Outdoor Play and Learning (OPAL) in School Communities

Results from the Pilot Programming in Toronto

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March 2020

Funding for this research was provided by EcoKids (formerly Earth Day Canada) and the Ontario Trillium Foundation. Brenda Simon, former Director of Play Programs at Earth Day Canada, facilitated the implementation of this OPAL evaluation study. All photos in this document are credited to EcoKids.
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Executive Summary

Play is a natural childhood instinct that is crucial to a child’s learning and development. In the context of a systematic decline in outdoor play across the western world, schools can be a refuge where children can engage in self-directed, creative, and spontaneous outdoor play.

Outdoor Play and Learning (OPAL) is a play provision training program by EcoKids (formerly Earth Day Canada) that is designed to protect a child’s right to play, particularly at elementary schools. The programming was influenced by the U.K.-based school improvement program of the same name (www.outdoorplayandlearning.co.uk). OPAL aims to transform attitudes to play provision, supervision, and risk management in Canadian schools. It encourages schools to use loose parts to enrich and diversify the play offering. Between 2016 and 2018, EcoKids worked closely with six school communities in the Toronto District School Board (TDSB) to implement an OPAL pilot programming in Ontario. The programming later expanded to 40 more public elementary schools in the Toronto region.

This research evaluates the OPAL pilot project (i.e., the programming at six pilot schools) using a mixed-methods approach, which includes baseline and follow-up surveys (multiple cross-sections) of children attending grades 4-6, and post-implementation interviews of OPAL Champions (i.e., teachers and staff). The goals of this evaluation research are to (1) improve understanding of the benefits of such programming in enhancing children’s play outcome and wellbeing, and (2) provide insights that would improve larger-scale program delivery at other Canadian school communities.

The study team collected baseline data in Spring 2016 and follow-up surveys. Interviews were conducted in Spring 2019.

Interviews with OPAL Champions at schools indicate that outdoor play has become more engaging, inclusive, and imaginative. OPAL playgrounds have also created opportunities for children to be more physically active during the recess periods. Especially at the kindergarten level, teachers noticed improved opportunities to develop motor skills and improved focus and classroom behaviour.

More specifically focusing on students in grades 4-6, results from questionnaire surveys indicate higher levels of parental support toward outdoor play in 2019 compared to 2016. Students in grades 4-6 reported spending more time playing outdoors during lunch periods. The perception of play equipment diversity was also higher in the follow-up year.

More students found friends at school after OPAL implementation than before, and more students were happy when playing outdoors.

The majority of children reported learning something new during OPAL play, and more than a quarter of students would like to see more loose parts in their schoolyard.

The key informants also discussed several challenges to the implementation and long-term sustainability of OPAL programming in Toronto. Ensuring adequate training to lunch supervisors and caregivers, and replenishment of loose materials on a regular basis were identified as top concerns.

Our research results offer insights into the benefits of outdoor play-based programming, and more specifically of those focusing on loose parts play. The report also provides valuable knowledge that will inform and encourage larger-scale play programming interventions across Ontario and Canada.
Background

Every child has the right to play. Despite many benefits, the opportunity for outdoor active play has diminished across the western world over the past decades. Existing literature has widely recognized parental concern for a child’s personal and traffic safety as a key reason behind a decline in children’s independent mobility and their outdoor presence (Waygood et al., 2020). In addition, while the actual risk of serious injury when playing outdoors is extremely low (e.g., there is only a 0.0004% chance of sustaining a fracture when playing in the playground), the perceived potential for injury associated with “risky” play has led to constant supervision and “sterile” playground design that is often not interesting or exciting for children to play in (Bundy et al., 2009; Farmer et al., 2017; Niehues et al., 2013; Tremblay and Brussoni, 2019).

An emerging body of literature suggests that play deprivation has become a serious issue, impacting children’s physical health, social and emotional wellbeing, and learning. Within the current context of a culture of adult-directed child mobility and the rarity of outdoor play, schools can potentially be places for children where outdoor free play can sustain and thrive during recess times. Schools and school grounds are places where almost all children in Canada spend from 6-10 hours a day. From kindergarten to grade six, recess and lunch hour comprise about 20% of a child’s time spent at school (OPAL, 2019).

However, in the past decades, educational reforms and an emphasis on over-engineered “safe” playgrounds across North America have arguably led to a decline in the quality and quantity of time that children have for play before, during, and after the school day. David Elkind adds, “these days play seems superfluous, that play is for slackers, that if kids must play, they should at least learn something while they are doing it” (Elkind, 2008). Recess is often taken away as a disciplinary measure and frequently cancelled due to mildly adverse weather conditions. Pellegrini and Holmes (2006) found that by reducing break times at school, school administrators and teachers are also reducing the only opportunity students have to recharge and socialize. Researchers also argue that unstructured breaks have the potential to improve cognitive performance (Pellegrini, 2008). Improved programming for recess periods can help children remain on-task longer and participate more actively when they are in the classroom (Madsen et al., 2011).

In Canada, the potentially lost opportunity to enable outdoor play in schools has received much attention in the past decade. Many school boards in Ontario are investing in getting children outside for play-based learning (Ontario Ministry of Education, 2009). New initiatives such as naturalized playgrounds, new playground equipment, outdoor classrooms, and enhanced FDK spaces are being implemented in response to the explicit requirement for outdoor play (Council of Ministers of Education Canada, 2012).

EcoKids (formerly Earth Day Canada) has been delivering the Outdoor Play and Learning (OPAL) program across elementary schools in the Greater Toronto Area since 2016. Between 2016 and 2018, an OPAL pilot programming was completed in six diverse school communities within the Toronto District School Board (TDSB). OPAL is a play provision training program that is designed to protect a child’s right to play, particularly at elementary schools, with a goal of transforming attitudes to play provision, supervision, and risk management.

During the pilot programming, EcoKids worked with each school community and helped develop an outdoor play policy, strategy, and
implementation plan for recess, lunch hour, after-school and play-based outdoor learning in Full-Day Kindergarten (FDK). The programming allows children to experience enriched and diverse play opportunities in a supervisory environment that supports self-directed play with loose parts. By allowing children to assess and take risks without excessive adult interference, children are able to both demonstrate and develop their capacities, and in turn, responsibility. Supervising staff have had the opportunity to move from micromanaging to facilitating and are able to observe the children’s unfolding capacities with pleasure.

Five of the pilot elementary schools elected to begin play program implementation within their Full-Day Kindergarten (FDK) programs, eventually rolling out the programming to all grades, while one school elected to begin with grades 1 to 5 and extended to FDK at a later time.

Lessons learned from the OPAL pilot project will improve our understanding of the benefits of such programming, and more broadly the benefits of loose parts play, in enhancing children’s quality of play and wellbeing. This pilot can also provide insights into the challenges and opportunities for implementing similar play programming, which would improve larger-scale program delivery at other Canadian school communities.

As part of this pilot project, researchers from Ryerson University designed and implemented an evaluation study to:

- Provide insights into the current state of outdoor play at Toronto’s public schools.
- Examine changes in outdoor play conditions at schools and children’s play outcomes after OPAL pilot implementation.
- Explore associations between outdoor play conditions at school and a child’s health and wellbeing.
- Assess potential challenges and opportunities relating to program implementation.

The OPAL evaluation research began in the Spring of 2016 before OPAL programming rolled out in the six TDSB schools. The evaluation research was completed in 2019.

The results from this evaluation study will help in validating the hypothesized benefits of the OPAL programming, identify challenges as well as opportunities, and secure further support from the government, school boards and local communities in rolling out this play model intervention in schools across Canada. More broadly, the findings will offer new knowledge in understanding school play conditions and contribute to building stronger Canadian evidence in the play policy intervention realm.

This report outlines the research methods and key findings from the baseline and follow-up data describing the state-of-play in Toronto’s public schools, the experience of OPAL implementation, and post-OPAL changes in play conditions and outcomes.
Benefits of Outdoor Play in School Communities

Play is freely chosen, self-directed, intrinsically motivated, and spontaneous (Faulkner et al., 2015). These fundamental characteristics differentiate play of any kind from other structured activities and entertainment. The right to play and leisure is enshrined in Article 31 of the U.N. Convention on Rights of the Child, 1989. Play is a natural childhood instinct that is enjoyable and crucial to learning and development (Gleave and Cole-Hamilton, 2012). An emerging body of research provides evidence suggesting that play has both immediate and long-term benefits to children’s health and wellbeing.

School and school grounds serve an important purpose in children’s lives and can have a transformative influence on their health and wellbeing, both in the short- and long-term. During the school year, a school is the only place where a large number of children assemble every day and are able to find outdoor active social time.

The OPAL program offers an opportunity to improve play by transforming adult and child attitudes to enable and facilitate spontaneous and creative play. It takes a whole-school approach to improve play, by working with a Lead Team within each school to address risk aversion and develop a positive approach to play and an implementation plan that includes risk management and changes to supervision. The programming encourages schools to use loose parts to enrich and diversify the play offering. The program was originally developed to address anxious unhappy behaviour, bullying, and poor quality of play in U.K. schoolyards. OPAL seeks to improve the social and collaborative life of the entire school, increasing cooperation, sense of agency, inclusion, and pleasure.
Benefits of Outdoor Play in School Communities

Physical Benefits

Helps build stronger muscle, bones, and lung capacity (Lindon, 2007); develops motor functioning and movement skills; contributes to physical activity and more active children (Cooper et al., 2010; Faulkner et al., 2015).

Social Benefits

Provides opportunities to develop friendship, sense of social identity, and well-being (Baines et al., 2001; Gibson et al., 2011); improves school and classroom behaviour (Pellegrini and Bohn, 2005); enhances the ability to share, communicate and work in teams (Ginsburg, 2007).

Emotional Benefits

Enables enjoyment; prevents boredom; children learn to express painful feelings and overcome trauma (Hirschland, 2009).

Cognitive Benefits

Offers different types of learning opportunities in a school day (Jarrett et al., 1998; Pellegrini and Davis, 1993) including spatial and mathematical learning, language development, and creativity (Coalter and Taylor, 2001).
Loose Parts Play

Loose parts play is an approach that has been developed to maximize opportunities for child-led play and engagement, by improving the diversity and quality of play offerings. Typically, loose parts play involves introducing movable materials and “soft” and unstructured play equipment to children’s play areas and enabling them to engage with these materials and equipment with little or no adult supervision and direction (Gibson et al., 2017). The benefits of loose parts play have been acknowledged by educators since the 1960s. Children can experiment with loose parts while playing, as these materials can be used in many different ways (Nicholson, 1971); children make their decision on how to engage with loose parts and in what manner (Gibson et al., 2017).

Despite growing evidence of the benefits of loose parts play, there is little understanding of its impact on educational settings (Spencer et al., 2019). During the school year, children spend the majority of their time in school or daycare. For policymakers, educators, and advocates, an improved understanding of the benefits of loose parts play, as well as insights into the challenges and opportunities relating to loose parts play-based programming and interventions, is critically important. The proceeding chapters in this report further explore these benefits through student surveys and key informant interviews, in order to inform advocacy and ultimately public policy.
Benefits of Loose Parts Play

Physical Activity

Encourages children to explore, learn, and create, which makes them active. Loose parts play also enhances children’s physical literacy and fundamental movement skills (Gibson et al., 2017; Houser et al., 2016; Casey and Robertson, 2016).

Cognitive Development

Promotes components of cognitive development (Spencer et al., 2019). The unstructured and open-endedness of play advance cognitive development in children. Problem-solving skills and resiliency are also enhanced through loose parts play (Gibson et al., 2017).

Creativity and Imagination

Inspires imaginative and creative play. This is related to the open-ended nature of loose parts play (Gibson et al., 2017). Children are able to create their play experiences based on their ideas rather than materials with one predetermining purpose (Ånggård, 2011).

Risk-Taking Capacity

Encourages children to explore their environments and take risks during play (Casey and Robertson, 2016). This leads to the healthy conceptualization of risk-taking and risky play, for both adults and children. They become less fearful and learn to take more risks, which makes them more independent and confident (Spencer et al., 2019).

Social and Emotional Benefits

Research suggests that children prefer loose parts play than playing with structured toys (Neill, 2013). They are happier while playing with loose parts (Houser, et al, 2016). Thus, outdoor loose parts play can provide an enriching learning environment for children (Gibson et al., 2017).
The OPAL Study in Toronto
OPAL Evaluation Research

Between 2016 and 2019, a longitudinal evaluation of the OPAL pilot project was conducted at six TDSB elementary schools in Toronto, using a mixed-methods approach. The evaluation included the collection of data using student surveys and semi-structured interviews of OPAL Champions (key informants). The student surveys were collected in two phases: before the implementation of OPAL programming (baseline surveys) and, after the implementation of OPAL programming (follow-up surveys). Post-implementation in-depth interviews of key individuals involved in program delivery at each of these schools (i.e. OPAL Champions) provided further insights into the benefits of the programming and challenges and opportunities related to program delivery.

Baseline surveys were conducted at all six OPAL schools (n = 352 students attending grades 4, 5, and 6). The follow-up survey focused on four schools that have completed OPAL implementation (n = 119 students). Post-implementation interviews were conducted with ten OPAL Champions at five schools.

Data Collection & Timeline

The OPAL pilot evaluation study began in the Fall of 2015. Research ethics approval from both Ryerson University’s Research Ethics Board (REB) and TDSB’s External Research Review Committee (ERRC) were secured in Winter 2016. In the Spring of 2016 (and 2019), all researchers involved in this project obtained police clearance and vulnerability sector clearance in order to be able to work in TDSB schools.

In January 2018, preliminary findings from the research were presented to key stakeholders including TDSB representatives, teachers, and community members at the OPAL Symposium in Toronto.

In the Spring of 2019, data collection continued at three of the six schools when researchers conducted follow-up surveys with children – 119 surveys were completed in total. Interviews were also conducted at this time at five of the OPAL schools.
Figure 1: Timeline of OPAL Pilot Program Evaluation

**Winter 2016**
Research design completed and received research ethics board (REB) approval

**Fall 2017**
Follow-up data collection in one school (Chester Elementary School)

**Winter 2018**
Report preliminary findings to Lawson and EcoKids (Outdoor Play and Learning (OPAL) in School Communities: Results from the Pilot Programming in Toronto)

**Spring 2016**
Survey pilot tested
Baseline data collection in 6 schools (352 surveys)

**Winter 2018**
Presentation of research finding at OPAL Symposium in Toronto

**Fall 2019**
Data Analysis

**Spring 2019**
Follow-up data collection (OPAL-Champion interviews) in 4 schools (Alexmuir Junior Public School, Blake Street Junior Public School, Crescent Town Elementary School and Elmlea Junior School)

**Winter 2020**
Submit final OPAL evaluation report to EcoKids

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OPAL
The OPAL program was piloted at six TDSB schools located across Toronto. The pilot schools represent the socio-economic and built environment diversity of the city: from inner-urban neighbourhoods to suburban neighbourhoods, and from low-income to high-income neighbourhoods (Figure 2). The following six schools were selected by TDSB and EcoKids for piloting the OPAL program:

- Alexmuir Junior Public School
- Blake Street Junior Public School
- Chester Elementary School
- Crescent Town Elementary School
- Elmlea Junior School
- Lord Lansdowne Junior and Senior Public School, and Da Vinci School

Figure 2: School location distribution across the City of Toronto
Student Surveys

A questionnaire survey was designed to ensure that it could be easily understood by children between the ages of 9 and 12 years and that it could be completed by a grade 4-6 student in less than 20 minutes. The survey was piloted before data collection in the Spring of 2016. Necessary adjustments were made after piloting, specifically by adding more clarification to some of the survey questions.

The survey included questions focusing on children’s experiences with outdoor play conditions at school, including adult supervision, play materials, safety, and excitement. Self-reported data on satisfaction with outdoor play (i.e., happiness) and subjective well-being were also collected. For the follow-up surveys, the same questions were repeated for before-after comparison between two samples, and additional questions were added to provide insights into the use and experiences relating to various aspects of OPAL programming. A comparison between baseline and follow-up survey responses are expected to offer a better understanding of the impacts of OPAL programming among children attending public elementary schools.

In addition, children filled out a play diary where they listed the types of play they were engaged in during outdoor playtimes (before/after school, recesses and lunchtimes) on the day before the date of the survey, as well as the duration of outdoor play during each of these recesses periods. The play diary was adjusted in the follow-up survey to only include recess and lunchtimes.

All students from grades 4, 5, and 6 in these six schools were invited to participate in the baseline survey, while students from four of the pilot schools (who have since successfully completed OPAL programming) were invited to participate in the follow-up survey. Surveys were completed in one day at each school during a class period in the presence of a teacher as well as research assistants who provided clarifications when necessary. In one school, a second visit was necessary to increase participation for follow-up survey data collection.

The baseline surveys were conducted in Spring 2016 at all six OPAL pilot schools; a total of 352 children participated in the survey (Table 1). The follow-up data collection started in Summer 2017 when 41 surveys were collected at Chester 13.

Table 1. Baseline Survey Data Collection

<table>
<thead>
<tr>
<th>School</th>
<th>Survey Date</th>
<th>Grades</th>
<th># of Participating Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexmuir Junior Public School</td>
<td>June 3, 2016</td>
<td>4, 5, 6</td>
<td>113</td>
</tr>
<tr>
<td>Blake Street Junior Public School</td>
<td>June 2, 2016</td>
<td>4, 5, 6</td>
<td>46</td>
</tr>
<tr>
<td>Chester Elementary School</td>
<td>June 8, 2016</td>
<td>4, 5</td>
<td>88</td>
</tr>
<tr>
<td>Crescent Town Elementary School</td>
<td>June 15, 2016</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Elmlea Junior School</td>
<td>June 1, 2016</td>
<td>4, 5</td>
<td>57</td>
</tr>
<tr>
<td>Lord Lansdowne Junior and Senior Public School/ da Vinci School</td>
<td>June 6, 2016</td>
<td>4, 5, 6</td>
<td>28</td>
</tr>
</tbody>
</table>

Total: 352
Elementary School. In the Spring of 2019, more follow-up surveys were conducted at three of the six schools. A total of 27 follow-up surveys were completed at Elmlea Junior School, 20 surveys at Blake Street Junior Public School, and 31 surveys at Crescent Town Elementary School, with a total of 119 responses from four OPAL schools.

Following advice from EcoKids, we did not conduct follow-up surveys at Alexmuir Junior Public School and Lord Lansdowne Junior & Senior Public School / da Vinci School, as these schools have yet to fully complete their OPAL pilot implementation.

Table 2. Follow-Up Survey Data Collection

<table>
<thead>
<tr>
<th>School</th>
<th>Survey Date</th>
<th>Grades</th>
<th># of Participating Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blake Street Junior Public School</td>
<td>June 17, 2019</td>
<td>4, 5, 6</td>
<td>20</td>
</tr>
<tr>
<td>Chester Elementary School</td>
<td>June 21, 2017</td>
<td>4, 5</td>
<td>41</td>
</tr>
<tr>
<td>Crescent Town Elementary School</td>
<td>June 14, 2019</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Elmlea Junior School</td>
<td>June 10, 2019</td>
<td>4, 5</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>June 19, 2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total: 119**
Key Informant Interviews with OPAL Champions

In addition to the student surveys, our evaluation plan included conducting in-depth semi-structured interviews with OPAL Champions.

These interviews helped us understand:

- The impacts of OPAL on students of all ages within TDSB schools (while the student surveys only focused on children in grades 4 to 6).
- The impact of OPAL on FDK teachers and children.
- Key lessons learned from the pilot program implementation and operation, including the challenges and further opportunities, which can inform future larger-scale rollout or OPAL or similar programming in other Canadian schools.

Ten interviews were conducted at four pilot TDSB schools. OPAL Champions included kindergarten teachers, grade school teachers, vice principals, and principals.

<table>
<thead>
<tr>
<th>School</th>
<th># of Champions Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexmuir Junior Public School</td>
<td>2</td>
</tr>
<tr>
<td>Blake Street Junior Public School</td>
<td>2</td>
</tr>
<tr>
<td>Chester Elementary School</td>
<td>2</td>
</tr>
<tr>
<td>Crescent Town Elementary School</td>
<td>2</td>
</tr>
<tr>
<td>Elmlea Junior School</td>
<td>2</td>
</tr>
</tbody>
</table>

Who OPAL Champions are:

Lead team of teachers, parents, administrators, daycare staff, and/or caretakers directly involved in OPAL implementation in each school.
Impacts of OPAL Programming: Result from Student Surveys
In this chapter, we report results from the surveys conducted among children attending OPAL pilot schools. For this purpose, pre-and post-implementation surveys of elementary school children who are attending grades 4, 5, and 6, were conducted. Children self-reported their play conditions both at school and at home/outside of school, including adult supervision, play materials, and the quality of the play environment such as safety and excitement. Self-reported data on satisfaction with outdoor play (i.e., happiness) and subjective wellbeing were also collected.

Surveys were conducted with students in grades 4, 5, and 6 at the selected schools. While all six schools participated in the baseline survey conducted in Spring 2016, the follow-up data includes students from four of the OPAL pilot schools. In 2018, our report titled “Outdoor Play and Learning (OPAL) in School Communities: Results from the pilot Programming in Toronto” provided a summary of the pre-OPAL play conditions, behaviour, and attitudes toward outdoor play in the six pilot schools. Key findings relating to these baseline conditions can be found in Appendix A.

Findings discussed in this section are reported based on responses from both baseline and follow-up surveys conducted at Blake Street Junior Public School, Chester Elementary School, Crescent Town Elementary School, and Elmlea Junior School.

In this chapter, results from baseline (211 participants) and follow-up (119 participants) surveys were compared with a specific focus on four key aspects:

- Play preference and adult support outside of school hours
- Outdoor play behaviour at school
- Play conditions for outdoor play at school
- Children's perceived happiness and subjective wellbeing

This before- vs. after comparison between two cross-sectional surveys begins to provide insights into the changes or improvements in outdoor play relating to the OPAL pilot project, as we compare data collected at the same locations, where no other significant play-related intervention was implemented during this period.
However, the exact causal nature of our observations cannot be confirmed. Panel data collected from the same students before and after the OPAL programming might have allowed us to make more direct causal inferences, but it can also be argued that a child’s play preference and perception may change with age and for this reason, multiple cross-sections may still be a more reliable approach to compare changes in play preference and behaviour. In this study, data collection from the same students was not possible due to unexpected delays in the implementation of the program in most schools. But more importantly, due to the low response rate in the follow-up survey (and subsequently a small sample size), establishing a statistical difference (or lack thereof) between pre- and post-OPAL data became difficult.

With regard to the characteristics of our two samples, they were not fully comparable. For example, 55% of children who responded to the baseline survey were girls and 45% were boys. In comparison, 63% of children who responded to the follow-up survey were girls and 37% were boys. From both surveys, most (82% baseline survey; 83% follow-up survey) children who participated shared their households with other sibling(s). Additionally, the average household size was five persons in the baseline and the follow-up data.
Play Preference and Support at Home / Outside of School

Parental Support Toward Outdoor Play

Parents of children attending public elementary schools in Toronto are generally supportive of outdoor play and may have become more encouraging of outdoor play in recent years. Results from the follow-up survey (Figure 3) show that 92% of children felt that their parents always or usually encourage them to play outside, or play outside with them, compared to the 79% of children who reported a similar level of parental support in the baseline survey. More specifically, there was a 13% increase in the number of parents who always or usually encourage their children to play outside or play with their children outside.

Children’s Play When Not at School

Children typically engage in a number of different activities when they are not in school. Figure 4 indicates that playing in the park or schoolyard with friends is a common activity for children when not in school. However, our follow-up surveys suggest that there was a 13% decrease in the number of children who play electronic games and a 2% increase in children playing in the park/schoolyard whether alone or with friends.

Figure 3: Parental Support About Playing Outdoors

Figure 4: Different Play Activities When Children are Not at School

47% of children watch TV instead of playing when not in school.

92% of children felt that their parents always or usually encourage them to play outside, or play outside with them.
Children’s Play Preferences When Not at School

In contrast to what they actually do when they are not in school when asked about what they would rather do, nearly half of the children (50% in baseline survey; 47% in follow-up survey) reported that they would play outside with friends. More than a quarter (29%) of children surveyed in 2016 (i.e., before OPAL implementation) expressed a preference to play on a computer or gaming device, however, the post OPAL survey shows that 6% fewer children would rather play on a computer or gaming device (Figure 5).

47% of children (follow-up survey) reported that they would play outside with friends, when not in school.

Figure 5: Children’s Play Preferences When Not at School
Outdoor Play Behaviour at School

In North America, children spend more than 30 hours a week in school. Recess and lunch periods can allow significant time (approximately 7.5 hours a week in elementary schools) for children to engage in active play. When a child does not or cannot play outdoors during school breaks, it represents a missed opportunity to enhance their physical, psychological, and social wellbeing (Ginsburg 2007).

Duration of Outdoor Play While in School

Our survey data reveal that more children are playing outdoors for longer periods of time during lunchtime after the OPAL pilot implementation.

From our follow-up survey, during lunch period 87% of children played outdoors for 20 minutes or more (self-reported duration), compared to 81% of children from our baseline survey, indicating a small increase. Figure 6 also shows a 9% increase in the number of children who play outdoors for more than 30 minutes during lunch.

Figure 6: Outdoor Play Duration During Lunch
Play Conditions at School

In the context of this study, we have examined play conditions at school by means of the style of adult supervision, play equipment, and play environment (including safety and excitement). Both baseline and follow-up OPAL surveys include six questions focusing on play conditions at the pilot schools.

Under a set of enhanced play conditions, children’s outdoor play should be facilitated and supported by adults rather than being directed or policed; children should have access to a diversity of play materials that are available all year round, and a high percentage of children should find the school playground to be safe and exciting.

When examining play supervision, over half of the children from both surveys (53% baseline survey; 52% follow-up survey) claimed that adults are always helpful in facilitating a play environment that is enjoyable for them. However, follow-up survey data does not reveal improvements with respect to independent play as 21% more children from the follow-up surveys admitted to never being allowed to play on their own with friends and without adult supervision (Figure 7). Overall, independent play may not have improved one-year post-implementation but may have the potential to improve in the future.

The follow-up data suggest that the diversity of play equipment is better after OPAL implementation as 59% of children participating in the follow-up survey (8% increase from baseline survey) reported that there is always something to play with when they want to create games or build things (Figure 7). There was also a 4% decrease in the number of children (8% baseline survey; 4% follow-up survey) who reported never having enough materials during play.

With regard to playing area safety and excitement, the data indicates generally similar conditions from before and after OPAL implementation (Figure 7). Over half of children in the baseline (56%) and follow-up (54%) surveys responded they always feel safe in the schoolyard and do not worry about other children. Similarly, most children (96% in the baseline survey; 98% in follow-up survey) indicated that their outdoor play is always or sometimes exciting.

Figure 7: OPAL Play Conditions at School
The Use of the OPAL Playground

The OPAL follow-up survey includes several additional questions (compared to the baseline survey) that specifically inquired students about their experiences with OPAL playgrounds.

Follow-up survey responses reveal a connection between OPAL programming and learning outcomes. The majority (67%) of children reported learning something new because of OPAL and 41% of children noted that they were able to do science and/or math experiments with OPAL elements.

The survey also asked children what they like the most about being an OPAL school. The opportunity to be creative and imaginative during outdoor play was cited most (20% of children). Students also like playing with loose parts (17%), building things (13%), the diversity in play (13%), having fun (10%) and simply more opportunities to be outside (7%).

Favourite OPAL Elements

At the OPAL pilot schools, children have exposure to a variety of different materials/loose parts. The follow-up survey data allowed us to highlight key elements that children enjoy the most. Figure 8 illustrates that fabric, tarps, and ropes are most popular with 30% of students favouring these materials. Children really like these materials in particular because they can use them to build their own swings. Tires are the second most favoured OPAL element at 28% and children described using them for activities such as climbing and rolling. In third place with 19%, children enjoy playing with milk crates (and/or other crates) to build their own forts. Other popular OPAL elements include pool noodles (7%), kitchen supplies/pots and pans (6%), spools (4%), wood boards and sticks (4%), and wagons (4%). Children also discussed combining different loose parts during play such as creating their own seesaws with both spools and wood boards.

Improvements to Schoolyard

Although children generally agree that outdoor play has improved at their school, they shared additional feedback about potential improvements for the future. Over a quarter (28%) of children who participated in the follow-up survey want to see more loose parts in their schoolyard (ex. crates, tires, wagons, fabric). Swings are also a common element that 22% of children want more of in their schoolyard. Children would also like to have more space to play (7%), slides (7%), climbing structures (7%), trees (6%), sports equipment (6%), an updated playground (4%), improved maintenance/cleanliness (4%) and shade (1%).

Figure 8: Top 5 OPAL Elements Reported by Children

67% of children in the follow up survey want to see more loose parts in their schoolyard (ex. crates, tires, wagons, fabric).

28% of children in the follow up survey want to see more loose parts in their schoolyard (ex. crates, tires, wagons, fabric).
Tarps
Tarps and ropes are most popular with 30% of students favouring these materials. Children really like these materials in particular because they can use them to build their own swings.

Tires
Tires are the second most favoured OPAL element at 28% and children described using them for activities such as climbing and rolling.

Milk Crates
In third place with 19%, children enjoy playing with milk crates (and/or other crates) to build their own forts.
Children’s Wellbeing

Where Children Find Friends

The importance of school in a child’s life is evident from the surveys, where a majority of surveyed children reported that they often see their friends at school, a common pattern found in both the baseline and follow-up surveys. Noticeably in our follow-up survey, 77% of children reported that they see their friends at school most often, compared to 58% of students in the baseline survey, indicating a 19% increase between pre- and post-OPAL implementation. The data from both surveys is consistent with respect to school being a more common place to find friends than parks or during organized sports/activities (Figure 9).

Another noteworthy finding is that 16% of children from the baseline survey reported seeing (i.e., finding) friends online, which decreased to 8% according to the follow-up survey data. While it is difficult to conclusively connect these findings to the OPAL pilot programming, it is encouraging to find that over time, OPAL schools have become more socially important locations for children. More specifically, we found that 40% of children made new friends on the OPAL playground after one year of program implementation.

Increasing opportunities for play at school (such as what was done through OPAL programming) may create new opportunities to make friends and through that facilitate the production and maintenance of their social capital. Our survey results begin to provide some evidence to this.

Figure 9: Locations Where Children Find Friends

<table>
<thead>
<tr>
<th>Location</th>
<th>Baseline</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>16%</td>
<td>8%</td>
</tr>
<tr>
<td>School</td>
<td>55%</td>
<td>77%</td>
</tr>
<tr>
<td>Park</td>
<td>24%</td>
<td>12%</td>
</tr>
<tr>
<td>Organized outdoor sports/activities with instructions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not have any friends</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>
**Children’s Happiness**

Previous research identifies happiness as a broad indicator of a child’s subjective wellbeing (Koch, 2018). Our follow-up (post-OPAL implementation) surveys reveal that 89% of the grade 4-6 children at the OPAL pilot schools are either very happy or happy when they play outdoors during school time, which is a 6% increase compared to the baseline survey where 83% of children reported being very happy or happy (Figure 10). Put differently, more than half of the surveyed children self-reported being very happy (based on median value), which is an improvement compared to the baseline year.

**Self-Reported Wellbeing**

To assess children’s subjective wellbeing more closely, both baseline and follow-up OPAL surveys asked ten questions related to various aspects of wellbeing. The students responded with a “Yes” (1) or “No” (0), and an unweighted sum of these ten scores for each child was calculated to represent their subjective wellbeing.

The baseline data suggests that 73% of children scored at least 8 on the wellbeing scale, whereas the follow-up data suggest 74% of children scored at least 8, indicating a subtle 1% increase in overall self-reported wellbeing (Figure 11).

Through analyzing the medians of the data, it is revealed that the follow-up data and baseline data both have median scores of 9. However, in the follow-up survey, 3% more children reported a wellbeing score of 10 (out of 10). Figure 11 also shows a general trend toward improved wellbeing scores when results from the baseline and follow-up surveys are compared.
Self-Reported Wellbeing Indicators

1. I am strong and active.
2. I enjoy trying things that are new.
3. I am not afraid to take risks.
4. Most things I do turn out well.
5. I am happy most of the time.
6. I can easily concentrate on the things that we do in the classroom.
7. I have good friends in my school, and we spend a lot of time together.
8. I enjoy meeting with or talking to new people.
9. I really like my school.
10. I feel good about who I am and what I can do.
Impacts of OPAL Programming: Results from Key Informant Interviews
Impact of OPAL Programming: Results from Key Informant Interviews

While the OPAL surveys focus on capturing grade 4-6 students’ play experiences and perceptions in the school playground, the scope of the investigation was narrow and the results do not necessarily reflect school-wide benefits of OPAL programming relative to physical and social health, as well as learning outcomes and skills development.

To complement the surveys, in-depth semi-structured interviews were conducted with OPAL Champions at Crescent Town Elementary School, Blake Street Junior Public School, Alexmuir Junior Public School, Chester Elementary School, and Elmlea Junior School. OPAL Champions include any lead team of teachers, parents, administrators, daycare staff, and/or caretakers directly involved in OPAL implementation in each school.

All these schools successfully implemented school-wide OPAL programming between 2016 and 2018. In the Spring of 2019, eight OPAL Champions participated in in-depth, semi-structured interviews, while two Champions participated in the Winter of 2020. In these interviews, the Champions discussed different aspects of OPAL implementation, its day-to-day operation, school-wide impact, and more specifically impacts on kindergarten children. The interviews also covered challenges and opportunities relating to OPAL implementation and operation.

In the following sections, we summarize these interview findings.
School-Wide Benefits of OPAL Programming

Changes in Play Behaviour and Attitudes

According to the OPAL Champions, the OPAL pilot programming brought significant changes in play attitude and play behaviour in children. Teachers’ role in the playground has also changed. In addition, the Champions perceive that parents are becoming more supportive of outdoor play.

To elaborate, throughout the interviews OPAL Champions confirm that teachers are taking a more facilitating role when supervising children and enforcing less restrictive rules in the playground. This indicates a shift from telling students not to do this or that, to using prompts and asking them if they feel safe.

“We really try to be hands-off where we stand and we watch. We determine what is a hazard and what is a risk. Try to avoid constantly saying ‘no’ and going over and breaking apart the play…”

By teachers taking on a more hands-off supervisory role on the playground children are learning to undertake their own risk assessments and manage their own play. Teachers may facilitate discussions around safe play when needed, but ultimately the children are making the decision based on what feels safe for them. Children are observed to push their limits during OPAL play.

“It’s okay for [kids] to push some of their limits, and it’s okay that [teachers/staff] just watch and monitor for as long as we feel it is within the boundaries of safety.”

At the OPAL pilot schools, playing has become more valuable to children, and they are showing greater interest in outdoor play. Children are developing resiliency, leadership skills and independence. OPAL Champions also expressed that there are fewer visits to the Principal’s office relating to behaviour or injuries.

“The kids are just a lot more resilient than they used to be. They’re much more independent in their problem solving and much less likely to tattletale.”

The OPAL Champions feel that parents are also more supportive of outdoor play, confirming our observations from the survey results presented in Chapter 4. As a result, children are coming to school better dressed for outdoor play. Such shifts in mindsets have enabled outdoor play to continue in rain, cold or snow resulting in fewer indoor recesses.

“If it starts raining while children are playing outdoors, not one child was knocking on the window to come back in.”

All OPAL Champions confirmed that children are happier and more excited to go outside and play after OPAL programming implementation. We observed similar results based on our survey data (Chapter 4), but when findings from the surveys and interviews are combined, they begin to emphasize happier outdoor play as a key outcome of the OPAL, and students of all grades and ages may have benefitted from the programming. In addition, children are reportedly less bored when they are outside and participate in more engaged self-directed play.
More Engaged / Active Students

Loose parts play creates opportunities for children to be physically more active (Gibson et al., 2017; Houser et al., 2016; Casey and Robertson, 2016). According to the interviewees, OPAL provides an outlet for children to be physically active, and they noted that children were moving for the majority of recess periods.

With the diversity of play elements and loose parts, OPAL offers a lot more ways to be creative and engaged in play. As a result, children do not spend time standing around and waiting for their turns to play.

“[The kids] are running around and playing different games, they are [in] the playground, they are using the materials for things that [teachers] would never think of.”

OPAL Champions also highlighted that children enjoy playing with loose parts and loose parts transformed under-used or unused schoolyard space into utilized play spaces.

“The soccer field was only used for soccer, now kids share it for various purposes.”

Children are being physically active in a variety of ways including lifting, stacking, jumping, climbing, running around, and playing chasing games. Pulling and pushing materials such as logs, tires and other children in wagons were amongst popular activities in the playground.

“We’ve had kids with no core muscle because they sit like this all the time. The tires, they are heavy and awkward. So, when you are lifting them or rolling them, you are using all different parts of your body.”

It is important to note that OPAL programming has created opportunities for children who would not otherwise engage in outdoor play, and by doing that, enabling physical activity and other health benefits.

“Lots of the kids live in the community housing behind us. They are stuck in their apartment after they leave school. So, having this opportunity to be outside for an extra 45 minutes, where they are able to play with OPAL they’d never be able to do that at home.”

Inclusive Play

At the OPAL pilot schools, the program fosters an environment that encourages a mixing of children of different ages as well as an inclusive space for children with special needs. As a result, play has become more inclusive.

“You see different sorts of children playing together which is nice. Kids who probably wouldn’t hang out in the classroom. But they start creating together, yeah.”

In addition, OPAL play materials offer diversity in play and have even been incorporated with non-OPAL materials or structures by children during play.

“If you don’t like what you’re playing or who you’re playing with, you have the power to change that.”
**Extended Play**

After the implementation of the OPAL pilot, outdoor playtime has increased during the school day at several schools as teachers are encouraged to take children outside, in addition to recess and lunch periods. OPAL Champions indicated that by incorporating OPAL play into class time, using OPAL playtime as a reward for good classroom behaviour or academic performance, as well as integrating OPAL into Daily Physical Education (DPA), children are getting more time to play and an opportunity to be more physically active.

“Teachers can sign up to take kids out for an extra hour of play using OPAL play as a reward/incentive for good classroom behaviour.”

**Improved Communication, Negotiation, and Risk Management Skills**

OPAL Champions highlighted that children are developing their communication, negotiation, and risk assessment skills. Outdoor play has also become more cooperative after OPAL implementation. Children are negotiating and sharing loose parts with each other. Half of all OPAL Champions we interviewed highlighted some improvement in problem-solving skills amongst children as they are advocating for themselves on the playground and resolving conflict on their own instead of running to a teacher to tattletale or getting into fights/arguments.

“They’re much more independent in their problem solving and much less likely to tattletale.”

“If you don’t like what you’re playing or who you’re playing with, you have the power to change that.”
Benefits to Kindergarten (FDK) Children

In addition to providing broad insights into school-wide benefits to all students, the semi-structured interviews also offered an opportunity to understand how the OPAL programming specifically benefited FDK (Full-Day Kindergarten) students, who could not be surveyed directly due to their young age. In our interviews, FDK teachers highlighted several improvements that have likely occurred after the implementation of OPAL play interventions.

A key finding arising out of the interviews conducted with OPAL Champions is that children developed a keen interest in playing with loose parts – this was especially evident with kitchen-related loose parts such as pots and pans. This imaginative and creative play allow kindergarteners to practice their vocabulary when explaining their creations to teachers.

“Every day and all the time they bring “meals” of grass and rocks. And they explain using their vocabulary.”

OPAL programming also contributes to the development of children’s motor skills through jumping, skipping, and balancing on logs, as well as their hand-eye coordination.

The teachers feel that OPAL play helps them prepare FDK children for the classroom, by calming them down for indoor instruction. Teachers reported that the OPAL program ties into the kindergarten curriculum quite easily and there are opportunities for learning to stem from unstructured play.

“They play, search for bugs, bring them into the classroom in boxes, and then document what they observe.”

Teachers also believe that starting OPAL in kindergarten makes children well-versed in play for when they move up and experience OPAL at higher grade levels.

Kindergarteners also experienced an increase in ownership over their play by feeling empowered to advocate for themselves through changing their play situation when it no longer pleased them.
OPAL Programming
Challenges and Opportunities
OPAL Programming Challenges and Opportunities

Interviews conducted with OPAL Champions at five pilot schools allowed us to better understand their experiences relating to the implementation and day-to-day operation of these “new” play principles. These discussions highlight several challenges faced by the schools as well as successful and potential solutions.

Implementation Challenges and Opportunities

The most common implementation challenge brought forward by OPAL Champions is that not all teachers and staff are fully supportive of OPAL. In every school, some teachers and lunchroom supervisors are nervous about OPAL and not confident when supervising OPAL play. While parts of the OPAL programming involve training around play supervision and play attitudes, for some, it is difficult to accept a facilitatory role instead of directly supervising children in the playground.

Moreover, due to frequent staff turnover, sometimes it becomes a challenge for schools to have OPAL trained staff supervising children in the playground.

Parents’ and the community’s attitudes vary depending on the socio-demographic characteristics of the neighbourhoods where the OPAL schools are located. In neighbourhoods where the majority of the population spoke other languages than English at home, it was difficult to gauge the level of community support toward OPAL. Despite sending translated materials home, OPAL Champions noticed a lack of enthusiasm in the parent community and received minimum feedback about OPAL.

“We haven’t had a lot of jump in eagerness about it. Not a lot of feedback from parents. Not a lot of the families speak English.”

Even when language was not necessarily a barrier, a communication gap sometimes exists between parents and other caregivers (e.g., grandparents, nannies) around the supervision of a child. For example, sometimes parents may not relay the information that they receive about OPAL programming to other caregivers who actually bring children to school and supervise them in the OPAL playground after school, resulting in reduced opportunity for a child to engage in arguably “risky” and “dirty” play that OPAL facilitates.

Our findings emphasize the importance of proper training and improved communication with parents and the community in maximizing the benefits of play-related programming. The OPAL programming includes professional development training for teachers and staff to build this capacity. In particular, the schools can undertake the following steps to address some of the implementation-related challenges:

- To have designated OPAL time in staff meetings. Situational photos to show how risks and play will be managed.
- OPAL Champions can encourage other teachers who are not fully involved to get involved. Periodical OPAL professional development sessions can be helpful.
- Periodic OPAL training sessions for new staff would provide the opportunity for unfamiliar or inexperienced school staff to receive the understanding and tools they need to be successful in managing OPAL play.
- “OPAL play days” may offer an opportunity for parents, caregivers and the community to become more familiar with OPAL play and help improve community support.
- Building long-lasting partnerships in the community would also allow parents to get more involved in the process.
Operational Challenges and Opportunities

While most OPAL Champions are excited about the play and learning opportunities offered by OPAL pilot programming, our semi-structured interviews also identified some major challenges that affect the day-to-day operation of OPAL programming. In all schools, except for Chester Elementary, OPAL Champions highlighted one common challenge: children do not come to school dressed for the weather conditions. This limits their ability to go out and enjoy outdoor play with loose parts in cloudy, rainy, or muddy conditions. The need for clothing libraries was mentioned consistently by interviewees as a potential solution to this problem.

Acquiring and replenishing loose parts on a regular basis is also a major challenge for teachers and staff, which many feared, may affect the long-term sustainability of OPAL programming implementation. The OPAL Champions pointed out that it is often hard to find desired loose parts in enough quantity and variety; it is also difficult to transport those materials especially on public transit or in smaller personal vehicles. OPAL Champions also struggle with weather-appropriate/resistant loose parts since it is common for these materials to get ruined by unfavourable weather conditions. Some potential solutions can be to establish formal partnerships with local businesses (e.g., Canadian Tire, Home Depot) to donate materials, as well as to organize “loose parts drives” for parents and community members, who can lend their support to the OPAL programming and be involved in the process.

Schools not having a clear long-term strategy relating to playing equipment (i.e., loose parts), was frequently identified as a key operational challenge. On a day-to-day basis, cleaning up loose parts at the end of the day (or after each recess period) leads to some disorganization. In order to resolve this issue, some OPAL Champions emphasized the need for a clear strategy that would identify who will be responsible for cleaning up loose parts and when it will be done.

OPAL Champions also referred to occasions when students would hog or steal materials from others. When such conflicts would arise, conversations around negotiating play would take place allowing children to develop and exercise their negotiation skills. For example, a school-wide discussion took place on how children should be playing with loose parts. Teachers also encourage and assist children to independently decide how they or other children can join in and play.

In addition, some students tend to damage materials during play rather than using them constructively. In such situations, supervisory staff would have conversations with students about respecting OPAL materials during play rather than prohibiting play all together.
Key Takeaways
Key Takeaways

Schools and school grounds are places where children in Canada spend between 6 and 10 hours a day, making them important places for play interventions in the context of a systematic decline in outdoor play across the western world. By enabling unstructured, child-led, exciting, and imaginative play during school, and by changing adults’ attitudes toward outdoor play and play supervision, school boards, educators, and caregivers can create more opportunities for physical activity and learning, as well as improved happiness and wellbeing. Changing the conditions for outdoor play can be one way of facilitating changes in play behaviour.

Since 2016, EcoKids has been involved in implementing OPAL programming in the Greater Toronto Area, delivering loose parts play-based programming to 46 elementary schools. A pilot program was completed at six TDSB public elementary schools in Toronto between 2016 and 2018; these schools are located in diverse neighbourhoods. This research study was undertaken to conduct an exploratory analysis of children’s outdoor play behaviour and preferences, and related outcomes.

The key goals of this research are to:

- Improve understanding of the benefits of such programming in enhancing children’s play outcome and wellbeing.
- Provide insights that would improve larger-scale program delivery at other Canadian school communities.

Results from this evaluation study will be useful in confirming the hypothesized benefits of OPAL or similar play interventions to children and school communities. The study also identified challenges to play program implementation and opportunities for further improvement.

More broadly, the findings from the evaluation research will offer new knowledge in understanding the relationship between school play conditions and a child’s play outcome and wellbeing, and by doing that, contribute to building stronger Canadian evidence in the area of play policy intervention.

In five of the six pilot schools, the OPAL programming started with FDK children, and school-wide implementation for OPAL pilot was delayed until the second year. Once schools experienced the program through FDK roll out, they embraced the entirety of the program and are working towards disseminating OPAL principles and practices to all their teachers and making OPAL play enrichment available to all students.

Delays in school-wide program implementation impacted our ability to longitudinally examine changes in play behaviour. Following baseline surveys conducted in 2016 among students in grades 4-6, we were able to complete follow-up data collection in the Spring of 2019. As a result, the before versus after comparisons reported in this study represent play behaviour at two time periods, before and after the implementation of a major play-related intervention. However, multiple cross-sectional data collected at the same schools is still a reasonable approach to examine changes in play behaviour.
The key findings from the surveys are below:

- A change in parental attitudes toward outdoor play was reported, with 13% more parents always encouraging outdoor play. Fewer children play (or prefer to play) on electronic devices outside of school hours.

- More children (87% versus 82%) are playing outdoors for at least 20 mins during lunch periods.

- More children reported a high diversity in play equipment/materials after OPAL implementation. Student perception of other play conditions, including supervision, excitement, and safety, did not change noticeably.

With regard to the use of loose parts-based OPAL playground, we found the following:

- The majority of children (67%) are learning something new because of OPAL; The opportunity to be creative and imaginative is the most liked aspect of an OPAL playground.

- The most favoured OPAL play elements are fabric/tarps/rope, tires, crates, pool noodles, and pots and pans.

- More than a quarter of children (28%) want to see more loose parts in their schoolyard.

Regarding student wellbeing, the surveys revealed that:

- More children see their friends at school (77% in the follow-up survey, versus 58% in the baseline survey); fewer children are spending time with friends online.

- 6% more children reported that they are either happy or very happy when playing outdoors.

- No major change in overall subjective wellbeing score in the follow-up survey.
In this report, we also report the results from the key-informant interviews conducted at five pilot schools. The interview findings indicate that:

- Outdoor play has become more engaging, inclusive, imaginative after the OPAL play intervention.
- The programming creates opportunities for children to remain physically active for longer periods of time, during the recess periods.
- Children are now doing better with play cooperatively and negotiating with each other while playing.
- Mixed-age and mixed-gender play have also become more common.

Specifically, regarding kindergarten (FDK) students, the Champions report that OPAL programming contributes to the development of children’s motor skills through jumping, skipping, and balancing on logs, as well as their hand-eye coordination. OPAL play helps them prepare FDK children for the classroom and deliver kindergarten curriculum through unstructured play.

Changes in play attitudes and short-term outcomes have the potential to produce significant long-term benefits to children. For example, when a child is allowed to play outdoors in the OPAL playground regularly during the school year, there is a higher probability that they will grow up as an active adult. Similarly, inclusive and imaginative play can lead the way in building long-lasting friendships and impact a child’s subjective wellbeing, even beyond school hours.

One of the key benefits of OPAL programming in gaining community support is that the principles it promotes resonate with what adults of today have experienced as children. OPAL’s loose parts, with its more natural and fluid setting, making it very familiar to parents/caregivers, regardless of the part of the world they came from. One community member’s comment about the OPAL playground: “…this reminds me of the things we would play with when we were children. Because we would just find things to do and find things to play with.” With such acceptance and familiarity, OPAL may contribute to breaking social isolation, especially in new immigrant-dominant communities.

It is no surprise then that we have observed enthusiasm and excitement at most pilot schools about the OPAL implementation, and teachers and the school communities are as eager as we are to find out the impacts of this programming on children of all ages across various school environments. While two of the pilot schools were not able to quickly implement school-wide OPAL programs due to leadership changes and other logistical limitations, other pilot schools have fully implemented their play interventions with much enthusiasm.

We hope that new insights offered in this report will inform and encourage larger-scale play program interventions focused on loose parts play, which is much needed for the health and wellbeing of our future citizens.
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Appendix A: Base Line Report: State of Outdoor Play in Toronto’s School Communities
State of Play at Toronto’s Public Schools

In North America, children spend more than thirty hours a week in schools. Recess and lunch periods can allow significant time (approximately 7.5 hours a week in elementary schools) for children to engage in active play. When a child does not or cannot play outdoors during school breaks, it represents a missed opportunity to enhance their physical, psychological and social well-being (BTHA 2011; Ginsburg 2007).

Duration of Outdoor Play While in School

Our baseline data revealed that while most children play outdoors during recess and lunchtime, engaging in either active or non-active play, some reported that they did not play outdoors at all during the school day (figure 5).

During Recesses

- 86% of children played outdoor for between 10 and 20 minutes.
- 7% did not play or did not play outdoor, at all.

86% of children play outside for more than 10 minutes at recess

7% did not play outside during recess

Figure 5: Play Duration During Recess and Lunch Periods
During Lunch Time

• 70% of children played outdoor for more than 20 minutes.
• 12% did not play or did not play outdoor, at all.

Less than half (44%) of grade 4-6 children identified their schoolyards as favourite places to play, and another 26% would rather play in other natural or human-built outdoor areas within the school. Sadly, about 1 in every 5 children (18%) did not have a favourite place to play at their schools (Figure 6). Improved conditions for outdoor play in schoolyards may reverse this pattern and encourage more children to use these spaces.

Although recess time is legally mandated in Ontario schools, our data indicates that some students did not or could not take this opportunity to play outdoors during recess periods. It is possible that some students did not participate in outdoor play due to unfavourable play conditions, or some might have been held back from going outdoors to play.

While the causal reasons could not be conclusively determined from our baseline survey, our data suggests that current schoolyards at TDSB schools may not be perceived as exciting by children attending those schools.

70% played outside for more than 20 minutes during lunch

12% did not play outside at all during lunch

Source: Earth Day Canada, 2016
Figure 6: Favourite Places to Play when at School

Source: Earth Day Canada, 2016
Play Conditions at School

Generally, play condition at an outdoor place can be described by means of the quality of adult supervision, play equipment and play environment, including safety and excitement. OPAL surveys included 6 questions focusing on play conditions at the 6 pilot schools.

Under a set of enhanced play conditions, one would expect that a high percentage of children would ALWAYS find the school playground to be safe and exciting, would ALWAYS have access to a diversity of play materials available all year round, and their outdoor play would ALWAYS be led by children and adults would play a facilitating rather than supervisory role.

OPAL programming aims to enhance play conditions and children’s outdoor play experience by shifting attitudes to play, risk and adult supervision towards a more child-led experience.

- 48% children thought that adults ALWAYS help them to achieve great play time
- 50% children thought that they ALWAYS have plenty of things to play with
- 54% Children ALWAYS feel safe while playing in school

- 47% children were SOMETIMES allowed to play outdoors without adult supervision
- 50% were SOMETIMES able to play in the schoolyard all year long
- 49% thought that they SOMETIMES had exciting outdoor playtime

- 16% of the children thought they were NEVER allowed to play outdoors without adult supervision
- 15% thought that adults NEVER help them to achieve great play time
- 8% thought they NEVER had plenty of things to play with

Figure 7: Play Conditions at OPAL Pilot Schools
Despite arguably moderate play conditions, the majority of the children reported that there is nothing that stops them from playing outdoors (55%), while another 12% thought that they do not get enough time to play outdoors (figure 8). Some thought their parents discourage them (11%) and nearly 1 in every 10 children (9%) reported that their teachers/school staff do not allow them to play outdoors.

Figure 8 also shows that 28% of children identified other factors as barriers to outdoor play at school. Among these other factors, weather conditions, school duties or club involvement, health conditions, and potential risk to play safety from other older children were listed as some of the common barriers to outdoor play at school.

Figure 8: Barriers to Outdoor Play at School

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Some of the grade 6 boys
I hate hot weather
I was injured
If it rains

Allergies
Sometimes I have a club
I have to help within the school

(other reasons a child may not play)

Source: Earth Day Canada 2016
Children’s Wellbeing

The importance of schools in a child’s life was evident from the surveys, where 55% of the surveyed children indicated that schools are where they find friends, more than at parks (24%) or during organized sports/activities (4%) (figure 9). What is alarming, however, is the finding that 16% of all children indicated that they typically find their friends online, and another 1% did not have any friends. Increasing opportunities for play at school clearly has the potential to improve children’s social and subjective wellbeing by creating opportunities to make friends and by facilitating the production and maintenance of social capital.

Previous research has identified happiness as a broad indicator of a child’s subjective wellbeing (Koch, 2018). Our surveys revealed that 82% of the grade 4-6 children at these 6 TDSB schools were either very happy or happy when they play outdoors during school time. However, at the same time, nearly 1 in every 5 students (18%) indicated that they were not happy (figure 10).

To assess children’s subjective wellbeing more closely, the OPAL survey asked 10 questions related to various aspects of well-being. The students responded with a “Yes” (1) or “No” (0), and unweighted sum of these 10 scores for each child was calculated to represent their subjective wellbeing. The baseline data suggests that 50% of children scored above 8 on this wellbeing scale; 42% scored 6 and above, and remaining 8% scored below 6 (figure 11).

Figure 9: Where to Find Friends

Figure 10: Happiness in relation to Outdoor Play
Self Reported Wellbeing Indicators

1. I am strong and active.
2. I enjoy trying things that are new.
3. I am not afraid to take risks.
4. Most things I do turn out well.
5. I am happy most of the time.
6. I can easily concentrate on things that we do in the classroom.
7. I have good friends in my school and we spend a lot of time together.
8. I enjoy meeting with or talking to new people.
9. I really like my school.
10. I feel good about who I am and what I can do.

Figure 11: Self-reported Subjective Wellbeing Scores

Source: Early Day Canada, 2017
In order to further examine the association between school play conditions and children’s subjective wellbeing, further analysis was carried out. We estimated an ordered logistic regression model to statistically examine the correlation between play conditions and the subjective wellbeing score for each child.

Table 2: Statistical Association between Play Conditions and a Child’s Subjective Wellbeing (Propa, Mitra and Simon, 2017)

<table>
<thead>
<tr>
<th>Potential factors that influence subjective wellbeing</th>
<th>Statistical Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental encouragement towards outdoor play</td>
<td>OR 2.08 (1.19-3.66)</td>
</tr>
<tr>
<td>Allowed to play alone or with friends</td>
<td>No association</td>
</tr>
<tr>
<td>Adults help to have a great play time</td>
<td>No association</td>
</tr>
<tr>
<td>Play in school yard all year long</td>
<td>No association</td>
</tr>
<tr>
<td>Plenty of things to play with/ make up a game/ build something</td>
<td>OR 1.55 (0.95-2.51)</td>
</tr>
<tr>
<td>Very exciting outdoor play</td>
<td>OR 2.03 (1.23-3.37)</td>
</tr>
<tr>
<td>Feel safe while playing</td>
<td>No association</td>
</tr>
</tbody>
</table>

NOTE: Statistical associations are presented by means of odds ratios (OR) and 95% confidence intervals. The OR indicates the odds of demonstrating a higher level of subjective wellbeing, due to a change in a particular play condition, when all other variations are held constant.

Model results, shown in Table 2, indicate that, after controlling for variations in a child’s age, gender, and household composition, their overall subjective wellbeing was statistically associated with the following play conditions:

- Parental encouragement towards outdoor play (Strong Association)
- Exciting playtime (Strong Association)
- Many things to play with/ play equipment (Weak Association)

OPAL introduced changes to supervision practices and play materials, allowing children a broader range of choices in a permissive environment. It is presumed that OPAL makes playtimes more exciting and brings about positive changes in adult attitudes, making both parents and teachers more encouraging towards outdoor unstructured play.