

Nature Kindergarten



2012-2013

Year One

Nature Kindergarten – Year One Report

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1.0 Brief Description of Nature Kindergarten and its Pedagogical Principles

A *Nature Kindergarten* provides students in their first year of school with large amounts of time in natural outdoor settings where they can play, explore and experience the natural systems and materials found there. Engaged outside in all types of weather, children and educators investigate natural phenomenon and learn about the place in which they live. For almost fifty years, there have been forest preschools, *Waldkindergarten*, and “rain or shine” schools in Northern Europe which provide outdoor experiences for children in the early years (3 to 6 years old). Research in these European settings has shown that the children go on to do well in public school. Now, these kindergartens are found in Australia, the UK and New Zealand.

The Nature Kindergarten, at Sangster Elementary School, began in September 2012 as a District-wide pilot program. The program is taught by a Kindergarten teacher and an Early Childhood Educator. Students spend 2.5 hours every morning in the Royal Roads University forest or at the Esquimalt Lagoon. The students follow the Kindergarten curriculum.



The **pedagogical principles** that guide the teaching and learning in the program include the following:

Connecting Deeply with Nature Through Play:
Environmental Stewardship

The Environment as Co-Teacher

Learning Collaboratively as part of an Empathetic Community

Physical and Mental Health

Traditional and Local Ways of Knowing and Understanding

2.0 Facts at a Glance

2.1 Number of students

2012/13: 21 students (2 Aboriginal students)

This class was composed of children from around our school district and included some children from the Sangster School catchment area. The class was composed of: 1 child with Cerebral Palsy; 1 child with ASD; 1 child with multiple allergies (some unknown); 10 girls; 11 boys

2013/14: 22 students (4 Aboriginal students)

2.2 Number of educators

One Kindergarten teacher (District-funded)

One Early Childhood Educator, 25 hours/week (Funded by grants)

One Aboriginal Support Worker, 5 hours/week (Funded by Aboriginal Education Dept.)

2.3 Days spent outside

179 of 182 days

2.4 Number of major injuries/bee stings

Major Injuries: 0 (There were minor scrapes and bruises)

Bee stings: 4



2.5 Attendance records

2012/13 Median absences Nature Kindergarten Class: 14.79 days

2012/13 Median absences Other Sangster Kindergarten Class: 14.73 days

2.6 Student office referrals

Over the course of the year, 4 students from this class were referred to the office multiple times because of behavioral difficulties. This compares to the school's Grade 1 class (which had more than that) and somewhat to the regular Kindergarten class, which had 2-3 students who were repeatedly referred to the office because of inappropriate behaviors.

2.7 Number of media stories: approximately 20

(Media stories have appeared in/on the following: *Globe & Mail*, *Maclean's Magazine*, *Toronto Star E-Book*, *Today's Parent Magazine*, *EcoParent Magazine*, *Times Colonist*, *Goldstream Gazette*, *Saanich News*, *Victoria News*, Shaw TV, CTV, CHEK, CKNW, and CFAV)

2.8 Number of presentations to external groups: 20+

(Presentations were given at the following: Habitat Acquisition Trust 2012 Conference and Film Series, St. Margaret's School, WILDBC Seminar, Northern Lights College, BCSSA 2012 Educational Leadership Conference (Vancouver), "Cities Fit for Children" 2012 Conference (Kamloops), OPEN Conference, University of Victoria Kindergarten Institute, Strawberry Vale Elementary School Pro-D, Co-op preschool presentations in Victoria region, Growing Innovation Grant Symposium (Vancouver) and Webinar, University of Victoria's *Guns and Barbies: The Complexity of Play in Early Childhood* course, *Early Childhood in its Material and Immaterial Worlds*, and *Moving Nature Outdoors* symposium, Childspace "Nurture in Nature" conference (New Zealand), Sooke's Awareness Film Night, Environmental Education and Communication 2013 Conference, Ministry of Health, Ministry of Education)

2.9 Number of participants in the Royal Roads University Continuing Studies Course "Nature Kindergarten Experience"

2012/13: 3 sessions offered – 46 participants in total

2013/14: 3 sessions are planned

2.10 Student achievement results (Cohort One)

Literacy: Exceeding expectations: 2
Meeting expectations: 16
Approaching expectations: 3

Numeracy: Exceeding expectations: 3
Meeting expectations: 17
Approaching expectations: 1

Social Responsibility: Exceeding expectations: 3
Meeting expectations: 14
Approaching expectations: 4

3.0 Impact Statements prepared by Nature Kindergarten Team

Lisa Lockerbie, Nature Kindergarten Teacher

Nature Kindergarten has been an extremely wonderful experience. There are many positive impacts from this program. Individualized learning for the children is one of these impacts. The format of the program allows for children to learn at the level that they are at. By being in nature, it allows the children to go as deep into the learning as they are developmentally ready for. For example, when a child finds a new plant they wanted to identify, some get out the nature guide books and look at the pictures until they find the right plant. Some children look at the pictures and use the first letters of a word to confirm it is a certain plant. Some children use the pictures and letter/sound relationship to sound out the words to confirm the name of the new plant and some want to read and know everything about the plant.

The physical education is also individualized. The children run, climb, jump, balance and maneuver difficult terrain. They only do what they are capable of, and as the children's confidence grows, so do their abilities. The children teach and encourage each other. It is normal to see a child describing to a friend where to put his/her feet and hands to climb a tree. They feel the need to help each other to be successful.



This strong sense of community and care-taking is another impact Nature Kindergarten has on the children and adults that are a part of this program. The children create strong bonds to each other and to nature. They always look out for each other and check to make sure a friend is okay if she/he has a fall, is sad or is playing alone. The children make sure they take good care of nature as well. They feel it is their job to ensure that all of the plants and animals are respected. They regularly express thanks for the forest and the beach for allowing us to play and learn in them. The parents in this program also feel a strong sense of

community. They connect for walks and outings outside school time and enjoy volunteering regularly within the program. Other community members are welcomed into the program, as we all learn from each other out in nature.

There is also space for children to be who they are within this program. The forest provides the children with the opportunity to learn in ways that work for them, to express their creativity, to gain confidence and a strong sense of independence. They become problem-solvers, detectives and creators. It provides children who may not find success in a typical classroom, an opportunity to shine and be "the best" at something. It provides them with an opportunity to try new things out without all eyes being on them, as there is space.

The positive impacts of Nature Kindergarten are countless. I feel that it is really important that this program continues in years to come. Many people around the province and country are looking to this Nature K model to use in their own communities. They can see the huge benefits in having nature as a co-teacher.

Erin Van Stone, Nature Kindergarten Early Childhood Educator

Nature Kindergarten... Who knew one year could have such an effect on so many people? This year twenty one children have left this program with a wonderful start to their schooling. This program has had a positive impact on our school, district and community. Through professional development it has had also had an impact on teachers, early childhood programs and families all around the province and country.



This year the growth in the children's physical development has been immense. At the start the children often struggled and had to "persevere" to get back up the steep hill back to the school, but now they run it with ease. They would tire easily on our morning walks, and now they are full of energy throughout the day. They are able to push themselves and have the confidence and ability to manage risk.

The most powerful piece in this program is the incredible passion these children have for learning. They have proven how capable and determined they can be towards their own learning. These children are constantly engaged and always asking questions, making

theories and sharing knowledge with anyone who will listen. The environment is a wonderful co-teacher; every day with a new lesson that is exciting and thought provoking. . They are independent thinkers who are confident in observing, researching and presenting. These children have become very strong, capable and confident learners who have a strong desire to do their best.

These children are passionate caretakers of nature and their community and they have developed a strong understanding of empathy, compassion and their place in their community. Soon into the year we realized that these children were creating strong bonds with us as instructors, the other children in their class, the environment and the community that supports them. They created a deep connection with our Aboriginal support worker, who in turn gave them a different lens to see the world. They have had the opportunity to experience intergenerational learning and sharing and have built strong bonds with these people. They have had the opportunity to learn from other children, youth and adults in their community; from people from other cultures and from diverse expertise.

A sense of wonder and the willingness to discover and learn is all you need to succeed, I have been told. These children are well prepared for life then as they are constantly engaging in wondering, discovering and teaching others what they know. This program has allowed children the space they needed to learn through their interests and environment. It provided the opportunity to meet children where they are in their learning and abilities. It gave children with unique needs the time, space and community to ensure that they succeed.

The growth that this class has experienced over the year expands over so many dimensions that it is difficult to understand unless you are engrossed within it, watching, experiencing and learning. This is a model that can be shared, be looked to for its view of children and how they learn. Nature and the community that supports this class is the reason we were able to accomplish all of these things. It is the root of why these children have found a passion for learning and a deep connection to their sense of self and place. When out with them you can see how connected, grounded and confident they are in

themselves and community. This program is more than a success; it is a model of excellent practice in the field of learning.

Murielle Lagace, Aboriginal Support Worker

Hi, my name is Murielle Lagace and I was responsible for delivering the Aboriginal Education component to the Nature K Program last year. The impact was great on the students, the community, and me. As for the students, they were always very excited whenever any First Nations information, stories or art work was introduced. They were full of questions and some children made a point to introduce me to others as “This is Miss Murielle and she’s First Nations.” The children also enjoyed the Aboriginal Role models that came in. The role models took the students on Nature Walks as well as drumming and First Nations songs. The impact on the community from what I have heard was from the parents. I would see most parents on Thursday mornings as they brought their children in. Also, I would meet the younger siblings of the children always happy to be seen.

The parents would report what their children had learned from the Aboriginal component of the program. As for myself, the impact was fantastic. I loved the children, the staff members as well as the delivery of the First Nations information. So often I did not really recognize every time and everything we were learning. The children have a way of teaching that is unique and delightful and in nature just that more magical!

Maureen Lauren, Sangster Elementary School Principal

Nature Kindergarten notes and effects:

- A community was created among the parents and the children
- Children became true custodians/ guardians of the forest and the beach; they also referred to themselves that way
- Children learned vast amounts of information about plants, animals, life cycles (in a very real way) and about how the different parts of nature affect the other parts
- They learned about the effects of weather on the forest over a 10 month period
- They learned from a variety of people: teacher, ECE, parents, Aboriginal Support worker, guests
- They learned to take care of each other- from learning first aid to being aware of other children on the trail and on the site
- They learned to manage themselves in a variety of places: forest, beach, classroom, school, walking through the community
- They became very independent
- Their snacks were the healthiest ones I’ve ever seen in a primary classroom
- The children’s physical confidence was very apparent over time and translated in confidence in themselves in many other ways (academically, socially, emotionally); I taught this class music once a week and could see these changes over the year- on their sites, in their own classroom and in my classroom
- The children adapted to various spaces: being outside, to being on the playground with other children and to whole group activities such as the Terry Fox Run, Jump Rope for Heart, our Christmas performance and school assemblies
- The program affected the rest of the school in various positive ways:
 - teachers requested more- and easier- access to the Royal Roads grounds in order to do walks, science activities, art projects, nature awareness

- buddy classes formed with the Nature K; one from the environmental studies program at Dunsmuir, one from our own grade 4/ 5 class at Sangster; these classes also visited some of the Nature K sites and had tasks/activities to do while they were there
- Sangster received a Science in Action kit (games) along with in-service for 2012-13 and for 2013-14; this was offered to every teacher in our school and included access to a biologist throughout the year as well as a field trip for each classroom
- Community interest contributed to parents starting a garden project for the school- a plot for each interested class to plant, water and harvest
- Community support was evident in the many conversations I had with various people (both connected and unconnected to the school) who had heard of the project and who thought it was an idea whose time had come; most people thought that the program should expand to other schools
- This project brought many media experiences to the class and to the school; it brought a large amount of very positive press to our School District and made me proud that we were the ones in SD No. 62 to take this idea and make it a successful reality.



Dr. Enid Elliot, Professor
at Camosun College

This project has been exciting as a researcher and rewarding as an individual. Spending each Friday with the Nature Kindergarten class I took photos, chatted with the children and listened to their play. It was a privilege to hear their thinking, watch the growth of their confidence and witness their developing understanding of the natural world. I had no

idea it would be such a powerful experience, but the children's enthusiasm for the program, their willingness to engage with the experience and their tremendous abilities to learn and to teach left me with even more respect for the abilities of five year olds. Outside each day the children learned to become a community of learners, of thinkers and of nurturers. They learned about worms and cedar, how to support a friend, to recognize invasive species; they thought about why a tree has grown crookedly, how to climb onto a tall log; they cared for worms and wood bugs, worried about the animals in "their forest". Each Friday I was eager to see what the children would help me learn and encourage me to think about.

Having children outside for half the day each day during the school year is a wonderful concept, but I did not realize that it is really a wonderful concept. The power of the fresh air, the breeze in the trees, the

movement of branches, the smell of the damp earth all invite the children to engage totally. And they do! They learn through their bodies, their senses and their minds. I saw each child benefit by this experience. This is an experience from which many children could benefit.

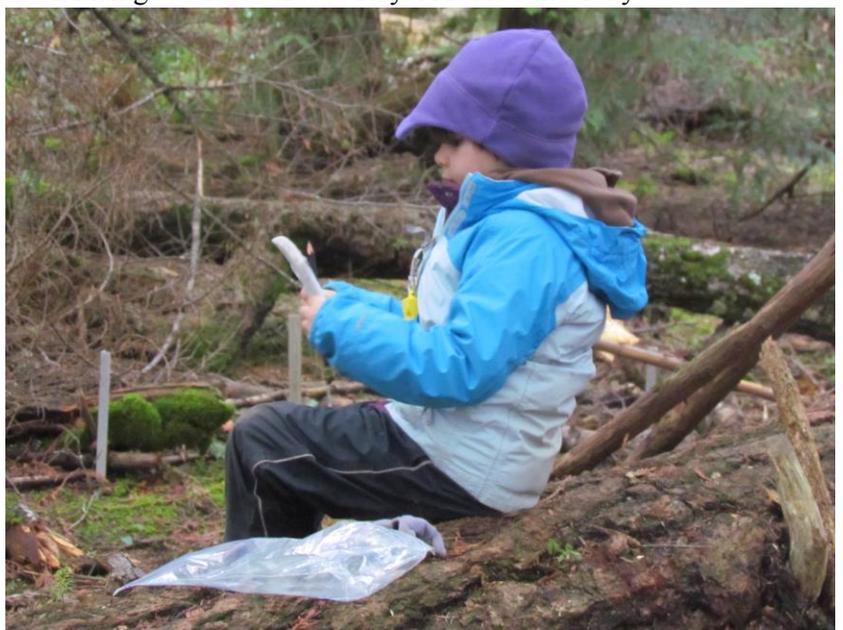
Frances Krusekopf, Nature Kindergarten Project Manager

The Nature Kindergarten experienced success in its first year that exceeded the expectations of the program developers, the team of educators, and the parents of the first cohort of Nature Kindergarten students. It had a positive impact on the students and their families, the educators, and communities beyond the program.

The first cohort of Nature Kindergarten students evolved, over the course of the school year, into a cohesive community of learners who learned how to keenly observe, learn and play together in nature. What struck me personally was their energy and enthusiasm to remain fully engaged in various activities throughout the entire 2.5 hours they spent outside. Students had as much interest in learning about a plant in the first ten minutes as they did in playing outdoors after 1.5 hours in the forest. Families, similarly, reported that their children spent more time outdoors than they had prior to being enrolled in Nature Kindergarten. More specifically, they reported that it was often Nature Kindergarten families who would be the last to leave the school playground at the end of a school day.

The educators, a Kindergarten teacher and an early childhood educator, were keen and committed to their own professional learning throughout the school year. For this reason, a very successful model of professional learning developed organically with input from the rest of the Nature Kindergarten team. The educators participated in regular steering committee meetings via Skype. These check-ins became an important vehicle for responding to logistical as well as pedagogical concerns and questions in a timely fashion. Professional learning opportunities were tailored to the needs of the two educators as well as the school principal, project manager, and professor involved in the project. The learning opportunities took place throughout the school year, and often involved the entire five-person team. The team used expertise from within the group as well as the support of outside experts to facilitate their professional learning.

The Nature Kindergarten blog and a variety of media stories, both print and television, were critical ways in which to disseminate information about Year One of the pilot project. Throughout the course of the school year, the Nature Kindergarten team was contacted by many individuals from public and private schools and preschools in BC and beyond. Members of the Nature Kindergarten team offered three sessions of a “Nature Kindergarten Experience” continuing studies course at Royal Roads University. Forty-six people participated in this course. There has truly been a ripple effect in the expansion of this program model. A number of similar programs are slated to begin, throughout the province, in the near future.



4.0 Parent Feedback (Cohort One)

4.1 Parent Focus Group, February 2013

We invited parents with students in the first cohort of Nature Kindergarten to participate in an after-school focus group meeting in February 2013. The families of 8 students participated in this session. The themes that emerged were:

- Increased knowledge: surprised at how much children were learning and retaining, noticing details, and observation skills
- Improved social skills: increased confidence
- Positive effects of being outdoors: energy, exposure to sunlight, open space to learn in
- Successful teaching strategies: safety rules, emergent learning, emphasis on building community
- Value of First Nations component of program
- Concerns around toileting needs for girls

4.2 Parent Questionnaires, June 2013

We asked parents with students in the first cohort of Nature Kindergarten to complete a two-page questionnaire at the end of the school year. We received 18 completed questionnaires. The themes that emerged were:

- Improved physical fitness: stamina, well-being, strength
- New attitudes toward nature: awareness, care for and about, knowledge, environmental appreciation
- Improved social skills: confidence, relationships, self-awareness
- Impact on families: more time spent outdoors in any kind of weather, connectedness to environment
- Increased understanding of First Nations: shared stories and learning with their family, impact on children, powerful relationships developed with Aboriginal Support Worker

When asked if they would enroll their child in Nature Kindergarten again, all respondents indicated that they would do so.

Additionally, we provided two statements where respondents were asked to respond according to a 5-point likert-scale. The findings were as follows:

This year has fulfilled our expectations.

On a five-point scale, with “1” representing “exceeded” and “5” representing “not at all”, 94% responded with a “1” and 6% responded with a “2”.

Has your child had a positive Kindergarten experience?

On a five-point scale, with “1” representing “agree” and “5” representing “disagree”, 94% responded with a “1” and 6% responded with a “2”.

Our overall findings were that parents of the first cohort of the Nature Kindergarten program were extremely pleased, and deemed the pilot model a success. The only re-emerging concern that was expressed was that parents wondered if their child would have a success transition to Grade 1.

5.0 Research Results – Summary of Findings (Cohort One)

In Year One, academic faculty and graduate students from the University of Victoria and Camosun College carried out research studies in the Nature Kindergarten Program and in two other Kindergarten classes in the Sooke School District. The preliminary findings are very encouraging. In order to protect



the reliability of Year Two research initiatives, further information about the findings cannot be shared publicly at this time.

In addition to these quantitative findings, rich curriculum documentation was accumulated. It was written up for publication (to appear in *Children, Youth and Environments*; special issue on Greening Early Childhood Education) and is being shared with other educators through our presentations.

6.0 Research Results – Documentation and Pedagogical Narration, Dr. Elliot, Professor at Camosun College

As part of the research for the Nature Kindergarten pilot program, the experiences of the children and teachers was documented. Through photos and journal, I followed the children and educators over the year. Not only was this record valuable for the first year of this program, it was a useful tool for reflecting on the learning and teaching that was happening. Over the year, I found the teacher and early childhood educator created a strong community of learners by encouraging children to wonder about what they saw and experienced, thinking critically about their environment and supporting each child’s strengths. This was captured in anecdotes, video clips and photos. The teacher and educator also took photos and created pedagogical narrations, which are a tool described in the BC Early Learning Framework, to capture their observations of the children’s experiences and their learning. Children were also able to take photos to share their understanding of their experiences. We have a rich collection of material with which to think deeply about this year’s experience.

See Appendix for an example of the pedagogical narrations.

7.0 Budget Overview for Year One

Revenue:

Carried Forward from 2011/12	\$26,111
RBC Foundation	\$11,000
Private Donations	\$900
Royal Roads University – Cont. Studies Course	\$1,232
Ministry of Education Grant	\$6,335
Vancouver Foundation	\$38,000
Presentation Honorariums	\$125 (plus additional gift cards)
Interest	\$389
Total Revenue	\$84,092

Expenses:

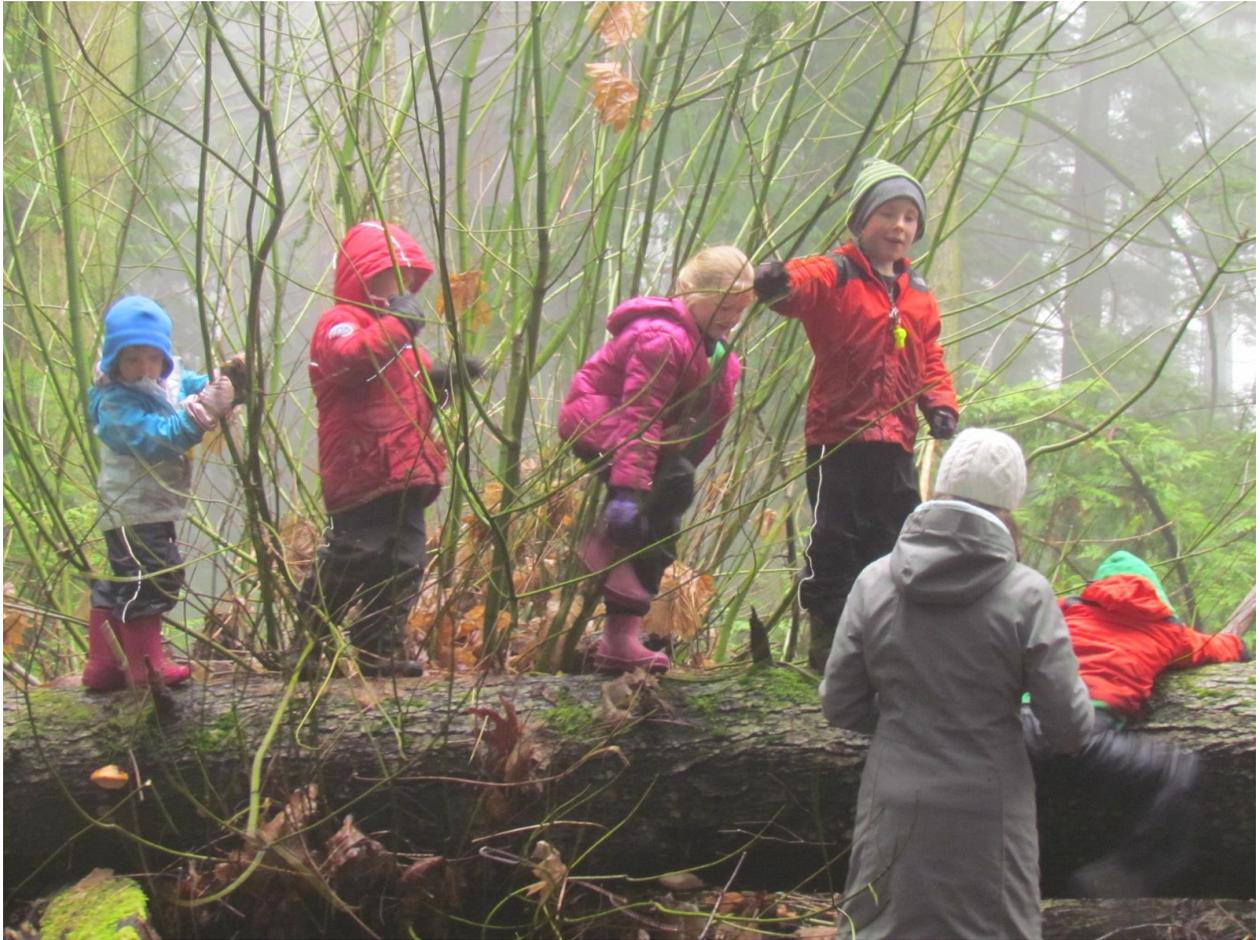
Salaries & Benefits – ECE (includes regular hours and professional learning)	\$30,829.77
Salaries & Benefits – TOC's (for teacher and two principals to participate in meetings and professional learning)	\$5,052.07
Services (includes monies to support UVic research)	\$7,805.00
Training & Travel	\$6,733.63
Supplies	\$6,348.75
Total Expenses	\$56,769

The second installment of the Vancouver Foundation grant, totaling \$22,000, was received in August 2013. **Therefore, the total available budget for Year 2, as of September 1, 2013, is \$49,923.**

8.0 Recommendations

1. Continue to offer a District-wide Nature Kindergarten program at Sangster Elementary with an annual budget of \$30,000 to cover the costs of the ECE's salary and benefits, continued professional learning (5 days plus expenses), cell phone costs, and renewal of equipment.
2. Open an additional District-wide Nature Kindergarten program in the Milne's Landing Zone with an initial budget of \$40,000 to cover the costs of the ECE's salary and benefits, training for the teacher/ECE/school administrators, equipment, cell phone costs, and continued professional learning. In Year Two, reduce the annual budget to \$30,000.
3. Continue to fund a 3 to 5 hour per week Aboriginal Support Worker using funding from the Aboriginal Education Department.
4. Revisit the registration process for this program. Continue to maintain gender ratios and placements for Aboriginal students.
5. Continue to offer professional development courses via Royal Roads University to disseminate information about the model and to generate supplemental revenue.

6. Dr. Elliot and Frances Krusekopf to continue to offer workshops and presentations, at a cost, to generate supplemental revenue.



APPENDIX

Pedagogical Narration - Sample

Birds: Week 1& 2- Noticing, Observing and Questioning, January 2013

The children have been listening for birds! We have mostly been hearing woodpeckers, crows, ravens and perhaps a chickadee here and there. They often pretend to be different birds on their walks down, searching for different types of food.

One Friday, at snack a woodpecker joined us up the in the tree and was pecking away! We listened and watched as he jumped from tree to tree. "I hear him" Elliott said. "He is over there" Alex answered. The children sat and listened as though the woodpecker was putting on a show. Many children then tried knocking on trees to make the same sound. "He is looking for ants" Andrea thought.



Walking down one of our new trails we first heard a raven's call. Then we looked up and noticed two ravens talking and fighting in a tree. The children lay on their backs along the trail and watched and listened to the ravens. They children worked hard to mimic the call of the raven, and remembered Murielle's [Aboriginal Support Worker] stories about Ravens. "He is trying to trick us" Brady thought.



From these interactions with birds, the children examining the dead owl alongside the trail, and the mice we have found recently we thought it would be a great time to dig deeper into birds. Creating a box full of many bird related items, as a group we explored our knowledge, thoughts, and questions about birds.

Some thoughts: The woodpecker pecks holes in the tree. The bugs get stuck. Then he comes back and eats them.-Erik

Some birds eat bugs in the sand.- Jackson

When a bird drops its feathers, another bird picks them up and use them in their nest. - Presley

Big birds lay big eggs and little birds lay small eggs- Ben

For the rest of the morning children were creating nests, finding nests in nature, looking and listening for birds, as well as looking for signs of birds.

Some questions we had: Is a bumblebee a bird? What is the biggest bird? How do birds eat? How do birds fly?



Birds in a nest! "It is big enough for all of us, caw, caw".



Photo by Erik "It was a seagull or a snow owl"