward to full implementation.

Multiple sources of case study data were collected to enhance data credibility (Patton, 2002; Yin, 2003). Ethics clearance to collect these data was originally received from the General Research Ethics Board (GREB) at Queen’s University, and permission to use the data for a qualitative case study of high fidelity FDELK schools was subsequently granted by Queen’s GREB (see Appendix B). Permission to use the data for my doctoral dissertation was then obtained from the Ontario Ministry of Education (see Appendix C).

During the process of the two-year evaluation, data were collected from 16 case study schools (some FDELK and some non-FDELK) across the province of Ontario.
between March 2011 and May 2012. All school boards across Ontario were invited to participate in the evaluation process by Jim Grieves, the Deputy Minister of Education, Early Learning Division. Given the prohibitive financial implications of including all interested school boards in participating in the evaluation process, the final selection of the school boards was based on:

- representation from each of the Ministry’s six regions (London, Barrie, Sudbury, Thunder Bay, Toronto, and Ottawa);
- representation from both the Francophone and English School Boards; and
- implementation of FDELK at a variety of stages.

Using these criteria, the final selection of case study site schools included:

- 12 English-language schools;
- four French-language schools;
- nine Year 1 (involved in FDELK from the first year of implementation) FDELK schools;
- five Year 2 (involved with FDELK in the second year of implementation) FDELK schools; and
- two non-FDELK schools.

As the Project Manager for the evaluation, I helped design qualitative data collection protocols, and I collected data from seven of the English-language schools.

The purpose of collecting qualitative case study data for the evaluation was to understand the lived experiences of FDELK stakeholders during the first two years of implementation to highlight successes, challenges, and recommendations for future implementation. Case study data from schools included: interviews with administrators, educators (Kindergarten teachers, Early Childhood Educators (ECEs), and Educational Assistants), community stakeholders, and parents; educator surveys (a paper copy the first year and an online survey the second year); field notes from one-hour observations of classrooms; an interactive activity with students; photographs of classrooms (without
people); and classroom artefacts (work samples, program planning documents, and daily schedules). In the current study, only the interview data are analyzed.

**Qualitative Case Study Data Sources**

The qualitative case study data for this study focused on interview data from a sub-sample of FDELK administrators, educators (teachers, ECEs, and Educational Assistants), parents, and a community stakeholder representing four high fidelity schools. Interviews were a critical tool because "at the root of…interviewing is an interest in understanding the experience of other people and the meaning they make of that experience" (Seidman, 1991, p. 3). Administrators, educators, parents, and a community stakeholders took part in individual semi-structured interviews with pre-determined questions (see Appendix D) in which participants were given the opportunity to elaborate on critical topics and issues not always considered by the research team in advance (Gill, Stewart, Treasure, & Chadwick, 2008). Interview questions were developed to enable participants to share their experiences and knowledge. Questions incorporated McNamara’s (2009) recommendations for effective interview questions: they were open-ended, as neutral as possible, and clearly worded, with one question asked at a time.

Individual interviews were selected for administrators, educators, and community stakeholders to understand the unique experiences of these individuals, to allow them to be vulnerable while sharing their experiences in a confidential setting, and to encourage them to be candid about experiences they might not be willing to share in a group setting. While the vast majority of administrator and educator interviews were individual interviews, one exception was made. Educators at one school asked if their teacher interviews could be conducted as a focus group and their Early Childhood Educator
interviews as a separate focus group. The request was made because educators were apprehensive about the interview process. Interviews with administrators and educators ranged from 20 to 60 minutes.

Parents participated in focus group interviews, a group interview in which discussion is encouraged; participants respond to interview questions by sharing information, experiences, and anecdotes with each other, which enables richer data collection (Kitzinger, 1995). Certain characteristics of people in focus groups are important so they can relate to each other about their shared experiences (Krueger & Casey, 2000), which, in this case, were being parents of a Kindergarten child. While the optimal focus group consists of 6 to 10 people (Morgan, 1993; with fewer than 6 people there may not be enough discussion and with more than 10 people the discussion may be too difficult to manage), this target number was achieved at some case study schools and not others. Parent focus groups ranged in size from 3 to 12 parents. Focus group interviews ranged from 30 to 60 minutes. A parent at one school could not make the focus group sessions, but still wanted to participate so she took part in an individual interview. All case study schools were given school ID numbers, and participants were given participant IDs that corresponded with their school ID to protect the confidentiality of participants. Interviews were digitally recorded, transcribed, and labelled according to participant (and school) IDs.

**Sampling**

For the purposes of my research, criterion sampling was used to identify high fidelity FDELK case study schools so that an in-depth exploration of their practices could be conducted (Ellsberg & Helse, 2005). High fidelity FDELK schools were defined as
those that incorporated the main elements of the FDELK program as articulated in the Ontario Ministry of Education’s Kindergarten program document (OME, 2010). To this end, I developed a 10-item checklist based on the FDELK program document by incorporating the main components of the program and using them to classify whether or not a school was considered a high fidelity FDELK school (see Appendix E). For a school to be classified as a high fidelity FDELK school, all 10 items had to be met. I filled in the high fidelity checklist for 10 FDELK English-language schools based on evidence from interview transcripts and one-hour classroom observational data from the two-year evaluation of the implementation of the Full-Day Early Learning Kindergarten (FDELK) program commissioned by the Ontario Ministry of Education. In regard to observational data, there was an 11-item classroom observation schedule for 3 of the 10 case study schools, which included the following items: emotional climate; respect for diversity; families; behaviour guidance; schedules, routines, and transitions; program planning and preparation; indoor physical environment; outdoor physical environment; educator-child interactions; and play. Given the comprehensive nature of the classroom observation schedule and the limited amount of time (one hour) spent in each classroom observation, it was a challenge to focus on all 11 items, so that a number of items in the observation schedule were not observed. As a result, open-ended observations were used at the remaining seven case study schools. Field notes from open-ended observations in FDELK classrooms documented classroom interactions between the teacher and the ECE, the teacher and students, the ECE and students, and students and their peers. Of the 10 FDELK English-language schools, four were classified as high fidelity FDELK schools. While schools scored similarly on a number of items, there were discriminating
items that revealed differences among schools. The discriminating items in the checklist related to the incorporation of integrated learning and play in the classroom (items 5, 6, 7, and 8) and reciprocal learning of the Kindergarten team (item 2). This distinction makes sense, given that the key features of a high fidelity FDELK class are that it implements play-based learning and there is effective teacher-ECE collaboration. The type and number of participants from each high fidelity FDELK case study school are identified in the chart below. Pseudonyms have been used for schools to ensure the confidentiality of staff, parents, and students (see Table 1).

Table 1

*Participants from High Fidelity FDELK Case Study Schools*

<table>
<thead>
<tr>
<th>School Name</th>
<th>Parents</th>
<th>Teachers</th>
<th>ECEs</th>
<th>Administrators</th>
<th>Educational Assistants</th>
<th>Community Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Valley Elementary</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Patterson Elementary</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Buckner Elementary</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wayside Elementary</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>13</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Data Analysis

Interview data for high fidelity FDELK schools underwent content analysis related to the critical components and goals of the program. Content analysis involves examining language and classifying text into themes (or categories) with similar meanings (Weber, 1990). Deductive content analysis was used because its purpose is “to validate or extend conceptually a theoretical framework or theory” (Hsieh & Shannon, 2005, p. 1281). To get a better understanding of what a high fidelity FDELK classroom looks like in practice, the critical program components of play-based learning and teacher-ECE collaboration were used as predetermined themes (Hickey & Kipping, 1996). In addition, the two program goals of meeting the individual needs of students and promoting the development of self-regulation in students were identified as major themes worthy of examination. The qualitative analysis software program, NVivo, was used to help code text into pre-established themes, which were: play-based learning, teacher-ECE collaboration, meeting the individual needs of students, and promoting the development of self-regulation in students. Qualitative analysis software makes the administrative task of organizing and coding data more efficient than traditional methods of cutting and pasting sections of transcript text under thematic headings (Welsh, 2002). Transcripts were all imported into NVivo. To verify the predetermined themes, all interview transcripts were read and re-read to get a sense of major components and goals associated with high fidelity FDELK schools. The preconceived themes were verified as critical elements of the FDELK program because they aligned with the FDELK program document and program goals. Definitions for each theme were developed to provide direction about what text should be included and excluded under particular themes; this
step was fundamental as theme definitions guide the entire process of coding (Weber, 1990).

The next step involved coding the text using the predetermined themes. During the coding process, the constant comparative method was used to help make the differences among themes more apparent and integrate themes with similar features (Glaser & Strauss, 1967). The constant comparative method involves the systematic comparison of each text assigned to a theme with text already coded under the theme to understand the defining features of the theme (Zhang & Wildemuth, 2009). This understanding resulted in the need to integrate themes that shared similar features (e.g., Play-Based Learning and Integrated Learning) and the omission of themes with irrelevant features (e.g., Assessment Practices).

Once coding was complete, cross-case analysis was used to analyze commonalities and differences among case study schools (Khan & VanWynsberghe, 2009). Specifically, a multi-case method comparing each predetermined theme across high fidelity FDELK schools was used (Stake, 2006).

Results

Case study results presented in this section are based on four themes: play-based learning, teacher-ECE collaboration, meeting the individual needs of students, and promoting the development of self-regulation in students. Where participant responses are identified, the name of the school, the role of the participant, and the number of the participant are given. An overview of the characteristics of case study schools is presented in Table 2. Unless otherwise indicated, participants are female.
Table 2

An Overview of the Characteristics of Case Study Schools

<table>
<thead>
<tr>
<th>Case Study School</th>
<th>Location</th>
<th>School Composition</th>
<th>Kindergarten Staff</th>
</tr>
</thead>
</table>
| Buckner Elementary | • Urban area  
                    • Eastern Ontario | • Kindergarten to Grade 8 urban school  
                    • Significant number of Aboriginal and immigrant families  
                    • Located in a low-income area  
                    • Breakfast club and milk program | • A number of Kindergarten staffing changes over the course of two years  
                    • Not considered high fidelity the first year because of a lack of teacher-ECE collaboration and not fully embracing play-based learning; transitioned into high fidelity during the second year  
                    • In Year 2, there were two Kindergarten teachers (one male) and two ECEs |
| Patterson Elementary | • Urban area  
                        • Southwestern Ontario | • Large Kindergarten to Grade 6 multicultural school  
                        • Situated in a low-income area  
                        • Nearly 70% of students walked to school  
                        • English as a Second Language (ESL) program and literacy programs  
                        • Breakfast club | • Four teachers and five ECEs who worked in four Kindergarten classrooms  
                        • School offered the before-and after-school extended day program to families for a fee; one ECE ran the extended day in the morning, and another ran the extended day in the afternoon |
Table 2 (continued)

An overview of the characteristics of case study schools

<table>
<thead>
<tr>
<th>Case Study School</th>
<th>Location</th>
<th>School Composition</th>
<th>Kindergarten Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Valley Elementary</td>
<td>Town, Northern Ontario</td>
<td>Kindergarten to Grade 8 French immersion and English school</td>
<td>Three Kindergarten classes in the school</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Had been offering a Full-Day Kindergarten program for 10 years previously to help high needs families in the area</td>
<td>Two French immersion classes with a teacher and ECE in each class (26 students in one class and 27 in the other)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High percentage of Aboriginal students</td>
<td>One English class with only one teacher as insufficient number (14 students) to meet the budgeting formula for an ECE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full-time Aboriginal Youth Liaison Officer (who was an Aboriginal) to help support individual students</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Three Kindergarten classes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kindergarten to Grade 8 French immersion and English school</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High percentage of Aboriginal students</td>
<td></td>
</tr>
<tr>
<td>Wayside Elementary</td>
<td>Town, Northern Ontario</td>
<td>Small Kindergarten to Grade 6 school</td>
<td>One Kindergarten class with a teacher and an ECE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Breakfast snack program and milk/juice program</td>
<td>Educational Assistant (EA) hired to work half-time in the Kindergarten class because there were a few students with behavioural issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>School “Communications Assistant” (CA) to provide speech and language support</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Recovery program, a short-term intense one-on-one reading and writing intervention for low-achieving Grade 1 students</td>
<td></td>
</tr>
</tbody>
</table>

Note: Please see Appendix A for complete profiles of each case study school.
Play-Based Learning

Play-based learning was a prominent feature of high fidelity FDELK schools. In all four high fidelity FDELK schools, educators indicated that play-based learning occurred in the context of centres and inquiry-based activities. In one classroom, play-based learning centres consisted of “building blocks like really big ones…an arts and crafts centre…a water table…a sand table…a wet sand table…a kitchen area that they’ve made into…a construction area where they’re making robots” (Wayside Elementary, EA). A teacher at Buckner Elementary described a play-based learning experience in the classroom that involved an inquiry with snails. “Our kids found snails in the schoolyard so we…had them in a fish tank. We fed them lettuce and…we did some snail stuff and they were crawling all over…and eating and the kids loved them” (Buckner Elementary, Teacher 3). At Patterson Elementary, inquiry was a planned part of learning centres: “During centre time, there’d be stuff planned based on what they enjoy so the inquiry-based stuff. Right now, they’re building boats and floating boats because we can’t get them out of the puddles so it’s a natural step and they’re loving that” (Patterson Elementary, Teacher 4).

Administrators at three of the four case study schools (Patterson Elementary, Wayside Elementary, and Pine Valley Elementary) indicated that play-based learning had a structured component to it that differentiated it from play alone. Play-based learning was defined as “very structured” and “purposeful play,” which was “how kids actually do learn” (Patterson Elementary, Administrator 2). The structured component of play-based learning involved linking play with curriculum expectations, according to administrators at Wayside Elementary and Pine Valley Elementary. Play-based learning incorporated
the “curriculum continuum” from the new FDELK program document and was “based on what we want to see the children do. They can take it where they want with the materials that have been provided…we’re learning about them through what they say, what they do, what they create” (Wayside Elementary, Administrator 2). With play-based learning, “you structured it so that you’re going to be able to hopefully observe and see what they’re doing and meet those curriculum expectations” (Wayside Elementary, Administrator 2). Administration at Pine Valley Elementary noted how planning distinguished play-based learning from a “free play” approach: “Now it’s play-based, but with that different planned focus…We have some very specific outcomes, expectations for the children, so it’s structuring the day so that they reach those outcomes without being dry to them” (Pine Valley Elementary, Administrator 2).

Choice in play-based learning was viewed as inherently motivating and productive by educators at three schools (Pine Valley Elementary, Buckner Elementary, and Wayside Elementary). During play-based learning, students were “playing in what they’re interested in and they’re able to learn and expand from that” (Pine Valley Elementary, ECE Focus Group). A teacher at Buckner Elementary observed that students were “most engaged and learning when we do centres…when they are given a choice of what they want to do. They aren’t being forced to sit down and do this” (Buckner Elementary, Teacher 4). An ECE at Buckner Elementary made a similar observation about student learning: “It’s really neat to see how far they can come, how much they can learn when they are allowed to explore on their own and to play on their own. That’s been amazing to me. I knew they could do it” (Buckner Elementary, ECE 1). Choice during learning centre time was a positive and productive experience:
It gives them the chance to go explore the classroom, and centres are everything from the sand, the paint, the computer, the dramatic, the book centre, [and] the writing centre. We try and vary things at the tables. Right now they’re verging into signs of spring and gardening so we have a garden centre or sensory bin full of dirt and bulbs and gardening gloves. We’re going to put some worms in there so just being able to go around the room and explore without being told, “Today you’re going to go to this and do that.” That doesn’t work for kids and I find when they’re exploring the room they tend to go to those writing tasks and spend time there because nobody’s making them do it so that’s neat to see. (Patterson Elementary, Teacher 3)

At three schools (Pine Valley Elementary, Wayside Elementary, and Patterson Elementary), educators indicated that parameters around choice were put in place to ensure students had a variety of learning opportunities. For example, one teacher at Patterson Elementary required students to complete structured centres before they could take part in play-based centres. Another teacher at Patterson Elementary allowed students to participate in play-based learning during designated times, unless it was their time to take part in small group work. At Wayside Elementary, students rotated daily through colour-coded centres (with about five choices per colour). Lastly, Pine Valley Elementary had students rotate through an “anchor” centre once a day during play-based learning, for small group instruction or one-on-one instruction with either the teacher or ECE.

At these same three schools, educators described the importance of incorporating students’ interests into play-based learning. A teacher at Pine Valley Elementary reported asking students what types of centres they wanted in the classroom, while an ECE at Wayside Elementary was responsive to the request of a student who was interested in using boxes to build robots, and an ECE at Patterson Elementary developed projects for students based upon what she observed they were interested in during play (e.g., building with different types of materials).
Educators at Pine Valley Elementary and Patterson Elementary described play-based learning as an integrated approach to learning that combined play with curriculum learning expectations. In the program, “you’re supposed to integrate all the things throughout all the different criteria of the curriculum so like we have math in the block centre” (Pine Valley Elementary, ECE Focus Group). Similarly, a teacher identified an integrated instance of learning during a 40-minute block of play during which two girls designed an intricate castle and then did a writing component when they were done: “They went and they got paper and they made signs and taped it, actually taped it, to their castle” (Pine Valley Elementary, Teacher Focus Group). An ECE at Patterson Elementary commented on the integrated nature of play-based learning. “During the learning centre, they’ll [students] be doing a completely random game, but then they’ll want to…make a grocery list…[so they’re] working on their writing…their thinking…[play] integrates everything” (Patterson Elementary, ECE 3).

According to ECEs at Buckner Elementary and Wayside Elementary, play-based learning should be more open-ended and less activity-based. To incorporate more authentic play-based learning, teachers needed to switch from using activity centres to learning centres (Buckner Elementary, ECE 1). “We are activity-based, child-directed activities but not learning centres…there’s still a little bit of disconnect between play-based learning and a centre as opposed to an activity” (Buckner Elementary, ECE 1). The ECE indicated that activity-based centres were structured, whereas learning centres were more open-ended: in activity-based centres, there were structured tasks for students to complete and “you haven’t quite got that flexibility” of learning centres (Buckner Elementary, ECE 1). For example, at a writing centre, the educators could accommodate
both a student “wanting to write a letter with sentences and a story and another child…designing a car” (Buckner Elementary, ECE 1). Similarly, the ECE at Wayside Elementary wanted “to be able to open up the inquiry play more…It’s a fine line…between the control you want to have over the children and letting them have too much control. There are some things I would like to ease up [on] a little bit” (Wayside Elementary, ECE).

Educators at Buckner Elementary and Patterson Elementary acknowledged that teachers’ understanding of play-based learning was developing. An ECE at Buckner Elementary who was involved in both the first and second year of FDELK implementation witnessed an improvement in how the school approached play-based learning: “It’s for sure better than it was last year. It’s more of a process” (Buckner Elementary, ECE 1). At Patterson Elementary, teachers new to Kindergarten benefitted from the support of ECEs in regard to play-based learning, with one teacher indicating that centres would improve as teachers gained more experience. “Having the ECE in the room has been enriching the learning centres…I do think our learning centres will continue to get better as we have more experience” (Patterson Elementary, Teacher 2).

Large blocks of play-based learning throughout the day enabled educators at Patterson Elementary and Pine Valley Elementary to work with small groups of students, while the rest of the class was involved in play. In FDELK classes at Patterson Elementary, students had the choice of learning centres that the ECE orchestrated, while the teacher pulled small groups for guided reading or writing. According to a teacher at Pine Valley Elementary, the ability to work with small groups during play-based learning
times was the “best part” of large blocks of play (Pine Valley Elementary, Teacher Focus Group).

Parents of students who went to Pine Valley Elementary and Patterson Elementary recognized and appreciated that their children’s interests were being incorporated into play-based learning. One parent felt grateful that a teacher at Pine Valley Elementary incorporated students' interests into their learning:

I don’t remember what it was, whether it was the season change or somebody had mentioned the earth, so the next day they came in and there was a science centre set up with the globe and the solar system, and she [teacher] had used that as part of her circle so she seems to be in tune with what the kids are interested in and uses that. (Pine Valley Elementary, Parent)

Similarly, some parents at Patterson Elementary were very supportive of play-based learning in the FDELK program because it incorporated their children’s interests.

“They’re taking the lead from [the] kids. There’s a lot of different activities. One week the whole classroom is a big castle…now they’re doing spiders because someone was interested in spiders…my daughter seems to be enjoying it all” (Patterson Elementary, Parent Focus Group). The responsiveness of educators to the interests of children was emphasized: “The kid mentions something they’re interested in and, boom, they provide the tools for the kids to imagine things themselves…they had a Tim Horton’s in their class for a while…cups and everything. They loved it so much” (Patterson Elementary, Parent Focus Group).

In summary, at all four case study schools, educators indicated that play-based learning occurred in the context of centres and inquiry. Educators at three schools (Patterson Elementary, Pine Valley Elementary, and Wayside Elementary) reported that play-based learning had a structured component linked to curriculum expectations;
parameters around play were imposed to ensure students participated in a variety of experiences; and students’ interests were incorporated into play. Play was reported as being inherently motivating at all the schools except Wayside Elementary.

Five common elements related to play-based learning were only reported at two of four case study schools, but the schools at which they were reported varied:

(a) Educators communicated that play-based learning was ideal for integrating curriculum expectations (Patterson Elementary and Pine Valley Elementary);

(b) Teachers’ understanding of play-based learning was developing (Buckner Elementary and Patterson Elementary);

(c) Play-based learning should be more open-ended and less activity-based (Buckner Elementary and Wayside Elementary);

(d) Play-based learning provided educators with opportunities to work with small groups of students while the rest of the class was involved in play (Patterson Elementary and Pine Valley Elementary);

(e) Parents at two schools recognized and appreciated that their children’s interests were incorporated into play-based learning (Patterson Elementary and Pine Valley Elementary).

Table 3 summarizes common elements of play-based learning across the four schools.
### Table 3

**Play-based Learning: Common Elements**

<table>
<thead>
<tr>
<th></th>
<th>Buckner Elementary</th>
<th>Patterson Elementary</th>
<th>Pine Valley Elementary</th>
<th>Wayside Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play-based learning occurred in the context of centres and inquiry.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Play-based learning had a structured component linked to curriculum expectations.</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>There were parameters around play-based learning to ensure students participated in a variety of experiences.</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Students’ interests were incorporated into play.</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Play-based learning was viewed as being inherently motivating.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Play-based learning was ideal for integrating curriculum expectations.</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Some ECEs believed that play-based learning should be more open-ended and less activity-based.</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Teachers’ understanding of play-based learning was developing.</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Play-based learning provided opportunities for educators to work with small groups, while the rest of the class took part in play.</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Parents recognized and appreciated that their children’s interests were incorporated into play-based learning.</td>
<td></td>
<td>✓</td>
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</table>
Teacher-ECE Collaboration

Teacher-ECE collaboration was an essential component of high fidelity FDELK schools. “The main thing is being able to work collaboratively with your partner because if you’re able to do that you can succeed…you have to be able to get along to make everything work out” (Patterson Elementary, ECE 1). The need to hire the right people for the collaborative FDELK program was an issue raised by administrators at three schools (Pine Valley Elementary, Wayside Elementary, and Patterson Elementary). Administrators took care in “hiring the right person to work with the right teacher…so that you have that positive teamwork” (Pine Valley, Administrator 1). Kindergarten teachers in the FDELK program needed to “share and move away from the feeling that it’s just your kingdom [in the classroom]” (Pine Valley, Administrator 1). “Neither one [educator] of them is more important to the team than the other…they work together…the traditional the teacher’s in charge…it’s changing” (Wayside Elementary, Administrator 1). In one school, administration shifted all but one teacher from the previous academic year out of Kindergarten and replaced them with teachers new to Kindergarten who were “collaborative…open to having a partner in their classroom” (Patterson Elementary, Administrator 1). “When you don’t have to change a mindset, it makes things so much easier…we haven’t had to work with changing old habits” (Patterson Elementary, Administrator 1). For partnerships to work, there needed to be an “understanding between the teachers and the ECEs of what each one brings to the table and respecting that and having the personalities that allow that collaboration in the classroom” (Patterson Elementary, Administrator 1).
Administrators at Wayside Elementary and Patterson Elementary supported the notion of partnership in the FDELK program by emphasizing the critical role of ECEs, a role that might otherwise be undervalued. “The concern for us was that the ECE was seen as an equal, as a partner…the teacher brings the curriculum piece, but eventually they’re both looking at that…[the ECE] is a teaching member in the classroom” (Wayside Elementary, Administrator 2). The teaching team was an “equal partnership…you each bring different skill sets, but you’re both equally involved in running this classroom in a way that’s going to further the child’s development” (Patterson Elementary, Administrator 1). Ideally, teachers should respect “the abilities that they [ECEs] bring to bear and [be] allowing them some leadership within the classroom…valuing their [ECEs’] ability to assess a lot of those developmental areas that the teachers can really learn from” (Patterson Elementary, Administrator 1). Kindergarten teachers were not to use their ECE partners “as an EA, because once it goes, shifts in that direction, you lose the integrity of the program” (Patterson Elementary, Administrator 1).

The necessity for planning time to promote collaboration in Kindergarten teams was recognized by administration in three high fidelity FDELK schools (Pine Valley Elementary, Wayside Elementary, and Patterson Elementary). Kindergarten educators “need the time to plan together” to work well as a team (Pine Valley Elementary, Administrator 2). Shared planning time was essential “because you just don’t have time to talk during the day, and you don’t want that professional reflective talk to be happening in front of the kids because you’re so busy” (Wayside Elementary, Administrator 2). Providing planning time for educators “makes a huge difference because it emphasizes from our point that we value their collaboration…we value the
time that they spend together and work together….It sets the tone” (Patterson Elementary, Administrator 1).

The two biggest hindrances to effective teacher-ECE collaboration at all four high fidelity schools were said to be a lack of clear direction about educator roles and a lack of shared planning time. These hindrances made it difficult initially for teams to work together. An ECE who was less clear about her role at the beginning of the program indicated that the school board eventually provided explicit guidelines during a mandatory evaluation for ECEs. “With the recent evaluation we’ve been given as ECEs, it’s sort of laid out all of our roles…prior to that you just worked with your partner, your teaching partner, to sort of run the program” (Patterson Elementary, ECE 2). Both teachers and ECEs at Pine Valley Elementary agreed that more direction about the roles of educators in the FDELK program and allocated planning time were needed to promote collaboration. “It would have been nice to see more examples of the planning piece, how it’s all connecting and how the ECE fits...[it is difficult] trying to fit all that in when we don’t have the same planning times” (Pine Valley Elementary, Teacher Focus Group). At the beginning of the year at Wayside Elementary, the teaching team was concerned because the “ECE’s role was more working one-on-one with this one particular high needs child instead of the team teaching and partnership that was supposed to be going on” (Wayside Elementary, Teacher). Eventually, an EA was hired to meet the needs of the student for part of the day.

Administrators and educators from all four case study schools reported that a challenge to shared planning was that insufficient time was allocated for educators to plan together. Administration at Wayside Elementary found it especially difficult to
provide shared planning because two prep teachers were required to handle the large FDELK class size, as prep teachers could supervise a maximum of 20 students according to their contract (Wayside Elementary, Administrator 2). Without scheduled planning time, “finding the time for us [the Kindergarten team] to meet” was difficult (Wayside Elementary, Teacher). “Some days are just crazier and you feel like it’s the end of the day, and ‘Oh, I haven’t even talked to you today’…other days…while we’re in the room [we] communicate…we do try to meet weekly” (Wayside Elementary, Teacher). In contrast, while teachers and ECEs at Pine Valley Elementary both had planning time, they didn’t have the same planning time. To engage in shared planning time, ECEs, for the most part, participated without pay. “It really comes down to [ECE] giving up her extra time outside of school, and it’s really not fair in my opinion…it’s made our classroom a lot smoother…to sit down and kind of plan a week or two together” (Patterson Elementary, Teacher 2). During the second year of FDELK implementation at Buckner Elementary, the school board paid ECEs for a longer day (7 hours instead of 6.5) to facilitate some shared planning time. However, teachers and ECEs agreed their teams would benefit from still more shared planning time (Buckner Elementary, ECE 1, ECE 2, Teacher 3, and Teacher 4).

Aspects of educator roles were interchangeable at three schools (Patterson Elementary, Wayside Elementary, and Pine Valley Elementary) because ECEs were viewed as teaching partners in the classroom. At Patterson Elementary, Kindergarten educators were both “very active and they like that…it’s a very fluid process…You can cross over [roles], but, at the same time, knowing [their] own professional training and limitations, and also not being afraid to put trust in the other person” (Patterson
Elementary, Administrator 2). The nature of the work done by ECEs in one classroom at Patterson Elementary was very similar to that done by the teacher:

They’re [ECEs] helping me plan, they’re doing independent planning for small groups and it’s really purposeful, meaningful planning that again connects back to the ELKP [Early Learning Kindergarten Program] document…they’re assisting with assessment and observation and really bringing a whole other piece to that. (Patterson Elementary, Teacher 1)

At Wayside Elementary, FDELK educator roles weren’t “really divided into you do this and I do that” (Wayside Elementary, ECE). During learning centres, “some of the children need more help, some of the centres need more help so we just go to where we’re needed” (Wayside Elementary, ECE). However, the ECE indicated, “I do take the teacher’s lead. I do think it’s their role to take the lead” (Wayside Elementary, ECE). One Kindergarten team at Pine Valley Elementary took turns teaching subjects, while the other team tended to divide up the subjects they taught. An ECE explained the division of labour in her classroom. “I do mostly math, sciences and she [the teacher] focuses on the languages, and we share centres, like implementing the new ideas for the different centres and set-up and we share the art centre” (Pine Valley Elementary, ECE Focus Group). The same ECE who commented on the division of labour in her classroom indicated that educator roles were almost completely interchangeable in regard to teaching and assessment, with the exception of writing report cards. “We share the teaching, we share the observing, we share some of the assessments, but they [teachers] do final assessments mostly and…they do the reporting” (Pine Valley Elementary, ECE Focus Group).

At two schools (Buckner Elementary and Pine Valley Elementary), the roles of teachers and ECEs were established based on their professional strengths, with teachers focusing more on academics and ECEs taking the lead with play-based learning. ECEs at
Patterson Elementary described being responsible for play-based learning in their classrooms. One ECE at this school described her role as “providing opportunities for learning through play…finding out what the children are interested in and planning around that to meet all expectations, all our goals throughout the year” (Patterson Elementary, ECE 1). Similarly, another ECE at the school described being responsible for “the personal and social development of the room, interaction, creating activities that are developmentally appropriate to the children that are in our room, as well as providing support to the teacher in aspects of learning and her expectations” (Patterson Elementary, ECE 4). A teacher at Buckner Elementary described a similar division of work among educators: “I do more of the overall planning but then [ECE] does a lot more of making sure it’s play-based. So that’s helpful because it’s her background” (Buckner Elementary, Teacher 3).

In summary, all four case study schools had educators who reported having a lack of clear direction about roles and a lack of shared planning time. At three schools (Patterson Elementary, Pine Valley Elementary, and Wayside Elementary), educators indicated that a lack of planning time and/or defined roles made it difficult for teams to work together initially. Educators at these same three schools recounted some aspects of their roles as interchangeable. The need to hire the right people for the FDELK team and the need for shared planning to promote collaboration was also recognized by administration at these schools. Administrators at two schools (Patterson Elementary and Wayside Elementary) emphasized the critical role of ECEs in the FDELK team. Despite the recognition of this critical need, insufficient time was devoted to allow ECEs to plan. FDELK teams at two schools (Buckner Elementary and Wayside Elementary) had some
shared planning time, but felt more was needed, while ECEs reported taking part in unpaid planning at two schools (Patterson Elementary and Wayside Elementary). Some FDELK roles were non-interchangeable at two of the case study schools (Buckner Elementary and Patterson Elementary) because, at these schools, ECEs focused more on play-based learning and teachers focused more on curriculum. Table 4 summarizes common elements of teacher-ECE collaboration across the four schools.
Table 4

*Teacher-ECE Collaboration: Common Elements*

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<tr>
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<th>Buckner Elementary</th>
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<tr>
<td>Administration emphasized the need to hire the right people for</td>
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<td>the FDELK team.</td>
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<td>Administration recognized the need for shared planning to</td>
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<td>promote collaboration.</td>
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<td>Administration emphasized the critical role of ECEs.</td>
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<td>Lacked clear direction about roles.</td>
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<td>Lacked shared planning time.</td>
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<td>Lack of planning time and/or defined roles made it difficult</td>
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<td>for teams to work together initially.</td>
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<tr>
<td>FDELK team had some shared planning time, but more shared</td>
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<td>planning time was needed.</td>
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<td>ECEs took part in unpaid planning.</td>
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<tr>
<td>Some aspects of educators’ roles were interchangeable.</td>
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<tr>
<td>Other roles were non-interchangeable.</td>
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<td>For example, ECEs focused more on play-based learning, whereas</td>
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<td>teachers focused more on curriculum.</td>
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Meeting Individual Needs

It feels like I’m able to reach each child. I know each child better because I’m able to spend more time with each student. Plus the Early Childhood Educator spends a lot of time, and so knowing where the child is and move on from there it’s just, you…can help him or her really reach his full potential. (Pine Valley Elementary, Teacher Focus Group)

Educators at high fidelity FDELK schools emphasized the importance of knowing and addressing the individual needs of students. FDELK educators indicated that play-based learning and full days at school enabled them to get to know the needs of their students better. Teachers at Pine Valley Elementary reported that play-based learning was interactive, which gave educators more opportunity to work one-on-one with students and in small groups. “I feel we have a really good idea [about] what the kids can and can’t do because it is that one-on-one [work with the student] and not paper pencil, ‘do your worksheet’” (Pine Valley Elementary, Teacher Focus Group). In the small groups, “you can just focus on the three kids without the worksheets, and actually spend the time sitting with them…we definitely know the kids a lot more” (Pine Valley Elementary, Teacher Focus Group). Educators at Buckner Elementary and Patterson Elementary described having a good grasp of the needs of their students because they spent more time with them in the full-day program. “With the full-day, you definitely have a lot more time to get to know the kids and to know their likes and dislikes…what do you need help in or what are your interests or what can I do to make this more interesting for you?” (Buckner Elementary, Teacher 4). Educators were with students “every day [so] you’re able to have the opportunity to truly get to know them” (Patterson Elementary, ECE 4). One teacher indicated she was aware of the needs of her students sooner because she saw them every day:
I think you can kind of flag them sooner. I think you get to know the kids sooner…so you can kind of recognize kids that need extra support and you can recognize the kids that need enrichment opportunities and things to further their learning. (Patterson Elementary, Teacher 4)

Three of the high fidelity FDELK schools (Buckner Elementary, Pine Valley Elementary, and Patterson Elementary) described using targetted instruction (i.e., instruction matched to the assessed needs of students) to address the individual needs of students. Educators at Pine Valley Elementary used one-on-one (i.e., an educator works with a student individually) and small group (i.e., an educator works with a small group of students who have similar needs) interventions with students daily. Similarly, educators at Buckner Elementary used small group instruction to meet the needs of students. At Patterson Elementary, students at different reading levels benefitted from a strong guided reading program. Students who needed program modifications experienced a different approach to teaching and learning, while students who required more of a challenge were given an enrichment program.

Educators at two schools indicated that the nature of the FDELK program enabled students to receive more support and individual attention in the classroom “because there’s two people in the room that they can always turn to” (Patterson Elementary, ECE 1). “I think the fact that we do have the two of us, we are meeting their needs much more because we are able to differentiate a lot easier…you can have two of us doing small group instruction” (Patterson Elementary, Teacher 2). At Pine Valley Elementary, during play-based learning, the teacher and ECE assumed different roles: one would circulate, interact, and observe students engaged in play, while the other would be “anchored” to a centre where she worked with a small group of students (Teacher Focus Group).
According to educators, needs of FDELK students at Wayside Elementary were not being met as well as they could be, because classes had a number of students with behavioural issues who required constant attention. The EA in the Wayside Elementary classroom explained, “We have quite a few behaviour students and so you’re constantly dealing with the behaviours and then the children that don’t have behaviours but…have more learning needs…their needs aren’t met as well” (Wayside Elementary, EA). “This is a school environment where children have come to learn. You can’t put everybody on hold…children need to stay on task. That’s what’s expected of them” (Wayside Elementary, ECE). More staff support was required to meet the needs of all students more effectively, even with a teacher, an ECE, and a part-time EA in the classroom.

At Patterson Elementary, students had specialized needs because it was a low SES school. Kindergarten students came to school with “very little oral vocabulary. It’s just not developed at home and they are behind the eight ball when they get here compared to children…in middle, upper class families” (Patterson Elementary, Administrator 1). “We’re finding that there’s a lot of new kids and a lot of kids that need some support. So there are supports in place, but we certainly think there could be maybe a little bit more” (Patterson Elementary, Administrator 2). For example, “I’d like to see some more sort of spec. ed. time…reduced class sizes…20 kids as opposed to 26…some [more] EA time…most EA time [only] goes to kids who have severe safety needs…some mental health support” (Patterson Elementary, Administrator 2). Providing appropriate supports early on was important: “If we can get in earlier, support children with what they need earlier, we’re actually going to take away some of the needs at the upper ends of the school” (Patterson Elementary, Administrator 3).
Parents at three high fidelity schools (Patterson Elementary, Pine Valley Elementary, and Wayside Elementary) were divided as to whether or not the FDELK program met the needs of their children. Some parents at Patterson Elementary appreciated having two educators in the classroom to work with students. “They’re always happy to talk to you…They know your child, they know exactly what’s going on” (Patterson Elementary, Parent Focus Group). However, other parents had concerns about the needs of some students not being served by the program. The full-day aspect of the program was seen as very tiring for some of the younger students. “I know it was hard for some kids, like the younger kids…they would fall asleep in the middle of the day because it was a lot for them to go from being at home to being in school” (Patterson Elementary, Parent Focus Group). One parent indicated that a number of other parents had actually removed their children from the FDELK program because it was too much for their children to handle:

There’s a large number in her class who are gone. Like they’re down to 15 kids from 24. Some of them just couldn’t do it. It was too much for them all day. Some of them are at a different school. I know some parents moved their kids to where it is every other day. (Patterson Elementary, Parent Focus Group)

There was additional concern on the part of parents about the large class sizes in the FDELK program, especially when they were housed in small classroom spaces. “My other concern is the number of children per class, which has dramatically increased. So last year my daughter had a class of 18…[this year] my daughter’s class has 25 in it” (Patterson Elementary, Parent Focus Group).

Parents at Pine Valley Elementary appreciated that their children were getting more individual attention in the FDELK program. Students were getting more “one-on-one even if it’s just for a couple of minutes” because there was a teacher and an ECE in
the FDELK classroom (Pine Valley Elementary, Parent Focus Group 1). One parent described an instance where her daughter wasn’t feeling well and “she was able to sit separate from the group and just relax a little bit, and they had the [ECE] that was there and just you know keep her a little busy so she didn’t feel so alone” (Pine Valley Elementary, Parent Focus Group 1). Although FDELK is supposed to meet the needs of all students, two parents at Pine Valley Elementary indicated that their children were on modified programs. One parent had a daughter with speech difficulties. This parent was frustrated that the school’s solution was “for her to only be at school for 3 hours a day. So that makes it hard when they have to play catch-up” (Pine Valley Elementary, Parent Focus Group 2). Another parent explained that her son only attended the FDELK program in the mornings, while he spent the afternoons at a local day care centre because of “his behaviour” (Pine Valley Elementary, Individual Parent Interview).

A few parents at Wayside Elementary reported that the individual needs of their children were being met in the FDELK program. For example, one student who tended to “withdraw…stand back and [let] everything else happen” in the classroom was being put in “a focus program where it teaches them how to get more involved” (Wayside Elementary, Parent Focus Group). Another student who required naps from time to time was able to do so: “There’s days where my son naps for like an hour, and they’re [educators] fine with that…he just curls up on the mat and has a nap” (Wayside Elementary, Parent Focus Group). However, students with behaviour issues who lacked support impacted the entire class. “There was a few busy kids in the class and they weren’t funded for extra help…the whole class is now being kind of destructed because the teacher has to focus on that child that’s acting out” (Wayside Elementary, Parent
Focus Group). There should be “extra attention and more one-on-one [for] the kids that actually need it” (Wayside Elementary, Parent Focus Group).

In summary, FDELK teachers at three schools (Buckner Elementary, Patterson Elementary, and Pine Valley Elementary) indicated that the additional time they had with students (afforded by the program) enabled them to have a good grasp of their students’ needs. Educators at these same three schools reported using targeted instruction (i.e., one-on-one and small group work) to meet the individual needs of their students. Staff at three schools (Patterson Elementary, Pine Valley Elementary, and Wayside Elementary) stated that more support staff was needed to meet the individual needs of students, particularly those with exceptionalities. Parent reports about whether or not their children’s needs were being met by the FDELK program were mixed at three schools (Patterson Elementary, Pine Valley Elementary, and Wayside Elementary): some parents believed their children’s needs were being met by the program, while others believed they were not. Educators at two schools (Patterson Elementary and Pine Valley Elementary) communicated that having two educators in the classroom made it easier to meet the needs of their students. At one case study school (Wayside Elementary), educators described having students with exceptionalities in their classrooms who did not receive the EA support they needed, which diverted educators’ attention from the rest of the class. Table 5 summarizes common elements of meeting individual needs across the four schools.
Table 5

*Meeting Individual Needs: Common Elements*

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<th></th>
<th>Buckner Elementary</th>
<th>Patterson Elementary</th>
<th>Pine Valley Elementary</th>
<th>Wayside Elementary</th>
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<tr>
<td>Teachers spent more time with Kindergarteners in the FDELK program with this additional time enabling them to have a good grasp of students’ needs.</td>
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<td>Having two educators in the classroom made it easier to have the needs of students met.</td>
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<tr>
<td>Educators used targetted instruction to meet the needs of individual students.</td>
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<tr>
<td>Some students with exceptionalities in the classroom didn’t receive the EA support they needed, which diverted educators’ attention from the rest of the class.</td>
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<tr>
<td>More support staff was needed to effectively meet the needs of individual students, particularly those with exceptionalities.</td>
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<tr>
<td>Some parents felt that their children’s needs were not being met in the FDELK program.</td>
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<tr>
<td>Some parents felt that their children’s needs were being met in the FDELK program.</td>
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Promoting Self-Regulation

They’re [students] trying to negotiate how to share markers and work it out, and two bossy little girls are really being quite nasty to the other little girls and the teacher entered this, and again, because of the time she’s got the ability to enter and she’s got the skills as well to be able to talk about how to work this out and what would be reasonable, and we need to each of us stop and look at each other and explain our thinking. So it took a lot of time, and often in that busy nature of these Alternate-Day or Half-Day Kindergarten, it’s much easier to say, “Girls, get along or I’ll remove the markers because you’re not managing.” (Patterson Elementary, Administrator 3)

At high fidelity FDELK schools, educators focused on developing self-regulation in their students. Play-based learning was identified as a primary avenue through which students became “independent learners” at Buckner Elementary, Wayside Elementary, and Pine Valley Elementary. Play-based learning “empowered” students to “be in charge of their learning so they can see themselves as learners” (Buckner Elementary, Teacher 3). With respect to learning centres, students at Buckner Elementary were becoming more “self-directed” (Buckner Elementary, Teacher 4). They were able to “pick a centre, stay at a centre, [and] figure out what to do next at a centre if they did the activity” (Buckner Elementary, Teacher 4). However, one ECE believed there should be an equal focus on self-regulation and academics because the focus was still “on literacy and numeracy as opposed to all the self-regulation type of stuff” (Buckner Elementary, ECE 1). Students “can be responsible for their own learning” (Buckner Elementary, ECE 1).
According to a teacher at Wayside Elementary, play-based learning promoted self-regulation because it enabled students “to share what they’re doing with the other kids so they see themselves as learners” (Wayside Elementary, Teacher). “I think because we try to have an open, relaxed program that children are developing their confidence…we want them to have their own ideas and their own opinions and to be confident in sharing those” (Wayside Elementary, ECE). In contrast to a half-day program, in the FDELK program, there was “a lot more time that children can explore and learn on their own” (Wayside Elementary, ECE).

An example of self-regulation through self-exploration took place at Pine Valley Elementary. In one classroom there, students wanted the house centre changed into a restaurant. During the creation of the restaurant, students “came up with menus, they came up with putting dollar amounts to the menus. They came up with everything, so they’re learning through what they’re doing, and we’re just following their lead” (Pine Valley Elementary, ECE Focus Group). Additionally, the crafts in the play-based program were not prescriptive; educators encouraged students to be creative. Students were not told, “‘Okay, this is the craft. You’re making a bear. It has to look like this’…If they’re making a bear and it’s square and it has five ears well, that’s their bear and they’re proud of it” (Pine Valley Elementary, ECE Focus Group). “Their creativity is being honoured…and that gives them more self-confidence” (Pine Valley Elementary, ECE Focus Group). “I feel like they’re happier, more free, free to create, a lot more creativity [is] going on” (Pine Valley Elementary, Teacher Focus Group).

Play-based learning is thought to promote self-regulation because it involves social interaction; during play, students must regulate their emotions and get along with
their peers. Staff members at all four high fidelity FDELK schools described how play-based learning fostered cooperation. “I think the most success we have this year is getting the children to work together...consider one another, work as a team...we have a lot of game playing in our centres...to be successful they have to work together” (Buckner Elementary, ECE 2). The FDELK program was “really positive because they [students] learn at a young age to work together” through play-based learning (Wayside Elementary, Communications Assistant [employed by the school to provide speech and language support for students]). Pine Valley Elementary School had invested in materials for play, like manipulatives (e.g., blocks) and board games, for students to learn “how to interact together, how to socialize, build the social skills” (Pine Valley Elementary, Administrator 1). There were not any behavioural “physical issues” in the class because students were able to negotiate effectively with one another (Pine Valley Elementary, ECE Focus Group). Similarly, students at Patterson Elementary were “using their words, they’re talking to their friends, [and] they’re taking turns” during play (Patterson Elementary, ECE 2).

Owing to the social aspect of play-based learning, educators indicated that students from all four high fidelity FDELK schools developed communication skills. At Buckner Elementary, educators observed student growth in language: “[Students’] use of language has really improved” (Buckner Elementary, Teacher 4). “They really want us to know what they are thinking...know what they want, and they want to tell each other...they are expressing to us what they want to do and they are expressing to their friends” (Buckner Elementary, ECE 1). Students at Patterson Elementary regularly shared “something that they’ve done or made during learning centre time” to develop their
communication skills (Patterson Elementary, Teacher 2). At Wayside Elementary, play-based learning involved “problem solving [in which] so much oral language is happening” (Wayside Elementary, Teacher). Students at Pine Valley Elementary demonstrated “significant growth in their way of expressing what they’re thinking, interpreting what they’re seeing,” and were proving to have “some significant skills of learning and knowledge” (Pine Valley Elementary, Administrator 1).

Educators identified strategies for supporting SR development at all four case study schools including: choice during play-based learning, teacher and ECE modelling of the thinking process for solving problems, provision of learning tools (like cards with frequent words on them), writers’ workshop, and encouragement of students to solve their own problems by asking a friend for help.

During social interactions, conflicts between children inevitably arose. Educators at three case study schools (Pine Valley Elementary, Wayside Elementary, and Patterson Elementary) described how they took the time afforded by the program to help students work through conflicts. An ECE at Pine Valley Elementary used the draft Kindergarten curriculum document to help students work through difficulties: “At first, you feel like you’re talking from a script, but it’s kind of funny later on when you hear the little ones say like, ‘Okay you want my toy right now, but I want to use it. So, how about I let you have it when I’m done?’” (Pine Valley Elementary, ECE Focus Group). During outdoor play in the morning, the ECE at Wayside Elementary spent 20 minutes with the children to guide and model positive behaviour. “I can deal with a lot more of the behaviours that come up [if] I can see it from the beginning instead of just getting the tattling at the end. And just to interact with them more and to enhance their play out there” (Wayside
Elementary, ECE). While one educator at Patterson Elementary worked through a social issue, the other educator attended to the rest of the class:

If there are other issues going on in the room as far as like, saying un-nice words to each other or having problems sharing toys, there is that other person to sit there and work them through it. So I think the kids...[are] getting really what...they need as far as their word sets on how to solve problems and conflicts because it’s not like you’re kind of just doing your thing and the rest of the room is hopefully doing theirs. (Patterson Elementary, Teacher 4)

Patterson Elementary and Buckner Elementary reported that inadequate supervision was a major hindrance to students’ ability to self-regulate. During the lunchtime routine at Patterson Elementary, there was only one adult supervising the class, so students had to wait to go outside until everyone was ready. “I don’t think it [lunchtime routine] sets the kids up for success...getting ready and lining up and waiting, whereas normally in other settings there’s somebody else to take half the group out if they’re ready” (Patterson Elementary, ECE 2). Similarly, an educator at Buckner Elementary indicated smaller classes would be beneficial because there were times when the teacher or ECE was inevitably alone with the class and unable to meet all the needs of students.

I know while we say that there’s two teachers, at some points there’s only one. That’s usually when all the behaviour happens because when you are four-years-old and you are waiting that long to get your shoe tied...or to ask to go to the bathroom. (Buckner Elementary, Teacher 3)

Lastly, parents of students at Patterson Elementary and Wayside Elementary reported times when the FDELK classroom was chaotic, which made it difficult for students to self-regulate. “For some reason, the kids were being really loud in the classroom and my daughter sat on the floor and she had her ears covered over her head, like it was just really loud....she doesn’t have an option just to go and have a little break”
The EA at Wayside Elementary described times of “chaos” during transitions in the day. “Kids go from one room to another, and then some of them stay here and then some of them go [t]here” (Wayside Elementary, EA). It may have been during such times that one student got “hurt all the time” (Wayside Elementary, Parent Focus Group).

In summary, strategies for supporting SR were identified by educators from all four schools. In addition, educators from all schools noted that increased social interaction in the FDELK program helped students learn to work together and develop communication skills. At three case study schools (Buckner Elementary, Pine Valley Elementary, and Wayside Elementary), educators indicated that play-based learning was one of the main activities by which students developed SR in the FDELK program. Educators at three schools (Patterson Elementary, Pine Valley Elementary, and Wayside Elementary) described taking the time to work through conflicts that arose between students. At two schools (Buckner Elementary and Patterson Elementary), educators identified that having only one adult in the classroom could make it hard for some students to self-regulate. Similarly, educators or parents at two schools (Patterson Elementary and Wayside Elementary) reported that the FDELK classroom being chaotic at times made it a challenge for some students to self-regulate. Table 6 summarizes common elements of promoting self-regulation across the four schools.
Table 6

*Promoting Self-Regulation (SR): Common Elements*

<table>
<thead>
<tr>
<th></th>
<th>Buckner Elementary</th>
<th>Patterson Elementary</th>
<th>Pine Valley Elementary</th>
<th>Wayside Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play-based learning helped students develop SR.</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Increased social interaction in the FDELK program helped students learn to work together.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Students developed communication skills as a result of increased social interaction associated with the FDELK program.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Educators identified strategies they used for supporting SR development.</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td>Educators took the time to work through conflicts that arose between students.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>When there was only one adult in the classroom, it was hard for some students to self-regulate.</td>
<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>The FDELK classroom was chaotic at times, which made it hard for some students to self-regulate.</td>
<td>✓</td>
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</tr>
</tbody>
</table>
Discussion

High fidelity FDELK schools are characterized by positive features and practices that promote optimal development in young children. The productive aspects reported by high fidelity FDELK schools in this study are now discussed in relation to play-based learning, teacher-ECE collaboration, meeting individual needs of students, and promoting the development of self-regulation in students. In that there was little mention of literacy and numeracy during the course of interviews, perhaps because educators were unsure of how to incorporate academic skills into play-based learning, those skills are subsumed as appropriate under the four major themes. Even though the four FDELK case study schools in this research were categorized as high fidelity, there were still a number of program challenges identified by study participants. As a result, areas for improvement in the FDELK program are also addressed in this section.

Play-Based Learning

In high fidelity FDELK schools, play-based learning was seen as having an imposed structure as it was linked to curriculum learning expectations and organized through centres and inquiry. In this sense, play-based learning was not seen merely as play, with educators recognizing the importance of connecting play to learning expectations. Kindergarten educators’ descriptions of inquiry seemed most closely related to the principles of guided play in that inquiry was seen as incorporating curriculum expectations and was reported to be actively facilitated by educators. In the course of interviews, little was said about how educators scaffolded children’s learning during play, which is a critical element of effective guided play (Skolnick Weisberg, Hirsh-Pasek, & Michnick Golinkof, 2013). In fact, a number of ECEs believed that play-based learning
should be more open-ended and less structured, which could result in less educator involvement. It is unclear whether or not educators understood the critical role they have in supporting learning during play. Moreover, although FDELK teachers indicated that they benefitted from the support of ECEs in regard to play-based learning and that the implementation of play-based learning would improve as they gained more experience, it may be unrealistic to think that two educators with a large class size can effectively support the type of scaffolded play that fosters children’s development. Without the support of adults during play, children may not be learning anything new (Bodrova & Leong, 2005).

Kindergarten educators described students’ enjoyment of the intrinsically motivating nature of play-based learning. Accordingly, teachers of play-based learning programs reported that active learning promoted a positive attitude toward learning and encouraged independence in students (Martlew, Stephen, & Ellis, 2011). To promote further engagement with learning, students’ interests and choice of activities were incorporated into play-based learning. Integrating students’ interests and choices in learning is important given that behavioural engagement in Kindergarten classrooms promotes achievement (Cameron Ponitz, Rimm-Kaufman, Grimm, & Curby, 2009). In high fidelity FDELK classes, choice in play-based learning was described as having certain parameters to ensure that students took part in a variety of learning experiences. Educators seemed aware of the need for students to take part in a variety of quality learning activities to optimize their development (Darragh, 2007).
Teacher-ECE Collaboration

High fidelity FDELK schools actively supported the collaboration of teachers and ECEs. At Patterson Elementary and Wayside Elementary, administration worked hard to promote the notion of partnership in Kindergarten teams, recognizing that teachers and ECEs were both teaching members with complementary skill sets. This type of support from school administration is crucial for Kindergarten teams to work collaboratively (Corter et al., 2007). Kindergarten teams at Buckner Elementary and Patterson Elementary embraced the complementary nature of their roles; Kindergarten teachers tended to focus more on academic skills, while ECEs provided support around play-based learning and child development. FDELK educators’ understanding of the complementary nature of their roles at these two case study schools is contrary to the finding reported by Gibson and Pelletier (2011) that educators tended to share classroom responsibilities fairly evenly and, as a result, might require more training on the complementary role of each educator. High fidelity Kindergarten educators also described how their roles were interchangeable at times, but the nature of interchangeability differed across teams. Consequently, FDELK teams would benefit from more direction about which aspects of Kindergarten educator roles should be complementary and which aspects should be interchangeable (Tozer, 2012).

The need for shared planning time to promote collaboration was emphasized by administration and educators at high fidelity FDELK schools. However, high fidelity FDELK schools allocated insufficient (or no) time for collaborative planning. As a result, ECEs at Patterson Elementary and Wayside Elementary took part in shared planning
without pay. Educators’ commitment to team development, especially that of ECEs, appeared to facilitate positive working relationships among team members. It may be that these particular Kindergarten teams had the shared planning time required to work through the stages of team development, allowing them to collaborate. Tuckman’s (1965) model of team development identifies four stages of team development: forming, storming, norming, and performing. While most teams want to go from forming to performing, they must first go through the storming (conflict) phase in which differences arise and people learn to work through them. Next is the norming stage, where members make decisions through negotiations and consensus. These two more challenging stages lay the groundwork for members to collaborate and work interdependently in the final performing stage. Without shared planning time to develop, FDELK teams run the risk of staying at the forming stage of team development and assuming a hierarchical relationship in which the teacher takes the lead and the ECE acts more like an EA than a teaching partner. Kindergarten educators need shared planning time to develop a professional rapport, understand each other’s strengths, negotiate their roles and responsibilities, and establish a collaborative vision for the FDELK program.

**Meeting Individual Needs**

Kindergarten educators at high fidelity FDELK schools were committed to meeting the needs of individual students in their classrooms. They reported being able to get to know the needs of their students better because of full days of learning. Likewise, teachers who transitioned from teaching a Half-Day Kindergarten (HDK) program to a Full-Day Kindergarten (FDK) program indicated they had more time to get to know their students with FDK (Elicker, 2000; Elicker & Mathur, 1997). High fidelity FDELK
educators indicated as well that interacting with students during play provided insights into students’ strengths and needs. It is possible that play-based learning encourages meaningful interactions between teachers and students that are not experienced in more traditional classrooms.

In general, targetted instruction was used to meet the needs of individual students in high fidelity FDELK classes. Targetted instruction took on multiple forms: reading groups, small group instruction, and one-on-one interventions. There are benefits to using different types of targetted instruction in Kindergarten. For example, the use of ability-based reading groups in Kindergarten is related to higher reading achievement (Adelson & Carpenter, 2011). During small group instruction, more time is spent in teaching rather than in managing behaviour (Logue, 2006). Lastly, the type of quality interactions that occur during one-on-one work with teachers promotes children’s growth and development (Pianta, 2005/2006). Having two educators in FDELK classrooms made targetted instruction run smoothly. When one educator worked with an individual student or group, the other educator could oversee the rest of the class. Having the support of another adult in the Kindergarten classroom is critical, given the student interruptions Kindergarten teachers experience when they work alone (Coles et al., 2013).

One of the challenges to meeting the needs of individual students was large class sizes. Research on Full-Day Kindergarten reveals differential outcomes related to class size (Zvoch, Reynolds, & Parker, 2008). For example, in a comparison of young children’s literacy acquisition in Full-Day Kindergarten versus Half-Day Kindergarten (HDK) classrooms, FDK was relatively more effective for promoting literacy development in below average (<20) and average size (20-24) classrooms than HDK, but
not in larger FDK classes (>24). Average to small class sizes enable teachers to build positive relationships with their students and meet their learning needs.

Another issue that educators said made it difficult to meet the needs in their class was having students who needed EA support but did not receive it. As a result, educators reported managing disruptive behaviour frequently, which took away from instructional time. It may be helpful to have students who require additional support assessed and identified early in the school year, perhaps even before Kindergarten starts.

High fidelity FDELK classrooms are characterized by multiple aspects that enable educators to meet the needs of individual students. However, large class sizes and inadequate assistance for students who require it can undermine educators’ abilities to support students and the overall quality of the FDELK program.

**Promoting Self-Regulation**

High fidelity FDELK educators recognized the importance of children’s self-regulation (SR) growth and actively promoted it. Play-based learning was seen as an opportunity for students to develop SR because it encouraged them to become independent learners and get along with peers. Play-based learning involves considerable independent learning and problem-solving, which requires students to inhibit impulsive behaviour. Inhibition lays the groundwork for self-regulation by helping children stop and think through their decisions (McClelland & Tominey, 2014). Educators indicated that game playing during play-based learning helped students learn to work together. In fact, game playing and dramatic play are important ways to promote SR development in young children because these activities require students to establish, negotiate, and follow rules (Bodrova & Leong, 2006). During the process of learning to follow and negotiate
rules, children additionally learn to inhibit impulsive behaviour and act deliberately. However, despite the benefits of dramatic play, educators did not mention its value in promoting self-regulation. Kindergarten teachers and ECEs may benefit from training about how mature dramatic play can promote SR (Bodrova & Leong, 2003, 2005, 2006).

In addition to using play-based learning to promote self-regulation, Kindergarten educators described scaffolding SR skills for students through modelling, using hints and cues, and withdrawing adult support when appropriate (Florez, 2009). Educators were able to take the time necessary to scaffold self-regulation because they had more instructional time afforded by FDELK and they had the support of a teaching team member.

Factors that hindered the development of SR were identified in high fidelity FDELK schools. Educators described instances of disruptive behaviour as occurring most frequently when only one educator was with the class. In a large FDELK class, according to one educator’s perspective, children behaved more impulsively than they would in a smaller class. Parents also reported times when the FDELK classroom was chaotic, which may have made it difficult for students to self-regulate. The noise level associated with large FDELK class sizes, small classroom spaces, and transition times could lead to chaos in FDELK classrooms.

Overall, it is encouraging that high fidelity FDELK schools valued and encouraged the development of self-regulation because growth in SR predicts gains in academic achievement (McClelland et al., 2007; Nesbitt et al., 2015, Welsh et al., 2010). However, the FDELK program may need to incorporate a more comprehensive approach to SR to facilitate the growth of self-regulation in young children (Diamond, Barnett,
Thomas, & Munro, 2007). Promoting self-regulation in young children, especially disadvantaged young children, may be the key to helping reduce the gap in achievement. As further research becomes available about the development of self-regulation in young children, Kindergarten educators need to be aware of this research so that they can implement evidence-based best practices.

**Implications for Policy and Practice**

In light of the case study data presented, it appears that FDELK educators in these four high fidelity schools are doing their best to implement play-based learning and take a team approach to teaching. However, there is variability across educators about what is meant by the term play-based learning and about how roles in Kindergarten teams are enacted. Consequently, the Ontario Ministry of Education is encouraged to develop an explicit definition of play-based learning (instead of the current definition by example), a definition that includes clear directives, conditions necessary to ensure learning, and learning goals. Research on guided play could provide important insights as guided play emphasizes the value of play, while underscoring the critical role of adults in supporting learning through play (Ferrara et al., 2011; Fisher et al., 2013; Han et al., 2010; Skolnick Weisberg et al., 2013). The value of sociodramatic play and play scripts in promoting self-regulation (Bodrova & Leong, 2006; Leong & Bodrova, 2012) is also worth addressing because SR is linked to future school success (Blair, 2002) and gains in SR predict growth in academic skills (Becker, Miao, Duncan, & McClelland, 2014; McClelland et al., 2007; Nesbitt et al., 2015; Welsh et al., 2010). A clear definition of play-based learning would strengthen educators’ understanding of how to support learning through play and ensure students are learning new concepts. Evidence-based
practices for supporting play-based learning should be taught to teacher candidates in Faculties of Education, and they should be a part of school-board mandated training for FDELK educators.

Additionally, guidance for Kindergarten team members is needed with respect to their roles. Uncertainty about educator roles has been identified as a major challenge in the FDELK program (Lynch, 2014; Tozer, 2012; Vanderlee et al., 2012). In response, schools and school boards have independently developed guidelines for the roles of Kindergarten teachers and ECEs (Vanderlee et al., 2012). The extent to which these guidelines are consistent across schools and school boards and how well they actually reflect the Ministry’s intentions is unknown. For FDELK teams to work together effectively, Kindergarten teachers and ECEs need to know which aspects of their roles are interchangeable and which aspects are complementary (Gibson & Pelletier, 2011). Direction about how educators are to work as a team might help them more fully capitalize on their unique professional skill sets (as teachers and ECEs).

Despite not having clearly defined roles initially, high fidelity FDELK teams learned to work well together. One of the practices that supported teamwork was shared planning, which was often unpaid on the part of ECEs. While it is admirable that ECEs were committed to their teaching partners and students, teams may not be planning together because ECEs are not appropriately compensated. Moving forward, Kindergarten teams should have consistent times of paid shared planning time to facilitate collaboration.

Educators reported that team work in high fidelity FDELK schools and full days of learning enabled them to meet the individual needs of students and focus on promoting
self-regulation for the most part. With two educators in Kindergarten, targetted
instruction was facilitated through daily reading groups, small group instruction, and one-
on-one work with individual students. Educators also indicated they often scaffolded self-
regulation skills because they had the time to do so and the support of another adult in the
classroom to attend to the needs of the rest of the class. Two educators in a Kindergarten
classroom should be the norm as co-teaching has the potential to optimize learning.

However, the benefits of two educators in a Kindergarten classroom may be
compromised under certain conditions. Large class sizes and inadequate support for
students with special needs (diagnosed or undiagnosed) make it a challenge for educators
to meet the needs of individual students in the classroom, even when there are two of
them. Smaller class sizes in FDK are associated with more favourable academic
outcomes (Gormley, Gayer, Phillips, & Dawson, 2005; Zvoch, Reynolds, & Parker,
2008). Additionally, Educational Assistants provide students who have challenging
behaviour with the support they need to make classrooms truly inclusive (Orsati &
Causton-Theoharis, 2013). To ensure the overall quality of the FDELK program, the
Ontario Ministry of Education should consider placing a reasonable class size cap on
FDELK classrooms and ensure students who require the help of an Educational Assistant
receive that help.

Limitations and Future Directions

There are three main limitations to this study related to the data used for this
research. First, the data were collected for the purpose of providing a general overview of
the successes and challenges associated with the first two years of FDELK
implementation. As such, the data covered a breadth of topics without addressing any one
topic deeply. Future case studies associated with the FDELK program could focus on individual issues of importance in a more thorough manner. For example, research could examine the quality of teacher-student interactions during play-based learning, how class size impacts students’ ability to self-regulate, and how mature sociodramatic play and play scripts can be used to promote SR development in young children. Second, the data were limited to interviews. With interview data, participants are describing their beliefs and practices, but observational and survey data can help triangulate these perceptions. In future studies, incorporating multiple data sources, like observation and surveys, could help provide greater insights into topics of interest. Lastly, at the time case study data were collected, the FDELK program was newly implemented with its vision and goals emergent; FDELK educators and researchers were learning about the program simultaneously. As a result, researchers had to be mindful of the newness of the program and not probe around issues about which educators would be unlikely to have a clear understanding. To establish the type of rapport needed to interview effectively, researchers made a conscious decision not to ask educators particular types of probing questions that might have yielded additional information. In that the FDELK program began in 2010 and has only been fully implemented since 2014, research on challenging topics might be best suited for experienced FDELK schools and educators who have been part of implementation since the outset.
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CHAPTER 3: HOW EFFECTIVELY DOES A FULL-DAY, PLAY-BASED KINDERGARTEN PROGRAM PROMOTE SELF-REGULATION, LITERACY, AND NUMERACY?

There exist significant disparities in early learning and development by family income in North America (DeFlorio & Beliakoff, 2015; Halle et al., 2009; Hart & Risley, 1995; Larson, Russ, Nelson, Olson, & Halfon, 2015). Infants and toddlers from low-income families score lower on cognitive and behavioural assessments than do their more affluent peers (Halle et al., 2009). As a result of these disparities, achievement gaps exist at school entry between students of different socioeconomic status (SES; Larson et al., 2015; Lee & Burkham, 2002; Welsh, Nix, Blair, Bierman, & Nelson, 2010) that tend to widen over time (Ryan, Fauth, & Brooks-Gunn, 2006). Full-Day Kindergarten (FDK) programs have been implemented across North America to help reduce this gap in early achievement.

In US public schools, the primary purpose of FDK is to equip disadvantaged students with school readiness skills (Zvoch, Reynolds, & Parker, 2008). Many schools allocate their Title I funding, aimed at improving the academic achievement of disadvantaged students, to Full-Day Kindergarten programs for specific populations of children. Eleven states and the District of Columbia have taken a more universal approach by making FDK available to all students in their regions (Lu, 2014). The universal provision of Full-Day Kindergarten for 5-year-olds is a trend occurring in many parts of Canada, with the majority of provinces (6 of 10; British Columbia, Ontario, Prince Edward Island, Québec, New Brunswick, Nova Scotia) and one of three territories (Northwest Territories) offering FDK programs, and an additional province
In Ontario, the Ministry of Education implemented Full-Day Early Learning Kindergarten (FDELK) for all 4- and 5-year-olds across the province as part of their “overall plan to help more children get a strong start in school, so they can have successful, rewarding lives” (Ontario Ministry of Education [OME], 2010, p. 1). By September, 2012, approximately half of all schools in Ontario offered FDELK with the program fully implemented by September, 2014 (OME, 2014). Whereas most traditional FDK programs tend to employ one teacher and focus on academics, the FDELK program is distinct in that it emphasizes play-based learning and co-teaching. Key FDELK program components include: the use of play-based curriculum to promote self-regulation in children, a team-teaching approach involving a certified teacher and an Early Childhood Educator (ECE) in each class (with average class sizes of 26), and the situating of extended care in the school setting to make transitions for young children easier (Pascal, 2009).

**Learning Benefits of Full-Day Kindergarten (FDK)**

A review of the literature on Kindergarten programs reveals three main learning benefits associated with FDK: more instructional time, better academic outcomes, and the promotion of self-regulation (SR). Instructional time refers to the amount and quality of learning experienced by students. Academic benefits related to FDK are measured in terms of literacy and numeracy outcomes. SR is purposeful, goal-directed behaviour characterized by the ability to inhibit impulsive behaviour and act deliberately in favour
of a more advantageous delayed outcome (Barkley, 2001; Bodrova & Leong, 2005; Mischel & Ayduk, 2004).

**Instructional Time**

Advocates of Full-Day Kindergarten (FDK) argue that increased time at school for students affords teachers the opportunity to explore concepts more in-depth and provides a broader range of learning experiences (Anderson & Tunison, 2005; Lee, Burkham, Ready, Honigman, & Meisels, 2006). Comparisons of Full-Day and Half-Day Kindergarten (HDK) programs in the United States using the Early Childhood Longitudinal Study of Kindergarten (ECLS-K) indicate that FDK teachers spent more instructional time in whole group teacher-directed, small group, and individual instruction than did HDK teachers (Lee et al., 2006; Walston & West, 2004). Moreover, children in FDK classes participated in more child-initiated activities than did their HDK peers (Lee et al., 2006). Reports of FDK in Saskatchewan corroborate these results in that Full-Day Kindergarten programs provided more time for students to self-assess and reflect on their learning because learning occurred in a less rushed manner than it did in half-day or alternate-day programs (Anderson & Tunison, 2005).

FDK may give teachers more time to foster a positive and close relationship with students. Teachers who transitioned from teaching a Half-Day Kindergarten program to a Full-Day Kindergarten program indicated they had more time to get to know their students (Elicker, 2000; Elicker & Mathur, 1997) and had more opportunity for individualized instruction (Carnes & Albrecht, 2007; Elicker, 2000). In a study exploring Kindergarten teachers’ ability to effectively assess their students, teachers in both full-day and every day half-day programs had a better understanding of their students’
abilities than did Kindergarten teachers who taught on alternating full days (Gullo, 1990). Seeing students on a daily basis may help teachers develop a deeper understanding about student needs and abilities, especially at the beginning of the school year.

Instructional time encompasses the quality of time in addition to its quantity. While FDK provides more time for teachers to spend with students than does HDK, the quality of interactions and learning opportunities in most Kindergarten classrooms, regardless of whether they are full- or half-day, tends to be less than optimal (LaParo et al., 2009; Vu, Han, & Buell, 2012). La Paro et al. (2009) found that a majority of children in 730 Kindergarten classrooms experienced moderate to low levels of quality in regard to instructional support (concept development and quality of feedback) and classroom organization (behaviour management, productivity, and instructional learning formats). Kindergarten teachers tended to either provide little instructional support or use didactic teaching methods that taught skills in isolation. In this sample, higher levels of instructional support were associated with gains in academic development.

The quality of instructional support and the nature of the learning environment are linked, however, not just to FDK as opposed to HDK, but to class size. Using a longitudinal research design, random selection of school participants, and systematic observation, Blatchford (2003) examined the nature of teacher-child relationships, teaching and learning behaviour, and peer interactions in small (under 20) and large (over 30) reception classes (i.e., 4-5-year-olds) in England with one teacher per class. Teacher-child interactions occurred more frequently in small classes than in large classes, whether on a one-to-one basis, in groups, or as the “focus” of the teacher’s attention. In addition to receiving less one-on-one teaching time, children in larger classes had more contact
with their peers and were involved in more off-task behaviour than were their counterparts in smaller classes.

**Academic Outcomes**

The efficacy of FDK can be measured in academic success. Short-term studies suggest that FDK students do better academically than their half-day counterparts at the end of the school year, especially students from disadvantaged populations (Ackerman, Barnett, & Robin, 2005). Using nationally representative American data from the ECLS-K study, Walston and West (2004) tested the effect of Kindergarten program type on children’s reading and math achievement. Students in FDK made greater gains in reading (effect size =0.32) and math (effect size=0.22) than did HDK students, after controlling for child (poverty status, race/ethnicity, age, sex, initial reading ability, initial math ability) and classroom (program type, class size, instructional aide in classroom, time spent on instruction, use of achievement groupings) characteristics. Similarly, after controlling for student- (gender, ethnicity, age, SES, achievement) and school-level (school SES, Kindergarten class size, school urbanicity, school type, region, % of minority students enrolled) variables, ECLS-K data showed increases in achievement for students in schools with Full-Day Kindergarten programs when compared with those in Half-Day Kindergarten programs; Full-Day Kindergarten program effect sizes were 0.93 in literacy and 0.75 in mathematics (Lee et al., 2006).

Not all studies on FDK, however, find significant differences between Kindergarten program types. For example, a small-scale study of one FDK and one HDK school found that students in Full-Day Kindergarten had significantly greater gains in literacy than did students in HDK, but there was no difference between the groups on
mathematical measures (Hall-Kenyon, Bingham, & Korth, 2009). Furthermore, although there appear to be short-term benefits associated with FDK in academic achievement, longitudinal studies show that these positive academic benefits tend to fade out soon after Kindergarten (Bronwell et al., 2015; Cooper, Batts Allen, Patall, & Dent, 2010; Votruba-Drzal, Li-Grining, & Maldonado-Carreno, 2008). A longitudinal study of FDK that followed 15 Kindergarten cohorts up to Grade 9 only found long-term benefits in numeracy for lower income girls, with no wide-ranging long-term benefits for FDK students overall (Brownell et al., 2015).

Research on FDK reveals different academic outcomes related to class size (Zvoch et al., 2008). For example, in a comparison of young children’s literacy acquisition in Full-Day Kindergarten versus Half-Day Kindergarten (HDK) classrooms, FDK was more effective for promoting literacy development in below average (<20) and average size (20-24) classrooms than was HDK, but not in larger FDK classes (>24). Moreover, the rate of literacy acquisition for students in relatively small-sized FDK classrooms (<20 students) was twice that of their half-day peers, quite possibly because 4- and 5-year-old children in small classes benefit from more teacher interaction and one-on-one teaching than do students in large classes.

Indeed, some of the strongest research in support of Full-Day Kindergarten comes from Oklahoma where class size maximums are 20, there is a class assistant in each class (resulting in a 1:10 adult-to-child ratio), there is a focus on academic outcomes, and Kindergarten teachers are qualified (Gormley, Gayer, Phillips, & Dawson, 2005). Statistically significant differences on cognitive measures were found between students
enrolled in FDK and HDK in Oklahoma, with FDK effect sizes of 0.79 for Letter-Word Identification, 0.64 for Spelling, and 0.38 for Applied Problems.

One of the first quantitative studies on the effectiveness of the Full-Day Early Learning Kindergarten program in Ontario reported promising findings, although there was a fade-out effect for some outcomes after three years (Pelletier, 2014). Pelletier conducted a three-year longitudinal study involving a cohort of Junior Kindergarten (JK) and Senior Kindergarten (SK) students (184 children in total) who started the FDELK program the first year it was implemented (Year 1). Both FDELK cohorts and a control group of 168 HDK students were followed for three years (JKs to Grade 1; SKs to Grade 2). Although the majority of students in Pelletier’s study were English Language Learners (61% of the sample), results only controlled for students’ age and parents’ education. After three years, FDELK students who started the program in JK and SK remained ahead of their HDK counterparts on vocabulary scores. In regard to early reading, students who started FDELK in JK had higher reading scores than HDK students initially, but, after three years (by Grade 1), there was no longer any difference between the two groups. In contrast, students who began FDELK in SK remained ahead of HDK students on reading scores. Although JK and SK students in FDELK were initially ahead of HDK students on number knowledge at the end of the first year, these differences were no longer significant after three years. With respect to writing, JK students in HDK were initially ahead of their FDELK counterparts after the first two years of the study, but these differences were no longer significant after three years. SK students in FDELK remained ahead of their HDK counterparts on writing, but the difference between the groups was not statistically significant. In summary, after three years, FDELK positively
impacted the language development of students who started the program in JK and SK and the early reading scores of students who began the program in SK.

**Self-Regulation**

Children who exhibit SR make thoughtful choices: contemplate the consequences of acting impulsively, consider alternative responses, and choose a favourable course of action (Willis & Dinehart, 2014).

Researchers acknowledge the importance of self-regulation (SR) in promoting early school success (Blair & Diamond, 2008; McClelland & Cameron, 2012; McClelland et al., 2007). Self-regulation is significantly and positively correlated with academic skills (Howse, Clakins, Anastopoulos, Keane, & Shelton, 2003; McClelland et al., 2007). Moreover, growth in self-regulation predicts growth in academic skills (Becker, Miao, Duncan, & McClelland, 2014; McClelland et al., 2007; Nesbitt, Farran, & Fuhs, 2015; Welsh et al., 2010). Consequently, developing self-regulation in preschool and Kindergarten settings may contribute to children’s future school success (Blair & Diamond, 2008). Focusing on the development of SR may be especially important for children from low socioeconomic families who tend to be at greater risk for poor self-regulatory skills (McClelland & Cameron, 2011; Wanless, McClelland, Tominey, & Acock, 2011).

While many FDK studies examine the effectiveness of programs using achievement measures of literacy and math, relatively few studies focus on self-regulation (Camilli, Vargas, Ryan, & Barnett, 2010; Gormley et al., 2005). Given that promotion of self-regulation (SR) is an explicit goal of the FDELK program in Ontario and that it is a predictor of early academic success (Setkan, McClelland, Acock, &
Morrison, 2010) and future school success (Blair, 2002), there is a need to examine the effectiveness of FDELK in promoting self-regulation.

The increased amount and quality of teacher-student interactions associated with FDK may promote young children’s SR growth. For example, preschool children who were more positively engaged with their teachers exhibited greater self-regulation than did their less engaged peers (Williford, Vick Whittaker, Vitiello, & Downer, 2013). Similarly, preschoolers who had teachers who asked more open-ended questions, provided more conversational turns for students, expressed more approval of students’ behaviour and encouragement for students to continue to behave, and demonstrated less redirecting behaviour exhibited greater SR than did their peers (Fuhs, Farran, & Nesbitt, 2013). Children who experience a positive relationship with their teachers may be more inclined to adopt teacher expectations of behaviour, model those teachers’ behaviour, and accept the guidance those teachers provide, comparable to the benefits of positive parent-child relationships promoting SR (Brody & Flor, 1998; Grolnick & Farkas, 2002). However, it is possible that the link is in the opposite direction, such that students with greater self-regulation tend to develop more positive relationships with their teachers.

Given that FDK provides more time for child-initiated activities, it may promote students’ SR development because of an increased engagement with learning. Preschool students who demonstrated more involvement in learning activities demonstrated greater SR abilities than did their less involved peers (Nesbitt et al., 2015; Williford et al., 2013). Children who are more involved in classroom tasks and activities may have more opportunity to practice and improve their self-regulation abilities than do their less engaged peers (Baumeister, Gailliot, DeWall, & Oaten, 2006; Baumeister, Vohs, & Tice,
Two evidence-based programs promoting the development of SR in young children through child-initiated activities (with a pre-planning component) are the High/Scope Perry Preschool Program (Schweinhart, 2003) and *Tools of the Mind*, developed by Bodrova and Leong (2006). The High/Scope Perry Preschool Program used curriculum that emphasized the role of students as intentional learners in which they planned, carried out, and reviewed their learning activities to help them develop SR. Low teacher-to-student ratios (4:20-25) made it possible for teachers to support and extend children’s play-based learning five days a week, for half-days. In this intervention, 3- and 4-year-old children living in poverty were randomly assigned to program or no-program control groups. A variety of measures were administered to participants from ages 3 to 41, with very little attrition of participants. As adults, High/Scope Perry Preschool participants had significantly higher levels of educational attainment (high school graduation rates), greater economic development (made more money and were less likely to be on social assistance), and less likelihood of being involved in criminal activities (Schweinhart, 2003).

*Tools of the Mind* incorporates planned sociodramatic (mature) play, in which students plan a play scenario (including roles) with their peers, regulate the behaviour of peers based on rules (associated with scenario and assigned roles), and regulate their own behaviour by inhibiting impulsive behaviour to stay in the play. Diamond, Barnett, Thomas, and Munro (2007) did an evaluation of *Tools of the Mind* in a low-income school district that permitted the random assignment of classrooms to two different
curricula: *Tools of the Mind* or Balanced Literacy. Eighteen classrooms participated in Year 1 and six more (3 per curriculum) were added in Year 2, with 147 preschoolers involved in the evaluation. After controlling for age, gender, curriculum, and years in curriculum, *Tools of the Mind* children significantly outperformed control children on executive function (EF) measures, especially those involving more difficult tasks.

While research on *Tools of the Mind* suggests preschoolers’ peers can help facilitate their development of SR through sociodramatic play, the role of peers in this endeavour remains questionable. Based on Vygotsky’s (1978) theory that social interaction enhances young children’s development of SR, Elias and Berk (2002) used naturalistic observation of different forms of play and two classroom contexts of self-regulation (clean-up and group circle time) to examine the relationship between play and SR for 51 middle-income 3- and 4-year-olds in a preschool setting. The relationship between complex sociodramatic play (CSD) and improved self-regulation was strong ($r = 0.81$, $p < .05$) for high-impulsive children; however, there was no relationship between CSD and SR for low-impulsive children. Outside the context of play, McCabe and Brooks-Gunn (2007) explored young children’s ability to self-regulate in an individual setting and in a peer setting; their findings suggest preschoolers’ self-regulation may be impeded in the presence of peers. In the study, 116 children underwent three individual situational assessments of self-regulation, while a subset of these children (44) further underwent the same situational assessments of self-regulation in small groups of four with peers with whom they were familiar. Across all three situational assessments, preschoolers performed significantly better individually.
Few FDK studies have examined social-emotional aspects of development in Full-Day Kindergarten related to self-regulation. In these studies, FDK was associated with gains in students’ self-confidence, independence, voluntarily seeking out additional learning opportunities, and getting along with peers (Carnes & Albrecht, 2007; Cooper et al., 2010; Winters, Saylor, & Phillips, 2003). In one small-scale study, FDK teachers attributed growth in students’ ability to get along with their peers to increased opportunities to play with each other (Carnes & Albrecht, 2007).

Pelletier’s (2014) study on FDELK suggests the program may be helping promote SR in Kindergarteners. In Year 3 of Pelletier’s (2014) study, 328 FDELK students (184 from Year 1 and 144 from Year 3) and 264 HDK students (168 from Year 1 and 96 from Year 3) were assessed on self-regulation using the Head Toes Shoulders Knees (HTSK) task developed by McClelland and Cameron (2012). After controlling for children’s age and parental education, a significant effect was revealed in which FDELK students scored significantly higher (M=25.58) than the HDK control group (M=17.72) on the HTSK task.

Although the Ontario Ministry of Education has adopted a play-based approach in Full-Day Kindergarten to promote SR development, many FDELK teachers have reported not understanding how to implement play-based learning or the purpose of the new approach (Goulden, 2012; Lynch, 2014; Tozer, 2012; Vanderlee, Youmans, Peters, & Eastabrook, 2012). Additionally, teachers are unsure of how to reconcile the Ministry’s play mandate with school boards’ emphasis on literacy assessments (Vanderlee et al., 2012).
Despite some FDELK teachers’ lack of understanding about play-based learning, there are aspects of the FDELK program in Ontario that may help promote students’ self-regulation. First, the intention of the FDELK’s play-based approach is to provide students with more active learning opportunities, including more time to socialize with their peers. Greater involvement in learning and socialization may result in greater opportunities to practice and develop self-regulation (Diamond et al., 2007). Additionally, during play-based learning, teachers are encouraged to scaffold concepts and ask probing questions to help students develop the problem solving skills necessary for self-regulation (Skolnick Weisberg, Hirsh-Pasek, & Michnick Golinkof, 2013); to self-regulate effectively, students need to inhibit impulsive behaviour, consider the consequences of their future behaviour, and choose advantageously (Barkley, 2001; Bodrova & Leong, 2005; Mischel & Ayduk, 2004). The full-day aspect of the program may further foster SR because students and teachers have more time to get to know one another and work together, affording teachers more opportunities to model and teach SR skills. Given that self-regulation in preschoolers appears to be supported by a positive relationship with teachers (Fuhs et al., 2013; Williford et al., 2013), by engaging classroom activities (Nesbitt et al., 2015; Williford et al., 2013), and by curriculum that incorporates child-initiated learning (Diamond et al., 2007; Schweinhart, 2003), the extent to which Full-Day Kindergarten promotes such practices may impact (positively or negatively) students’ SR development and related academic outcomes.

The Present Study

Studies on FDELK implementation have identified program characteristics that may make it a challenge for students to self-regulate and learn effectively. FDELK
programs with large class sizes, especially when there was a large number of students in a small physical classroom, made it difficult for students to regulate their own behaviour and take part in learning (Lynch, 2014; Ryan & Date, 2012; Vanderlee et al., 2012). The goal of the present study was to investigate how effectively the FDELK program in Ontario promotes self-regulation and related academic outcomes (literacy and numeracy) in Kindergarten children. This study sought to determine: (a) the extent to which participating in the Full-Day Early Learning Kindergarten program predicted better self-regulation outcomes in students after accounting for student- and school-level characteristics; it was hypothesized that students in FDELK would have better SR outcomes than students in non-FDELK (Half-Day and Alternate-Day Kindergarten programs) because play-based learning in the context of full days of school would result in more child-directed learning and socialization (Bodrova & Leong, 2005; Lee et al., 2006), providing FDELK students with more opportunities to practice and develop self-regulation (Diamond et al., 2007), (b) the extent to which participating in the Full-Day Early Learning Kindergarten program predicted better literacy and numeracy outcomes in students after accounting for student- and school-level characteristics; it was hypothesized that students participating in FDELK would have better literacy and numeracy outcomes than students in non-FDELK because FDK teachers tend to spend more time on literacy and numeracy instruction than do HDK teachers (Lee et al., 2006; Walston & West, 2004), (c) whether or not there was an interaction between FDELK and School SES for each predictive model; it was hypothesized that there would be an interaction effect between FDELK and School SES, such that FDELK students from low SES schools would gain more benefit from being in FDK than would FDELK students
from high SES schools because a primary purpose of FDK is to equip disadvantaged students with school readiness skills (Zvoch et al., 2008).

At the individual child level, age was used as a control variable because it positively predicted Kindergartener’s school readiness outcomes in previous research (Gullo & Burton, 1992). Gender was also used as a control variable because being female predicted better academic outcomes on a school readiness screening test (May & Welch, 1986). School-based characteristics of historical school achievement and school SES were included as control variables in predictive models because they are indicators of school-based expectations and available socioeconomic resources, respectively, which are associated with student achievement (Boyd-Zaharias & Pate-Bain, 2008).

Method

Participants

The participants in this study were 32,027 Senior Kindergarten students from across the province of Ontario who were part of the Early Development Instrument (EDI) data collection in 2012. EDI, a measure of school readiness, is collected for Senior Kindergarten (SK) students in one-third of the province of Ontario every year by the Offord Centre at McMaster University. The Offord Centre has ethics clearance to collect data for children with a passive consent process. The EDI is filled out by teachers in the spring of the school year for participating children. It provides information about five different developmental domains: physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge. EDI data from 2012 were used for analyses because, as of 2012, the FDELK program had been implemented in some of the schools in Ontario (for one or two
years); thus the 2012 EDI sample included both Kindergarten students who had participated in the FDELK program and Kindergarten students who had not. While the 2012 EDI sample had data for 57,221 Kindergarten students, this study included only the 32,027 Kindergarten students for whom variables of interest, including School SES information, were available. The sample encompassed 213 FDELK schools with 6,453 FDELK students and 732 non-FDELK schools with 25,574 non-FDELK students.

Students’ mean age upon completion of the EDI was nearly identical for both FDELK and non-FDELK programs (FDELK mean age = 5.71, SD = 0.30; non-FDELK mean age = 5.70, SD = .29). There was also a nearly identical distribution of males and females in both Kindergarten programs (FDELK = 51.6% males, 48.4% females; non-FDELK = 51.5% males, 48.5% females). School SES information for students by Kindergarten program type are presented in the Descriptive Statistics section.

Measures

Given that the EDI is administered every three years to the same schools, historical EDI data for schools in the 2012 sample were available from the 2009 sample.

Student Self-Regulation 2012. The 56 items related to Social Competence and Emotional Maturity on the 2012 EDI were reviewed to identify which ones related to self-regulation. Of the 56 items, two independent expert raters (including myself) were in agreement about how 51 items were related to the social cognitive conceptualization of self-regulation (91% agreement); specifically, 40 items were not related to SR and 11 items were. The remaining five items were excluded from consideration because consensus could not be reached as to whether or not they adequately represented SR. As a result, 11 agreed-upon items related to SR were included in exploratory principal axis
factor analysis. Subsequently, one item (“is incapable of making decisions”) was dropped because its factor loading was only .434, and all of the other factor loadings were .633 and above. Principal axis factor analyses using 10 items that comprise the SR factor are outlined in Table 1 of the Results section. Regression factor scores were computed for each participant based on the one-factor solution.

**School Self-Regulation Mean 2009.** Using the 2009 EDI dataset, individual student self-regulation factor scores were computed and averaged for each school to provide an indication of a school’s past average self-regulation achievement. This information was then linked to the 2012 EDI dataset. Principal axis factor analyses using 10 items that comprise the SR factor are outlined in Table 1 of the Results section.

**Student Literacy 2012.** The literacy outcome variable was developed using 15 items from the Language and Cognitive Development section of the EDI instrument. The two expert raters agreed that all items pertaining to early reading and writing be included. Principal axis factor analyses using 15 items that comprise the literacy factor are outlined in Table 2 of the Results section. Regression factor scores were computed for each participant based on the one-factor solution.

**School Literacy Mean 2009.** Using the 2009 EDI dataset, individual student literacy factor scores were computed and averaged for each school to provide an indication of a school’s past average literacy achievement. This information was then linked to the 2012 EDI dataset. Principal axis factor analyses using 15 items that comprise the literacy factor are outlined in Table 2 of the Results section.

**Student Numeracy 2012.** The numeracy variable was constructed using nine EDI items related to early numeracy from the Language and Cognitive Development section...
of the EDI instrument. The two expert raters agreed that all items related to numeracy be included. Principal axis factor analyses using 9 items that comprise the numeracy factor are outlined in Table 3 of the Results section. Regression factor scores were computed for each participant based on the one-factor solution.

**School Numeracy Mean 2009.** Using the 2009 EDI dataset, individual student numeracy factor scores were computed and averaged for each school to provide an indication of a school’s past average numeracy achievement. This information was then linked to the 2012 EDI dataset. Principal axis factor analyses using 9 items that comprise the numeracy factor are outlined in Table 3 of the Results section.

**Student Demographic Variables.** Students’ date of birth and sex were reported by teachers on the EDI instrument. The age variable indicates age in years and months.

**School Kindergarten Program Status.** Kindergarten program information was used to create a dichotomous variable indicating whether or not schools were an FDELK school as of the 2011-2012 school year.

**School SES.** The School SES variable consisted of average household income associated with individual schools. This information was obtained from the Fraser Institute School Rankings (http://ontario.comparescholrankings.org/ChooseReport.aspx) for the 2011-2012 school year. The Fraser Institute’s calculations were based on household income information from 2009 long-form census data as linked to postal codes associated with school dissemination areas (small, relatively stable geographic areas of 400-700 people used for Canadian census data). A number of non-FDELK schools had high SES incomes not reflected in FDELK schools. The highest School SES income for FDELK schools was $165,800, so this amount became the cut-off for non-FDELK
schools. As a result, non-FDELK students (n= 540) with School SES incomes above $165,800 were not included in analyses (n= 12 schools).

**Statistical Analyses**

Hierarchical regression analyses were used to explore whether or not FDELK was a unique predictor of self-regulation and related academic outcomes after controlling for student characteristics and school characteristics. Regression analyses were conducted for each of the student outcome variables: self-regulation, literacy, and numeracy; the steps in each model are shown in Tables 8 to 10. In the first step of each model, students’ age and sex were entered to control for the relationship students’ demographics had with the outcome of interest. For all three models, historical school mean of the dependent variable and School SES were entered in the second step to control for a school’s achievement expectations and socioeconomic resources. For example, if self-regulation was the dependent variable, the historical school mean for SR and School SES were used in this step. In the third step of the models, Kindergarten program type (FDELK or non-FDELK) was entered to investigate its relationship with the outcome of interest after controlling for all other variables. Given that FDELK may be particularly advantageous for students from socioeconomically disadvantaged populations, the interaction of FDELK and School SES (grand mean centred) was entered into the final step.

**Results**

Results from this study are presented in three sections: preliminary analyses, descriptive statistics, and final analyses. Preliminary analyses are presented in relation to factor analyses from 2012 and 2009 EDI data. Descriptive statistics include a breakdown
of variables by FDELK and non-FDELK programs and a correlation table for all variables. Lastly, hierarchical regressions are reported addressing the three hypotheses.

**Preliminary Analyses**

The first step in this study involved creating factors for children’s self-regulation, literacy, and numeracy outcomes. Exploratory factor analysis (EFA) using principal axis factoring revealed one-factor solutions for each of self-regulation, literacy, and numeracy using 2012 and 2009 EDI data. Results of principal axis factoring using 10 items that comprise the SR factor are outlined in Table 1. Eigenvalues clearly suggested a one-factor solution for SR using 2012 EDI data, with values of 5.678 for the first factor and values below 1 for the second and third factors (.970 and .858, respectively). Likewise, Eigenvalues clearly suggested a one-factor solution for SR using 2009 EDI data, with values of 5.867 for the first factor and values below 1 for the second and third factors (.924 and .791, respectively). Cronbach’s alpha was 0.913 for both the 2012 and 2009 data.
Table 1

**Factor Analysis Results for Self-Regulation**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Self-Regulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QC7- self-control</td>
<td>.760</td>
<td>.771</td>
</tr>
<tr>
<td>QC11- responsibility</td>
<td>.696</td>
<td>.722</td>
</tr>
<tr>
<td>QC12- listens</td>
<td>.757</td>
<td>.771</td>
</tr>
<tr>
<td>QC15- works independently</td>
<td>.629</td>
<td>.654</td>
</tr>
<tr>
<td>QC22- independently solves problems</td>
<td>.582</td>
<td>.603</td>
</tr>
<tr>
<td>QC43- distractible*</td>
<td>.777</td>
<td>.791</td>
</tr>
<tr>
<td>QC47- impulsive*</td>
<td>.767</td>
<td>.768</td>
</tr>
<tr>
<td>QC48- difficulty awaiting turns*</td>
<td>.719</td>
<td>.723</td>
</tr>
<tr>
<td>QC49- cannot settle*</td>
<td>.726</td>
<td>.752</td>
</tr>
<tr>
<td>QC50- inattentive*</td>
<td>.778</td>
<td>.785</td>
</tr>
</tbody>
</table>

Note. Principal axis factoring was used. 52.13% of the variance was accounted for by one factor in the 2012 data, and 54.20% of the variance was accounted for by one factor in the 2009 data.

*These items were reverse-coded.

Results of principal axis factoring using 15 items that comprise the literacy factor are outlined in Table 2. Eigenvalues and the scree plot test suggested a one-factor solution for literacy as the natural bend where the curve flattens out occurred at factor number 2 (Costello & Osborne, 2005). Eigenvalues for the first four factor numbers using the 2012 data were as follows: 5.836, 1.403, 1.283, and .917. Similarly, Eigenvalues for the first four factor numbers using the 2009 data were as follows: 5.879, 1.374, 1.264, and .904. Cronbach’s alpha was 0.858 for the 2012 data and 0.865 for the 2009 data.
Table 2

**Factor Analysis Results for Literacy**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Literacy QB9- interested in books</td>
<td>.449</td>
<td>.449</td>
</tr>
<tr>
<td>QB10- interested in reading</td>
<td>.583</td>
<td>.604</td>
</tr>
<tr>
<td>QB11- identifies letters</td>
<td>.582</td>
<td>.568</td>
</tr>
<tr>
<td>QB12- sounds to letters</td>
<td>.679</td>
<td>.693</td>
</tr>
<tr>
<td>QB13- rhyming awareness</td>
<td>.653</td>
<td>.651</td>
</tr>
<tr>
<td>QB14- group reading</td>
<td>.640</td>
<td>.643</td>
</tr>
<tr>
<td>QB15- reads simple words</td>
<td>.754</td>
<td>.755</td>
</tr>
<tr>
<td>QB16- reads complex words</td>
<td>.457</td>
<td>.446</td>
</tr>
<tr>
<td>QB17- reads sentences</td>
<td>.678</td>
<td>.680</td>
</tr>
<tr>
<td>QB18- experiments with writing</td>
<td>.443</td>
<td>.450</td>
</tr>
<tr>
<td>QB19- aware of writing directions</td>
<td>.506</td>
<td>.518</td>
</tr>
<tr>
<td>QB20- writing voluntarily</td>
<td>.519</td>
<td>.544</td>
</tr>
<tr>
<td>QB21- writes own name</td>
<td>.440</td>
<td>.421</td>
</tr>
<tr>
<td>QB22- writes simple words</td>
<td>.713</td>
<td>.704</td>
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<tr>
<td>QB23- writes simple sentences</td>
<td>.621</td>
<td>.627</td>
</tr>
</tbody>
</table>

Note. Principal axis factoring was used. 34.82% of the variance was accounted for one factor in the 2012 data, and 35.12% of the variance was accounted for by one factor in the 2009 data.

Results of principal axis factoring using 9 items that comprise the numeracy factor are outlined in Table 3. Eigenvalues used in conjunction with the scree plot test suggested a one-factor solution for numeracy as the natural bend where the curve flattens out occurred at factor number 2 (Costello & Osborne, 2005). Eigenvalues for the first four factors generated using the 2012 data were: 3.987, 1.194, .835, and .692. Similarly, Eigenvalues for the first four factors generated using the 2009 data were: 3.952, 1.195, .881, and .682. Cronbach’s alpha was 0.800 for the 2012 data and 0.807 for the 2009 data.
Table 3

*Factor Analysis Results for Numeracy*

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Numeracy QB25 - interested in math</td>
<td>.582</td>
<td>.592</td>
</tr>
<tr>
<td>Numeracy QB26 - interested in number games</td>
<td>.561</td>
<td>.563</td>
</tr>
<tr>
<td>Numeracy QB27 - sorts and classifies</td>
<td>.576</td>
<td>.551</td>
</tr>
<tr>
<td>Numeracy QB28 - uses 1-to-1 correspondence</td>
<td>.650</td>
<td>.646</td>
</tr>
<tr>
<td>Numeracy QB29 - counts to 20</td>
<td>.664</td>
<td>.654</td>
</tr>
<tr>
<td>Numeracy QB30 - recognizes 1-10</td>
<td>.671</td>
<td>.675</td>
</tr>
<tr>
<td>Numeracy QB31 - compares numbers</td>
<td>.697</td>
<td>.762</td>
</tr>
<tr>
<td>Numeracy QB32 - recognizes shapes</td>
<td>.563</td>
<td>.553</td>
</tr>
<tr>
<td>Numeracy QB33 - understands simple time concepts</td>
<td>.520</td>
<td>.514</td>
</tr>
</tbody>
</table>

Note. Principal axis factoring was used. 37.48% of the variance was accounted for by one factor in the 2012 data, and 37.06% of the variance was accounted for by one factor in the 2009 data.

Once the scale reliability of variables was confirmed in that each respective variable had a Cronbach’s alpha (Cronbach, 1951) above 0.70, regression factor scores were computed for individual students. Exploratory factor analyses of students’ self-regulation, literacy, and numeracy outcomes using the 2009 EDI data indicated these factors were consistent across data sets at the two time points. As a result, individual factor scores from the 2009 EDI dataset were computed and averaged for each school to provide an indication of a school’s average historical achievement.
Descriptive Statistics

The descriptive statistics for demographic variables reported by Kindergarten program type are shown in Table 4. Independent samples t-tests indicated that students’ mean age upon completion of the EDI was not statistically different for FDELK and non-FDELK programs ($t=.442, p=.659$). Independent samples t-tests also revealed that non-FDELK schools had a higher School SES mean of approximately $12,000 more than FDELK schools ($t=-38.426, p<.001$), with a smaller standard deviation, even after removing the highest SES non-FDELK schools.

Table 4

<table>
<thead>
<tr>
<th>Variable</th>
<th>FDELK Mean</th>
<th>FDELK SD</th>
<th>non-FDELK Mean</th>
<th>non-FDELK SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at Completion of EDI</td>
<td>5.71</td>
<td>0.30</td>
<td>5.70</td>
<td>0.29</td>
</tr>
<tr>
<td>School SES</td>
<td>70,788.41</td>
<td>29,739.24</td>
<td>84,171.94</td>
<td>23,160.68</td>
</tr>
</tbody>
</table>

Table 5 shows a breakdown of students’ gender by Kindergarten program type. There was a nearly identical distribution of males and females in both Kindergarten programs (FDELK = 51.6% males, 48.4% females; non-FDELK = 51.5% males, 48.5% females; $\chi^2(2, N=32,027) =0.13, p=.910$).
Table 5

Gender of Students by Program

<table>
<thead>
<tr>
<th></th>
<th>FDELK</th>
<th>non-FDELK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 6,453</td>
<td>N = 25,574</td>
</tr>
<tr>
<td>Males</td>
<td>3,331 (51.6%)</td>
<td>13,181 (51.5%)</td>
</tr>
<tr>
<td>Females</td>
<td>3,122 (48.4%)</td>
<td>12,393 (48.5%)</td>
</tr>
</tbody>
</table>

The descriptive statistics for outcome variables reported by Kindergarten program type are shown in Table 6. Means for 2009 variables were derived from school means at that time. Means for 2012 data were derived from student means. Independent samples t-tests indicated that non-FDELK schools had higher means for self-regulation ($t = -16.409$, $p < .001$), literacy ($t = -3.557$, $p < .001$), and numeracy ($t = -8.29$, $p < .001$) outcomes in 2012 than did FDELK schools. The largest gap between FDELK and non-FDELK outcome means was for SR (.22), while the smallest gap was for literacy (.05).

Independent samples t-tests also indicated that non-FDELK schools had higher means for historical (2009) measures of school self-regulation ($t = -29.018$, $p < .001$), literacy ($t = -20.390$, $p < .001$), and numeracy ($t = -25.302$, $p < .001$) outcomes.
Table 6

Descriptive Statistics for Outcome Variables by Program

<table>
<thead>
<tr>
<th>Variable</th>
<th>FDELK</th>
<th>non-FDELK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Self-Regulation 2009</td>
<td>-0.08</td>
<td>0.36</td>
</tr>
<tr>
<td>Literacy 2009</td>
<td>-0.07</td>
<td>0.38</td>
</tr>
<tr>
<td>Numeracy 2009</td>
<td>-0.08</td>
<td>0.53</td>
</tr>
<tr>
<td>Self-Regulation 2012</td>
<td>-0.15</td>
<td>1.04</td>
</tr>
<tr>
<td>Literacy 2012</td>
<td>0.00</td>
<td>0.96</td>
</tr>
<tr>
<td>Numeracy 2012</td>
<td>-0.07</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Note: Means for 2009 variables were derived from school means at that time. Means for 2012 data were derived from student means. N=6,453 FDELK students and 25,574 non-FDELK students in 2012.

Correlations between all variables are reported in Table 7. Student outcome variables were all significantly correlated with each other (between .38 and .70, p < .01), with numeracy and literacy being most highly correlated at .70. Similarly, historical (2009) school mean variables were all significantly correlated with each other (between .42 and .65, p < .01), with school mean literacy and school mean numeracy being most highly correlated at .65. Age was significantly positively correlated with student outcomes (between .08 and .12, p < .01). Gender (female = 1, male = 2) was significantly correlated with student outcomes in a negative manner (between -.04 and -.26, p < .01), meaning that being a male was associated with less positive student outcomes. School SES was significantly correlated with student outcomes (.09 in each case, p < .01) and historical school mean variables (between .24 and .31, p < .01). Additionally, School SES
was significantly negatively correlated with the FDELK program (-.21, \( p < .01 \)), such that schools that had the FDELK program (FDELK = 1, non-FDELK = -1) were more likely to have lower School SES than were schools with the non-FDELK program.

Table 7
Correlations Between All Variables (N = 32027)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age at Completion</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
<td>.00</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. School SES</td>
<td>.01</td>
<td>.00</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SR School Mean</td>
<td>.00</td>
<td>.00</td>
<td>.24**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Lit. School Mean</td>
<td>.03**</td>
<td>.00</td>
<td>.28**</td>
<td>.42**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Num. School Mean</td>
<td>.01</td>
<td>-.01</td>
<td>.31**</td>
<td>.42**</td>
<td>.65**</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>7. Student SR</td>
<td>.08**</td>
<td>-.26**</td>
<td>.09**</td>
<td>.14**</td>
<td>.07**</td>
<td>.08**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Student Literacy</td>
<td>.12**</td>
<td>-.17**</td>
<td>.09**</td>
<td>.08**</td>
<td>.15**</td>
<td>.10**</td>
<td>.47**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>9. Student Numeracy</td>
<td>.08**</td>
<td>-.04**</td>
<td>.09**</td>
<td>.08**</td>
<td>.10**</td>
<td>.10**</td>
<td>.38**</td>
<td>.70**</td>
<td>-</td>
</tr>
<tr>
<td>10. FDELK Program</td>
<td>.00</td>
<td>.00</td>
<td>-.21**</td>
<td>-.16**</td>
<td>-.11**</td>
<td>-.14**</td>
<td>-.09**</td>
<td>-.02**</td>
<td></td>
</tr>
</tbody>
</table>

Note. ** indicates \( p < .01 \); Gender (female = 1, male = 2); FDELK program (FDELK = 1, non-FDELK = -1)

Hypothesis Testing

Hierarchical regression analyses were used to test whether or not FDELK was a unique predictor of self-regulation, literacy, and numeracy after controlling for student and school characteristics. Three separate regressions were conducted, one for each outcome variable. These regressions are presented according to the hypotheses they
tested. Each table includes four models. For each model, the standardized beta coefficient for each independent variable, $R^2$, and change in $R^2$ are reported.

**Hypothesis 1: After controlling for student-level (age and gender) and school-level (historical school outcome measure and School SES) variables, participating in FDELK would improve children’s self-regulation.**

The results of the regression analysis for self-regulation are shown in Table 8. The model accounted for 9.8% of the total variance in students’ SR outcomes. In Model 1, age and gender accounted for 7.2% of the variance. Being older and female predicted more positive SR outcomes. After controlling for student-level and school-level variables, FDELK accounted for .4% additional variance in the final model. No significant interaction effect was found between FDELK and School SES ($\beta = .013, p = .027$). There was a statistically significant negative effect ($\beta = -.063, p < .001$) on student SR outcomes of the FDELK program; being in the FDELK program resulted in slightly poorer student SR outcomes than those exhibited in the non-FDELK program after controlling for the other variables.
### Table 8

**Summary of Hierarchical Regression Analysis Predicting Self-Regulation (SR)**

<table>
<thead>
<tr>
<th>Step, Predictors</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3 (Final Model)</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$B$</td>
<td>$\Delta R^2$</td>
</tr>
<tr>
<td>1. Age</td>
<td>.081***</td>
<td>.072***</td>
<td>.080***</td>
<td>.080***</td>
</tr>
<tr>
<td>Gender</td>
<td>-.257***</td>
<td></td>
<td>-.257***</td>
<td>-.257***</td>
</tr>
<tr>
<td>2. School Mean SR</td>
<td>.123***</td>
<td>.022***</td>
<td>.115***</td>
<td>.115***</td>
</tr>
<tr>
<td>2009 Mean SR</td>
<td></td>
<td></td>
<td>.059***</td>
<td>.047***</td>
</tr>
<tr>
<td>School SES</td>
<td></td>
<td></td>
<td>.053***</td>
<td></td>
</tr>
<tr>
<td>(Centered)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. FDELK Program</td>
<td></td>
<td></td>
<td>-.063***</td>
<td>.004***</td>
</tr>
<tr>
<td>4. FDELK X School SES</td>
<td></td>
<td></td>
<td>-.060***</td>
<td>.013</td>
</tr>
<tr>
<td>Total R²</td>
<td>.072***</td>
<td>.094***</td>
<td>.098***</td>
<td>.098***</td>
</tr>
</tbody>
</table>

Note. * $p < .05$, ** $p < .01$, *** $p < .001$
**Hypothesis 2: After controlling for student-level (age and gender) and school-level (historical school outcome measure and School SES) variables, participating in FDELK would improve children’s literacy.**

The results of the regression analysis for literacy are shown in Table 9. The model accounted for 7% of the total variance in students’ literacy outcomes. In Model 1, age and gender accounted for 4.6% of the variance. Being older and female predicted more positive literacy outcomes. After controlling for student-level and school-level variables, there were no significant differences on literacy outcomes of students in FDELK versus students in non-FDELK (β = .006, p = .258). There was a small significant interaction effect for FDELK X School SES (β = .024, p < .001), although there was no increase in variance accounted for by this interaction. Analysis of the interaction effect revealed no significant difference on literacy outcomes for students from lower SES schools (< $69,100) by Kindergarten program type (β = -.001, p = .994). However, FDELK students from middle SES (> $69, 101 & < $91,200) and higher SES schools (> $91, 201 & < $165, 800) had slightly more positive literacy outcomes than non-FDELK students (β = .021, p = .026; β = .042, p <.001, respectively).
### Table 9

Summary of Hierarchical Regression Analysis Predicting Literacy

<table>
<thead>
<tr>
<th>Step, Predictors</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4 (Final Model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$B$</td>
<td>$\Delta R^2$</td>
</tr>
<tr>
<td>1. Age</td>
<td>.126***</td>
<td>.046***</td>
<td>.122***</td>
<td>.122***</td>
</tr>
<tr>
<td>Gender</td>
<td>-.174***</td>
<td>-.174***</td>
<td>-.174***</td>
<td>-.174***</td>
</tr>
<tr>
<td>2. Sch. Mean Literacy 2009</td>
<td>.131***</td>
<td>.024***</td>
<td>.131***</td>
<td>.131***</td>
</tr>
<tr>
<td>School SES (Centered)</td>
<td>.053***</td>
<td>.055***</td>
<td>.065***</td>
<td></td>
</tr>
<tr>
<td>3. FDELK Program</td>
<td>.006</td>
<td>.000</td>
<td>.011</td>
<td></td>
</tr>
<tr>
<td>4. FDELK X School SES</td>
<td>.024***</td>
<td>.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.046***</td>
<td>.070***</td>
<td>.070***</td>
<td>.070***</td>
</tr>
</tbody>
</table>

Note. * $p < .05$, ** $p < .01$, *** $p < .001$
Hypothesis 3: After controlling for student-level (age and gender) and school-level (historical school outcome measure and School SES) variables, participating in FDELK would improve children’s numeracy.

The results of the regression analysis for numeracy are shown in Table 10. The model accounted for 2.2% of the total variance in students’ numeracy outcomes. In Model 1, age and gender accounted for almost none of the variance (.8%). After controlling for student-level and school-level variables, although the $\Delta R^2$ for FDELK was significant, its value was .000 to three decimal places. There was a statistically significant negative effect ($\beta = -.023$, $p <.001$) on student numeracy outcomes of the FDELK program; being in the FDELK program resulted in slightly poorer student numeracy outcomes than those exhibited in the non-FDELK program after controlling for the other variables.

There was also a small interaction effect for FDELK X School SES ($\beta = .017$, $p = .005$). Analysis of the interaction effect revealed no significant difference on numeracy outcomes for students from middle SES ($> $69, 101 & < $91, 200) and higher SES schools ($> $91, 201 & < $165, 800) by Kindergarten program type ($\beta = -.015$, $p = .127$; $\beta = .009$, $p = .353$, respectively). However, FDELK students from lower SES schools (< $69, 100) had slightly more negative numeracy outcomes than non-FDELK students ($\beta = -.020$, $p = .049$).
Table 10

Summary of Hierarchical Regression Analysis Predicting Numeracy

<table>
<thead>
<tr>
<th>Step, Predictors</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
<th>Model 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
<td>$\beta$</td>
<td>$\Delta R^2$</td>
</tr>
<tr>
<td>1. Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Gender</td>
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<td></td>
<td>-.044***</td>
<td></td>
<td>-.044***</td>
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<td>-.044***</td>
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</tr>
<tr>
<td>2. Sch. Mean Numeracy 2009</td>
<td>.075***</td>
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<td>.013***</td>
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<td>.073***</td>
<td></td>
<td>.073***</td>
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</tr>
<tr>
<td>School SES (Centered)</td>
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<td>.063***</td>
<td></td>
<td>.070***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. FDELK Program</td>
<td></td>
<td></td>
<td>-.023***</td>
<td></td>
<td>.000***</td>
<td></td>
<td>-.019**</td>
<td></td>
</tr>
<tr>
<td>4. FDELK X School SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.017**</td>
<td></td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.008***</td>
<td></td>
<td>.021***</td>
<td></td>
<td>.022***</td>
<td></td>
<td>.022***</td>
<td></td>
</tr>
</tbody>
</table>

Note. * $p < .05$, ** $p < .01$, *** $p < .001$
Discussion

Hierarchical regression analyses of 32,207 students’ self-regulation, literacy, and numeracy outcomes using 2012 Ontario EDI data revealed essentially no benefit for students, not even for students from lower SES schools, participating in the FDELK program. If anything, children in the FDELK program performed more poorly on SR and numeracy outcomes. These were all small effects, only significant because of the large sample size. Being older and female predicted more positive SR, literacy, and numeracy outcomes.

The first hypothesis that FDELK would improve students’ self-regulation was not supported as FDELK had a very weak but significant negative impact on SR. Although one of the main goals of the FDELK program is to promote the development of students’ SR, aspects of the program may be undermining students’ ability to self-regulate. While the second hypothesis asserted that FDELK would improve students’ literacy outcomes, there were no significant differences on literacy outcomes for students in FDELK versus students in non-FDELK programs. In regard to literacy outcomes, a small interaction effect between FDELK and School SES indicated that FDELK students from middle and higher SES schools had slightly better literacy outcomes than their non-FDELK counterparts. Lastly, the third hypothesis that FDELK would improve students’ numeracy was unsubstantiated as there was a very weak significant negative impact on numeracy outcomes for FDELK as compared to non-FDELK students. Moreover, analysis of a small interaction effect for numeracy outcomes between FDELK and School SES revealed that FDELK students from lower SES schools had slightly more negative numeracy outcomes than their non-FDELK peers.
In contrast to these results, Pelletier (2014) reported more promising findings for FDELK, although there was a fade-out effect for some outcomes after three years. Although Pelletier’s results are more positive than those reported in this present study, it is unclear whether or not they were due to using direct measures of student outcomes in contrast to the present study; teachers’ reports on the Early Development Instrument may be a weak measure of students’ actual abilities. Alternatively, Pelletier’s more positive results might be due to having a high percentage (61%) of students in her study who were English Language Learners (ELLs) or her participants participating in more successful FDELK programs. Increased exposure to the English language in FDK may be of particular benefit to ELLs (Hall-Kenyon et al., 2009).

Less than favourable FDELK program results reported in this present study may be related to program design or program quality. Unfortunately, early learning programs are often characterized as low to moderate in quality, so merely increasing time students spend in such programs does not necessarily optimize their learning (LaParo et al., 2009; Vu et al., 2012). Although the intention of the FDELK program is to provide a high quality play-based environment that promotes Kindergarten students’ SR growth, the results of this study suggest that students’ inability to self-regulate in the FDELK program may be undermining their achievement. Studies of FDELK have documented that learning and SR development were actually threatened in programs with large class sizes, especially when there was a large number of students in a small physical classroom (Lynch, 2014; Ryan & Date, 2012; Vanderlee et al., 2012). Moreover, the program’s strategy for developing students’ self-regulation appears to be limited to instances of play-based learning; this approach lacks the type of comprehensive curriculum-based
approach that is likely needed to facilitate SR growth in young children (Diamond et al., 2007).

Although the Ontario Ministry of Education (OME, 2012) has adopted a play-based approach to learning in the FDELK program, such as that used by the High/Scope Perry Preschool Program, it may be that it has not adequately explained this approach or implemented the low teacher-to-student ratios required for the program to be effective. Many FDELK teachers have reported not understanding how to implement play-based learning or the purpose of the new approach (Goulden, 2012; Lynch, 2014; Tozer, 2012; Vanderlee et al., 2012). Additionally, teachers are unsure of how to reconcile the Ministry’s play mandate with school boards’ emphasis on literacy assessments (Vanderlee et al., 2012). This confusion is concerning because educators have been instructed to provide “large blocks of time for both child-initiated and structured play” (OME, 2010, p. 14) without a clear understanding about how play-based learning can be used to support self-regulation and academic outcomes. As a result, FDELK educators may not be optimizing the learning that could occur in the context of a full-day program.

Moreover, for a play-based approach to be effective, adults are required to scaffold learning (Skolnick Weisberg et al., 2013). The FDELK program document acknowledges the critical role of adults in supporting play and directs Kindergarten educators to take part in “guiding, shaping, engaging in, and extending play” (OME, 2010, p. 14). However, whereas the High/Scope Perry Preschool Program had low teacher-to-student ratios to support quality adult-child interactions, the FDELK program has average class sizes of 26 students (with one teacher and one ECE) that make it a challenge for educators to support learning through play. Without the skillful support of
adults during play, it is doubtful that children are actually learning anything new (Bodrova & Leong, 2005).

Less than promising FDELK results from this study could also be due to the fact that expectations outlined in the Ontario Kindergarten curriculum did not change with program implementation. While the amount of time FDELK students spent in school and the focus of the program changed, literacy and numeracy expectations around what students should know and be able to do by the end of the program did not change. Essentially, the FDELK program provides more time for students to learn the same things expected of their peers in the non-FDELK program. Not promoting a greater focus on literacy and numeracy in the FDELK program is surprising, given that studies on school readiness skills stress the critical role of early literacy, numeracy, and attention skills in preparing students for later success (Duncan, Magnuson, Huston, Klebanov, & Brooks-Gunn, 2007; Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006; Pagani, Fitzpatrick, Archambault, & Janosz, 2010).

**Implications for Policy and Practice**

Results from this study suggest that efforts should be made to improve the quality of the FDELK program. Play-based methods for teaching literacy and numeracy must be developed and more direct instruction of literacy and numeracy needs to occur within the FDELK program. The Ministry of Education should be encouraged to use evidence-based research about play-based learning to develop a common definition, guidelines, and goals for play. Research on guided play is an important place to start, as guided play emphasizes the value of play while underscoring the critical role of adults in supporting learning through play (Ferrara, Hirsh-Pasek, Newcombe, Michnick Golinkoff, &
Shallcross Lam, 2011; Fisher, Hirsh-Pasek, Newcombe, & Golinkoff, 2013; Han, Moore, Vukelich, & Buell, 2010; Skolnick Weisberg et al., 2013). The use of sociodramatic play and play scripts to promote self-regulation (Bodrova & Leong, 2006; Leong & Bodrova, 2012) are worth examining because SR is linked to future school success (Blair, 2002) and gains in SR predict growth in academic skills (Becker et al., 2014; McClelland et al., 2007; Nesbitt et al., 2015; Welsh et al., 2010).

The FDELK program has the potential to meet the individual needs of students through play-based learning (Ferrara et al., 2011; Fisher et al., 2013; Han et al., 2010), but it is unlikely to do so without lower teacher-to-student ratios (Blatchford, 2003; Zvoch et al., 2008). While the extremely low teacher-to-student ratios of the High/Scope Perry Preschool Program may not be feasible (1:5 or 6), FDK in Oklahoma has experienced success with class size maximums of 20 that include a class assistant in each class, resulting in a 1:10 adult-to-child ratio (Gormley et al., 2005). Similarly, in a study of the impact of FDK on literacy, FDK was relatively more effective for promoting literacy development in below average (<20) and average size (20-24) classrooms than was HDK, but not in larger FDK classes (>24; Zvoch et al., 2008). To improve the quality of learning in the FDELK program, the OME should consider placing a reasonable cap on FDELK class sizes so adults can more effectively scaffold learning. It should also consider revising curriculum expectations to include a greater focus on SR, literacy skills, and numeracy skills, three factors critical for school success.
Limitations and Future Directions

There are four main limitations to this study. First, measures of Kindergarten program quality were not included in this present study so explanations presented are based on previous research, not on the schools included in the current study. Future studies should link measures of FDELK program quality with student outcomes and investigate the extent to which differential outcomes, even within the FDELK program itself, are related to quality indicators. Second, student outcomes in this study were based solely on teacher reports, which may be biased or may not have been taken seriously by teachers. Future studies should use direct measures and incorporate multiple measures of the same outcomes to increase measurement validity. Third, adequate class size data were not available for this sample. Class size may play a critical role in promoting positive outcomes in Kindergarten classrooms so future research should explore this possibility by collecting these data (Gormley et al., 2005; Zvoch et al., 2008). The issue may not be class size in particular, but rather how successfully teachers cope and adapt to large Kindergarten class sizes, in which case, both class size data and data about how teachers cope and adapt to class size would be required for investigation. Lastly, in this study, SES was defined by income at the school level. A more accurate measure of SES could be obtained by using data from the individual family level that includes parents’ levels of education and family income.
References


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CHAPTER 4: CONCLUSION

The universal provision of Full-Day Kindergarten (FDK) to promote school readiness is becoming a trend in public schools in North America, particularly in Canada (McCuaig, 2014; Zvoch, Reynolds, & Parker, 2008). FDK’s implementation has been supported by research suggesting that quality early childhood programs focused on school readiness and health and nutrition can help reduce the gap in early achievement and promote positive outcomes in children (Campbell et al., 2014; Hertzman, 2004). While most approaches to school readiness tend to focus on developing literacy and numeracy skills through direct instruction (Gormley, Gayer, Phillips, & Dawson, 2005; Zvoch et al., 2008), the Ontario Ministry of Education’s Full-Day Early Learning Kindergarten (FDELK) program uses play-based learning to promote self-regulation and academic learning through a team-teaching approach (Ontario Ministry of Education [OME], 2010).

The purpose of this chapter is to present cross-study understandings from Study 1 and Study 2 and discuss cross-study implications for policy and practice. This chapter begins with a summary of the two studies. Next cross-study understandings are outlined with four implications for policy and practice discussed. The chapter concludes with a description of study limitations and future directions and my final thoughts on the FDELK program.
Summary of the Two Studies

Study 1

Study 1 was a qualitative case study that examined how the main components of the FDELK program, play-based learning and teacher-ECE collaboration, were put into practice in four high fidelity schools. Additionally, the relationship of these components to two primary goals of Kindergarten, meeting the needs of individual students and promoting their development of self-regulation, was investigated. Data used for this study were collected by the Social Program Evaluation Group (SPEG), Queen’s University, during a two-year evaluation of the implementation of the Full-Day Early Learning Kindergarten (FDELK) Program, an evaluation commissioned by the Ontario Ministry of Education. Interview transcripts from a sub-sample of FDELK administrators, educators (teachers, ECEs, and Educational Assistants), community stakeholders, and parents representing four high fidelity schools underwent deductive content analysis in relation to the primary features and goals of the FDELK program: play-based learning, teacher-ECE collaboration, meeting the needs of individual students, and promoting their development of self-regulation.

Cross-case analysis indicated that play-based learning in high fidelity FDELK schools had a structured component in that it was linked to curriculum expectations and occurred in the context of centres and inquiry. Multiple benefits of play-based learning were reported by high fidelity FDELK educators. In spite of the various benefits of play-based learning, educators at high fidelity schools recognized the need to impose parameters around play to ensure that students participated in a variety of learning
activities. Educators at high fidelity schools indicated there was room for improvement with respect to how play-based learning was implemented.

Collaboration in the FDELK teaching team was described as essential for program success by high fidelity FDELK administrators. Administrators identified a number of practices they used to facilitate collaboration. However, educators identified two main obstacles that made it a challenge for their teams to work well together initially: they lacked clear direction about their roles, and they did not have enough (or any) shared planning time. With respect to educator roles, some aspects of educator roles in high fidelity FDELK schools were interchangeable because ECEs were seen as teaching partners in the classroom, while some aspects were not. ECEs in some high fidelity schools indicated they took part in unpaid planning with their teaching partners to promote collaboration.

High fidelity FDELK educators reported being able to better meet the needs of individual students because they had more time to get to know students’ needs, and they had more opportunity to work with students owing to the support of a teaching partner in the classroom. While the needs of students were met well in two of the case study schools, they were not met as well in the other two schools because there were some students with exceptionalities in the FDELK classrooms who didn’t receive the EA support they needed, thereby deterring educators’ attention from the rest of the class. To effectively meet the needs of individual students, particularly those with exceptionalities, more support staff was needed. There were mixed parental perspectives about whether or not the individual needs of their children were being met in the FDELK program.
In regard to the promotion of self-regulation (SR) in students, educators at high fidelity FDELK schools reported that play-based learning facilitated students’ SR because it enabled students to direct their own learning and it encouraged social interaction. Increased social interaction with peers helped students learn to work together and communicate effectively. In addition to the role of play-based learning in SR growth, educators identified strategies they used to support students’ self-regulation. Two hindrances to the development of students’ SR were identified in high fidelity FDELK classrooms: inadequate supervision when there was only one adult in the classroom and times when the classroom was chaotic.

**Study 2**

Study 2 used quantitative analyses to investigate how effectively a Full-Day, play-based Kindergarten program in Ontario was promoting students’ self-regulation and related academic outcomes. Using 2012 EDI data for 32,207 Kindergarten students (N = 6,453 for FDELK and N = 25,574 for non-FDELK) in Ontario, hierarchical regression analyses were conducted to test whether or not FDELK was a unique predictor of self-regulation, literacy, and numeracy after controlling for student and school characteristics. Three separate regressions were conducted, one for each outcome variable.

Being older and female predicted more positive literacy and SR outcomes. Age and gender accounted for limited variance in numeracy outcomes. The final SR model accounted for 9.8% of the total variance in students’ SR outcomes, the final literacy model accounted for 7% of the total variance in students’ literacy outcomes, and the final numeracy model accounted for 2.2% of the total variance in students’ numeracy outcomes. After controlling for student characteristics and school characteristics,
statistical analyses of SR, literacy, and numeracy outcomes revealed essentially no benefit for students participating in the full-day, play-based program when compared to peers in Half-Day or Alternate-Day Kindergarten programs.

**Cross-Study Understandings**

Findings from Study 1 and Study 2 suggest that the FDELK program may not be functioning as well as expected and that it is not having the type of positive impact on students’ self-regulation development and academic outcomes originally intended by the Ontario Ministry of Education. This lack of positive impact may be seen with respect to the main features of the program and the goals of the program.

**Main Features of the Program**

Less than optimal student outcomes associated with FDELK may be a consequence of the program’s main features of play-based learning and teacher-ECE collaboration not being maximized, even in high fidelity FDELK schools. Play-based learning can lead to positive academic outcomes when it involves adult-scaffolded instruction in a child-led context (Ferrara, Hirsh-Pasek, Newcombe, Michnick Golinkoff, & Shallcross Lam, 2011; Fisher, Hirsh-Pasek, Newcombe, & Golinkoff, 2013; Han, Moore, Vukelich, & Buell, 2010; Weisberg, Zosh, Hirsh-Pasek, & Michnick Golinkoff, 2013), but the critical role of adults in supporting play was not discussed by educators in high fidelity schools. In fact, some ECEs recommended that play be more open-ended and less structured, which could result in less involvement on the part of educators. Without the support of adults during play, children may not be learning anything new or productive (Bodrova & Leong, 2005). Furthermore, it may be unrealistic to think that two
educators with a large class size can effectively support the type of scaffolded play that fosters children’s development.

Educators in high fidelity FDELK schools did not have sufficient shared planning time or direction to support effective collaboration. As a result, educators in high fidelity FDELK classrooms did not take advantage of the complementary nature of educators’ skill sets, particularly in regard to play-based learning. For example, ECEs tended to focus on play and child development, while teachers focused on curriculum. In this sense, teachers and ECEs operated in separate spheres in the classroom, without drawing on each other’s strengths. While ECEs were relied on as experts in play, they lacked training and experience in how to link play with specific curriculum expectations. Conversely, teachers were trained to develop instruction targetted at specific curriculum expectations, but they were less knowledgeable about how to use play as a means of instruction. If teachers and ECEs had sufficient time for collaboration, they might be able to combine their skill sets to implement play-based learning in a manner that optimizes children’s development.

**Goals of the Program**

The OME has articulated that promoting students’ self-regulation and meeting the individual needs of students are goals of the FDELK program. While Study 1 reports that high fidelity FDELK educators recognized the importance of children’s self-regulation (SR) in promoting independent learning, communication, and positive interactions with peers and actively promoted SR in the classroom, Study 2 suggests that FDELK students were exhibiting slightly worse SR outcomes than their peers in the non-FDELK program.
In fact, students’ lesser ability to self-regulate in the FDELK program may be undermining their achievement.

FDELK students’ inability to self-regulate may be a result of inadequate program conditions. A number of studies of FDELK have documented that learning and SR development were actually threatened by the program’s large class sizes, especially when there was a large number of students in a small physical classroom (Lynch, 2014; Ryan & Date, 2012; Vanderlee, Youmans, Peters, & Eastabrook, 2012). Similarly, in two high fidelity FDELK classes in Study 1, hindrances to SR development were identified. Educators indicated that there were times when the classroom only had one teacher. During these times, one educator could not adequately meet the needs of all students and, as a result, some children behaved impulsively. Educators and parents also noted that FDELK classrooms were chaotic at times. The noise level associated with large FDELK class sizes, small classroom spaces, and transition times could lead to chaos, making it difficult for some students to regulate their own behaviour.

In the FDELK program, students are expected to self-regulate for longer periods of time, but they may lack the support needed to do so. Although play-based learning facilitates SR growth, it only occurs at certain times in the day. A more comprehensive curriculum-based approach that supports SR development throughout the day may be warranted (Diamond, Barnett, Thomas, & Munro, 2007).

Although educators in high fidelity FDELK schools in Study 1 identified a number of program elements that helped them meet the needs of individual students (more time, more interaction during play, and more opportunities for targetted instruction with the support of a teaching partner), these benefits did not translate into better
academic outcomes for FDELK students than non-FDELK students, according to results from Study 2. Two major threats to meeting the individual needs of students in the FDELK program reported in Study 1 might help explain these results. First, large class sizes made it a challenge for educators to know and address the individual needs of students. Research on Full-Day Kindergarten (FDK) reveals differential outcomes related to class size; FDK was relatively more effective for promoting literacy development in below average (<20) and average size (20-24) classrooms than HDK, but not in larger FDK classes (>24; Zvoch et al., 2008). Another issue that made it difficult for high fidelity FDELK educators to meet the individual needs of students in their class was having students who needed EA support but failed to receive it. As a result, educators reported managing disruptive behaviour frequently, which took away from instructional time. Large class sizes and students with exceptionalities who do not receive the EA support they need in the FDELK program are issues that undermine the quality of the FDELK program.

An alternate explanation for why the FDELK program is not as beneficial as expected is that, while the amount of time FDELK students spent in school and the focus of the program changed, curriculum expectations did not change. Essentially, students in the FDELK program have more time to learn the same material expected of their peers in the non-FDELK program. Given that studies on school readiness skills stress the critical role of early literacy, numeracy, and attention skills in preparing students for later success, the FDELK program’s relatively minor focus on these skills may be a limiting success factor (Duncan, Magnuson, Huston, Klebanov, & Brooks-Gunn, 2007; Hair,
Implications for Policy and Practice

The Ministry of Education’s vision to give students a strong start in school through the Full-Day Early Learning Kindergarten (FDELK) program is important, but program improvement is required for this vision to be realized. There are five implications from this study that could help improve the overall quality of the FDELK program: (a) the operationalization of play-based learning based on evidence-based research; (b) support and time for teachers and ECEs to develop interprofessional collaboration; (c) improvement of classroom learning conditions; (d) revision of the curriculum to include a greater emphasis on SR, literacy skills, and numeracy skills; and (e) provision of early learning training in Faculties of Education.

Implication 1: Operationalization of Play-based Learning Based on Evidence-Based Research

Many FDELK teachers have reported not understanding how to implement play-based learning or the purpose of the new approach (Goulden, 2012; Lynch, 2014; Tozer, 2012; Vanderlee et al., 2012). Play only promotes academic learning under certain conditions, namely when an adult is involved in scaffolding learning through play (Ferrara et al., 2011; Fisher et al., 2013; Han et al., 2010; Skolnick Weisberg, Hirsh-Pasek, & Michnick Golinkof, 2013). Without adult support, children may be spending a lot of time in unproductive play in FDELK classrooms. In regard to developing self-regulation, the use of sociodramatic play and play scripts is worth examining (Bodrova & Leong, 2006; Leong & Bodrova, 2012), because SR is linked to future school success.
(Blair, 2002), and gains in SR predict growth in academic skills (Becker, Miao, Duncan, & McClelland, 2014; McClelland et al., 2007; Nesbitt, Farran, & Fuhs, 2015; Welsh, Nix, Clancy, Berman, & Nelson, 2010). The Ontario Ministry of Education is encouraged to develop a definition of play-based learning supported by evidence-based research that includes clear directives, conditions necessary to ensure learning, and learning outcomes related to SR, literacy, and numeracy development. Having the concept of play-based learning operationalized and explicitly linked to learning outcomes should make it easier for teachers and ECEs to work together towards implementing effective play-based learning practices and assessments.

**Implication 2: Support and Time for Teachers and ECEs to Develop Interprofessional Collaboration**

With respect to team teaching, teachers and ECEs are new at working together, and they need support and time to develop a collaborative approach to the FDELK program. Interprofessional collaboration is marked by a shared vision and shared decision-making (Canadian Interprofessional Health Collaborative [CIHC], 2010). Oftentimes, teachers and ECEs in the FDELK program do not have sufficient knowledge about how to work together effectively or the time needed to implement collaborative approaches. The CIHC has developed a framework that identifies five competency domains essential for interprofessional collaboration, which are relevant for FDELK teaching teams: (a) role clarification, (b) team functioning, (c) collaborative leadership, (d) interprofessional communication, and (e) interprofessional conflict resolution. For effective collaboration to occur in the FDELK program, teachers and ECEs need to develop an understanding of interprofessional collaboration competencies. Moreover,
they need joint professional development and consistent shared planning time to foster interprofessional collaboration. Time for collaboration may be especially important for new FDELK teams who need to develop team teaching strategies.

**Implication 3: Improvement of Classroom Learning Conditions**

Benefits of FDELK may not be realized when conditions for learning are suboptimal. Large class sizes, inadequate supervision (at times), small physical classrooms, and inadequate support for students with special needs (diagnosed or undiagnosed) make it a challenge for educators to meet the needs of individual students and support SR growth. Smaller class sizes in FDK are associated with more favourable academic outcomes (Gormley et al., 2005; Zvoch et al., 2008). Additionally, Educational Assistants provide students who have challenging behaviour with the support they need to make classrooms truly inclusive (Orsati & Causton-Theoharis, 2013). To ensure the overall quality of the FDELK program, the Ontario Ministry of Education should consider reducing class sizes to 23 students or fewer in Kindergarten to be consistent with the evidence-based primary class size cap and ensure students who require the help of an Educational Assistant receive that help (Elementary Teachers’ Federation of Ontario [ETFO], 2015).

**Implication 4: Revision of the Curriculum to Include Greater Emphasis on Literacy, Numeracy, and Self-Regulation**

When the Kindergarten program document was revised to reflect the new FDELK program, the curriculum expectations did not change. Essentially, Kindergarten students in the FDELK program now have twice as much time to meet the same expectations of the former Kindergarten program. Given that studies on school readiness skills stress the
critical role of early literacy, numeracy, and attention skills in preparing students for later success (Duncan et al., 2007; Hair et al., 2006; Pagani et al., 2010), the Ontario Ministry of Education should consider revising Kindergarten curriculum expectations to include a greater focus on SR, literacy skills, and numeracy skills, three factors critical for school success.

**Implication 5: Provision of Early Learning Training in Faculties of Education**

Given that importance of early learning and the province-wide implementation of the FDELK program, Faculties of Education across Ontario should provide early learning training that incorporates evidence-based practices for supporting play-based learning. To prepare teacher candidates (TCs) for success in the primary teaching division (Kindergarten to Grade 3) in general, and the FDELK program in particular, TCs should be required to take at least one course on early child development. In addition, Faculties of Education should develop and implement an evidence-based course on play-based learning for the primary division. Such a course would provide direction for planning, implementing, and assessing guided play that promotes the development of literacy, numeracy, and SR skills.

**Limitations and Future Directions**

There are four limitations related to the data used for this dissertation. First, the qualitative and quantitative data sets did not use the same sample of participants. In this sense, descriptions related to the quality and implementation of the program in the four high fidelity FDELK case study schools in Study 1 may only be relevant to a minority of the FDELK programs encountered by children in Study 2. Future research should directly link aspects of FDELK program quality to academic outcomes, either through mixed
methods or by incorporating such measures into a quantitative research design. Second, both studies in this dissertation relied on only one type of data: the quantitative study used teacher reports, while the qualitative study was based on interviews. Future studies may want to incorporate direct measures or use multiple measures/data sources to increase the validity and insightfulness of results. Third, it was unfortunate that class size information was not available for the quantitative data set, and the impact of class size was not a focal issue of the case studies. Given that class size may play a critical role in promoting positive outcomes in Kindergarten classrooms, future research should explore this possibility by collecting these data (Gormley et al., 2005; Zvoch et al., 2008). However, how successfully teachers cope and adapt to large Kindergarten class sizes may be a more important issue than class size alone. As a result, research about how Kindergarten teachers cope and adapt to class size may be worthy of investigation. Lastly, in the quantitative study, SES was defined by income alone at the school level. To reflect a more accurate measure of SES, this measure should be obtained at the individual family level and combine parents’ levels of education and family income.

**Final Thoughts**

Throughout the course of my research on the Full-Day Early Learning Kindergarten (FDELK) program, people have often asked for my opinion about the merits of the program. Seeing that the value of the FDELK program is a complex social issue, I am unable to give a simple response.

As a researcher, I see the value of a quality FDELK program that could help promote school readiness skills in children, particularly those from disadvantaged families who may not have access to valuable early childhood learning experiences.
However, if the program is not marked by quality, it is children from these same disadvantaged families who will suffer the most because children from advantaged families are often involved in the types of social and academic experiences that promote school readiness, like extracurricular activities and one-on-one reading instruction.

As a former FDK teacher, I know just how much children who go to school every day can learn given the right conditions. I had the benefit of teaching in a small class of 16 students and the curriculum I taught had high expectations. For the most part, students did extremely well, but I do remember one student who would have benefitted from the assistance of a Special Education Resource Teacher because he did not grasp concepts as easily as the rest of the class. For all students to be successful in the FDELK program, they require a positive learning environment in which they can receive additional support, as needed.

As a parent of three children, I believe parental choice in education is important. None of my children attended Full-Day Kindergarten, yet they were all well equipped with school readiness skills by Grade 1 because I made a conscious decision to work with them on social and academic skills when they were young. While I could not be at home full-time with my children because of economic reasons, I took advantage of the days I could be and I involved them in a number of extracurricular opportunities. FDELK is only one of many programs intended to facilitate the development of school readiness skills. Depending on a family’s circumstances, it may or may not be the best option available.

The Ontario Ministry of Education has spent considerable time, effort, and money in developing and implementing the FDELK program. If this program is to positively
impact the future of Ontario children, it must be marked by high quality practices.

Program improvement will not be an inexpensive undertaking, and it will not happen overnight, but perhaps the research conducted for this dissertation can help further the cause.
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APPENDIX A: SCHOOL PROFILES

Buckner Elementary School

Located in an urban area in eastern Ontario, Buckner Elementary School is an English language school for students in Kindergarten to Grade 8. In the past, the school had a Half-Day Kindergarten program. Buckner Elementary is located in a low-income area so it has a Breakfast Club and a very affordable milk program to help meet the nutritional needs of students. There are a significant number of Aboriginal and immigrant families at the school. Grade 3 School EQAO (Education Quality and Accountability Office) scores at the time indicated a little more than half of the students were at or above the provincial average in reading and writing, and fewer than half of the students were at or above the provincial average for math. Buckner Elementary School was visited during both the first and the second year of FDELK program implementation. During this two-year period, the school experienced a number of staffing changes. Although it would not have been categorized as a high fidelity school in the first year of implementation because it lacked effective teacher-ECE collaboration and did not fully embrace play-based learning, it did transition into a high fidelity school during Year 2. This case study documents the transition by contrasting FDELK practices in the first year of implementation with what occurred during the second year.

In the first year of implementation, there were two Kindergarten classes. In one Kindergarten class, two teachers were job sharing: one teacher taught in the mornings and one teacher taught in the afternoons. The ECE in this class provided insight about what it was like to work with two Kindergarten teachers. In the second Kindergarten class, there was a teacher who had worked with three different ECEs over the course of the year. We
were unable to interview an ECE for this class because the third ECE had just started her position. However, the Kindergarten teacher was able to offer her perspectives about working with different ECEs.

In Year 2 at Buckner Elementary, the administration and Kindergarten staffing changed, with the exception of the ECE who had worked with the two teachers who job shared. This ECE was notably happier about the role she played in the Kindergarten team as she worked well with her new teaching partner, an experienced teacher. In the second classroom, the Kindergarten teacher was a male with a long-term occasional (LTO) position who worked well with his ECE partner.

Nearing the end of the second year of implementation, Buckner Elementary was a high fidelity FDELK school because of effective teacher-ECE collaboration and the incorporation of play-based learning. As a result of team teaching and play-based learning in the context of Full-Day Kindergarten, students were developing self-regulation and the individual needs of students were being met.

**Play-Based Learning: Year 1**

For growth to occur in students involved with the FDELK program, the administrator at Buckner Elementary indicated that “both teacher and ECE have to buy in, to have that understanding of what play-based learning really is” (Administrator 1). Play-based learning “is about exploration, it is about critical thinking, and it’s about working together and allowing that child to, you know, explore, discuss, touch, see their learning” (Administrator 1). The concept of play-based learning proved to be somewhat confusing for parents who were newcomers with a “traditional view of education”; “If
their child is not going home with homework, they’re wondering why…and why are they playing?’” (Administrator 1).

The three teachers had differing views of what constituted play-based learning. One teacher focused on the inquiry aspect of play-based learning: “It’s not just playing with children;…it’s making sure they have a question they’re going to be answering” (Teacher 2). For this teacher, play-based learning was “student-directed and going from the interest of the kids” (Teacher 2). For another teacher, play-based learning was about letting students visit more open-ended centres in which they were interested, instead of making them complete assigned activities at each centre. “I used to have centre tables where they would do an activity and I’d check it off, but now we come up with some ideas for them…then we let them take it whatever way they want it” (Teacher 1a). For the third teacher, the concept of play-based learning was about “organic” play.

Play-based learning, the way that it’s being interpreted right now, is imitating adult behavior…setting up a centre that looks exactly like a hospital and acting exactly like the adults do in that hospital setting…from my experience of play-based [learning], kids usually take something and move it into their own direction. (Teacher 1b)

As a likely result of these differing definitions, play-based learning varied across classrooms:

- It’s free exploration, but they must stay on their mat, they’re not allowed to change their activity, they can do whatever they want with it, and it’s an amazing time actually…it’s a limited, slightly limited choice. (Teacher 1b)
- We have learning centres or activity centres—very free, very open, they can go anywhere, do anything. (Teacher 1b)
- They have little jobs that they do, to get them sort of exposed to different centres that they wouldn’t normally go to. And then they would play and have their play time. (Teacher 2)
- We have a craft centre, literacy centre, fine motor activities, puzzles, science centres, math centres, listening centres, but it changes, home corner, blocks. (Teacher 1a)
Teachers’ conceptions about the benefits of play-based learning were that it “inspired kids and showed them that school is fun” (Teacher 1a), it met the needs of students at different levels and enabled teachers to extend learning (Teacher 1a), and it allowed teachers to conference with students one-on-one or in small groups (Teacher 1a, Teacher 1b, Teacher 2). The biggest constraint associated with play-based learning was “the schizophrenic nature of what’s happening now [play-based learning] with the push on reading and levelled literacy intervention” (Teacher 1b). “How do we get all of that [inquiry-based learning] done when we have all these other things pulling us, like [board-mandated literacy assessments]?” (Teacher 2).

One of the challenges the ECE experienced about play-based learning related to the way teachers tended to differentiate instruction. “ECEs include children, so you adapt your curriculum so that everybody can play, and in the teaching world they seem to differentiate and separate” (ECE 1).

Play-Based Learning: Year 2

It’s really nice to see the play-based learning happening as opposed to sitting on the carpet learning the Jolly Phonics, doing all the activities together as a group. It’s really neat to see how far they can come, how much they can learn when they are allowed to explore on their own and to play on their own. That’s been amazing to me. I knew they could do it. (ECE 1)

During the second year of FDELK program implementation at Buckner Elementary, the administrator and educators described a deeper understanding and implementation of play-based learning; connections among play-based learning, inquiry, and student interest were discussed. Confirming this observation, the ECE involved in both the first and second year of FDELK implementation at Buckner Elementary School, who was the only person constant across the two years, witnessed an improvement in
how the school approached play-based learning: “It’s for sure better than it was last year. It’s more of a process” (ECE 1). The new administrator had been a Kindergarten teacher herself who felt it was important for both teachers and ECEs “to have an understanding of what play-based learning really means for it to work well” (Administrator 2). Play-based learning in Kindergarten is about “directing them [students] and teaching them in new ways to play and deeper exploration in their play” (Administrator 2). The administrator was in favour of an inquiry-based approach: “I love the inquiry-based, it’s hard work, there’s a lot of observation so it’s nice that there are two people in there” (Administrator 2). For play-based learning to be effective, “you have to have the resources” to be able to “set up an inquiry” based on “student interest” (Administrator 2). This process can be costly because you “are not just going out and buying some prepackaged toys and putting them out” (Administrator 2). The new administrator believed investing in materials needed “to develop student interest” would “pay off in dividends” (Administrator 2).

The ECE’s new teaching partner described a recent play-based learning experience in the classroom that involved snails. “Our kids found snails in the school yard so we…had them in a fish tank. We fed them lettuce and…we did some snail stuff and they were crawling all over…and eating and the kids loved them” (Teacher 3). With the snails, the educators “[let] the kids guide where we [were] going” (Teacher 3). The teacher also described trying to get students to “connect more with the outdoors…and explore more and not be afraid to get dirty…just engage more in play” (Teacher 3). In the second Kindergarten classroom, there was an hour of centres in the afternoons that was “really child-centred” (Teacher 4). “They get to choose what they want to do…we
follow their interests” (Teacher 4). For example, one student said he wanted to draw a Canadian flag after they sang “O Canada” in the morning so one centre allowed students to “make Canadian flags” (Teacher 4). Another time, a “boy wanted to make paper airplanes so we talked about them and made our own paper airplanes. Then we said how far can you throw your paper airplane? We measured [the distance] using stack cubes” (Teacher 4). In the mornings, students were split into two groups and one group did literacy activities, while the other group engaged in “dramatic play on the carpet” and then the two groups would switch (ECE 2).

Educators described multiple benefits of play-based learning. Play-based learning “empowers” students so “they can be in charge of their learning, so they can see themselves as learners” (Teacher 3). It also enables students to learn and socialize at the same time: “They are learning to take turns, they are learning to work together, learning to communicate” (Teacher 3). Play-based learning engages students and gives them choice. Students “are most engaged and learning when we do centres…when they are given a choice of what they want to do. They aren’t being forced to sit down and do this” (Teacher 4). A lot of the students at Buckner Elementary lived in “apartments” and “they don’t have yards so they watch TV or play video games” (Teacher 3). Outdoor play time gave these students “a chance to play…problem solve and figure it” (Teacher 3). The need for resources for a play-based program was definitely an issue. “If you wanted it [FDELK] to be that play-based, we need more resources. Like [ECE] and I have a classroom budget of zero…things that we brought in are…garage saled or I had that little toy drive” (Teacher 3). A lack of resources was also identified in the second Kindergarten classroom: “We need sand kits and water kits and dramatic play centre kits. We need
math bags. We don’t even have markers…We are buying markers. I bought all the paint pots, all the glue pots…manipulatives we don’t have” (ECE 2). The LTO teacher struggled with whether or not he should spend six or seven hundred dollars to “buy stuff for the kids” when he knew he wouldn’t be using them next year (Teacher 4). In larger classes, additional resources were required because “things wear out very quickly” (Teacher 3). With respect to outdoor play, the Kindergarten yard was “pathetic” so educators were exploring whether or not they could use the big yard behind the school next year (Teacher 3).

To move play-based learning along even further, teachers needed to switch from using activity centres to learning centres (ECE 1). “We are activity-based, child-directed activities but not learning centres…there’s still a little bit of disconnect between play-based learning and a centre as opposed to an activity” (ECE 1). When centres are activity-based, there is a set activity for students to complete and “you haven’t quite got that flexibility” of learning centres (ECE 1). For example, at a writing centre, educators could accommodate both a student “wanting to write a letter with sentences and a story and another child…designing a car” (ECE 1). The ECE explained that a lack of learning centres could be attributed to a lack of “proper equipment” (ECE 1). The year prior, the school “didn’t check everything on the equipment list” by accident so they “didn’t get any of the new equipment,” like water tables, blocks, and sand tables (ECE 1).

Teacher-ECE Collaboration: Year 1

The administrator at Buckner Elementary admitted there “were a few bumpy roads” during the first year of FDELK program implementation (Administrator 1). One of these was the relationships between teachers and ECEs at his school: “I think the
biggest challenge for any [FDELK] program is going to be that whole concept of relationships between an ECE worker and a teacher; teachers are used to working in isolation” (Administrator 1). For a Kindergarten team to be effective, it needs “two people that are capable of working together and moving towards improving student achievement” (Administrator 1). When selecting a team, administrators should consider which people “suit not only the school culture that we have, but also the [FDELK] program because it is a relationship with another adult in that room” (Administrator 1). Teams require “an understanding of who has what role, and it’s a meshed partnership…when there’s that murkiness of poor communication, that’s when there’s going to be problems arising” (Administrator 1). Educators would benefit from “some kind of in-service to actually understand their role…and what the expectations of that role are” (Administrator 1). To be effective, Kindergarten partners should have “co-planning together,” time to “just get to know each other,” and be “involved in what they have a strength in” (Administrator 1).

A lack of genuine partnership between teachers and ECEs came up repeatedly during interviews. “For this year, I have watched and waited. I felt very strongly I was coming into someone else’s house—I was a guest. I’m slowly making myself at home” (ECE 1). This ECE was told by the school board and her union that her role was to “follow the teacher’s lead” (ECE 1). “There hasn’t been a whole lot of what can I bring? There hasn’t been a whole lot of invitation for that” (ECE 1). As the year progressed, the ECE became a little more comfortable and tried “to bring a lot more of the play-based activities that I’m familiar with into the activities and activity centres so that it is more play-based” (ECE 1). The teachers in her classroom did all the “directed learning,” while
her role was to “do the transitions and the routines throughout the day” (ECE 1). When one teacher worked with some students on levelled reading, the ECE “would take the rest of the group and play a game or do a large muscle kind of activity” (ECE 1). The ECE was not directly involved in curriculum planning, and the class newsletter was “done before I even know it’s gone” (ECE 1). The ECE used the “calendar that goes home to the parents” for direction about her day (ECE 1). According to the ECE, FDELK was “a work in progress”; she hoped that teachers and ECEs would “be willing to meet half way and figure this out, and I think if the teachers ask, and we haven’t been asked, we have a lot of really great ideas to share. They just need to let us do that” (ECE 1). “Part of the problem is that they [OME] haven’t allowed time for us to meet” (ECE 1).

One of the ECE’s teaching partners similarly described FDELK as “a work in progress” (Teacher 1a). “It was hard to know what everybody’s role was…we had to work out who’s doing what, and that’s not easy” (Teacher 1a). The teachers did “the main curriculum planning” and assessments, although the ECE had “little sections where she teaches the full class” (Teacher 1a). The teacher indicated the ECE “brings in lots of ideas…amazing songs, felt story that kind of stuff…so we invite her to bring in that, but we do the core planning” (Teacher 1a). The ECE was also responsible for “outdoor play, recess, snacks, all those kinds of things” (Teacher 1a). According to the teacher, she communicated with her ECE partner in the mornings: “Every morning we go through what’s going on for the day, how things are working…we have a good chunk in the morning. I’m lucky that my ECE comes fairly early, and I come early” (Teacher 1a). With regards to team teaching, it still needed to be “ironed out more,” especially the responsibilities (Teacher 1a).
In contrast, the ECE’s other teaching partner described her roles and responsibilities as an FDELK educator as “exactly the same” as those of a regular elementary teacher and failed to acknowledge her team role:

All of the long-range planning, all of the assessment, all of the reporting, contact with the parents. Basically, everything that I was doing previous: class newsletters, any sort of homework that we do, any sort of field trip planning. We do all of that. (Teacher 1b)

She spent a lot of time planning with the other Kindergarten teacher and then communicated plans to the ECE: “We communicate with our ECE, just emailing her to say this is what’s going to be happening, or we’ll talk on the fly during class” (Teacher 1b). With respect to the plans, the teacher indicated the ECE “will often have some input about what to do craft-wise or centre-wise” (Teacher 1b). When the ECE worked with her teaching partner in the afternoons, she was not involved with “small groupings” because there was a “need for her to be one-on-one with a student” (Teacher 1b). The teacher regretted the team “dynamic” and wished she “had been more of a teacher leader” (Teacher 1b). Although the emphasis in the beginning of the year was on her and her ECE being “two equal partners going into the class,” the teacher noticed a knowledge gap on her ECE’s part about “the way that certain lessons work, about modelled and guided, and shared, and what all those terms mean” (Teacher 1b). If she had been “more communicative” about those concepts, they would have been “more professional” and “more on the same wave length” (Teacher 1b). There was a lack of communication between the teacher and the ECE: “Things will happen in the class that we’ll be polite about, and we’ll sort of be parallel dealing with, but if we were communicating more it would be maybe a bit more honest” (Teacher 1b). The teacher was unsure about whether or not her ECE partner felt valued: “I hope she feels valued in the class. I really
appreciate her strengths and her busyness, and her capability of dealing with a lot of things, and particularly working with the class, in the classroom, the chaos and stuff” (Teacher 1b). There was also underlying conflict in the classroom because of differing personalities. “I feel that we are two different personalities in the class dealing with the students, and, because of that, we haven’t created the classroom atmosphere that’s really necessary” (Teacher 1b). This lack of compatibility impacted the students because “they need to know exactly what to expect and what’s safe for them” (Teacher 1b).

So if one of us is saying, “Wow! That’s a great way to explore” and the other is saying, “What the heck are you doing using this tool at this centre? It belongs with that centre” [laughs], it’s not a very consistent message is it? (Teacher 1b)

This teacher believed ECEs should have “more input in the planning,” but recognized this possibility was limited because ECEs were not paid for planning time. Her ECE partner “would be extremely receptive I believe to sitting down and planning, but her job ends at 4, and it should bloody well end there because with a pay scale like that, it’s just not fair” (Teacher 1b).

The Kindergarten teacher who had three ECEs in her class during the course of the year indicated her experiences with each ECE were “very different” (Teacher 2). While her role was “to lead staff” and “create a team atmosphere where we are working together to create this program for the kids,” she seemed to be able to do this better with one ECE than the others (Teacher 2).

[With] the first ECE that I had, I really liked the dynamic there because we focused on our strengths…[she] liked things like science and art and…music. She wanted to take a lead in that, and I said, “Okay, good” and I took the lead in other areas like literacy [and] phys. ed. …we split it up that way and then we would talk about what’s to come, how we’d do it together. That was perfect. I liked that. (Teacher 2)
The relationship with the second ECE was less of a balanced partnership: “There was more me taking the lead. We didn’t have time to collaborate because of differences in schedules, like family commitments and things like that.” In addition, there were more “behaviours” in the classroom at that point in the year (Teacher 2). The teacher would do the planning, and then she “would meet on a certain day [to] let her [the ECE] know what was happening and then see if there was any input she would want to give” (Teacher 2). With the third ECE who had just started working, the teacher did the planning and let the ECE know what was happening, but she was hoping to transition to a more of a partnership: “I’m hoping now that she’s [the ECE] more comfortable we can start saying this is what we are doing for the week. Where does everyone fit in? How can we split this up?” (Teacher 2). For a Kindergarten team to be effective, this teacher believed you had to “work together,” “get past” the hierarchy, “be open-minded,” and be willing to “learn from each other” (Teacher 2). Challenges to working as a team were “a lack of communication” in a busy Kindergarten classroom, no shared planning time for communication, and “no job description” for educators that left them trying to figure out “who’s in charge?” (Teacher 2).

Parents were aware of some of the Kindergarten team dynamics. They appreciated that students could be split into smaller groups and receive more attention because there were two educators in the classroom: “Each teacher has a little group of kids that they take, and I think alone time makes them feel like ‘we are individuals’ as opposed to a group” (Parent Focus Group).
Teacher-ECE Collaboration: Year 2

During the second year of FDELK implementation at Buckner Elementary School, the Kindergarten teaching teams worked well together and learned from each other. One thing teams needed to be successful was “a similar vision” (Administrator 2). “It’s very rare that you really can’t work with someone because of personality or whatever, but if you are not clear in your vision, you aren’t clear in your direction, you need to iron that out in the beginning” (Administrator 2). The administrator tried to give teachers “time to plan together” in spite of limited resources so they could develop a shared vision (Administrator 2).

It’s really important that we nurture ECE and teacher teams because they have come from very different areas and very different positions…we need to put the time into bringing them together so they have the same vision of curriculum and children and what play means. (Administrator 2)

It may have been easier for teaching teams at Buckner Elementary to develop a shared vision because the Kindergarten teachers were new to Kindergarten. An advantage to having teachers “brand new to Kindergarten and brand new to full day” was they “don’t have old habits they need to break” (Administrator 2). The administrator indicated the teaching teams were “going quite well, but there are other schools where it’s not” (Administrator 2).

Teachers actively invited input from ECEs and did some planning with them. During the second year of FDELK implementation at Buckner Elementary, the school board paid ECEs for a longer day (7 hours instead of 6.5), which facilitated “some planning time” for teachers and ECEs. “When we plan, we sit down and plan together. I’m not just an extra body in the classroom this year” (ECE 1). However, teachers and
ECEs all agreed their teams would benefit from more shared planning time. They suggested meeting weekly ideally and monthly at a minimum (ECE 1, ECE 2, Teacher 3, Teacher 4).

The ECE who had been at Buckner Elementary contrasted what her roles had been for the first and second years of implementation: “I’m more of a teaching partner…we work on the curriculum together. I can make suggestions that are actually listened to and so then we will do it. I’m less of an EA [Educational Assistant]” (ECE 1). The other ECE similarly appreciated her new role and was in her “element because [her teaching partner] is open to ideas, appreciates me, [is] learning from me…[her teaching partner] has some strengths too that I am just enjoying so much” (ECE 2). She was responsible for “outdoor play,” setting up half the centres, and helping the teacher understand child development (ECE 2). Sometimes she also did “felt-board stories and other ECE-based things, like singing” (ECE 2). The previous year this ECE worked at a different school with a teacher who was “very close-minded [and] didn’t really have me on board in terms of planning and communicating” (ECE 2).

Teachers appreciated the strengths of their ECEs and their contributions to the classrooms. The ECE “brings skills to the table that I don’t have and vice versa…We work together. I do more of the overall planning but then [ECE] does a lot more of making sure it’s play-based. So that’s helpful because it’s her background” (Teacher 3). In this classroom, students and parents were unaware of who the teacher was and who the ECE was, which the teacher hoped would be the case “from the beginning” because their roles were equally important: “The kids don’t think [ECE] is the ECE and I’m the teacher
and the parents, too. They just know that we are the two teachers in the class” (Teacher 3). The teacher and ECE both worked with groups in the classroom (Teacher 3).

The LTO Kindergarten teacher spoke highly of his ECE partner and appreciated her experience. “My ECE she’s incredible. We have a great relationship. It’s really helped to have someone who has had a lot of experiences as an ECE…who has worked with children at this age level” (Teacher 4). He relied heavily on the ECE for issues related to child development and for “integrating” concepts into centres in a play-based manner (ECE 2). The LTO teacher also indicated, “I do a lot of the planning and she does a lot of the art,” which he appreciated because he was “not a big art person” (Teacher 4). An area one ECE hoped to see changes in was cleaning responsibilities. “ECEs are really expected to do the cleaning…so that’s a bit of a challenge when I see him sitting on his computer and I’m doing all the maintenance” (ECE 2). The ECE didn’t want to address the issue of cleaning with her teaching partner because there were so many positive things about their relationship. Still she indicated she would talk to her teaching partner about it next year if she worked with him again.

**Self-Regulation: Year 1**

Educators reported improvements in students’ self-regulation with respect to social interactions and identified basic needs that had to be met for students to be able to self-regulate. “Social skills have come a long way…managing outdoor play, managing getting along with each other…but I don’t see a huge improvement in academics because it’s a lower bunch of kids” (Teacher 1a). With the FDELK program, there was “a more of a relaxed atmosphere” that enabled students to “discuss things” more with their teachers, “explore ideas more,” “play more,” and “interact with each other more” (Teacher 2).
Some students were tired in the afternoons so “a lot more social issues” happened then (Teacher 1a). In one class, a student came to his teacher in the afternoon “bawling, ‘I’m so tired’” (Teacher 1b). The teacher spent her prep time trying to help the boy get some sleep. She believed children would not self-regulate if they were tired during activity centres: “No child that I have met yet is going to, during activity centres, self-regulate and say ‘I think this is a jolly good time for a nap!’” (Teacher 1b). Administration at the school was against naps so teachers negotiated having a “quiet time” instead (Teacher 1b). Students also became less self-regulated when they were hungry: “I came in today, [and] one of my students, little girl, was crying, crying, crying, crying through all [of] quiet activity…we looked in her lunch bag, she’d eaten no lunch” (Teacher 1b). Students not eating their lunch was an issue at this school because there was a lack of “people power” during lunch supervision (Teacher 1b).

Parents indicated that their children were happy to go to school and were becoming more independent (Parent Focus Group). The parent of an only child who had trouble speaking saw a lot of growth in her son’s language skills: “Now with coming to school, he’s able to articulate a lot more of what he wants, which is good” (Parent Focus Group). A child who watched a lot of TV the previous year became very engaged in literacy activities at home; “since she started [the] full day program, she always wants to do something, always wants to read, she wants to write, [she wants to] do something” (Parent Focus Group). One parent was impressed with his son’s ability to write books independently; “he just does it on his own and brings it to me and I’m like, ‘Oh! Wow!’” (Parent Focus Group). After starting the FDELK program, one child learned how to play on her own (Parent Focus Group). Children generally wanted to do things independently
and often told a parent lunch monitor, “It’s okay, I can do it. Don’t worry. I can do it” (Parent Focus Group).

**Self-Regulation: Year 2**

Educators described improvements in students’ self-regulation regarding their ability to work with each other, articulate themselves, and direct their own learning. “I think the most success we have this year is getting the children to work together…consider one another, work as a team…we have a lot of game playing in our centres…to be successful they have to work together” (ECE 2). Students also had growth in their language (Teacher 4). “They really want us to know what they are thinking…know what they want, and they want to tell each other…they are expressing to us what they want to do and they are expressing to their friends” (ECE 1). With respect to centres, students were becoming more “self-directed” (Teacher 4). They were able to “pick a centre, stay at a centre, [and] figure out what to do next at a centre if they did the activity” (Teacher 4).

Educators encouraged children’s self-regulation through inquiry-based learning, modelling, providing students with the necessary tools to be successful, and being aware of their need for physical activity. Inquiry-based learning “empowered” students to “be in charge of their learning so they can see themselves as learners” (Teacher 3). The ECE in one classroom modelled the behaviour she expected from students, including how they should sit on the carpet and raising their hand to ask the teacher a question instead of interrupting (ECE 1). The teacher and ECE in one classroom modelled the thinking process of what students should do when they were finished activities at a learning centre early: “[ECE] and I always used to say, ‘Well, what else could you do?’” (Teacher 4). For a writing activity, an ECE created “little tripods on the table with the words on them.
I like learning tools for the kids to be in their hands” (ECE 1). This ECE also made “a visual reminder for snack time. Snack is a picture of an apple and a juice. Lunch is your big sandwich” so students could regulate their eating effectively (ECE 1). She was aware that accommodations were sometimes necessary for students to be able to self-regulate and described an instance of providing a student with snow pants that could easily be put on: “I can’t put on a velour snow pant. If it’s got that nylon that slides easier, it’s easy to put on so…we will just wear them [with nylon] when you are at school” (ECE 1). The teacher in one class recognized physical movement for students throughout the day prevented restlessness and behaviour issues. “[Teacher] does a lot of physical movement with them. There’s not a lot of sitting around waiting…We have gym every day…We have outdoor play twice…when you do expect the kids to sit down, they can” (ECE 2).

To help improve students’ ability to self-regulate, one teacher suggested having smaller class sizes because there were times when the teacher or ECE was inevitably alone with the class and unable to meet all the needs of students.

I know while we say that there’s two teachers, at some points there’s only one. That’s usually when all the behaviour happens because when you are 4 years old and you are waiting that long to get your shoe tied or to ask to go to the bathroom. (Teacher 3)

An ECE believed there should be a greater focus on self-regulation in the FDELK because the focus was still “on literacy and numeracy as opposed to all the self-regulation type of stuff” (ECE 1). Students “can be responsible for their own learning” (ECE 1).

**Meeting Individual Needs: Year 1**

The administrator at Buckner Elementary identified a number of elements associated with the FDELK program that enabled educators to better meet the individual needs of students. FDELK provided more time for educators to work with students so
they were “getting a good head start compared to some other kind of perhaps half-day program” (Administrator 1). “The other thing is having two bodies [educators] in there…with one body there is a potential for students to fall through the cracks…when you’ve got two bodies and a relatively small ratio, it leads to more success” (Administrator 1). The variety of teaching strategies used in the FDELK was also seen as positive for students: “You go into classrooms and you see the anchor charts and you see the videos and the conferencing, and you see that they’re using not only three-part problem solving, but they’re play-based…modern approaches to learning” (Administrator 1). Aside from FDELK practices, it was important for staff at Buckner Elementary “to have an understanding of [the] First Nations, Métis, and Inuit Education Policy Framework” so they could help “smooth that transition” for students from First Nations communities (Administrator 1).

FDELK educators used play-based learning, one-on-one conferencing during play, and small group work to meet the needs of individual students. With play-based learning, “you’ve got such a range of kids and you can hit so many levels with [it]” (Teacher 1a). “We’re getting better. We’re able to extend their [student] learning” (Teacher 1a). For one teacher, one-on-one conferencing with students during play was “most valuable” (Teacher 1b). In another classroom, they used “little focus groups” with adults working with the kids (Teacher 1a). Focus group size and implementation depended on “how many adults were in the room” (Teacher 1a). In this same classroom, the teacher worked with levelled reading groups, while the ECE took “the rest of the group” (ECE 1). In addition to the support of the ECE, parent volunteers and co-op
students were used because “every kid could use individual help” (Teacher 1a). “So the more people I think I can get in that class, I’m only helping the kids” (Teacher 1a).

Teachers believed the program was particularly good for most of their student population. “The full day learning program generally is very good for these students who might otherwise be sitting in front of the television…or not having kind of such a safe and peaceful place” (Teacher 1b). The FDELK program made it possible to “expose” students “to different things—watching a bird hatch out of its egg on the computer versus just playing some sort of mindless games [on the computer]” (Teacher 2). The ECE noted that the program provided a “foundation” in literacy and numeracy and “experience with the English language” for newcomers (ECE 1). However, FDELK might not be as beneficial for students who attended a school in a high-income area: “Now if I was at another leafy [high-income] suburban school…it might be different because then I think those kids would probably be…stop[ped] from having as much outdoor time that they might be having at home” (Teacher 1b).

It was difficult to get the needs of some FDELK students with exceptionalities met. “A lot of needs coming into the school” made it hard for educators to reach “all those needs” (Teacher 1a). Educators were “told they were going to be given extra support with a speech and language and occupational therapist…and we didn’t see that this year” (Teacher 1a). “With our one autistic boy, we really have to fight to get the EA support that we need for him” (Teacher 1b). The teacher indicated the autistic boy was “extremely bright” and wondered whether or not “the time at home one-on-one with his mom might be more beneficial, but other than that I would say, for the majority of these kids, it’s [FDELK] wonderful for them” (Teacher 1b).
Parents in the focus group believed FDELK was helping meet children’s needs. Parents noted that having both a teacher and an ECE in the classroom enabled more “one-on-one with that educator” (Parent Focus Group). Small group time enabled students to feel unique: “Each teacher has a little group of kids and I think alone time makes them feel like ‘we are individuals’ as opposed to a group” (Parent Focus Group). A parent of a girl who didn’t speak English at the beginning of the year said her daughter “understand[s] now everything what [the] teacher is saying” (Parent Focus Group).

**Meeting Individual Needs: Year 2**

The FDELK program at Buckner Elementary School enabled educators to get to know the needs of their students, incorporate a variety of teaching strategies to meet the needs of all learners, and provide a safe and caring atmosphere for students who might otherwise not have such quality care. The new administrator at the school appreciated how the new Kindergarten teachers took the time to find out what level the students were at so they could teach them effectively. “The teachers spent time in the fall really getting to know where the children are starting so they could…[know] where to start in terms of developing writers, readers, that kind of thing” (Administrator 2). Many of the children didn’t have “book behaviour” because “they haven’t had books at home.” Teachers were aware of the need to develop this type of behaviour (Administrator 2). Educators were really good at meeting the needs of tired students by setting up “quiet time and hav[ing] quiet areas for the ones who need it” (Administrator 2). FDELK met the needs of most of the students at the school who would otherwise “be just sitting at home in front of a TV or video game” (Administrator 2). “I think already we are developing their resiliency and we are developing their success just because we are in an environment that is suited to
them, which will help them in further years in school” (Administrator 2). However, the school had some “very needy” students with behaviour issues who had “drawn teacher and ECE attention away with their high behaviour component” because there was a lack of EA support in the school board.

Educators also believed FDELK targetted the individual needs of students. It was hoped FDELK was “a positive experience for every child. Kindergarten opens up a way for different learners, different styles to do as well as the kids that are able to sit and listen and the ones that have to touch and do” (ECE 1). The full-day aspect of the program enabled educators to really get to know their students’ interests and needs.

“At the end of the day, sometimes I think I don’t know what so-and-so did today or how they really interacted at that centre because I didn’t get a chance to do more than get a glance, you know? And that’s hard. I think when they are so young, you have 3-year-olds who haven’t been to school or daycare before and they don’t get to sit with you.” (Teacher 3)

An ECE’s knowledge of child development was a “key factor” in meeting the needs of students in her class. “If I see ability isn’t up to where it should be, I’ll take them back and go over things with them or I will group them accordingly so they can support one another” (ECE 2). Another helpful factor was that the teacher and ECE worked with small groups and “always share[d] information about the children [at the end of the day]…that helps us know where the children are at” (ECE 2). “We break up the groups
quite a bit. He’ll take the SKs and I’ll take the JKs and we’ll do activities with them in smaller groups, which is easier to assess. Then I’ll bring back my findings to him” (ECE 2). In the other Kindergarten class, having two educators in the classroom enabled small group work and a “staggered entry” to the day so the students “that need more time come in [earlier]” (Teacher 3).

One Kindergarten team was particularly well equipped to handle behaviour issues in their classroom because the ECE had a background in special education and the teacher was “consistent, predictable, [and] firm” (ECE 2). The ECE “implemented a lot of behaviour management charts” for a student with difficulties, and it was “working out really really well” (ECE 2). “I think they are being well served; they aren’t falling through the cracks. Last year was a different story. I really felt for those kids” (ECE 2).

Increased literacy opportunities in FDELK resulted in greater skill development, according to one teacher. “They are ahead. They have had more of a chance to write and read and talk…They have all really improved…[one child] didn’t speak any English at the beginning…and now well [child] never stops” (Teacher 3). FDELK incorporated “a variety of activities…That’s big. We keep them stimulated, interested” (ECE 2). It’s “a program where they [students] are learning, stimulated and well-cared for…there’s just not a lot of good child care out there so it’s given parents the benefit of knowing that their children are in a good place” (ECE 2). “For some [students], it’s better to be here [at school] all day than at home. I’m not going to get into specifics but I’ve called CAS [Children’s Aid Society] a couple of times” (Teacher 4). In the FDELK program, students are “engaged,” “interacting with other kids,” and “getting the attention from an
adult” that they might not get at home (Teacher 4). FDELK students’ lives are enriched with “experiences that they may not have otherwise” (Teacher 3).

**Summary**

Over the course of a two-year implementation period, Buckner Elementary School transitioned into a high fidelity FDELK school from a low fidelity FDELK school. During the first year of FDELK implementation, educators had different conceptions of play-based learning, while teachers and ECEs struggled to work as teams. Lack of understanding about the role of ECEs was compounded by teams not having joint planning time. FDELK provided an enriching environment for students at the school who were largely from disadvantaged families, but educators did not appear to focus on developing children’s self-regulation. By the end of Year 2, educators had a better understanding of play-based learning, and Kindergarten teams worked together more effectively. ECEs appreciated being a part of planning and implementing the FDELK program. However, teaching teams still did not have joint planning time and acknowledged they would benefit from it. During Year 2, developing students’ self-regulation became more of a focus for educators, with the needs of individual students better met.
Patterson Elementary School

Patterson Elementary School is a large, urban multicultural school servicing Kindergarten to Grade 6 students in Southwestern Ontario. The school is situated in a low-income area, with nearly 70% of students walking to school. Grade 3 EQAO (Education Quality and Accountability Office) results at the time indicated that less than 50% of students were at or above the provincial standard for reading, writing, and math. To support the academic needs of students, the school had an English as a Second Language (ESL) Program and Literacy Programs. The school also provided a Breakfast Club to help meet students’ nutritional requirements. The Full-Day Early Learning Kindergarten (FDELK) team at Patterson Elementary consisted of nine educators who worked in four classrooms: four Kindergarten teachers and five Early Childhood Educators (ECEs). Three of the four Kindergarten teachers were new to teaching Kindergarten. The school offered the before- and after-school extended day program to families for a fee. One ECE ran the extended day program in the morning beginning at 7:00 am, while the other ECE ran the extended day program in the afternoon until 6:00 pm. There was a two-hour time period in the day when both ECEs were in the classroom at the same time. One of the four classrooms was spacious, while the other three were not. Not all of the Kindergarten classrooms had toilets located in them, which meant that classes without toilets had to share with those that did.

Patterson Elementary was categorized as a high fidelity FDELK school because staff demonstrated commitment to two main components of the program: teacher-ECE collaboration and play-based learning. Through the FDELK program, staff collaborated...
to meet the individual needs of students, including low-achieving and high-achieving students, and promoted the development of students’ SR.

**Play-Based Learning**

Kindergarten has always been play-based learning, learning through play. That’s the way it always should be done. It’s not through colouring the letter “A” for a week and then colouring the letter “B.” That’s not teaching them anything…children learn best through exploration and inquiry…as far as questioning the world around them and looking at things in a critical way as opposed to just saying, “Here’s my sheet. I’m going to colour it.” (Administrator 1)

Play-based learning was defined as “very structured” and “purposeful play,” which is “how kids actually do learn” (Administrator 2). Full-day, play-based learning opportunities enabled teachers to make learning more engaging and targeted. “I’m going to initiate this kind of play with you…because I know that’s going to lift your learning, but I’m also going to ensure that every day at school you have an opportunity to become engaged in what’s interesting and motivating to you” (Administrator 3). Multiple benefits were associated with play-based learning, particularly in regard to language development and positive social interactions. One administrator encouraged parents to consider these kinds of benefits when children play together, using the example of working with Lego: “What kinds of questions are they asking?…How are they interacting with the children around them?...How are they learning to self-regulate their behaviour? How are they learning to ask questions of each other and discuss?” (Administrator 1). Given the young age of children in primary grades, “there’s no reason that play should end in Kindergarten” (Administrator 1). Administration wanted educators to keep “talking about what they’re doing in class and why they’re doing it in class to help continue the conversation around play-based learning and what it’s doing for their children…that needs to continue throughout the year” (Administrator 1). Educators were encouraged to
re-think “the use of generic type of worksheets and crafty sorts of activities” in the FDELK program because they may not achieve the desired learning: “What is the learning? Is there learning or is this something [of] a busy job? Could this learning be achieved in a different way?” (Administrator 3).

The FDELK teacher who taught Kindergarten in the past echoed administration’s sentiments that play-based learning was not new to Kindergarten. “Play-based learning is not new. That was very much a part of the old document. It wasn’t necessarily happening that way and I get why the system…is trying to take this opportunity to really ensure developmentally appropriate practice” (Teacher 1). “Time and money that was spent on really thinking carefully about what a Kindergarten classroom needs in terms of materials and resources [by the school board]” was appreciated (Teacher 1). In addition to literacy and math resources, Kindergarten educators received “some amazing new play materials” (Teacher 1), like “dramatic play centre furniture” (Teacher 2). The Kindergarten team worked together to organize all the “new toys and supplies…so that way we can rotate the bins” across classes (Teacher 2).

Teachers new to Kindergarten benefitted from the support of ECEs in regard to play-based learning and acknowledged that centres would improve as teachers gained more experience. “Having the ECE in the room has been enriching the learning centres…I do think our learning centres will continue to get better as we have more experience” (Teacher 2). With respect to play-based learning, one teacher identified a more structured centre approach that students had to complete before going to a centre of their choice. “Literacy centres, it’s really just five quick activities that they…rotate for the activities. They do each of them throughout the week, and then they get to choose a
learning centre of their choice for the remainder of that time” (Teacher 2). Literacy centres consisted of: “a fine motor activity…[like] cutting and pasting…an art activity, a listening centre…and then [ECE] or I will lead the writing group or the reading group, so this week in particular the writing group is now the SmartBoard group” (Teacher 2). In one classroom, students had “tub time for 20 minutes, which is just different activities…some sort of a hands-on activity for 20 minutes at our tables” (Teacher 2). Examples of tub activities included a tub of cubes to build with or a tub of upper- and lower-case letters to sort (Teacher 2). In other classrooms, students had the choice of learning centres that the ECE orchestrated, while the teacher pulled small groups for guided reading or writing. One teacher described learning centre time as a very positive and productive time for students:

> It gives them the chance to go explore the classroom and centres are everything from the sand, the paint, the computer, the dramatic, the book centre, the writing centre. We try and vary things at the tables. Right now they’re verging into signs of spring and gardening so we have a garden centre or sensory bin full of dirt and bulbs and gardening gloves. We’re going to put some worms in there so just being able to go around the room and explore without being told, “Today you’re going to go to this and do that.” That doesn’t work for kids and I find when they’re exploring the room they tend to go to those writing tasks and spend time there because nobody’s making them do it so that’s neat to see. (Teacher 3)

The types of learning centres in this classroom changed depending on “what the kids have come to school saying or doing…we’re looking at the needs of each child and trying to find somewhere in the day and somewhere in the classroom where that child is going to succeed” (Teacher 3). For example, in one classroom, “during centre time there’d be stuff planned based on what they enjoy so the inquiry-based stuff. Right now, they’re building boats and floating boats because we can’t get them out of the puddles so it’s a natural step and they’re loving that” (Teacher 4). At times, resources put out by
educators were well received by students and at others they weren’t. “Sometimes we put it [resource] out and it doesn’t go anywhere, and the next time we can put it out and it will last two weeks and we just keep building on that” (Teacher 3).

One teacher let students get away with certain behaviours in the classroom that she normally wouldn’t have to promote playful exploration. “I kind of let some things slide more so than I would have in other classes only because I think it’s really important for them to have that discovery...for example, if they’re getting water all over the place in the water centre” (Teacher 2). While this teacher was trying to let go of the ideal of “the quiet classroom” and “too much structure,” she wanted more professional development on “purposeful play” (Teacher 2). In particular, she wanted to know, “When do you draw the line between what’s productive learning and when does it get a little bit out of control?” (Teacher 2). She referred to an example of how the dramatic play centre would “turn into the whole classroom...and it was kind of turning into this really loud discussion happening throughout the class” (Teacher 2).

ECEs appreciated that the FDELK program focused on the interests of children and was play-based. “I love the whole program because it’s all, it goes around what the children are interested in and it’s based on play so they are enjoying it and they’re learning through that play” (ECE 1). One ECE commented on the integrated nature of play-based learning. “During the learning centre, they’ll [students] be doing a completely random game, but then they’ll want to...make a grocery list...[so they’re] working on their writing...their thinking...[play] integrates everything” (ECE 3). ECEs demonstrated a keen understanding about the importance of incorporating students’ interests in their learning. “We have certain [curriculum] expectations that we have to meet [so] I’ll just...
plan around what they’re interested in…[for] two weeks we’ve been doing spiders because that’s what they’re interested in” (ECE 1). The use of an anchor chart (a chart displayed in the classroom to help students refer to important concepts) about spiders helped one ECE develop an effective inquiry. “I ask them what they know about it…I ask how can we find out about spiders and then they usually give me their comments and we’ll plan around that so [we] find ways to answer our questions” (ECE 1). Another ECE observed students so that she could create enriching learning experiences for them. “I love the opportunity to observe a child and then create experiences from that so I typically don’t do a lesson plan every day…the most valuable information you can get from them [students] is through their play” (ECE 4). To foster this process, the ECE used “a clipboard that has all the kids’ names on it and [would] just start writing down their interest[s] or what they’ve been using or what they’ve been playing with and then I kind of reflect on it later to see where I can go” (ECE 4). This strategy often resulted in “a project that is child-directed because of their interest, yet I can ask critical questions that allow them to expand their thinking” (ECE 4). For example, the ECE noticed a group of boys building robots in the classroom so she asked them, “What else could we do or what else could we use to make a robot?” (ECE 4). Students responded by recording their thinking on paper. One child went home to discuss the question with his family:

As a family, they came to the conclusion that they could use recycled material to make robots…this child came to school with a huge bag of recycled material that they had been saving for the two weeks…so at that point they [students] were creating robots together, but it was really interesting because I didn’t have to facilitate any of that. It was totally one question led to the next and this child directed the whole experience where at that point they started creating books about the robots. They made a robot family. So just having me observe and kind of pick up on their interest allowed for a project that lasted almost a month. (ECE 4)
ECEs identified a few challenges associated with play-based learning in the FDELK program. PD workshops for ECEs tended to be about play-based learning, which was not helpful: “All the workshops that we’ve been going to are things we already know, like play-based [learning], I know that already. I’m an ECE” (ECE 1). Initially, most parents were “very nervous” about play-based learning when “they didn’t see any work sheets coming home per se” (ECE 2). However, parents “embraced it more” after the first report went home or once they started seeing their child engage in school-like behaviour, like sounding words out (ECE 2). It also helped when parents “see our things coming home that the kids have created [and] notes or whatnot to go with sort of their interest. They’re very excited about that, the kids, so they bring that excitement home” (ECE 2). Another classroom, likewise, tried to send pieces of work home to parents, but it could be a challenge because of the play-based nature of the program: “We always try to send home pieces of work that we do, but it’s hard as well because we don’t have many paper-pencil [tasks] anymore” (ECE 5).

Some parents were very supportive of play-based learning in the FDELK program because it was child-centred. “They’re taking the lead from [the] kids. There’s a lot of different activities. One week the whole classroom is a big castle…now they’re doing spiders because someone was interested in spiders…my daughter seems to be enjoying it all” (Parent Focus Group). The responsiveness of educators to the interests of children was emphasized: “The kid mentions something they’re interested in and, boom, they provide the tools for the kids to imagine things themselves…they had a Tim Horton’s in their class for a while…cups and everything. They loved it so much” (Parent Focus Group). The shift in emphasis on play-based learning made a big difference for one
parent’s son who was in SK. “I feel like maybe last year he was just putting in the time, but this year he’s really learning and they seem so much more flexible that they can get kids’ interest in whatever they’re interested in…he’s just really happy” (Parent Focus Group).

On the other hand, some parents really missed not having homework sent home because of the new emphasis on play-based learning. With homework, “the parent would be able to see how they’re learning…I as a parent really appreciated that…so I don’t get a feel now for how she’s doing from an educational standpoint” (Parent Focus Group). For example, one parent recalled how every Friday her daughter in SK “would come home with three pages so then you knew she could count to 10…by the end of Senior Kindergarten it was words…it did give you an idea whether or not they can do those things” (Parent Focus Group). One parent recommended creating a parent handbook of curriculum expectations so they would be able to hold educators accountable and assess their children’s own progress:

It would be good if we had a handbook that could say [in] Kindergarten this term [students] will be doing this, that, and the other…you could check off what they’re going through, what they said they’re going to do, or you could use it as a tool to quiz them [students] to see if they’re actually getting [it] in. (Parent Focus Group)

**Teacher-ECE Collaboration**

Administration at Patterson Elementary believed it was important to have the right people working in the FDELK program for it to be successful. In particular, Kindergarten teachers should be “collaborative…open to having a partner in their classroom” (Administrator 1). The relationship between a teacher and ECE should be viewed as an “equal partnership…you each bring different skill sets, but you’re both
equally involved in running this classroom in a way that’s going to further the child
development” (Administrator 1). Ideally, teachers should respect “the abilities that they
[ECEs] bring to bear and [be] allowing them some leadership within the
classroom…valuing their [ECEs’] ability to assess a lot of those developmental areas that
the teachers can really learn from” (Administrator 1). Administration didn’t want
Kindergarten teachers to use their ECE partners “as an EA because once it goes, shifts in
that direction, you lose the integrity of the program” (Administrator 1). To ensure
collaboration-oriented teachers worked in the FDELK program, administration shifted
teachers from the previous academic year out of Kindergarten (with the exception of one)
and replaced them with teachers new to Kindergarten. “When you don’t have to change a
mindset, it makes things so much easier…we haven’t had to work with changing old
habits” (Administrator 1). The teacher who remained in Kindergarten “was already
working under that [collaborative] philosophy” (Administrator 1).

Administration hired particular ECEs with the needs of the school in mind. For
example, one ECE “had some spec. ed. background,” and another “studied separate
languages” that could benefit students in Kindergarten whose first language was not
English (Administrator 2). Before teaching partners were assigned, administrators gave
teachers and ECEs an opportunity to get to know one another during an orientation-type
day in the summer before school started. After orientation, teachers were instructed to
submit the name of an ECE “who they felt that they connected with just to get some
sense of building those teams” (Administrator 1). Administration was able to match
teams up according to their connections and, as a result, “the teams have worked together
very, very well” (Administrator 1). Of the four teams, only one experienced “a bit of a
power struggle” because the ECE was also “a qualified teacher…trying to get a teaching job” (Administrator 1). In that case, the teacher and ECE both wanted “to do the guided reading…so there was a little bit of friction there that they had to kind of work through” (Administrator 1). There was “work” involved in putting together successful teaching teams; “it wasn’t just random haphazard” assignments (Administrator 2). “The key to having it go smoothly is having that understanding between the teachers and the ECEs of what each one brings to the table and respecting that and having the personalities that allow that collaboration in the classroom” (Administrator 1).

Early in the FDELK program, administrators at Patterson Elementary “did try and define roles [of Kindergarten educators] as best we can” (Administrator 2). “It’s very fluid…but at the same time knowing that we did want teachers sort of taking a bit of a lead in…the instruction of reading and…writing and the assessment” (Administrator 2). On the other hand, ECEs were encouraged to take more of a role in “the self-regulation piece and the questioning” (Administrator 2) because they “brought with them this amazing understanding of child development skills and their knowledge of looking at the whole child” (Administrator 1). At Patterson Elementary, Kindergarten educators were both “very active and they like that…it’s a very fluid process…You can cross over [roles], but, at the same time, knowing [their] own professional training and limitations, and also not being afraid to put trust in the other person” (Administrator 2). Positive outcomes associated with the FDELK program were attributed, in part, to “the collaboration between the ECE and the teacher. Between the two of them, they look at the whole child and that’s what our kids need…I’m sure that’s the same in every demographic, but in our demographic more than any” (Administrator 1).
For teams to remain successful, they needed “to continue to feel like they are supported unconditionally…that we respect their abilities…[and] the hard work that they’ve put into what they’re doing and that they do every day” (Administrator 1). One way administration supported the success of teams was to provide collaborative planning time for all Kindergarten educators, an administrator, and the special education resource teacher to meet and work together for an hour and a half bi-weekly. “It makes a huge difference because it emphasizes from our point that we value their collaboration…we value the time that they spend together and work together….It sets the tone” (Administrator 1). Collaborative planning was “data-driven planning…based on the curriculum. So what do we want the kids to achieve [and] where are they at?” (Administrator 2). It entailed “11 people sit[ting] at the table every two weeks to look at the kids, their data, their progress, who’s doing well, why they’re doing well, who’s struggling, [and] what can we change to help them” (Administrator 2). During collaborative planning, student and class profiles were discussed with everyone’s ideas equally valued: “If somebody comes up with an idea that’s going to work, we take it. It doesn’t matter who it is, and I think it’s very collegial and it’s non-threatening” (Administrator 2).

Teachers at Patterson Elementary appreciated taking part in collaborative planning with the entire FDELK team. During this planning time, educators would “take the documents apart and make short-range plans and talk about how we’re going to implement the program…there’s a lot of cohesiveness in terms of how we’re approaching the program and how we’re delivering it” (Teacher 1). In fact, collaborative planning enabled the extended day morning ECE to be part of a team meeting because she finished
at 1:30 pm “so for her to stick around for a staff meeting is challenging” (Teacher 2). Teachers acknowledged benefits of collaborating as a team. “We’re all learning from each other, and they’re acting as really great resources [Kindergarten educators] as well, so collaborating with the team has been really, really good” (Teacher 2). In general, “the whole team is communicating really well…with everyone really looking out for each other” (Teacher 2). “We’re constantly sharing resources…we rotate our toys. We rotate our plans or ideas. It’s a real team approach. It makes it a lot easier and a lot more fun” (Teacher 4).

In accordance with roles outlined by administration, teachers led reading and writing instruction, while ECEs led learning centres. “I tend to do the planning of the reading and the writing and the assessment…she [ECE] does the centre part” (Teacher 3). Although there were pretty clearly defined roles for Kindergarten educators, teachers fostered the notion of equal partnership with ECEs in a couple of ways. In one classroom, the teacher and ECE switched the groups with which they worked: “One day I might work with the yellow and green group, which is the majority of JKs with a number of SKs, and then the other one would work with the blue group and red group, and then we switch the next day” (Teacher 2). In another classroom, the teacher and ECE were both involved with helping students transition from and to parents. “She [ECE] gets the morning with the parents and at the end of the day we switch roles…I think it’s beneficial that they see both of us as even players, that they can speak to either of us” (Teacher 3).

Teachers valued the support ECEs provided in the classroom. ECE support “really enhanced student learning and made it possible for us to have less unpurposeful activity happening in the classroom at any given time” (Teacher 1). “I can focus on the learning
needs of three students at the guided reading table and [know] that really purposeful
learning is being facilitated elsewhere in the classroom” (Teacher 1). The teacher with
two ECEs in her classroom outlined the benefits of having teaching partners:

They’re helping me plan, they’re doing independent planning for small groups
and it’s really purposeful, meaningful planning that again connects back to the
ELKP [Early Learning Kindergarten Program] document…they’re assisting with
assessment and observation and really bringing a whole other piece to that.
(Teacher 1)

Planning with ECEs was “enriching”: “I can have a great idea, but, by talking to someone
else, it can become a better idea. So we really feed off of each other when it comes to
planning” (Teacher 1). One teacher learned a lot from her ECE teaching partners. “In
terms of their style with the children, I’ve learned a lot…when you work with people who
are really good with young children, you can’t help but absorb a lot…things like a turn of
phrase” (Teacher 1).

Teachers identified a few challenges related to teacher-ECE collaboration. The
most notable challenge was that ECEs did not have paid planning time to work with their
teaching partners. “She [ECE] doesn’t have any planning time…we need to definitely
have a time to sit down and just chat about the observations that we’ve seen and then we
can start our planning from there” (Teacher 2). Fortunately, the ECEs at Patterson
Elementary used their own time to come in and plan with their teaching partners. “It
really comes down to [ECE] giving up her extra time outside of school, and it’s really not
fair in my opinion…it’s made our classroom a lot smoother…to sit down and kind of
plan a week or two together” (Teacher 2). Additionally, ECEs were not always invited to
the same professional development (PD) opportunities as teachers because it was not
practical to pay for release time for nine Kindergarten educators. As a result, teachers and
ECEs were not involved in joint PD. “It would be nice to have some time with our
partners to kind of do PD [professional development] together…to do some teamwork there” (Teacher 4).

Teacher-ECE collaboration was an essential element of a quality program: “The main thing is being able to work collaboratively with your partner because, if you’re able to do that, you can succeed…you have to be able to get along to make everything work out” (ECE 1). To create a quality FDELK program, educators needed “to understand why and how this program’s supposed to be run and if you can get on board with that then I don’t think there should be any major problems with it” (ECE 4). One ECE saw the collaborative piece as so essential to the FDELK program that she recommended Kindergarten teachers consider it thoughtfully before agreeing to be a part of the new program. “A teacher in Kindergarten who’s been teaching a long time and isn’t sure about the program and doesn’t enjoy the piece about working with somebody else really shouldn’t be working in Kindergarten perhaps so maybe it’s time for a change” (ECE 4).

ECEs identified two main strengths they brought to the Kindergarten team: an understanding about play-based learning and planning based on children’s interests. “As an ECE, [I am] providing opportunities for learning through play…finding out what the children are interested in and planning around that to meet all expectations, all our goals throughout the year” (ECE 1). Similarly, another ECE described being responsible for “the personal and social development of the room, interaction, creating activities that are developmentally appropriate to the children that are in our room, as well as providing support to the teacher in aspects of learning and her expectations” (ECE 4).

For most ECEs and teachers, a conversation with their teaching partners about their strengths and backgrounds was an effective means of task distribution. “This is my
profession or what I have knowledge in and you would have knowledge in a different area and we would just split the tasks” (ECE 1). Knowing and respecting each other’s roles resulted in a productive partnership for ECEs and teachers. “We just know where each other fits. We know what each other’s roles are. We collaborate with one another, everything works, [it] just fits nicely…the benefits of having two teachers in the room is amazing. I can’t say enough about the program” (ECE 4). One ECE was less clear about her role in the beginning, but the school board eventually provided explicit guidelines detailed in a mandatory evaluation for ECEs. “With the recent evaluation we’ve been given as ECEs, it’s sort of laid out all of our roles…prior to that you just worked with your partner, your teaching partner, to sort of run the program” (ECE 2). Even though ECEs were not “officially” responsible for certain tasks, they appreciated being involved in all aspects of the program, like report card writing. “She [teacher] does the report cards, but we sit down and talk about it and she sits there and types it all in, but it’s all from both of us” (ECE 5).

Overall, ECEs enjoyed their role in the FDELK program. “It’s more than I thought it would be as far as, I wasn’t sure coming into the job if I as an ECE would be just doing up coats or actually helping the program and I think it’s fabulous. It’s working well and I love it” (ECE 2). However, they needed paid planning time with their teaching partners to foster a more collaborative program. “I’m often staying after school and coming early to plan with her [teaching partner]…I’m willing to do it for the kids obviously, but I don’t get paid for doing anything like that or any of us [ECEs] do” (ECE 5). The need for planning time for teaching teams was especially pronounced in the extended day teaching team with one teacher and two ECEs who never met with all three
members. “It would be nice if we could actually find some time where the three of us could actually have sat down and done some planning together, whereas two and then two and then kind of filling the other person in” (ECE 3). A lack of planning time made it challenging for the ECE who came in for the second half of the day to build upon learning that occurred during the first part of the day. “I don’t always know 100% what’s going on in the morning so sometimes it gets a little confusing…[I’m] not really sure what you [students] did in the morning and what really happened so it’s hard for me sometimes to get involved in that aspect” (ECE 3). Being unsure about what transpired in the morning may have led to a more passive role than what other ECEs described.

I come in and they’ve kind of already started their day and their routine…I kind of just fill in…I can fill in for whatever she [the other ECE] may have started with them [students] during the day and then from there on I usually just kind of float around and I help answer any questions. (ECE 3)

This ECE was also unsure about how she should be expanding on what students learned in class because the extended day program was no longer situated in her classroom. “Things they [students] do during the day we don’t necessarily want to expand on because that’s something that their whole class is doing and we don’t want to mess anything up that the class has started” (ECE 3).

Parents of FDELK students were aware that there were two educators in the classroom, and they noted positive teacher-ECE collaboration in the program. One parent commented, “I like the fact that there’s two educators in the class…when the teacher goes to her desk and helps the kids when it’s their reading time, then there’s still the ECE there playing with the kids and doing experiments with them” (Parent Focus Group).

Similarly, another parent noted, “Everybody gets on really well. There doesn’t seem to be any adversarial issues around teachers and ECEs…everybody’s got to do their bit and
just some people have to do slightly different bits of the puzzle” (Parent Focus Group).

Educators “work really, really well together. I find they communicate very well together and they also communicate very well with the parents” (Parent Focus Group). In addition to reports about the nature of teacher-ECE collaboration in particular classrooms, parents indicated that the entire Kindergarten team worked together effectively. “All the Kindergarten classes, they all seem to work together. Like they’re always doing the same theme…between classes and the teachers all do the same things at the same time. I think it’s nice that they’re all as a group” (Parent Focus Group).

Self-Regulation

One of the benefits of the FDELK program was that it gave educators more time to work on the development of self-regulation (SR). During their first collaborative planning session, Kindergarten educators at Patterson Elementary identified self-regulation as one of the priorities of the program and, as a result, “developed a pathway around the goals around self-regulation…we’ve got four or five different strands going on at a time and they just layer over top of each other” (Administrator 1). For the formation of the SR pathway, the “early learning document was crucial…and we built everything around that” (Administrator 1). An administrator at Patterson Elementary described a situation she witnessed in which the teacher took the time to work through a social situation with students related to self-regulation:

They’re [students] trying to negotiate how to share markers and work it out, and two bossy little girls are really being quite nasty to the other little girls and the teacher entered this, and again, because of the time she’s got the ability to enter and she’s got the skills as well to be able to talk about how to work this out and what would be reasonable and we need to each of us stop and look at each other and explain our thinking. So it took a lot of time, and often in that busy nature of these Alternate-Day or Half-Day Kindergarten it’s much easier to say, “Girls, get along or I’ll remove the markers because you’re not managing.” (Administrator 3)
Kindergarten educators used the self-regulation pathway to guide their instruction. The pathway involved “charting or profiling where the kids are having difficulties, sharing toys and using words to solve problems and things like that…as a group, we can plan for those kids depending on where they are and support them and meet them wherever they are” (Teacher 4). Towards this end, educators used “three Kindergarten promises” to help students guide their own behaviour. The three promises were “everyone can be safe,” “everyone can be happy,” and “everyone can learn” (Teacher 1). “I use them and we make them every day…any challenges that you encounter through the day with behaviour or choices that children are making, you can really discuss in the context of those three concepts” (Teacher 1). The Kindergarten teacher who used these promises in her class daily described the types of conversations she had with students about these promises that promoted self-regulation:

Was that a safe choice that you made? You need to remember in Kindergarten we need to be safe…when someone uses unkind words, we promise that everyone can be happy. That means that I need to care for your heart and you’re going to care for mine. We’re a caring community…and everyone can learn. When you make a really loud sound really close to the guided reading table, remember how we promise that everyone can learn? You’re taking away from [a student’s] chance to learn right now. (Teacher 1)

Kindergarten teachers identified a number of additional teaching strategies that promoted self-regulation, like “turn, pair, share” in which students had to take turns sharing their thinking with a partner (Teacher 3), choosing their own activities during learning centres (Teacher 3), sharing “something that they’ve done or made during learning centre time” to develop their communication skills (Teacher 2), and participating in self-directed writer’s workshops (Teacher 2).
A couple of features of the FDELK program enabled educators to focus on the development of SR. First, having two educators in the classroom permitted one educator to focus on self-regulation issues, while the other educator worked with the rest of the class:

If there are other issues going on in the room as far as like, saying un-nice words to each other or having problems sharing toys, there is that other person to sit there and work them through it. So I think the kids...[are] getting really what they need as far as their word sets on how to solve problems and conflicts because it’s not like you’re kind of just doing your thing and the rest of the room is hopefully doing theirs. (Teacher 4)

Second, Kindergarten students being at school every day helped them to “get used to those routines so much quicker...[and] actually get on to the program itself” (ECE 2).

Two specific program areas in which students were developing self-regulation were writing and socialization. “Writer’s workshop is an example that’s working very well. They’re excited about it. They’re doing their own writing” (ECE 2). With respect to socialization, students were “using their words, they’re talking to their friends, [and] they’re taking turns” (ECE 2).

ECEs identified a couple of factors that hindered the development of SR in the FDELK program. One was the lunch time routine because there was only one adult supervising the class during this time, which meant that students had to wait in line to go outside until everyone was ready. “I don’t think it [lunch time routine] sets the kids up for success...getting ready and lining up and waiting, whereas normally in other settings there’s somebody else to take half the group out if they’re ready” (ECE 2). Another hindrance to SR was small classroom size. “Our cubbies are very crowded and our classroom is very crowded. Sometimes I think issues [behaviour] that arise may not necessarily be issues that might arise in a larger classroom” (ECE 2). Small classroom
sizes also made it difficult to find an adequate spot in the class for tired children who
needed a place to rest. “They’re here for a long period of time so [they need] areas where
they can go and rest if they want to…an area away from all the commotion in the
classroom. When you get into smaller classrooms, it’s difficult to create environments
like that” (ECE 4).

**Meeting Individual Needs**

Administration at Patterson Elementary emphasized the importance of meeting
the individual needs of children in the FDELK program. “Kindergarten is really all
about…meeting them [students] where they are and individually taking them along their
continuum at the place that they’re at” (Administrator 1). Educators used curriculum-
based learning goals (“pathway process”) in conjunction with individual and class
profiles developed during collaborative planning to understand where students were and
where they should be in regard to self-regulation, reading, and writing (Administrator 1).
“We do a diagnostic and then we find out where they’re at. We chart them on a growth
plan on a class list, and then we start to move them along. Like we have a monthly check-
in” (Administrator 2). Monthly check-ins were “very individualized” in that, during these
times, educators identified what each child could do, what each child needed to do next,
and what each child was struggling with (Administrator 2). With respect to assessing
whether or not students needed additional supports, a “triage” system was used for the
first time that year to identify students most in need of immediate help. The Community
Care and Access Centre (CCAC) used a two-day triage system to see “a whole bunch of
kids that we had on wait lists…I got 10 kids seen right away…so they were able to
prioritize some of those kids…and get access right away” (Administrator 2). While
FDELK was the best choice for most children because of the enriching experiences it
provided, “It’s not for every child. It’s for many, many children, [but] not for everybody” (Administrator 3). “We never want to take away a child’s opportunity to…be involved in a rich community experience whether it be in the home or with a family member or a kind neighbour or whatever is out there, child care, whatever” (Administrator 3).

The key factors of the program that would lead to positive outcomes for students were “small group guided instruction…constant formative assessment of where they’re at and what’s next for that child, [and] the attention to the individual” (Administrator 1). Small group guided instruction was particularly beneficial because “it really allows you to take the children where they’re at and move them forward with very specific strategies according to their needs” (Administrator 1). Educators at Patterson Elementary were supported in their attempts to meet the individual needs of students through “consultant staff” and “resources…like guided reading resources and Big Books” (Administrator 1).

Students at Patterson Elementary had certain specialized needs because it was a low SES school. For example, Kindergarten students came to school with “very little oral vocabulary. It’s just not developed at home and they are behind the eight ball when they get here compared to children…in middle, upper class families” (Administrator 1). FDELK was seen “as another step towards giving our kids a chance to leave here in Grade 6 on an equal playing field with everybody else” (Administrator 1). While FDELK provided enriching experiences for students at Patterson Elementary, it might not be enough to “even the playing field”:

We are [a] low SES [school] so I think there are certain things that certain kids don’t have, like they don’t have some of the rich resources at home…our program meets them at the level of that and moves them forward so they might not come as far as some other kids may, but they’re still being moved forward. (Administrator 2)
Providing appropriate supports early on was important: “If we can get in earlier, support children with what they need earlier, we’re actually going to take away some of the needs at the upper ends of the school” (Administrator 3).

Educators tried to meet the individual needs of students in a number of ways. One teacher met the emotional and physical needs of her students by having a self-directed morning transition:

Not everybody is here right at bell time. Children can come in a little bit upset, a little bit hungry, there may be some issues that they really need to have us address right away, and so by having everyone purposefully engaged in their independent reading for a few minutes at the carpet, while we take care of some of those little bumps along the way, it just helps for a nice smooth transition. (Teacher 1)

To meet the nutritional needs of students, educators provided leftover food from the Breakfast Club to students during centre time. “We kind of know who we’d like to point to the food and make sure they’re aware that it’s there…the kids who need it go right away and gobble it up and then they’re good to go” (Teacher 1).

With respect to academic needs, educators created “a really strong guided reading program as a team based on the resources that we are fortunate to have. We also have received a second guided reading kit, which is for the students we felt were moving really quickly through the program” (Teacher 2). One class had “four coloured groups…based on their [students’] reader workshop, reading skills” (Teacher 2). A teacher in another classroom described the changing nature of groups: “Some groups are just SK kids, some groups are just JK kids, some of the groups are JKs with SKs, so it all depends, and they’re forever changing because their reading levels change quite drastically at this age” (Teacher 3).
Educators were attentive to the needs of students who required extra support or a more challenging program. They were “very aware of how much to push them and how much capacity they can handle and when they need breaks” (Teacher 3). One teacher acknowledged, “We have three children in our classroom right now that do not have a diagnosis, but definitely need a different approach to learning and teaching” (Teacher 3). As a result, one student was on a modified program where he only went to school for an hour a day. With respect to gifted students, an ECE indicated, “We’ve been really focussing on how we can still expand them even though they’re above and beyond what they need to be” (ECE 2). One of the extended day ECEs at the school was actually “starting an enrichment group so I’m pulling children from every Kindergarten room in our school so there’s two from each room, and I’m creating an enrichment program” (ECE 4).

The nature of the FDELK program enabled students to receive more support and individual attention in the classroom ”because there’s two people in the room that they can always turn to” (ECE 1). One teacher commented, “I think the fact that we do have the two of us, we are meeting their needs much more because we are able to differentiate a lot easier...you can have two of us doing small group instruction” (Teacher 2). As for small groups, educators had the opportunity to work with them daily because of the full-day program. “I can see them in a small group every single day of the week, like five days a week as opposed to two if it was every other day and every other Friday kind of model. So you have that much more opportunities” (Teacher 4).

The FDELK program provided a lot of time for educators to work with children. “The biggest benefit I see is the amount of time we get to spend with the children...you
don’t feel rushed, you think, ‘Okay, we can do this project after lunch because they’re here all day’” (ECE 4). Educators were with students “every day [so] you’re able to have the opportunity to truly get to know them” (ECE 4). One teacher was aware of the needs of her students sooner because she saw them every day:

I think you can kind of flag them sooner. I think you get to know the kids sooner…so you can kind of recognize kids that need extra support and you can recognize the kids that need enrichment opportunities and things to further their [learning]. (Teacher 4)

In some cases, additional support was available for FDELK students. “We have received extra support for the children who require it, which is great, because that would really dilute the power of the program if your ECE just became the EA” (Teacher 1). In the extended day program, there was an EA who worked with an ECE in the event that an emergency arose (ECE 2). However, additional support in the FDELK program was not provided for some classes. One teacher indicated that the classroom had support from a resource teacher, but that the educators “don’t have EAs per se in the classroom” (Teacher 4). In one classroom, for example, the ECE was in charge of a student who was a “runner” when he was in class (ECE 2).

Educators identified a number of improvements that could be made to the FDELK program to better meet the needs of individual students. For starters, smaller class sizes were needed. “Twenty-five children is a lot of children to keep track of and to meet the needs of. Sometimes when a lot of people are away due to illness and we have 20, it makes a big difference” (Teacher 1). Large classrooms would also provide the opportunity for “small group instruction in a quiet space…the noise level is really something we’ve been working [on]…the proximity of all the centres to each other, it’s really hard” (Teacher 2). Furthermore, every classroom should be equipped with a
bathroom. “We don’t have a bathroom in my classroom, and that has definitely been tricky because if kids had had an accident…some of them were really embarrassed” (Teacher 2). Extremely tired students would benefit from napping or down time. “I know we have a few of them [students] that the full-day is really, really long for them…they’re just so exhausted” (ECE 2). For example, “We have one little boy who pretty much cries every day at the end of the day. He’s just so tired that if anything goes wrong it just sets him off because he’s completely exhausted” (ECE 2).

Parents appreciated having two educators in the classroom to work with students (Parent Focus Group). “They’re always happy to talk to you…They know your child, they know exactly what’s going on” (Parent Focus Group). However, parents had concerns about the needs of some students not being served by the program. The full-day aspect of the program was seen as very tiring for some of the younger students. “I know it was hard for some kids, like the younger kids…they would fall asleep in the middle of the day because it was a lot for them to go from being at home to being in school” (Parent Focus Group). One parent indicated that a number of other parents had actually removed their children from the FDELK program because it was too much for their children to handle:

There’s a large number in her class who are gone. Like they’re down to 15 kids from 24. Some of them just couldn’t do it. It was too much for them all day. Some of them are at a different school. I know some parents moved their kids to where it is every other day. (Parent Focus Group)

There was concern about the large class sizes in the FDELK program, especially when they were housed in small classroom spaces. “My other concern is the number of children per class, which has dramatically increased. So last year my daughter had a class of 18…[this year] my daughter’s class has 25 in it” (Parent Focus Group). “For some
reason, the kids were being really loud in the classroom and my daughter sat on the floor and she had her ears covered over her head, like it was just really loud….she doesn’t have an option just to go and have a little break” (Parent Focus Group).

To meet the needs of students better, parents recommended the FDELK program have smaller class sizes, larger classroom spaces, classrooms equipped with toilets, more support staffing (especially during recess), and more outdoor playground equipment (Parent Focus Group). With respect to the extended day, it needed to allow parents to sign up for care on certain days (instead of every day of the week, allow siblings of students in Kindergarten to be part of the program, and provide care during holidays, like March Break (Parent Focus Group). It also needed to be made more affordable to families. “I think it’s very cost-effective if you’ve got one child…[but] when you move on to more than one child, it becomes very expensive” (Parent Focus Group).

Summary

Patterson Elementary was categorized as providing a high fidelity FDELK program because its staff was dedicated to play-based learning and teacher-ECE collaboration. At Patterson Elementary, play-based learning took place in the context of learning centres designed around students’ interests. During play-based learning, students were provided with at least some choice. In regard to teacher-ECE collaboration, teaching teams worked well together and learned from one another. Teachers tended to focus on academic subjects, whereas ECEs were responsible for learning centres. Educators took part in paid collaborative planning as one large Kindergarten team. However, ECEs were not paid to plan with their teaching partners and, as a result, participated in considerable unpaid planning. Educators were committed to developing SR in their students. Educators worked alongside students to develop SR skills during social conflicts and
used teaching strategies that promoted self-regulation. Large class sizes, small classroom spaces, and inadequate supervision could make it challenging for students to successfully self-regulate. Administrators and educators at Patterson Elementary attempted to meet the individual needs of their FDELK students. The everyday aspect of the program combined with two Kindergarten educators in the class enabled educators to get to know the needs of their students better. Educators differentiated instruction during small group times based on students’ needs. An ECE at Patterson Elementary actually started an enrichment program for students who needed more of a challenge. Despite educators’ best efforts to meet the needs of all students, a number of factors made it a challenge. First, there were issues related to large class sizes and deficient staffing: not all classrooms had the EA support required to meet the needs of students with behaviour issues, and there was inadequate supervision during outdoor play. Next, there were facility issues related to insufficient classroom space and lack of toilets in some of the classrooms. Lastly, some of the younger children were just “too tired” to cope effectively during the FDELK program and their parents removed them from the program.
Pine Valley Elementary School

Pine Valley Elementary School is a French Immersion and English school for students in Kindergarten to Grade 8 in northern Ontario that was in its first year of implementing the Full-Day Early Learning Kindergarten (FDELK) program. However, the concept of Full-Day Kindergarten was not new to this school (or school board) as they had been offering a Full-Day Kindergarten program for 10 years previously to help high needs families in the area, using funds allocated from the school board. The school had a high percentage of Aboriginal students and, as a result, there was an Aboriginal Youth Liaison Officer to help school staff and Aboriginal parents communicate effectively. Grade 3 school EQAO (Education Quality and Accountability Office) scores in reading, writing, and math at the time were considerably lower than the provincial average, with less than 50% of the students at or above provincial standards. At the time of the case study, there were three Kindergarten classes in this school. Two classes were French immersion classes with a teacher and ECE in each class, and one class was an English class with only one teacher as there were not enough students to meet the budgeting formula for an ECE. The English Kindergarten class had a few students who the teacher felt might have special needs, but they were waiting for testing. The students in the English Kindergarten class were not in French immersion because it was thought to be too difficult for them.

Two major factors that characterized Pine Valley Elementary as a high fidelity FDELK school were its incorporation of play-based learning and evidence of teacher-ECE collaboration. These inputs in the context of a full-day program resulted in two main
outputs at Pine Valley Elementary: the development of self-regulation in students and the ability to meet individual needs of students.

**Play-Based Learning**

Administrators of Pine Valley Elementary identified play-based learning as an approach to learning that targeted learning outcomes while being developmentally appropriate and engaging for children:

Even though it’s to be play-based, I believe they still need to have a literacy and numeracy component, and it needs to be aligned and worked into the centres, through themes or whatever, a totally integrated play-based program…I think that’s why we’re seeing it so successful here. (Administrator 1)

Now it’s play-based, but with that different planned focus. Yeah, and that’s, I think that’s making a big difference. We have some very specific outcomes, expectations for the children, so it’s structuring the day so that they reach those outcomes without being dry to them. (Administrator 2)

Teachers and ECEs at Pine Valley also described play-based learning as an integrated approach to learning that combined play with curriculum learning expectations. In the program, “you’re supposed to integrate all the things throughout all the different criteria of the curriculum so like we have math in the block center” (ECE Focus Group). Similarly, a teacher identified an integrated instance of learning during a 40-minute block of play where two girls designed an intricate castle and then did a writing component when they were done: “They went and they got paper and they made signs and taped it, actually taped it, to their castle” (Teacher Focus Group). Play-based learning was identified as particularly beneficial for boys who wouldn’t have traditionally
gone to the “writing centre”: “They don’t pick up the pencil. They won’t go to the writing centre, but they’ll pick up the pencils and markers at the block corner to make signs for their buildings and their garages, and to label things” (Teacher Focus Group). One ECE and her teaching partner decided to “put [in] a permanent science centre because a lot of the planning ideas fall from science, and when you integrate them into the other areas, it seems to be easier that way” (ECE Focus Group).

Teachers and ECEs recognized an inherent value of play-based learning in that students learned about topics that interested them. Students are “playing in what they’re interested in and they’re able to learn and expand from that” (ECE Focus Group). Students “have more of a say as to what topics you know we’ll learn about because it’s what interests them” (Teacher Focus Group). This teacher described asking students for input about their learning interests. For example, educators created charts like “what kind of centres do you want to see in the classroom?” (Teacher Focus Group). Based upon students’ feedback, educators turned the house centre into a restaurant. This approach to learning created more of a partnership with students: “it’s our class, like it’s everybody’s class” (Teacher Focus Group).

According to one teacher, the ability to work with small groups during play-based learning times was the “best part” of large blocks of play (Teacher Focus Group). During play-based learning, the two educators assumed different roles. One would circulate, interact, and observe students engaged in play, while the other would be “anchored” to a centre where she worked with a small group of students. The teacher and ECE switched roles each week. In the small groups, “you can just focus on the three kids without the worksheets, and actually spend the time sitting with them…we definitely know the kids a
lot more” (Teacher Focus Group). Children visited the “anchored” centre once a day “for either a mini-lesson, intervention, or guided reading” (ECE Focus Group).

Parents appreciated how engaged their children were with play-based learning and identified “free centres” as their children’s favourite activity (Parent Focus Group 1). Play-based learning gave one parent’s child the opportunity “to explore and investigate on their own and learn that way, with support from the teachers and ECE” (Individual Parent Interview). This process fostered creativity. One teacher was seen as incorporating students’ interests into their learning.

I don’t remember what it was, whether it was the season change or somebody had mentioned the Earth, so the next day they came in and there was a science centre set up with the globe and the solar system, and she had used that as part of her circle so she seems to be in tune with what the kids are interested in and uses that. (Individual Parent Interview)

Another parent commented on how play-based learning was a developmentally appropriate way for young children to learn: “I find it [play-based learning] helpful ’cause at this age you can’t expect them to sit there all day and just listen to someone talk; they’re kids, they need a lot of hands-on to learn” (Parent Focus Group 2). One parent appreciated the imposed variety of activities in which students were engaged: “I like the circulation of the different activities they’re doing throughout the day. So you really find their strengths and their weaknesses early on” (Parent Focus Group 1). For another parent, the Kindergarten program was where her son “found out that he loves making puzzles” (Parent Focus Group 1).

**Teacher-ECE Collaboration**

Having a productive collaboration between teachers and ECEs is a critical component of a high fidelity FDELK classroom. One administrator at Pine Valley
Elementary School stressed the importance of “hiring the right person to work with the right teacher…so that you have that positive teamwork” (Administrator 1). To have an effective partnership, “there has to be a flexibility in the teacher; the whole ability to collaborate, to share and move away from the feeling that it’s just your kingdom” (Administrator 1). Educators “need the time to plan together” to work well as a team (Administrator 2).

Both teachers and ECEs agreed that allocated planning time and more direction about the roles of educators in the FDELK program were needed to promote collaboration. ”It would have been nice to see more examples of the planning piece, how it’s all connecting and how the ECE fits…[it is difficult] trying to fit all that in when we don’t have the same planning times” (Teacher Focus Group). ECEs similarly identified a lack of planning time and a lack of “defined roles” as challenges to teacher-ECE collaboration (ECE Focus Group).

At the beginning of the year, teachers did the planning for the ECEs because ECEs didn’t have a contract: “So, here’s your plan for circle time, here’s your plan, but that lasted only a few weeks” (Teacher Focus Group). ”It was like having a supply teacher every day”; teachers found the responsibility of “planning for two” every day overwhelming (Teacher Focus Group). They met collectively with the ECEs and principal to come up with a way to solve the problem.

The eventual solution was a “day plan where you had to check off what you were doing” (Teacher Focus Group). The day was basically divided up between the educators. Each day had two circle times so the teacher did one and the ECE did the other. With respect to subject areas, one Kindergarten team took turns teaching subjects, and the
other team tended to divide up the subjects they taught. An ECE explained the division of labour in her classroom. “I do mostly math, sciences and she [the teacher] focuses on the languages, and we share centres, like implementing the new ideas for the different centres and set-up and we share the art centre” (ECE Focus Group). As a result of the day plan solution, ECEs described their role as interchangeable with that of teachers. “We share the tasks with the teacher, share everything like equally, like we do the same things…It’s like shared so taking part and being able to voice how I think something should be” (ECE Focus Group). The only role in which ECEs did not fully participate was final assessments: “We share the teaching, we share the observing, we share some of the assessments, but they [teachers] do final assessments mostly and…they do the reporting” (ECE Focus Group). Even still, ECEs indicated they gave input and were asked to finalize comments for reports: “Mine [teaching partner] shares it [report] with me, and asks ‘do you agree with these comments, or do you want to add something?’” (ECE Focus Group). Additionally, ECEs participated with teachers in parent-teacher interviews, as they could offer unique insight about subjects where students had itinerant teachers because “we’re the ones that are with them” (ECE Focus Group).

Although having a divided day plan made the roles of educators clearer, Kindergarten teams still lacked joint planning time. At the beginning of the year, the principal gave two days for the teams to work together, but this planning time was insufficient for the entire year. During the school year, teachers had planning time together and ECEs had planning time together, but Kindergarten teams did not have the same planning time. “We don’t get time to sit with our classroom teacher so it’s always, anything is done on the fly, like for communication between her and I…we’ll catch them
in the morning period…or at the end of the day” (ECE Focus Group). In that ECEs were not involved in formal planning times, ECEs’ initial lessons often taught concepts in isolation: “It might not even relate to or build on what you taught before, so that was a bit of a struggle” (Teacher Focus Group). As a result, teachers tried to “offer some ways to improve” without insulting the ECEs (Teacher Focus Group). Overall, teachers appreciated that ECEs “help with preparation stuff, like cutting” and indicated that they “tag team…and come up with games and discussions…stuff they’ve used before in a prior field” (Teacher Focus Group). “Two heads are better [than one],” and “it’s definitely a positive having the Early Childhood Educator in the room” (Teacher Focus Group). Teachers and ECEs at Pine Valley appeared to have a good working relationship. “You’re working together, but you don’t have time to collaborate really” (ECE Focus Group).

Self-Regulation

Play-based learning is thought to promote self-regulation because it involves social interaction; during play, students must regulate their emotions and get along with their peers. Pine Valley Elementary School had invested in materials for play, like manipulatives and board games, for students to learn “how to interact together, how to socialize, build the social skills” (Administrator 1). “Using the manipulatives and hands-on games and programs that they have I think has really prompted growth in our students,” and they are able to work “independently, quite independently” (Administrator 1). There is “significant growth in their way of expressing what they’re thinking, interpreting what they’re seeing,” and they are demonstrating “some significant skills of learning and knowledge” (Administrator 1).
One teacher emphasized how tasks in the new play-based program were more social than tasks in the old program: “So, they had a job to do, but you wanted them to do it quietly and correctly, where now I find there’s a lot more socializing and, for my class, I find that’s good for the oral communication part” (Teacher Focus Group). During social interactions, conflicts between children inevitably arose. An ECE used the draft Kindergarten curriculum document to help students work through these conflicts: “At first, you feel like you’re talking from a script, but it’s kind of funny later on when you hear the little ones say like, ‘Okay you want my toy right now, but I want to use it. So, how about I let you have it when I’m done?’” (ECE Focus Group). There weren’t any “physical issues” in the class because students were able to negotiate effectively with one another (ECE Focus Group). In addition to resolving conflicts over toys, Kindergarten students at Pine Valley Elementary were involved in negotiations about the centres where they wanted to play.

One of them wants to go into the block centre and there’s already three people. They’ll go up and say, “Hey, when you’re done, can you tell me ’cause I want to come and play here?” “Are you almost done? You can come and play in the house and I’ll come and play here now.” (ECE Focus Group)

Educators promoted self-regulation during play-based learning by encouraging students to be active problem solvers, instead of relying solely on the educators. For example, a student who couldn’t turn on the listening centre was given the following direction, “Well one of your friends knows how. Which one knows how? So go find a friend” (ECE Focus Group).

Another aspect of play-based learning that promotes self-regulation is choice. At Pine Valley Elementary School, students had choice during free centres, they were involved in the “co-creation” of centres, and they were given open-ended tasks to
complete the way they wanted. One teacher eliminated a lot of behaviour problems by having a “free centre board” because students were engaged with their learning and not expected “to sit for a half-hour lesson” (Teacher Focus Group). In another classroom, the students wanted the house centre changed into a restaurant. During the creation of the restaurant, students “came up with menus, they came up with putting dollar amounts to the menus. They came up with everything, so they’re learning through what they’re doing, and we’re just following their lead” (ECE Focus Group). Additionally, the crafts in the play-based program were not prescriptive; educators encouraged students to be creative. Students were not told, “Okay, this is the craft. You’re making a bear. It has to look like this’…If they’re making a bear and it’s square and it has five ears well, that’s their bear and they’re proud of it” (ECE Focus Group). “Their creativity is being honoured…and that gives them more self-confidence” (ECE Focus Group). “I feel like they’re happier, more free, free to create, a lot more creativity [is] going on” (Teacher Focus Group).

Students were encouraged to regulate their hunger and fatigue through snack and rest centre options. “At the first centre time, which for us is around 9:30, there’s usually two or three that’ll go to snack, and they’ll have a little snack” (ECE Focus Group). Students were very good about regulating their hunger.

Even when we opened snack centre, I didn’t have the one child that gobbled up his whole lunch box and had nothing for the whole day. They’re really good at self-regulating and pacing, like they’ll have the one banana, and they’ll put their stuff away and leave. (Teacher Focus Group)

With respect to having a rest, if students are “tired, they choose book centre and they’ll curl up in a bean bag and look at a book” (ECE Focus Group).
A number of parents stressed the positive impact that a full day of learning had on their children’s well-being. Students had time to build trusting relationships and complete projects they started: “They’re there long enough to build these like trusting relationships. It’s not like they get in the door and they’re leaving two hours later. They can like start a project and finish a project” (Parent Focus Group 2). A compacted half-day program was more time-sensitive than a full-day program: “You know they can’t learn as much, it’s overloaded. You know, if they’re trying to get the amount of learning in in a half a day…they would be overwhelmed” (Parent Focus Group 1). Parents described their children as being “more social,” “more confident,” and “more independent” as a result of the FDELK program (Parent Focus Groups 1 & 2).

**Meeting Individual Needs**

To meet the individual needs of students, educators have to be aware of those needs. Teachers believed the play-based approach to learning their school adopted allowed them to know their students better because they spent more one-on-one time with their students. “I feel we have a really good idea what the kids can and can’t do because it is that one-on-one [work with the student] and not paper-pencil, do your worksheet” (Teacher Focus Group). Another teacher was better equipped to meet the needs of her students, especially with the help of her teaching partner:

> It feels like I’m able to reach each child. I know each child better because I’m able to spend more time with each student. Plus the Early Childhood Educator spends a lot of time, and so knowing where the child is and move on from there it’s just, you…can help him or her really reach his full potential. (Teacher Focus Group)

Educators spent time meeting the individual needs of students during “interventions.” “Interventions is where we know that there’s a kid who’s weak in we’ll
say alphabet recognition; they don’t know all their letters of the alphabet” (ECE Focus Group).

We pull them out of their free centre time for about maybe 10 minutes per kid and we just kind of work [on]...file folder games, match the letters, name the letters, what sounds do the letters make, that type of thing...We can do math interventions, we do reading interventions, just to build those skills. (ECE Focus Group)

To determine which interventions students required, teachers did board-mandated literacy and numeracy assessments with students three times throughout the year. It was the hope that work during interventions would help students’ scores “go up by the next time [the assessments] come around” (ECE Focus Group).

Administrator 2 at Pine Valley stressed that there was a JK/SK continuum of learning in the play-based program. She explained to parents, “If your child hasn’t met a milestone by Christmas of JK, well we’re really not going to worry. We’re going to build more experiences for that child and hope that by the end of the program that they are there” (Administrator 2). Teachers felt less pressure to make students understand concepts at a given point in time because students “will get it, whether it’s by free choice, or through your mini-lesson...they’ll get it at one point” (Teacher Focus Group). One teacher described the individual growth of a student “who could care less about letters and numbers. All he wanted to do was play, and play with blocks, and we’d call him over to do a little something with him, and he was like, ‘Are we done yet?’” (Teacher Focus Group). She could only work with him one-on-one for five minutes maximum because he lacked interest and focus. By the end of the year, the teacher gave him the choice to keep working or go back to centre time, and he would choose to keep working: “The other day
I kept him for 25 minutes just playing with letters. He just wanted to keep going so, but he’s ready now, and he wasn’t ready in September” (Teacher Focus Group).

Play-based learning was “more open to learning with different teaching styles, like learning styles, everyone learns different” (Individual Parent Interview). Parents felt their children were getting more “one-on-one even if it’s just for a couple of minutes” because there was a teacher and an ECE in the FDELK classroom (Parent Focus Group 1). One parent described an instance where her daughter wasn’t feeling well and “she was able to sit separate from the group and just relax a little bit, and they had the [ECE] that was there and just you know keep her a little busy so she didn’t feel so alone” (Parent Focus Group 1).

Although FDELK is supposed to meet the needs of all students, two parents indicated that their children were on modified programs. One parent had a daughter with speech difficulties. This parent was frustrated that the school’s solution was “for her to only be at school for 3 hours a day. So that makes it hard when they have to play catch up” (Parent Focus Group 2). Another parent explained that her son only attended the FDK program in the mornings, and he spent the afternoons at a local day care centre because of “his behaviour” (Individual Parent Interview). Every three months, the school called and had the time her son spent at school extended by “half an hour increments” (Individual Parent Interview).

**Summary**

Pine Valley Elementary was a high fidelity FDELK school because its staff adopted a play-based approach to learning, while teachers and ECEs worked collaboratively. The play-based program at Pine Valley integrated play with curriculum
learning expectations, incorporated students’ interests, and included constraints targeted at broadening children’s learning experiences and ensuring curriculum expectations were met. One of these constraints involved having a time during play-based learning when educators worked on literacy and numeracy “interventions” with individual children or small groups of children with weaker skills. In response to not knowing what the roles of teachers and ECEs were in an FDELK program, educators at this school worked with the administration to develop a day plan template through which teachers and ECEs were both responsible for planning and implementing parts of the program. As a result, the roles of the Kindergarten team at this school were largely interchangeable. While educators did not have collaborative planning time, they attempted to “touch base” with each other at the beginning or at the end of the day.

The FDELK program had a positive impact on the development of students’ self-regulation and enabled educators to meet the individual needs of their students. Students learned to work independently, resolve conflicts over toys, negotiate for centres, and display creativity in their work. Educators had more one-on-one time with students and knew them better so student needs could be met more effectively. Educators also dedicated time to literacy and numeracy “interventions” during play-based learning.
Wayside Elementary School

Wayside Elementary School is a small English-language school in northern Ontario for students in Kindergarten to Grade 6. It was the first school in its school board to offer the Full-Day Early Learning Kindergarten (FDELK) program. In previous years, the Junior and Senior Kindergarten classes were separated and ran distinct programs. Junior Kindergarten students attended school every day for half-days, while Senior Kindergarten students attended Kindergarten every day for full days. The implementation of the FDELK program at Wayside Elementary involved one blended Junior and Senior Kindergarten class. To meet the needs of the few students with behavioural issues, a half-time Educational Assistant (EA) was eventually hired to work in the FDELK class. The school employed a “Communications Assistant” to provide speech and language support for students. In the FDELK program, the Communications Assistant ran a phonological awareness centre for half an hour and supported the writing program for 40 minutes daily. The school had a Reading Recovery program for primary students who required early intervention in reading and writing. A Breakfast Snack program and a Milk/Juice program were offered at the school to help meet the nutritional needs of students. Grade 3 EQAO (Education Quality and Accountability Office) results at the time indicated more than 50% of the students were at or above provincial standards in reading and writing; more than 75% of the students were at or above provincial standards in math.

The school was categorized as a high fidelity FDELK school because it embraced play-based learning (it was part of a school board that wanted to see play-based learning extended to the primary grades). As well, the teacher and ECE established a good partnership. While goals of the FDELK program included the promotion of self-
regulation in students and meeting the individual needs of students, these goals were not always fully realized at Wayside Elementary, because there were a number of high needs students in the FDELK class who did not receive adequate support.

**Play-Based Learning**

Play-based learning was understood by administration as structured play “based on what we want to see the children do. They can take it where they want with the materials that have been provided…we’re learning about them through what they say, what they do, what they create” (Administrator 2). Play-based learning was contrasted with “teacher-controlled” centres in which “all the kids have to do is come and glue them [materials] in the right spot” (Administrator 2). Effective play-based learning involved designing learning experiences with the “curriculum continuum” from the new FDELK program document in mind (Administrators 1 & 2). “It’s not just the kids are interested in toilets so we’re going to build a toilet, but what’s that got to do with anything?...What are you watching and looking for?...going back to the document [for expectations]” (Administrator 2). Play-based learning provided educators with the opportunity to integrate curriculum expectations: “You’re covering your art and your science and your math and your music because it’s there and you’re listening…you structured it so that you’re going to be able to hopefully observe and see what they’re doing and meet those curriculum expectations” (Administrator 2). As the year progressed, Wayside Elementary educators were learning to use the program document to optimize learning and move towards incorporating play in “two chunks of the day” (Administrator 2).

Administrators articulated a strong commitment to play-based learning and saw its incorporation in the FDELK program as an opportunity “to build the continuum of
education [for] K-8” (Administrator 1). The school board was “really looking at the whole idea of play-based learning from JK right up to Grade 3 and into Grade 4” through a Literacy and Numeracy Secretariat (LNS) inquiry project (Administrator 1). In the year prior, the play-based inquiry project involved four Kindergarten teachers. That year, the project expanded to include 15 teachers from Kindergarten, Grade 1, and Grade 2 classes. Initially, teachers were concerned about whether or not play-based learning would hinder students from being ready for Grade 1: “When they [students] come into Grade 1, are they going to be ready?...Are kids ready for EQAO?…Teachers do worry about that very much” (Administrator 2). The board increased teacher confidence in regard to play-based learning by having teachers “share their stories” with colleagues about what works and what doesn’t work (Administrator 1). “It’s teachers talking to teachers. When you can do that and bring that realness to it and the credibility to it, it has far more effect…the buy-in has to come from the teachers” (Administrator 2). For example, two Grade 1 teachers in the board who incorporated play-based learning in response to a high number of behavioural issues in their classes reported positive outcomes: students had a new-found engagement with learning and could articulate their thinking (Administrator 2). Students chose the order of centres, but they were still required to go to each centre. “They’ve got to go to each centre at some point, but they get to choose…I know it’s supposed to be wide open free choice but…we still need to make sure, in our minds, that they’ve done everything” (Administrator 2).

The effective use of space was critical for play-based learning to be successful. “I think you have to have that open space, and you have to have space where kids can work independently and together” (Administrator 1). A community stakeholder who was
excited that schools were beginning to recognize that “children learn through play” also expressed the importance of physical space in play-based learning. “In order for children to grow and learn through play, they need that extra room…to play and explore their environment and get really engaged in all the learning centres that they want” (Community Stakeholder). To optimize space for play, educators were encouraged to de-clutter and provide variety for students: “You don’t have to have everything there all the time. The kitchen centre doesn’t have to be a permanent fixture. This play area doesn’t have to be a permanent fixture. Change it up because kids get bored” (Administrator 1). Educators were also asked to re-think space in terms of whether or not all students needed to be doing the same thing at the same time. “Why can’t half of them be doing the literacy/numeracy and half of them doing the open-ended play-based stuff?…Let go of them all having to be together and that chaos…when you’ve got two more rooms” (Administrator 2).

Having students for full days at school enabled the Kindergarten teacher to give students “more time to play” and incorporate “more inquiry-based play with the open-ended centres” (Teacher). Play-based learning was beneficial for students because they enjoyed it and to them “it’s not work” (EA). The Kindergarten teacher at Wayside Elementary felt prepared to incorporate play-based learning in her classroom, because she had been involved in an inquiry project focusing on “the oral language and writing that comes out of [play]” the year prior (Teacher). She also had a background in ECE, which was helpful because the teaching team had a shared understanding that “children [are] learning through play” (ECE). In the FDELK classroom, there were some centres with a “literacy and math focus” and “play-based inquiry centres [that] are more left open”
(Teacher). For play-based centres, “they have building blocks like really big ones…an arts and crafts centre…a water table…a sand table…a wet sand table…a kitchen area that they’ve made into…a construction area where they’re making robots” (EA). A rotation system for centres was developed so students had to go through particular colour-coded centres during the week, but they also had free choice for part of centre time. “They’re placed in groups that are colour-coded, but there may be five different choices within that group so they’re still getting some choice…every day they rotate a colour…after 20 minutes…they can choose any centre” (Teacher). The Kindergarten teacher shared an example of how she incorporated students’ interests into the play-based centres.

I noticed some of the boys were building robots out of plasticine…Another boy asked me, “Could you bring in a box so we could build a robot?”…So I sat the kids down and I said, “I noticed that some of you have been building robots. Maybe we should have a robot making centre?”…Instead of me sending a list home…I asked them what they wanted so we came up with a list together and they came up with ideas I wouldn’t have even thought of and then the note went home…We brought in different things and, yes, they’re making these wonderful creations and they’re engaged because it came from them.

While a curriculum based on the interests of students was easier because students “come up with [the] ideas,” it was a challenge to not know where students were “going next” because of the emerging nature of the curriculum (Teacher). In the past, there were more “teacher-directed lessons” for which teachers had to “look up the math curriculum” and “get this [content] covered,” but with play-based learning “the language and math is coming out of those centres” (Teacher). When children were involved in play-based learning, educators were “looking for problem-solving, the oral language, some cognitive ability, and reasoning; why they’re building something a certain way” (Teacher).

The ECE commented on a couple of improvements that could make play-based learning in the FDELK classroom more effective. First of all, she would “like to be able
to open up the inquiry play more…It’s a fine line…between the control you want to have over the children and letting them have too much control. There are some things I would like to ease up [on] a little bit” (ECE). The ECE also would like to see longer times for inquiry play, but “the play deteriorates” after a period of time so they were going to try having longer inquiry play time in “small groups and see if that makes a difference instead of having them all in there at the same time” (ECE).

**Teacher-ECE Collaboration**

The administration at Wayside Elementary strongly supported the belief that the teacher and the ECE in the FDELK classroom were equal partners who both contributed vital skill sets. “The concern for us was that the ECE was seen as an equal, as a partner…the teacher brings the curriculum piece, but eventually they’re both looking at that…[the ECE] is a teaching member in the classroom” (Administrator 2). For a teaching team to be effective, partners needed “to understand that neither one of them is more important to the team than the other…that they work together…the traditional the teacher’s in charge…it’s changing and the kids are changing it” (Administrator 1).

Students helped educators be aware that “they’re there for the same thing and the same reason,” which is ultimately to meet the needs of students (Administrator 1). ECEs had “perhaps a better understanding” of the beginning learner “than traditionally trained teachers” so partnering an ECE and a teacher in an FDELK classroom created a unique partnership: “I don’t know if you had put just two teachers in that classroom [that] you would have gotten the same kind of relationship and same kind of overview” (Administrator 1). The fact that educators came from different professions was positive, but it could be difficult for teachers to change practices they were used to. “They both
bring a different perspective to the table, which is good...[but] sometimes it’s hard for
the teacher to hear that she has to let go of some things she’s always done”
(Administrator 2). Even though ECEs are experts in early learning, that didn’t mean they
felt comfortable sharing their knowledge with their teaching partners. One administrator
advised an ECE, “You have to speak up sometimes. Don’t be overshadowed by the fact
that you’re working with a teacher...You have some expertise; you need to remind us
sometimes because...we get caught up in some of the education stuff” (Administrator 1).

In many cases, FDELK teaching teams experienced challenges initially because
they didn’t know each other prior to working together, were from different professional
backgrounds, and had differing amounts of experience working in the school system with
ECEs “trying to fit in with where the teacher believes their role is” (Administrator 2).
However, the teaching team at Wayside Elementary both had a background in ECE, and
they had “an existing relationship” as the ECE had worked as a CA and EA at the school
in previous years (Administrator 2). Because the teaching team was familiar with each
other and the school system, “a lot of those hurdles were softer for us. We still had some
of them, but not to a degree that I know some other schools have” (Administrator 2).

With respect to the roles of Kindergarten educators, administration firmly believed the
ECE should not have to assume the role of an EA because of students with behavioural
issues. “If the program is 26:2 and running with an ECE and a teacher, those two staff
members need to be working with all the children all the time. One of them can’t be out
with a high needs behavioural child the whole time” (Administrator 2).

During the first year of FDELK implementation, the ECE at Wayside Elementary
wasn’t hired for her position until the beginning of school so she was unable to work with
her teaching partner prior to the start of school (Administrator 2). However, to prepare for
the second year of implementation, administration was in the process of hiring ECEs
before school ended so there was an “opportunity for them to work with teachers prior to
school starting. We certainly can’t pay them to do that, but we are going to encourage
that relationship” (Administrator 1). Kindergarten educators were given some paid
“shared planning time” by administration, but more was definitely needed
(Administrators 1 & 2). Even though the Kindergarten teacher and ECE at Wayside
Elementary did not have much scheduled planning time during the first year of FDELK
implementation, they did spend time together after school planning. Ideally, shared
planning time for the educators should be “daily” or “at least weekly” (Administrator 1).
It was one administrator’s goal to provide common planning time for Kindergarten
educators the following year “because you just don’t have time to talk during the day, and
you don’t want that professional reflective talk to be happening in front of the kids
because you’re so busy” (Administrator 2). A barrier to this time was the need for a prep
teacher to have another adult in a support role to handle the large FDELK class size
because prep teachers were only required to supervise a maximum of 20 students
according to their contract (Administrator 2). It was suggested that the prep teacher work
with the FDELK class in the library to have the support of the librarian during that time
(Administrator 1).

The teaching team had a “good relationship” and were “able to talk honestly”
(Teacher). The Kindergarten teacher indicated that her role hadn’t “really changed from
the past…I still do the facilitating, the planning, but I now have a team mate that I can
work with, which is an added bonus” (Teacher). The team were “working together to
come up with strategies in the classroom, same with observing and assessing” (Teacher). While the teacher was responsible for writing report cards, she sought the opinions of the ECE. They “discuss[ed] each child together” before she wrote reports (Teacher). During certain parts of the day, the teacher worked with the second-year learners (Senior Kindergarten students), at the same time as the ECE worked with the first-year learners (Junior Kindergarten students). For example, in the afternoon, the teacher had a writing block with second-year learners, while the ECE facilitated a quiet time for first-year learners: “I actually have a writing block that specifically teaches them [second-year learners] strategies…and the other group [first-year learners] are having a quiet time…so the ECE worker is with the other group” (Teacher). The class EA confirmed the ECE spent most of her time with the younger students: “I spend more time with the ECE because she’s with the JKs” (EA). At the end of the day, the teacher led a small group activity with part of the class, while the ECE took “the rest outside for the last half hour of the day” (Teacher). At the beginning of the year, the team was concerned because the “ECE’s role was more working one-on-one with this one particular high needs child instead of the team teaching and partnership that was supposed to be going on” (Teacher). Eventually, an EA was hired to meet the needs of the student, “but it’s not full-time…[so] the child has been going home after half the day” (Teacher).

One of the team’s challenges was “finding the time for us to meet” (Teacher). “Some days are just crazier and you feel like it’s the end of the day, and ‘Oh, I haven’t even talked to you today’…other days…while we’re in the room [we] communicate…we do try to meet weekly” (Teacher). The team made time to discuss “what changes could be made” to centres (Teacher). The team’s relationship would be enhanced with “common
prep time.” They appreciated times when the Communication Assistant (CA) would go with the class to gym: “Our Communication Assistant will come down, maybe a couple of times a week and say, ‘Okay, I’ll go with the teacher to Phys. Ed. and let you talk’” (Teacher).

The ECE at Wayside Elementary confirmed that, for the most part, she and her teaching partner did “most things together” (ECE). Their responsibilities weren’t “really divided into you do this and I do that.” The process worked for them, although some teaching teams “might find it a little bit easier to have the responsibilities more black and white” (ECE). During learning centres, “some of the children need more help, some of the centres need more help so we just go to where we’re needed” (ECE). However, the ECE indicated, “I do take the teacher’s lead. I do think it’s their role to take the lead” (ECE). As such, the ECE often used her teaching partner as “a resource…‘I’m thinking this. What do you think?’ And then I’ll go ahead and implement it” (ECE). The teacher and ECE often split into small groups to work with students more effectively. For example, the educators split the groups into two for “share groups” to make it easier for students to participate and to make it easier for educators to manage behaviour (ECE).

Of all of the positions the ECE at Wayside Elementary had held, being an FDELK ECE was the “hardest” and “most work” (ECE). For example, one of her biggest struggles was “learning the school’s disciplinary procedures” in regard to a couple of students with behavioural issues in her class because, in a school, “the education is first, the care is just [as] important, but it’s kind of secondary” (ECE). “It’s a learning environment so if a child is disrupting the learning environment then what do you do with that child? When do you contact the principal and say, ‘Enough is enough. You’ve got to
take this child” (ECE). Eventually, the ECE spoke to the principal because she was spending her days like an EA instead of an ECE, and she felt like a failure. She told the principal, “I did not sign up for my day to be with one child” (ECE). “I am part of a teaching team. I am not an EA” (ECE). The administration was supportive and ended up hiring a part-time EA to support the FDELK class.

The FDELK position led to a lot of unpaid work on the part of the ECE. Even though the ECE was not paid to participate in shared planning outside of school hours and parent-teacher interviews, she did (ECE). Also, her 10-month contract did not support the teaching team spending time over the summer to plan together, but she still intended to “spend a chunk of this summer” planning with her teaching partner.

Self-Regulation

The Full-Day Early Learning Kindergarten (FDELK) program provided a unique opportunity for educators to help develop self-regulation in young students because, in programs that were shorter in duration, “nobody really tackled those self-regulation problems because we all put up with kids for half-an-hour or half-day, or for an hour or two” (Administrator 1). “When the rubber hit the road was when those kids were hitting full-day in Grade 1, and all of a sudden we have these huge [self-regulation] issues. So I think what we’re doing is that we will see that we’re addressing those issues much sooner” (Administrator 1). In the past, students with self-regulation issues were seen as “not ready for school…not ready learning…that’s not necessarily the case…we have to work on self-regulation” (Administrator 1). Administration saw working on self-regulation as a challenge, but as critical for helping students become “independent learner[s]” and “transition into Grade 1 and beyond” (Administrator 1). Helping students
develop self-regulation at a young age was important because “the kids who are having trouble with self-regulation in Grade 4, 5, and 6 are the ones who had trouble with self-regulation in Junior Kindergarten” (Administrator 1). In the FDELK class at Wayside Elementary, the Senior Kindergarten students helped the Junior Kindergarten students learn the routines effectively: “Those older students had taken the hands of the new ones coming in and I don’t think that we saw as much of a transition piece from the majority of the students…[They] help[ed] them learn the routines” (Administrator 1). When an administrator came to visit the FDELK classroom in the third week of school, she was greeted by a JK student who gave her the following instructions:

Hey, if you’re going to spend some time in here, this is what you got to do. Telling me how to sign in and how to do this and how to do that. They got it. And normally you wouldn’t see that, I don’t think, until end of October/November, so that piece I think happened sooner.

Another aspect that helped develop self-regulation in young students was a shift away from the traditional passive approach to education “to really listening to our students and understanding what they come to us with…a shift that is helping in outcomes for these students because they do come to us with a lot of information…valuable information” (Administrator 1).

Play-based learning promoted self-regulation, because it enabled students “to share what they’re doing with the other kids so they see themselves as learners” (Teacher). “They really do interact with each other. You don’t see the second-year learners always playing together and the first-year learners. They are interacting together and see themselves as equals” (Teacher). Play-based learning involved “problem solving [in which] so much oral language is happening” (Teacher). Kindergarten educators provided “some choice” during play-based learning centres to promote self-
regulation because, if students had “too much choice, they were going to the same activity every day and not willing to choose, so we’re trying to kind of push them into trying out new things so…that’s really worked” (Teacher). After 20 minutes in colour-coded groups, students were given free choice and could pick any centre. This combination worked well because “by the end of the week, we know that they’ve [students] all been to one centre [in each colour group], but then they still have the choice to go to their favourites” (Teacher). The Kindergarten teacher commented on the self-regulation growth of the JK students she taught last year who were now SK students in the FDELK program: “I’ve seen more problem-solving, more empathy…being in a larger group, there are more choices of who they can play with…the group I had last year that seemed so needy to me have taken on more of a responsible role” (Teacher).

The ECE and CA believed that the atmosphere in the FDELK program promoted self-regulation in students. “I think because we try to have an open, relaxed program that children are developing their confidence…we want them to have their own ideas and their own opinions and to be confident in sharing those” (ECE). In contrast with a half-day program, in the FDELK program, there was “a lot more time that children can explore and learn on their own” (ECE). The FDELK program was “really positive because they [students] learn at a young age to work together” (CA). The ECE had a couple of specific times during the day that she worked on developing self-regulation in students. In the morning, students “have a series of jobs that they’re supposed to do: changing their shoes, bringing me the reminder bags, [and] printing their name” (ECE). During outdoor play in the morning, the ECE spent 20 minutes with the children to guide and model positive behaviour. “I can deal with a lot more of the behaviours that come up
[if] I can see it from the beginning instead of just getting the tattling at the end. And just to interact with them more and to enhance their play out there” (ECE).

One parent at Wayside Elementary identified some growth in self-regulation of her daughter as a result of the FDELK program. “My daughter shows more empathy…she understands more about everybody’s different and everybody doesn’t know the same things, and there’s different backgrounds of everybody…she sees that now and she can adapt” (Parent Focus Group). However, another parent was concerned that her “kid gets hurt all the time” (Parent Focus Group).

**Meeting Individual Needs**

At the beginning of FDELK implementation, parents were worried that having a blended Junior and Senior Kindergarten class would be detrimental for students; they weren’t supportive of the “fact that there wasn’t a JK class and an SK class…they were concerned…their little ones coming in wouldn’t get the attention they needed…the older ones wouldn’t get what they needed to get them ready for Grade 1” (Administrator 1). Administration explained that the program was developed based on a two-year continuum and that the needs of both Junior and Senior Kindergarten students would be met. “The parents truly didn’t have an understanding that the Kindergarten curriculum is a continuum over two years. There isn’t a JK curriculum [and] an SK curriculum” (Administrator 2). Parents were reassured, “Your child’s not going to suffer because they’re together…there’s times when they’ll be together, times when they’ll be apart, but they’re still looking at the continuum of learning [and] getting those two groups of kids ready for Grade 1” (Administrator 2).
One way that Wayside Elementary was meeting the needs of individual students in a unique manner was by having the same teacher and ECE during both the first and second years of the FDELK program. “There is that continuum of who the people [educators] they [students] are dealing with in their first two years…they [students] will have a better understanding of many things just because the continuum was there and it’s not spending a month, two months to get to know these children again” (Administrator 1).

Wayside Elementary had a number of professionals who helped support students with special education needs in the FDELK program. “Our Special Ed. resource teacher in the school definitely is a support for…children that are showing potential queries that we’re not sure about” (Administrator 2). The school also had “Applied Behavioural Analysis consultants who come in and observe children…and help us with behaviour plans for them because we do have some really high needs children in our class” (Administrator 2). “Anyone who’s able to help us to provide a stronger program or to provide support for the children, we bring them in as much as we can because I think that’s the only way you get stronger” (Administrator 2). This support included community stakeholders and ECE candidates.

Owing to the number of high needs students in the FDELK class, administration was concerned about the extent to which the needs of other students were being met effectively. “We are harbouring fear and guilt around so much attention going to our high needs kids…we’re hopeful that we’re doing everything we can for all the other children” (Administrator 2). The solution for this problem was to hire more EAs, but doing so was next to impossible in a board with “declining enrolment” given the way funding was
allocated (Administrator 2). Wayside Elementary school was located in an area “that requires more help” (Administrator 2). Examples of the need for extra support were outlined: “whether it’s our Aboriginal students…and their oral language is up to a year behind…parents with low economic background, low educational background trying to support their kids the best they can, [or] maybe in a single-parent family” (Administrator 2). Administration knew from experience that “if you don’t have the staff, don’t expect the results because you have to address the most, the highest priority first” (Administrator 2). For example,

If you have a child who’s putting other kids in danger or is running around the classroom destroying everything, you have to attend to that and so one of the staff is pulled away and the other staff deals with the 26 students until we can get things under control. (Administrator 2)

Not having the staff necessary to attend to the needs of students with behavioural issues in the FDELK class made “giving kids everything they deserve…hard” (Administrator 2). To try and compensate for being short-staffed with respect to EAs, “we do lots of intervention, principal, vice-principals, SERTs [Special Education Resource Teachers], student achievement teacher, anybody who’s got minutes to spare…we’re doing as much as we can, we’re very flexible [and] we’re very resilient” (Administrator 2). “Staffing is always a challenge, but, as the expectations are raised by the government…we want more for our children. You have to have the support at the bottom or it’ll all fall apart because people will give up” (Administrator 2).

The Kindergarten teacher expressed similar concerns about meeting the needs of students with special education needs in her classroom. To get EA support, students required “early identification and a series of assessments” (Teacher). However, it was near the end of the school year, and there remained two students “in the process right
now that are still waiting for assessments” (Teacher). As a result, the ECE had unfairly been forced to take on an EA role at the beginning of the year until a part-time EA was hired. Another barrier to meeting the needs of students in the Kindergarten class were large class sizes, especially if there were “any students with high needs or behavioural issues” (Teacher). “This year I have 24, which has been okay, but I just worry about…we did see schools with over 30 in them so I think that is a concern…then when you get any students with high needs or behavioural issues” (Teacher). Initially, the Kindergarten teacher at Wayside Elementary “had some hesitation” about teaching a JK/SK blended class because she was questioned how she was “going to meet the needs of everyone,” but she reported, it “worked out” (Teacher).

According to the ECE, FDELK met the needs of students who didn’t have extra needs, but she was concerned about how effective it was for students with high needs who were waiting to be assessed. “They come in with these needs, assessments take a long time and…unless you have that paperwork, you don’t get the extra help. So what do you do with these children in the meantime?” (ECE). Ultimately, the support from a full-time EA was required to meet the needs of all the students in the FDELK class at Wayside Elementary. “It’s things like winter dressing…toileting issues…for the amount of children and how much hands-on they still need it’s very difficult…those children aren’t getting as much as they could without the extra support” (ECE). The quality of learning in the FDELK was impacted because students who needed support weren’t getting it. “This is a school environment where children have come to learn. You can’t put everybody on hold…children need to stay on task. That’s what’s expected of them” (ECE). The ECE had a good understanding about which students required additional
support because of her previous role as a CA. “I can tell pretty quick if a child needs help or not, and I’ll just make that referral pretty fast” (ECE). Although, prior to the start of school, parents were given a screening tool about their children’s development to help with such early identification, the tool was not effective because “they [parents] check off that everything’s developing appropriately, and obviously they weren’t” (ECE). Next year, the teaching team was considering asking the day care staff to fill out this type of checklist for children who were transitioning from day care into FDELK, instead of asking the parents. This strategy might help educators advocate for support for students who needed it early on.

A part-time EA in the FDELK class at Wayside Elementary worked mornings with mainly one student with a “behaviour problem” (EA). “[I] get him to do simple tasks like get his shoes on or go to class…we have to modify things, and his day is modified because he can’t engage in the classroom by himself” (EA). The EA spent a lot of “one-on-one” time with the student she supported; “when it’s really good, it’s good, but when it’s not, it’s not” (EA). When the student she supported was involved with a quiet time with his first-year student peers, the EA supported the second-year students involved in a writing block. The EA described times of “chaos” during transitions in the day. “Kids go from one room to another, and then some of them stay here and then some of them go here” (EA). The EA believed there was “a lot of support between the three of us” and described her role as “the go-to…I can go back and forth between the rooms if I need to or if there’s something going on I can do things like that” (EA). However, she indicated “in our classroom because of the behaviour my student has, we need a lot of support…sometimes it takes two of us to get things under control” (EA). The EA didn’t
believe the needs of all students were being met in her FDELK class. “We have quite a few behaviour students and so you’re constantly dealing with the behaviours and then the children that don’t have behaviours but…have more learning needs…their needs aren’t met as well” (EA). To meet the needs of all students more effectively, the EA believed they needed “more staff for sure” (EA).

Whether or not FDELK was able to meet the developmental needs of young children, especially those who required extra support, was an important question for a community stakeholder at Wayside Elementary. “Are they [FDELK staff] meeting the needs of that developmentally 3-year-old child? Are they going in there and getting lost in the shuffle?...Do they have community supports in place?” (Community Stakeholder).

The community stakeholder was against “parents feeling rushed and pushed into programs if their child’s not ready” (Community Stakeholder). To meet the needs of students in their class, FDELK educators needed to be “very community-minded” and “making the proper referrals” (Community Stakeholder). “There’s so many agencies that offer different programs, and I think that’s what I would really like to see…that they [educators] know what’s available to families if they need it” (Community Stakeholder). The community stakeholder encouraged educators to become part of a local “community coalition” so they would be knowledgeable about community services offered and “how the referral process works” (Community Stakeholder). The community stakeholder also noted that she would like to see “Aboriginal representation, especially in some of our communities, to be the voice for the children…to me that’s just respect” (Community Stakeholder).
Parents had mixed views about how well a blended JK/SK FDELK program met the needs of their children. Some parents believed their children benefitted from a blended class. “I like it because my son’s in the junior part of it…he gets to spend that kind of afternoon with the older children. I think it’s helped him kind of progress farther in learning” (Parent Focus Group). A parent of a child in Senior Kindergarten commented positively about the mentoring role her son had: “My son’s in the SK class and I think he enjoys the JKs because they look up to them, so then that way they can kind of mentor them and teach them what they did last year” (Parent Focus Group). One parent who was concerned with the prospect of a blended class indicated it was working better than she had anticipated. “At first I was a little hesitant with the both years being in together…the kids are progressing, not regressing, which I thought might happen” (Parent Focus Group). One of the downsides of the blended FDELK program was that there was “not as much one-on-one” for students (Parent Focus Group). Another parent felt that her son in SK did not have as much time with his SK friends because of the blended groupings throughout the program. “They’re assigned areas [during meals] and at certain stations they’re always with the same group of kids at each station, so he doesn’t get to play with his [SK] friends…he’d like to have more flexibility that way” (Parent Focus Group).

With respect to learning, “some children [were] really advancing in certain areas” (Parent Focus Group). A parent of a child who was “really advanced in his reading” thought writing “should be more addressed at school” (Parent Focus Group). “With such a big class…only one person can spread themselves around so much, and they may not even make it around to all the stations where they need to go and then time’s up” (Parent Focus Group).
Students with behaviour issues who lacked support impacted the entire class.

“There was a few busy kids in the class and they weren’t funded for extra help…the whole class is now being kind of destructed because the teacher has to focus on that child that’s acting out” (Parent Focus Group). There should be “extra attention and more one-on-one [for] the kids that actually need it” (Parent Focus Group).

A couple of parents reported that the individual needs of their children were being met in the FDELK program. For example, one student who tended to “withdraw…stand back and [let] everything else happen” in the classroom was being put in “a focus program where it teaches them how to get more involved” (Parent Focus Group). Another student who required naps from time to time was able to do so: “There’s days where my son naps for like an hour, and they’re [educators] fine with that…he just curls up on the mat and has a nap” (Parent Focus Group).

Summary

Wayside Elementary was a high fidelity FDELK school for two reasons: its staff was fully committed to incorporating play-based learning in the FDELK program, and the Kindergarten teaching team had a strong partnership. In addition to the fact that the Kindergarten teacher and ECE at Wayside Elementary implemented play-based learning in the FDELK classroom, administration advocated for the integration of play-based learning in all of the primary grades. The Kindergarten teaching team worked well together: they communicated effectively and shared responsibilities. At the beginning of the year, the ECE had to take on more of an EA role because of the number of students with behaviour issues in the class. Eventually, the ECE told administration that she wasn’t getting to fulfill the role for which she was paid so a part-time EA was hired for
the class. When the educators split into small groups, the teacher worked with SK students, while the ECE worked with JK students. Both the teacher and ECE agreed they needed paid shared planning time to improve their collaboration. One of the benefits of play-based learning in the FDELK program was that it promoted the development of self-regulation in students because they had to work with their peers, problem solve, and articulate their thinking. While FDELK at Wayside Elementary was meeting the needs of some students in the class, it was not meeting the needs of all students. Because there were a number of students in the class with behavioural issues who were not receiving adequate support, some students’ needs were not being met. Educators were so busy dealing with behaviour issues that they were sometimes unaware of and unable to address other needs in the class.
APPENDIX B: ETHICS CERTIFICATE

March 17, 2014

Ms. Sandy Youmans Ph.D. Candidate Faculty of Education
Queen’s University Duncan McArthur Hall
511 Union Street West
Kingston, ON, K7M 5R7

GREB Ref #: GEDUC-717-14; Romeo # 6011953 Title: "GEDUC-717-14 How is the Full-day Early Learning Kindergarten (FDELK) Program put into Action in High Fidelity Classrooms?"

Dear Ms. Youmans: The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "GEDUC-717-14 How is the Full-day Early Learning Kindergarten (FDELK) Program put into Action in High Fidelity Classrooms?" for ethical compliance with the Tri-Council Guidelines (TCPS) and Queen’s ethics policies. In accordance with the Tri-Council Guidelines (article D.1.6) and Senate Terms of Reference (article G), your project has been cleared for one year. At the end of each year, the GREB will ask if your project has been completed and if not, what changes have occurred or will occur in the next year.

You are reminded of your obligation to advise the GREB, with a copy to your unit REB, of any adverse event(s) that occur during this one year period (access this form at https://eservices.queensu.ca/romeo_researcher/ and click Events - GREB Adverse Event Report). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To make an amendment, access the application at https://eservices.queensu.ca/romeo_researcher/ and click Events - GREB Amendment to Approved Study Form. These changes will automatically be sent to the Ethics Coordinator, Gail Irving, at the Office of Research Services or irvingg@queensu.ca for further review and clearance by the GREB or GREB Chair. On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely,

Joan Stevenson, Ph.D.
Chair, General Research Ethics Board
c: Dr. John Freeman, Faculty Supervisor
Dr. Benjamin Bolden, Chair, Unit REB
Ms. Stacey Boulton, Dept. Admin.
APPENDIX C: DATA SHARING AGREEMENT WITH THE ONTARIO MINISTRY OF EDUCATION

THIS AGREEMENT dated this 30th day of April, 2014

BETWEEN:

HER MAJESTY THE QUEEN in RIGHT OF ONTARIO as
Represented by the Minister of Education
(the “Ministry”)

– and –

Queen’s University at Kingston
(the “University”)

WHEREAS the Ministry administers the system of publicly funded elementary and secondary education in Ontario,

AND WHEREAS Sandy Youmans, the “Researcher”, is a doctoral student in the Faculty of Education at Queen’s University, who wishes to undertake a doctoral dissertation Research Study on “How is full-day kindergarten put into action in high fidelity classrooms?”;

And WHEREAS the University has a separate written agreement with the Researcher to ensure that the Researcher will comply with the terms and obligations contained in this Agreement;

AND WHEREAS The University needs access to certain limited data gathered in the 2010-2012 evaluation research of the full-day kindergarten (FDK) implementation commissioned by the Ministry and conducted by the Social Program Evaluation Group, Queen’s University;

AND WHEREAS The University does not require access to the limited information in personally identifiable form;

AND WHEREAS the requested data including interview transcripts, field notes of classroom observations, and demographic surveys from participants are susceptible to
APPENDIX D: CASE STUDY INTERVIEW GUIDES

Interview Guide for Administrators within FDELK

1. What are your specific roles and responsibilities in relation to the implementation of FDELK?
   Probe: In general, how have your roles and responsibilities changed in response to the new program?

2. What training and resources have been provided or allocated to your board (school) to support the implementation of the Full-Day Early Learning Kindergarten program?
   Probes: What training and resources have been available to help you implement the new FDELK program?
   How useful have the training and resources been?

3. What has been going smoothly? Why?

4. What challenges and barriers have emerged? Suggestions or solutions?

5. Describe how the stakeholders have been working together toward the implementation.
   Probes: Who are the partners you have worked with?
   How have working relationships evolved?
   Is there anything you can identify that would help support or improve the process?

6. How have parents participated during the planning for the implementation of the program?
   Probes: What has facilitated the involvement of parents?
   What barriers have there been to parent involvement?

7. Do you have students whose parents have their child attend for a ½ day of Kindergarten despite having access to Full-Day?
   Probe: Approximately how many students might this include?

8. In your opinion, what are the key factors that will lead to positive outcomes for children who will participate in the Full-Day Early Learning Kindergarten program?

9. How well do you feel the Full-Day Kindergarten will meet the needs of all the students at your schools (school)?
   Probe: What could be done to help improve the program for (insert subpopulation, e.g., students with special education needs)?
10. What has been done, if anything, to adapt the program to the local context?
   Probe: Describe the need for adaptation.

11. What do you feel is necessary for team teaching to be effective?

12. What do you feel is necessary for full-day play-based learning to be effective?

13. What do you feel is necessary for the extended day program to be effective?

14. Have there been any substantial changes to assessment and evaluation practices in
     Kindergarten with the FDELK implementation?

15. What would good reporting to parents look like in the Kindergarten program?
    Is this different from what you viewed to be important in the past?

16. How are parents involved in the core or extended day FDELK program?
    Probe: How is this different from past parent involvement?

17. What would you like to see happen, or what additional supports do you feel are
     necessary, to further define and develop the key components of the FDELK
     program?

18. As I bring this interview to a close, I would like to know if there is anything you
    would like to add that you haven’t had a chance to talk about regarding the Full-
    Day Early Learning Kindergarten program.

19. Is there anything we could do to improve this interview?
Interview Guide for Educators Working in an FDELK Class

1. What kind of training and resources have you received for implementing the Full-Day Early Learning Kindergarten program?
   Probes: What training and resources have been available to help you implement the program?
   Have you attended any team training sessions?
   How useful have the training and resources been?

2. How have people (stakeholders) been working together to implement this program?
   Probes: Who do you typically work with or have contact with?
   How have the partnerships evolved?
   Is there anything you need to support the partnership development?

3. How have parents participated in the implementation of the program?
   Probes: What has facilitated the involvement of parents?
   What barriers have there been to parent involvement?

4. What do you see as your roles and responsibilities in the Full-Day Early Learning Kindergarten program?

5. Describe the relationship between the teaching team in implementing this program.
   Probes: What is working? What is not working?
   What do you think needs to happen to make this relationship work well?

6. How have parents been involved in the core and/or extended FDELK program?
   Probe: If it is, how is this different from past parent involvement?

7. What parts of the program do you think are working well (successes)?
   Probe: What things have helped program implementation to go smoothly?

8. What challenges and barriers have emerged? Any suggested solutions?

9. Can you describe how a typical day unfolds or flows from beginning to end?
   Probes: What key words would you use to describe your program?
   Is there a before- or after-school program available here?
   Can you tell me anything about the before- or after-school programming?
   (e.g., Do you know what children do? Do you know the teacher?)

10. If need be, what would you change to make this program match your idea of the perfect program for Kindergarten children?
    Probe: What are your hopes for the future?
11. What do you believe are the key factors of the FDELK program that lead to positive outcomes for your children?

12. How has the Full-Day Early Learning Kindergarten program impacted the children in your classroom?
   Probe: How is the program impacting children differently compared to the regular Kindergarten program?

13. What has been done, if anything, to adapt the program to the local context?
   Probe: Describe the need for adaptation.

14. How well do you feel Full-Day Kindergarten is meeting the needs of all the students at your school?
   Probe: What could be done to help improve the program for (insert subpopulation, e.g., students with special education needs)?

15. Can you describe the assessment and evaluation practices you typically use?
   Probes: Describe your documentation strategies.
   How do you track and record student progress?
   What would be your top three strategies?
   Are these strategies used for all students?

16. Can you describe the process you use for sharing information about children’s growth and development?
   Probe: If a parent or principal came into your classroom and wanted to be informed about the progress of a particular child, how would you proceed?

17. In what ways do you think your assessment and evaluation practices and information sharing processes have changed with the implementation of the FDELK program?

18. What additional training and/or resources would you identify as helpful in supporting the successful implementation of the program?

19. As I bring this interview to a close, I would like to know if there is anything you would like to add that you haven’t had a chance to talk about regarding the Full-Day Early Learning Kindergarten program.

20. Is there anything we could do to improve this interview?
1. Please describe the nature of your organization or the specific nature of your work.

2. As a community stakeholder, what are your roles and responsibilities? Probes: How has your work changed since the FDELK program has been implemented? What has remained the same in your work? If it has, how has your mandate changed in response to FDELK?

3. Can you describe how you are or have been involved with the implementation of the FDELK program?

4. Describe the relationship that you have in working with educators, parents, and children in the FDELK program. Probes: Describe how you support families with Kindergarten-aged children. What is working? What is not working? What do you think needs to happen to make this relationship work well?

5. How well do you feel Full-Day Kindergarten is meeting the needs of all students? Probe: What could be done to help improve the program for (insert subpopulation, e.g., students with special education needs)?

6. What has been done, if anything, to adapt the program to the local context? Probe: Describe the need for adaptation.

7. What parts of the program do you think are working well (successes)? Probe: What things have helped program implementation to go smoothly?

8. What parts are not working as well (challenges)? Probes: What challenges and barriers have emerged as the program has been implemented? Do you have any suggestions or possible solutions?

9. What improvements would you suggest for implementation of this program?

10. As I bring this interview to a close, I would like to know if there is anything you would like to add that you haven’t had a chance to talk about regarding the Full-Day Early Learning Kindergarten program.

11. Is there anything we could do to improve this interview?
Interview Guide for Parent Focus Group of Children in FDELK Classes

1. What are some things you like about the FDELK program your child is currently attending?
   Probe: What seems to be working well?

2. What are some things you like less about the program your child is attending?
   Probe: What would you like to see changed and why?

3. How is your child responding to the Kindergarten program?
   Probe: How would you describe your child’s reaction to the program?

4. How have teachers, parents, and community members/agencies been working together in the program?

5. How well do you feel the FDELK program is meeting the needs of all the students at your school? [This question may require SENSITIVE MODERATION.]

6. What are the key factors making the program successful?
   Probes: How would you describe what the children do during the day? How do you feel about this?
   How would you describe the organization or routine? How do you feel about this?

7. What do you find helpful to know about your child’s learning?

8. How often do you like to hear about your child’s progress?

9. What format do you prefer to receive information about your child’s progress?

10. Is there before-school or after-school care available to your child?
    Probes: Can you describe your experience with the program?
    Or would you use it if it were available?

11. So far, what positive impacts have resulted from your child’s FDELK experience?
    Probes: For your child? For you and your family?

12. So far, what, if any, negative impacts have resulted from your child’s Kindergarten experience?
    Probes: For your child? For you and your family?

13. Is the FDELK experience so far what you expected?
    Probes: What did you expect that you are not experiencing?
    What are you experiencing that you did not expect?

14. What would you recommend be done to improve the Kindergarten program in general?
15. Are there any other comments or thoughts you wish to share before we finish up?

16. As I bring this interview to a close, I would like to know about your experiences about having participated in this focus group.  
   Probe: What was it like for you to participate in this interview?

17. Is there anything we could do to improve the interview?
**APPENDIX E: HIGH FIDELITY FDELK SCHOOL CHECKLIST**

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<thead>
<tr>
<th>High Fidelity FDELK Criteria</th>
<th>4</th>
<th>5*</th>
<th>6*</th>
<th>8*</th>
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<th>11</th>
<th>12*</th>
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<th>15</th>
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<tbody>
<tr>
<td>Team members are dedicated to helping their students be successful and are respectful of children’s individual differences (p. 7)</td>
<td>✓</td>
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<tr>
<td>Team members are committed to learning from each other, the students in the class, and the students’ families (p. 7)</td>
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<tr>
<td>Team members use a variety of instructional strategies: whole-class instruction, small-group learning, independent learning, and activities at learning centres (p. 7)</td>
<td>✓</td>
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<tr>
<td>Team members effectively assess and understand the needs of their students and use differentiated instruction (p. 8)</td>
<td>✓</td>
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<tr>
<td>Team members provide learning experiences that are integrated and meaningful for students through the use of hands-on experiences and connections to students’ everyday life (p. 8)</td>
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<td>Team members provide opportunities for both child-initiated free play and more structured play-based learning experiences in the classroom (p. 13)</td>
<td>✓</td>
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<tr>
<td>Team members understand the value of play and are able to communicate this to parents, colleagues, and community partners (p. 14)</td>
<td>✓</td>
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<td>Team members facilitate the Inquiry Process in the classroom (p. 15)</td>
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<td>Team members actively invite parent involvement (p. 10)</td>
<td>✓</td>
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<tr>
<td>Team members partner with family members and community partners to meet the needs of their students (p. 11)</td>
<td>✓</td>
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Note: Criteria are taken from the Full-Day Early Learning Kindergarten program draft document (2010-2011). School numbers are used in place of school names in this checklist. Schools marked with an asterisk (*) were categorized as high fidelity schools because they met all 10 inclusion criteria.